

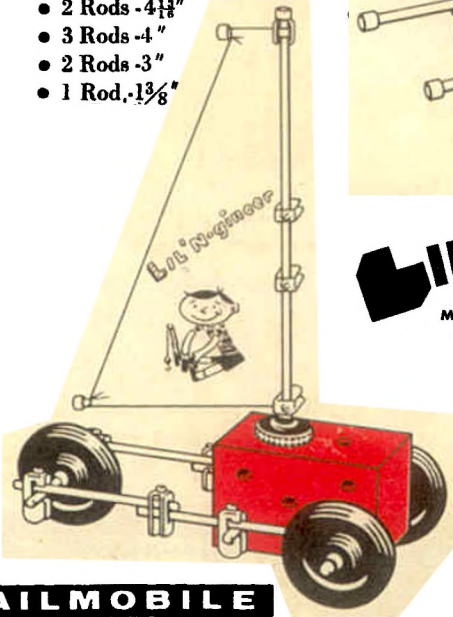
EDITORIAL Some changes are needed to keep OSN & the updates to MCS on-going. They are essential because I no longer have enough time to do all the work entailed (I'm slowing down as the years go by, and with more material available, research take appreciably longer. Three changes are envisaged.

First, after the ones for this issue, no colour pictures will be put on the OSN web site. Instead the pages with colour will be printed on my own printer, and also those with B&W photos, to improve their quality. It will mean

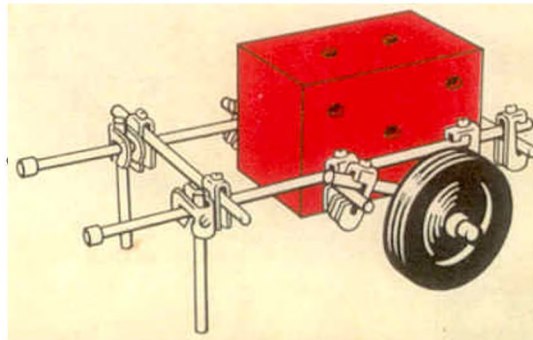
though that the N/L will be on A4 paper, and for reasons explained below, it will be printed single-sided.

Secondly, no new Extra MCS Sheets will be produced after the batch with this issue. Instead it is intended that those who wish to keep MCS up-to-date will simply add OSN articles to MCS, and as far as possible future articles will include all the usual MCS coverage. It is hoped to have rather larger illustrations to allow most of the relevant detail to be seen. Pages will of course not be in the MCS landscape format but by printing [continued on p811]

- 1 Body Block
- 3 Large Wheels
- 1 Small Wheel
- 9 Small Retainers
- 12 Clamps and 12 Screws
- 2 Rods - 4 1/4"
- 3 Rods - 4"
- 2 Rods - 3"
- 1 Rod - 1 3/8"



SAILMOBILE

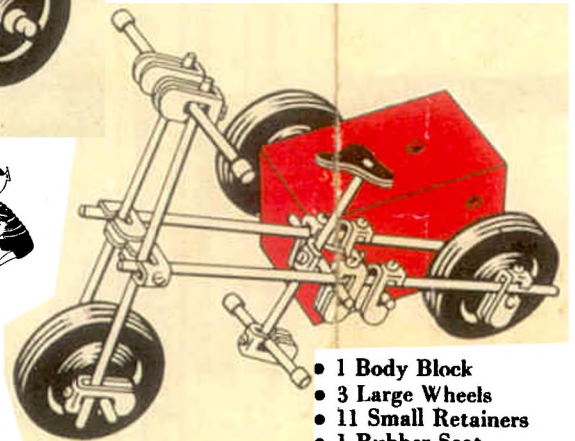


- 1 Body Block
- 2 Large Wheels
- 6 Small Retainers
- 14 Clamps and 14 Screws
- 2 Rods - 6 7/8"
- 1 Rods - 4 1/4"
- 2 Rods - 4"
- 2 Rods - 3"
- 2 Rods - 2"

PUSH MOBILE

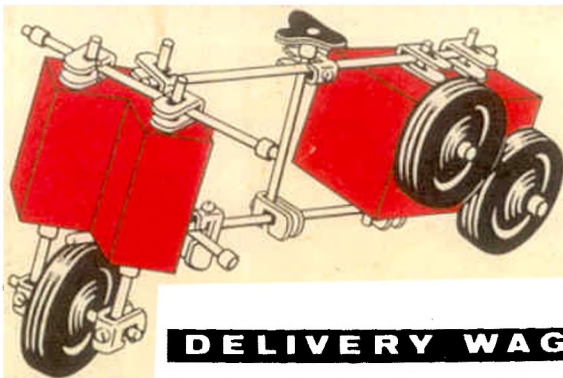


MORE ON LIL'N-GINEER OVERLEAF



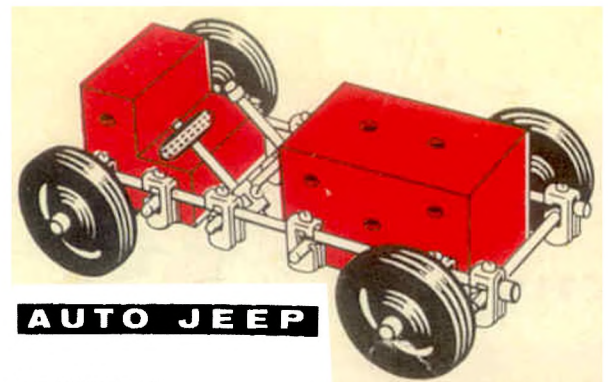
TRICYCLE

- 1 Body Block
- 3 Large Wheels
- 11 Small Retainers
- 1 Rubber Seat
- 14 Clamps and 14 Screws
- 2 Rods - 6 7/8"
- 2 Rods - 4 1/4"
- 3 Rods - 4"
- 3 Rods - 2"



DELIVERY WAGON

- 1 "L" Block
- 1 Body Block
- 4 Large Wheels
- 1 Rubber Seat
- 15 Small Retainers
- 12 Clamps and 12 Screws
- 2 Rods - 6 7/8"
- 3 Rods - 4"
- 4 Rods - 3"
- 1 Rods - 1 3/8"

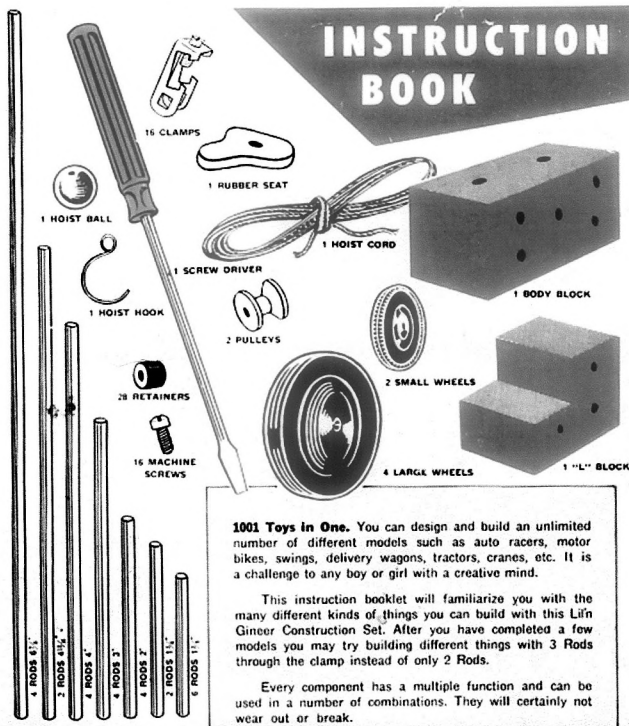


AUTO JEEP

- 1 "L" Block
- 1 Body Block
- 4 Large Wheels
- 1 Small Wheel
- 11 Small Retainers
- 14 Clamps and 14 Screws
- 2 Rods - 6 7/8"
- 2 Rods - 4 1/4"
- 4 Rods - 3"
- 2 Rods - 2"

'New' System: LIL'N-GINEER

Kendrick Bisset has recently found an example, nearly complete, of this small, rather unusual, Canadian set, and kindly sent details. It includes a Model Sheet and on the front, at the bottom, is 'Made In Canada by Eagle Toys Ltd. - Montreal, Canada'. Kendrick has another LIL'N-GINEER Model Sheet, identical in most respects, but at the bottom is 'Another Product by Chris Manufacturing Co. Inc., Modesto, California' and 'Exclusive Representatives, Novelty Mfg. Co., P.O. Box 1747, Richmond, California'. Also, most of the parts in the Set look similar to those of two MCS entries - the Spanish EL INGENIERO MECANICO, and the German ROBO.



1001 Toys in One. You can design and build an unlimited number of different models such as auto racers, motor bikes, swings, delivery wagons, tractors, cranes, etc. It is a challenge to any boy or girl with a creative mind.

This instruction booklet will familiarize you with the many different kinds of things you can build with this Lil'N Gineer Construction Set. After you have completed a few models you may try building different things with 3 Rods through the clamp instead of only 2 Rods.

Every component has a multiple function and can be used in a number of combinations. They will certainly not wear out or break.

Another Product by **Chris MANUFACTURING CO., Inc.** Modesto, California. Exclusive Representatives **NOVELTY MFG. CO.** P.O. Box 1747 - BEACON 3-5008 RICHMOND, CALIFORNIA

Above, the front of the Chris Sheet with the Illustrated **Parts**. Apart from the company, it differs from the Eagle version only in the illustrations of the Clamp - the two types are shown below with the Eagle type on the right. Now notes on the actual parts. • The Blocks are wood, painted red. The Body Block is $2\frac{7}{8} \times 1\frac{11}{16} \times 1\frac{11}{16}$ "; the 'L' Block is a $1\frac{11}{16}$ " cube with a $\frac{13}{16}$ " square corner removed. The holes are mostly at 1" spacing. • The 2 Pulleys are red painted wood, $\frac{5}{8}$ " o.d. & $\frac{1}{2}$ " wide. • The 16 Clamps look very much like the illustration. The 6-32 Setscrew has a fillister head, .175" \varnothing . There is enough room to fit two parallel rods in the Clamp, as well as one perpendicular to the other two. In the models shown only 2 Rods are used but it is said in the instructions, 'After you have completed a few models you may try building things with 3 Rods through the clamp instead of only 2 Rods.' With the Chris design the bottom Rod would be free to turn in the square hole. • Like the Clamps & Setscrews the Rods are steel, 26 in all, in 6 sizes, given on the Sheet as $1\frac{3}{8}$, $1\frac{3}{4}$, 2, 3, 4, 4 $\frac{13}{16}$, & $6\frac{7}{8}$ " long. They are .161-.162" \varnothing , MECCANO size. • The 4 Large Wheels (2" \varnothing) are hard black

rubber and are a loose fit on the Rods. The 2 Small Wheels (1") are a bit softer, and are a press fit. • The Seat (about 1" long) is also black rubber & a press fit. • The 28 Retainers are red rubber, and look to be made from $\frac{5}{16}$ " o.d. rubber tubing. Six of them stacked are just a shade more than 1" long. All of the rubber parts are still flexible. • The Screwdriver, some 7" long o/a, has a clear yellow plastic handle. • The Hoist Ball is missing from the Set.

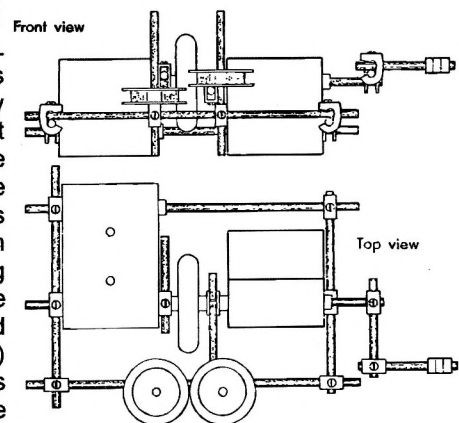
The **box** is quite large & scales at $13\frac{1}{2} \times 12$ ". The lid above is red & black on yellow, with the parts to the left against a dark ground. In the white circle is 'Kit No.1 CONTAINS 101 PIECES'.

The **Model Sheet** is 13×9 ", folded to give 4 sides. It is printed in red & black, and 15 models are shown, each with a Parts List. Some of the more interesting models are shown on the front of this Issue. The models are identical on the Chris & Eagle Sheets, and the Clamps shown in them do not have the bottom hole. It is left to the reader to imagine models in which Clamps with 3 Rods are used.

EL INGENIERO MECANICO is described in MCS as having bright steel & polished wooden parts. The dimensions given are only estimates but if correct the parts would be a little smaller than LIL'N-GINEER. The range of parts is the same except there is no direct equivalent to the red Pulley, and the Large Wheel is a Tyre on a Pulley. This Pulley serves instead of the LIL'N-GINEER red one. The 17 models shown include all the LIL'N-GINEER ones, though the latter have been redrawn with a few small changes.

Nothing is said about the **ROBO** parts in MCS, but 1 of the 2 pages of EL ING MEC models is included, and they are identical except that errors in the numbering of the Spanish models has been corrected. In addition engineering drawings of three models are included (labelled in English) and an example is shown right. It is one of the models not on the LIL'N-GINEER Sheet. The Parts List includes Rods 2, 3, 4, 5, & 7" long, and *Eisenzeit* notes them as 4mm \varnothing .

Press model-No. 7



- | | |
|--------------|-------------|
| 1 body block | 5 2" shafts |
| 1 L-Block | 3 3" shafts |
| 1 wheel | 1 4" shafts |
| 2 pulleys | 2 5" shafts |
| 12 clamps | 2 7" shafts |
| 8 bushings | |

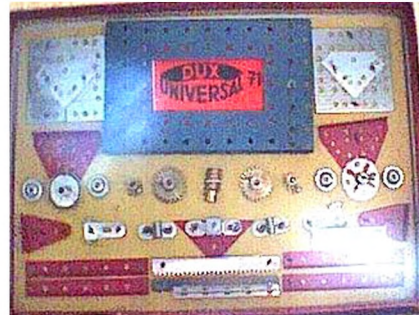
Dates. MCS mentions 1940 for EL INGENIERO MECANICO, and in *Eisenzeit* ROBO is said to be from the 1950s. Judging by the box lid LIL'N-GINEER might be from the 1950s too.

Another THALE STAHLBAU TECHNIK Nr.1 Outfit A

1972 Nr.1 was described in 8/174 (the box with the purplish lid) and now, courtesy David Hobson, I've been able to examine another Nr.1 from the same year (as judged by the last numbers of the lid label PR: Pn 13/1972). The two boxes are identical including all the details on the label. The parts' finish shows a couple of differences: • The Flat Girder, Girder Bracket & 3*5h Plate are nickel, but the 5*5h Plate & the 3*5h Flanged Plate (made from it) have a medium green crackle finish. Also they both have slotted holes, 8½mm o/a, instead of the oversize round ones. So apparently the two styles were in use at the time. • The Screwdriver is virtually identical except that the handle is black and the 'VOLTUS' on the OSN 8 one is replaced by a word hard to read but possibly 'Smalcatda'.

SNIPPET: DUX-UNIVERSAL SETS No.70, 71, & 72

These add-on outfits, shown below, are listed in MCS but no details are given other than indistinct illustrations. Some of the parts in them are used in the standard sets 101-104, and are shown in MCS, but most in Nos.71 and 72 are new. The colours are generally as for the Second Period in 20/560.

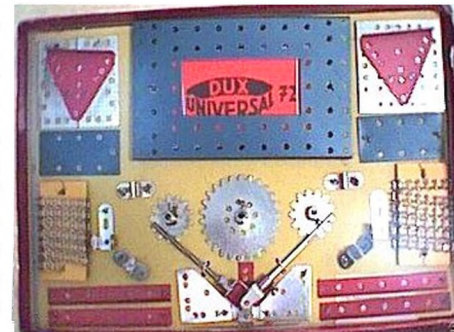


The No.70 (top) has some Strips, DAS, Plates, 4 Pulleys, and certain parts which were only in the largest standard set: a Grab 1059, a Handle Crank 1054, 2 large Trunnions 1051 (red), a Ring Spanner 1073a, a 22t Pinion 1031b, a 38t Gear 1032a, and a pair of Bevels 1065/1066. Also included is the large Circular Plate, with 2 rings of staggered holes, that was illustrated in 20/560. Like the Grab, it is not painted. What looks as it might be a centre boss in the photo may be a clip holding the part to the

backing card.

The No.71 has some of 'new' parts. The 7*9h Flanged? Plate is blue – its end rows of holes differ slightly from the others, and the edges of the Plate are well outside them. To the right is a Plate, about 85mm square, and on the left a Plate of the same size but differently perforated, or more likely two half-sized Plates. On top at both sides is a Large Triangular Gusset. All these are silver looking. Below the Large Trunnions are red Small Trunnions. In the centre is a brass Worm, with a gear either side, the 22t Pinion perhaps, or is one a Worm Wheel? At the bottom is a Rack Strip, with immediately above it, a small red Triangular Plate with at least two sharp pointed corners.

The No.72 has the blue 7*9h Plate too, & the same silver Plates on either side, but with Large Trunnions on top. A pair of the Large Triangular Gussets can be seen at the bottom, with a vee of shafts, joined by a Universal Joint, between them. Above are a 26t Sprocket with a 13t one on either side, all silver. Lengths of Chain, perhaps with a brass look, can be seen at the sides of the box.



SNIPPET: A Later ELEKTROMECHANISKAIS KONSTRUKTOR?

A set with that Lettish name (EMK KONSTRUKTORs for short), and parts generally very like MECCANO, was discussed in 4/188. Its red box lid is shown



above with the boy & model in full colour. The corresponding Russian name can be seen top right, ending in the very familiar 'KONSTRUKTOR'. The outfit to the right may be a later, somewhat smaller set from the same system. Not all the lid can be seen but if it does not



carry a Lettish name, it could mean that the set was actually made in Russia itself. The EMK models were from the '62-'69 MECCANO range, and the Sports Car on the lid looks like the MECCANO 4.15 of that time. It is set on a green ground below a blue sky.

The parts in the box are blurry but look generally like the ones in the OSN 4 set, except that there are no A/Gs, Braced Girders, Semi-Circular Plates, or electrical parts. In particular the unusual 3" Pulley, with 4 long slots in the face, is similar. The only part obviously different is a wire Screwdriver instead of a flat one. The only significant differences in colour are the light blue Road Wheels and blue, instead of black, Flanged Plates – possibly following Meccano's 1970 change in colour scheme in that respect.

The manuals shown have more interesting looking covers than the very plain EMK one in MCS. The model on the top one could easily be the Estate Car in MCS.

SNIPPET: SPIROU CONSTRUIT

In MCS it is said that this Belgian system is TEMSI made under licence, and that the range of sets, Nos.1-5, continued into the 1970s. In 1966 GMM wrote that Sets 1-4 were being imported into Belgium by S.A. Sarma-Nopri, 13-15 Rue Neuve, Brussels 1. The manual cover left (yellow with a green Crane, an orange boy, and the name is a light blue panel) is similar to



the one in MCS except that the bottom part with the alternative Flemish name on it, ROBBEDOES AAN DE BOUW, is missing. Spirou isn't in my dictionary but the 'robbedoes aan de bouw' is given as 'tomboy (a bit odd that) at the building (work)'. The box with the manual is red outside, yellow inside, and the lid is mostly covered with a label identical to the manual cover (though again some of it can't be seen). The box is quite large, roughly 17" wide, and the parts sit between a number of partitions. The few that can be seen look just like TEMSI and are consistent with the contents of a No.2 TEMSI outfit.

'New' System: FERMO

by Jacques Pitrat

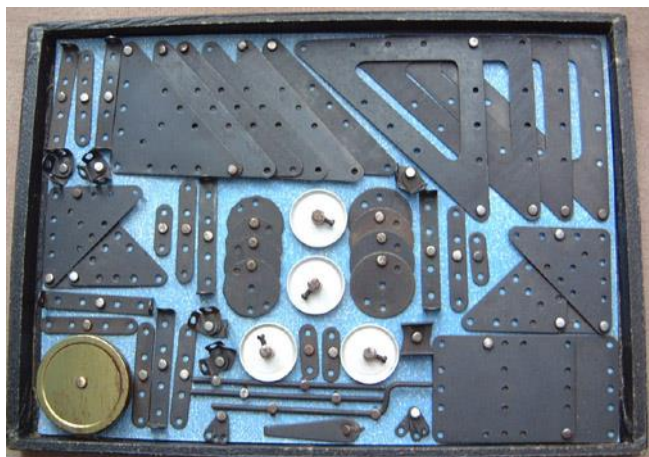
References and History

FERMO was made in Germany by an educational supply house, Bäuerle-Dobiasch & Co., Postfach 596, Lübeck. The model sheets are in German & English, and after the name FERMO (below) is 'D.R.P.h. Patent rights reserved'. The only indication of date is '12. 46. 10000.' after the name of the printer on the model sheets. If they are using the same convention as Meccano, it would mean that 10000 copies were printed in December 1946. This would be a very large number, only 7500 copies were printed in 1937 for the N° 4 French Meccano outfit. It does not seem that this system was widely sold, so it is likely that it was made only in 1946 and 1947.

„FERMO“

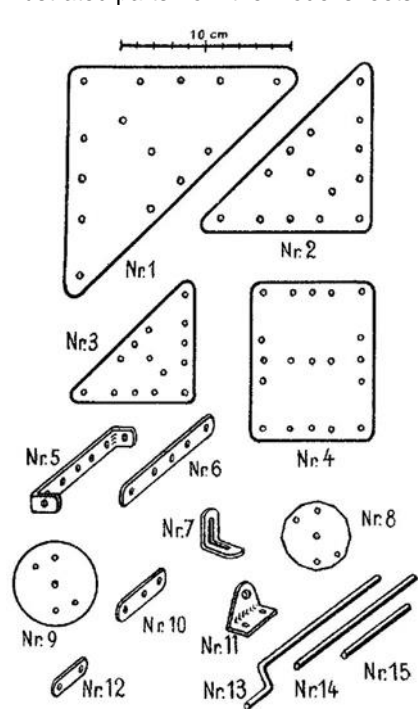
The Box

The size of the box is 43*30*3cm. The lid is covered with a black crocodile like paper with nothing on it, not even the name of the set, and no sign that there was ever a label. In the box (below) the parts are clipped to a blue card insert. The small parts are in a cylindrical brass coloured box; a centre hole in its lid and bottom allow it to be fastened to the insert.



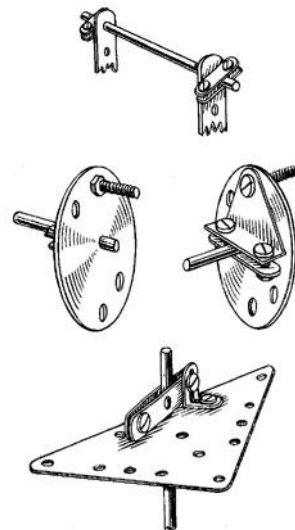
The Parts

The parts are all blackened steel, except the aluminium Pulleys with boss, and some of the Bolts. The illustrated parts from the model sheets is shown below.



The holes are 4.3mm diameter. In the notes below the numbers of parts found in the Set are given in curly brackets. The three sizes of **Triangular Plate** have short sides of 13.5, 10, and 7 cm {4,6,6}. The hole in the Large Triangle, not shown in the manual, is the size of the Small Triangle. The three center holes on the short side of the rectangular **Plate** {2} are at 12.5mm pitch, while the outer ones are at 17.5mm. This pattern matches that on the Small Triangle. On the long side the center holes are again at 12.5mm but the outer ones are at 30mm pitch. The two **Strips** are called struts and the 3h {4} has holes at 12.5mm pitch; those in the 5h {6} match the short edges of the Plate and Small Triangle. Likewise the holes in the base of the

1*5*1h **DAS** {6}. Contrary to the manual, the **Angle Bracket** {15} has a hole and a slot as in the MECCANO one. The **Wheel** {4}, 44mm Ø, is like a MECCANO Wheel Disc, but with only 5 holes, one at the center and the others on two diameters at an angle of 45 degrees. The **Multi-Cornered Wheel**, #8, is similar but its perimeter is a dodecagon, 39.5mm across peaks {4}. It can be used with the Wheel to build a pulley, as in MOBILO: several are put between two Wheels, which are the flanges of the pulley. The dodecagonal form makes cord less liable to slip. The **Clamp**, #12, is a 2h Narrow Strip {6}, and two, with two Nuts and Bolts, can make a kind of collar (right). The **Connection Part**, #11, is like a small Trunion {2}. One can be used with a 3h Strip to fasten a Wheel to an Axle (right). Fixing a Triangle to an Axle is also shown using 3h Strips and an Angle Bracket. The two **Axles** are 6 and 13 cm long {2,1}, and there is also a **Crank Handle** {1}. All are 3.6mm diameter, considerably smaller than the holes.

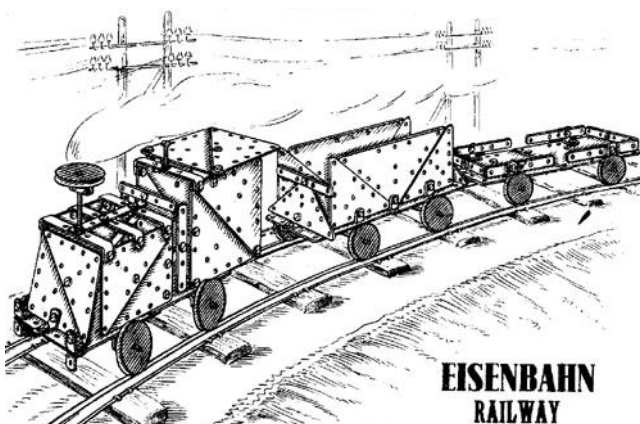


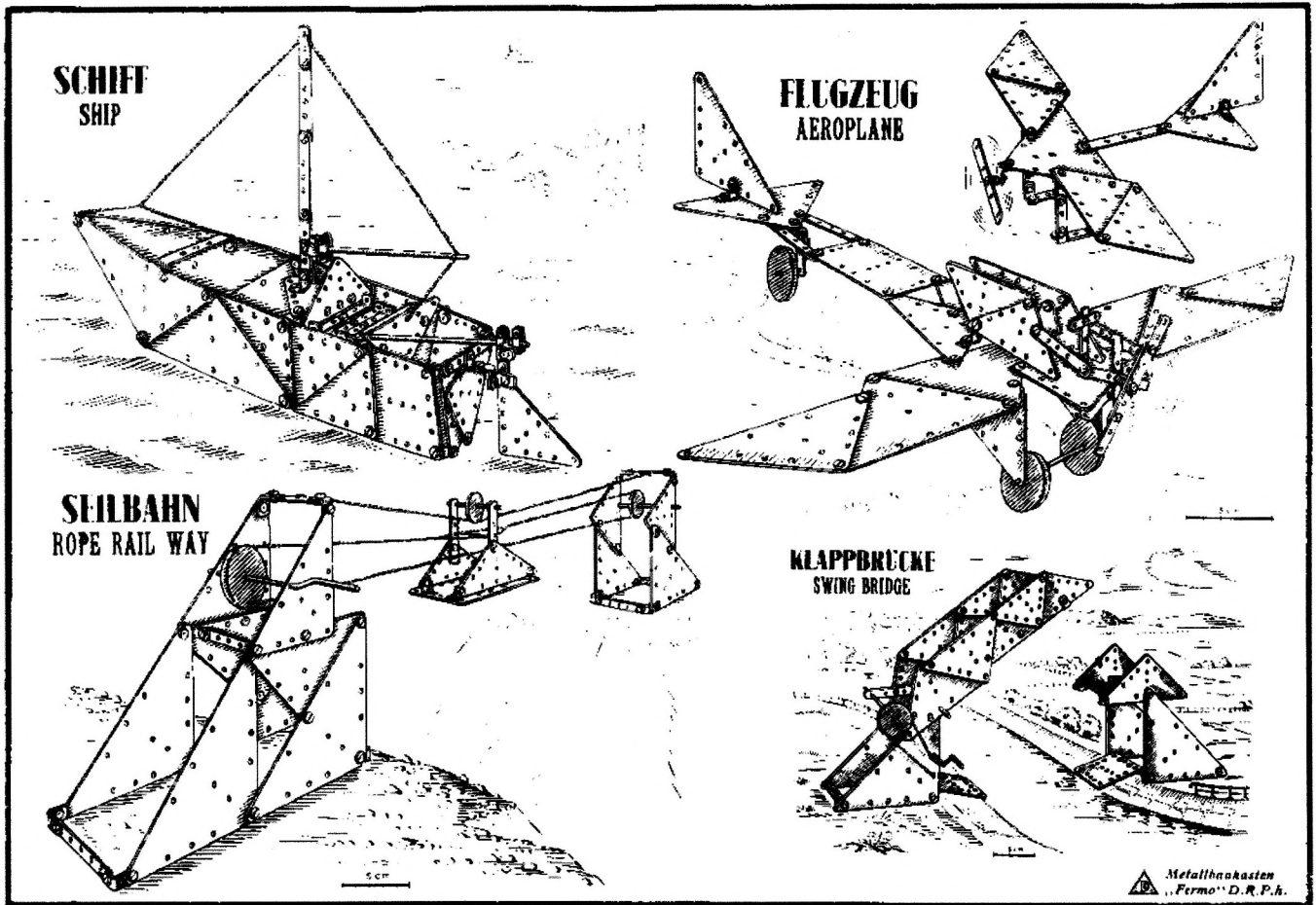
Some parts are not illustrated. There are two kinds of **Bolts**, both cheese-headed and 10mm u/h {63}. One is blackened steel and the other aluminium with a larger head. All the **Nuts** {63} are blackened steel, square, 7mm A/F, and 3.8mm thick – on one side they are smooth but the other has ridges, probably so that the Nut does not move when it has been tightened. The thread is M4. The **Screwdriver** (at the bottom of the photo) is a flat plate, pear shaped, and 65 mm in length {1}. The 4cm aluminium **Pulley** {4} has a 9.3mm Ø boss and a black Bolt as set screw. This part was probably a late addition to the system and does not appear in the models.

The manual indicates that there are 286 parts in the set, but even with the 61 clips and the four set screws, that makes only 265 parts. However, I doubt if any parts are missing, there is no room for them.

The Manual

As already mentioned the manual is in German & English. It consists of only 3 sheets (about 14½*20½cm) glued together at one corner. One page describes the parts and presents the system; another indicates how to use the Wheels, Clamps & Connecting Parts. No mention is made anywhere of outfits other than the one described here. There are 20 models in the last four pages, all rather clumsy looking. The triangular parts remind one of those in METALLO TRIGON & TRIANGLE, but they were used more skilfully in those systems. Below and on the next page are some typical models. The others include two Cranes, a House, a Snow Plough, & a Roundabout. The Train below would obviously need more wheels than are in the Set.





'New' System: BOYCRAFT The name was mentioned in 26/756 as a possible, if unlikely metal construction system, but now Kendrick Bisset has found a 'genuine' BOYCRAFT outfit, and has kindly sent details. It seems to



be a repackaged version of GIRDER BILT (see 17/467) and, as shown left, it is packed in a similar type of container (NB the BOYCRAFT tube lacked a lid and the one shown on it, to hold the top together, is in fact the G B one). Both tubes are blue with large red panels front & back, and white lettering. The words in the circles at the bottom are: FUN FOR

ALL, EASY TO BUILD, EDUCATIONAL, & cover much the same ground as the G B ones (which are shown more clearly in OSN 17). The address on the BOYCRAFT tube is Exclusive Products Co. Inc., New York 35, N.Y. The set isn't quite complete but with some minor exceptions seems to correspond exactly to the OSN 17 G B outfit. The differences are • There was no 6*4h 'Plate' among the parts found. • The thread is 4-40, as in the 19/555 set, with hex Nuts to fit the Spanner, & pan-headed

Bolts. • If original, the Screwdriver is of bent wire, as right. The Spanner is the OSN 19 type with the parallel handle.



No Model Sheet was with the Set but 9 models are shown on the tube between the red panels (including the Chair twice). They are all on the OSN 19 Model Leaflet, and all but one are among the models of the OSN 17 G B tube.

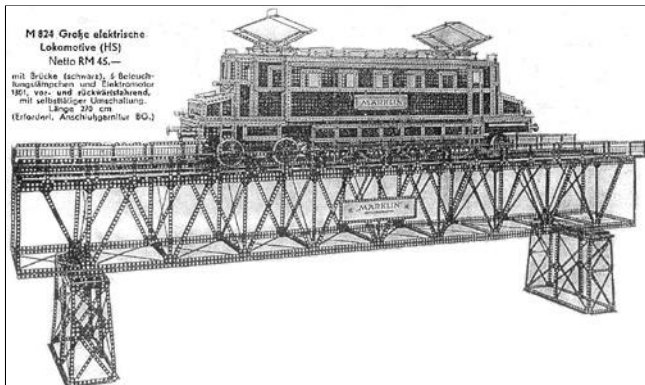
And More GIRDER BILT This is plain GIRDER BILT, no 'Super', and no hyphen. Two set have been seen on Ebay in the packaging shown left – a lightish blue tube with the top & bottom bands, the diagonal flashes, and the name, in red. In the small circle at the bottom is No.1, and in the flashes: FUN TO BUILD, EDUCATIONAL, LIGHT IN WEIGHT. The maker is as given in OSN 17. With each Set was a Model Leaflet with GIRDER-BILT on the cover, like the one in MCS/OSN.



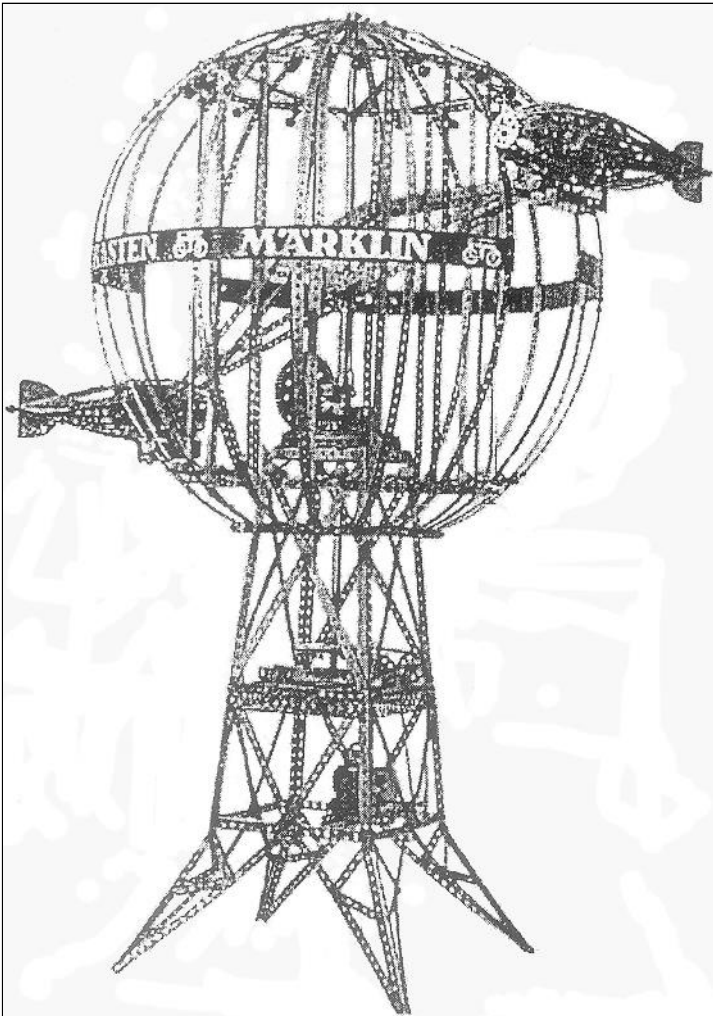
One Set had the expected 16,16,8 of 4,8, & 16h Strips, 4 black Wheels, and an OSN19 type Spanner with a parallel handle. The other had 6 black Wheels, 6x 16h, and many more than 16x 4h Strips, so probably it included parts from more than one outfit. The Spanner had the OSN 17 curvy handle, and a wire Screwdriver with a MECCANO-shaped handle could be seen.

MÄRKLIN Display Models Jürgen Kahlfeldt has discovered prewar advertising material for 17 of these and Werner Sticht kindly sent copies. There is a photo of each and brief details of most. They are impressive with movement in all of them, though in about one third this is from trains running around. (Except where stated all trains mentioned are Märklin toys). Mechanical movement is powered by the standard 20v #1301 Motor. All the models have coloured lights, from a handful to 144 in one case; they are usually 3.5v but a few are 20v. In size the highest model, a 4-bladed rotor on top of a pyramid shaped base (M863W), is 210cm, while the largest in plan, a railway layout (M830) is 240*125cm. Brief notes on all the models follow with the prices in Reichmarks – BC indicates that the model is shown on p812.

- M 780, Ballturm (BC). The height scales at 125cm. The balls are carried up in the centre of the model. Bulbs can be seen on the roundabout above. RM120.
 - M 813, Schleifenbahn. A Railway Layout with lamps around the top parts. A passenger train runs around a basically oval track which makes 2½ turns upwards around a six-sided structure at one end and 1½ downwards at the other. It is 80cm high and the base is 185*85cm. RM 75.
 - M 824, Große elektrische Lokomotive (HS) (below). 270cm o/a so the Loco must be about 140cm long. It travels back & forth, and 6 lights are mentioned. RM 45.
 - M 830, Viaduktbahn mit 2 Brücken (below, right). A train layout with 2 bridges, 240*125cm, and 78cm high, with 12 lights. RM 120.
 - M 848, Balkenschaukel (BC). 2 motor-driven see-saws with a ball running between each pair of dolls. 100*38cm and 60cm high, with 16 lights. RM 100.
 - M 850, Terrassenturm mit drehender Lichtspirale. A square section tower rising from a 2-level square base (populated by small people & vehicles). At the top of the tower is a motor-driven 'rotating spiral of lights' with 48 lamps (as on M 853 on BC). 130cm high with base 50*50cm. RM 45.
 - M 851, Schleifenbahn mit Autobahn. This is M 813 above but with a goods train, and with an oval of climbing & descending roadway around the outside of the railway track. 206*108cm and 80cm high. The road has a double line along its centre, and an 'elektrischem Auto' is shown on it – a 'slot car'? RM 90.
 - M 853 B, Tunnelbahn mit automatischer Unterbrechung u. drehender Lichtspirale (BC). A splendid, slightly Emettish Loco with 2 Carriages, made of MÄRKLIN parts, runs around the track and starts & stops automatically. 112*100cm, 135cm high, with 72 lights. (NB. The light spiral was too faint to reproduce so I have replaced it by the almost identical one from M 850.) RM 90.
- A similar model, M 853, is for use with a 0- or 1-gauge toy train. RM 66.
- M 856, Schleifenbahn (BC). The track spirals upwards around the outside and then downwards inside. 150*115cm, 110cm high, 32 flashing lights. RM 550.
 - M 857, Weltkugel. 3 circles of track, 84cm Ø, with a train running on each, around a sphere made from Strips, which sits on top of a pylon. 112cm high with 48 lights. RM 60.



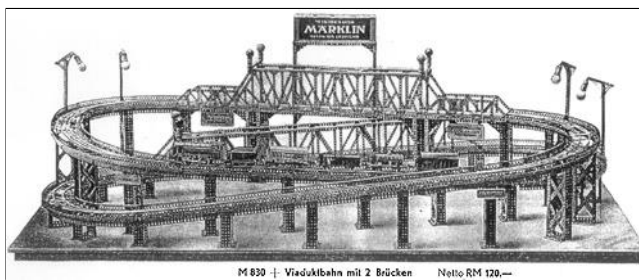
OSN 27/786



M 865 240.—
Weltkugel mit Zeppelin

mit Elektromotor 1301 für 20 Volt, 32 far-
bigen Beleuchtungslämpchen 3½ Volt und
6 Lämpchen 20 Volt.
Höhe 120 cm, Durchmesser 100 cm.
(Erforderliche Anschlussgerätee BG.)

- M 860, Brückenlandschaft für Miniaturbahnen. A base-board 223*102cm with 'river' across the middle and some small buildings on either bank. A raised oval of double track, with trains running in opposite directions, is supported by frameworks on the land and pillars for 2 long Bridges over the river, a girder bridge and an arched bridge. 58cm high with 48 lights. RM 450.
- M 861, Lichtkugel. A 65cm Ø sphere of Strips with 128 lights on it, revolving on top of a pylon. 140cm high. RM 200.
- M 862, Drehender Leuchtring. 64 lights on a vertical 55cm Ø circle of Strips, which revolves on top of a pylon. 150cm high o/a. RM 180.
- M 863 W, Windkraftwerk mit Wechsellicht. A pyramid shaped pylon, 55cm square base, with a vertical cylinder made of Strips above it, and a 4-bladed, 122cm Ø, rotor at the top, turning in a vertical plane. 144 lights are in a double row along each blade and in a circle around the hub. The overall height is 210cm. RM 350.
- M 865, Weltkugel mit Zeppelin (above.) The Zeps turn with



the 100cm Ø sphere (I suppose), and rise and fall with the arm that carries them. 120cm high. 38 lights. RM 240.

- No name or number, Ball Tower with Sphere. Balls run down 7 turns of runway which spirals around a cylindrical centre made of A/Gs etc., and they are taken up within it. On top is a truncated cone framework with a revolving spherical framework of Strips, carrying lights, above it.

- No name or number, Tower with 5 Rotors. A tower on a plinth, both square section, with a 4-sided cabin on top. It has a vertical rotor on each wall & a horizontal one on top of

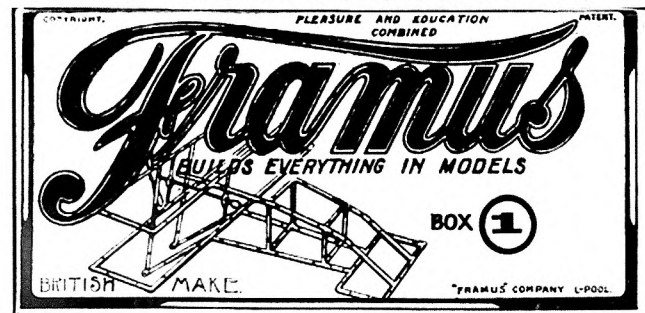
the roof. Each has 4 Strip arms with a bulb at the each end.

The prices quoted do not include the trains or track, or some other items, such as the dolls on the Seesaw. Some of the models are relatively cheap, the Electric Loco, M 824, for example is RM 45, and it is said under it that the price of some models had been reduced considerably, to less even than the price of the parts. By way of comparison, the largest MÄRKLIN prewar set, the No.6 with 650 N&B, cost RM 90 in 1935, or RM 110 in a wooden box.

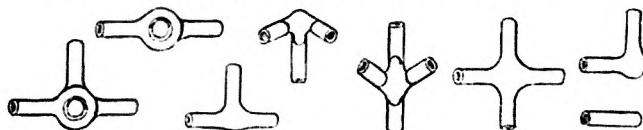
FRAMUS This was a very simple system in which frameworks were made by pushing match Splints into various tinplate Connectors. It was made in Liverpool by Grey & Nicholls soon after WW1. Three sets were sold, Boxes 1, A, & B, and David Hobson kindly lent me his Box 1, the smallest of the three, for this account. He also provided the historical references.

History The patent covering FRAMUS, No.124926, was in the name of F.P.Franklin, and was dated April 24th 1918. References to Framus in the toy press are known from March 1919 (a new constructional toy from Grey & Nicholls) to an ad in Feb. 1921. In *British Tin Toys* it is said that the company made various toys and existed from 1915 to 1950. The address is given as 17 St. Anne Street, Liverpool; a 1920 advert is from Framus Coy., 59 Great George St., Liverpool.

Box 1 The bottom is 8*3/4*3/4" and is partitioned into 8 equal bays; the top (below) is light grey, printed in navy blue.

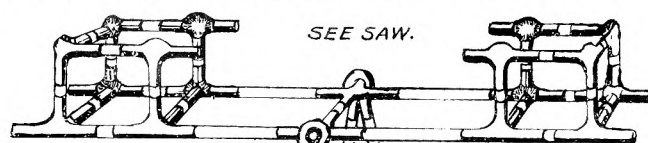


The metal parts (below) are shown inside the lid. The

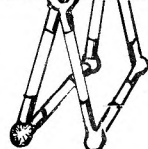


Straight Connector is rolled over its whole 1/2" length to a tight butt joint, with an o.d. of .13". The arms of the others are about 1/2" long with the outer 1/4" rolled in the same way. The two on the left are made from 2 pieces, hinged by eyelet peened through the centre hole. The parts are quite sturdy and most matchsticks are well gripped.

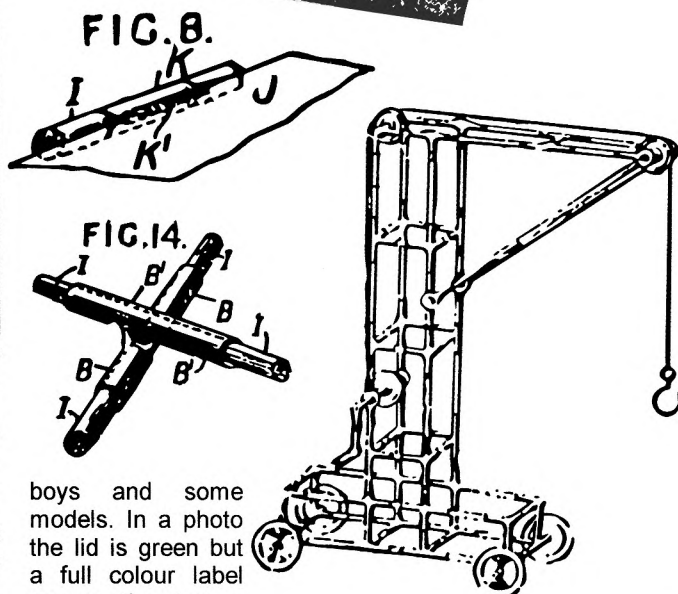
The **Model Leaflet** is 12*3 3/4", folded into two, & printed in B&W. The text on the cover explains that Aeroplanes & Bridges can be made with Box A, & that there are 'Also still larger sizes'. The sockets are said to be sized to suit commonly used household matches, & it is suggested that their ends be pointed slightly with a penknife, to allow easy entry into the sockets. The other 9 pages have models, from SEE SAW (below) to TABLE, all simple frameworks of course.



Sets A & B The box similar to the one a Propeller can be seen (top right in next column). **Box B** (top 9-compartment box



ads show Box A in a described above. In it seen (top right in next column) has a with a lid featuring 2



boys and some models. In a photo the lid is green but a full colour label covers the top - blue with red name and border. Road & Pulleys Wheels can be seen in the box and are used in the Crane above. In the photo of Box B the Road Wheels look black.

Other Points The Patent includes two ideas which, as far as is known, were never used. Fig.14 above shows a 4-way connector but with the arms B & B' in different planes to allow rods I to cross one another. No doubt this was thought unnecessary given the short length of the match splints. Fig.8 shows a means of attaching plates, and the text reads 'For attaching roof or wall plates J, Fig.8, of paper or cardboard to a structure, split tubular sleeves K with the adjacent edges K' flanged so as to project laterally and form clips for engaging the plates J are provided.'

It is said in *Tin Toys* that the **material** for the Connectors was scrap from Wills & Co., a nearby tobacco factory, which made its own containers.

Some 30 years after FRAMUS, **ALCON** (see 8/199, 9/224, 19/555) was very similar in concept, but its Connectors were smaller (5/16" arms), flimsier (aluminium), and there were no hinged parts. It too was patented (661126 of 1949) but it is hard to see what new ground was covered.

MECCANO in the U.S.A. Kendrick Bisset kindly sent a copy of a long, detailed article by him that was published in the S. California N/L for the 3rd Quarter of 1999. It gives for the first time a comprehensive account of the sets and, particularly, the manuals from the years 1928-1930, the period in which control passed from Hornby to Gilbert. Some of this has already been described in OSN but by no means all, and since its a complicated subject I am going try to summarise the whole story here, using his chart (below) that covers the smaller sets, with some additional notes, based on his article, and a few references to earlier OSN material. My thanks also to Anton Calleia, Editor of the S.Cal N/L, for his permission to use material from the original article.

1927 Sets. The standard range was: Nos.00,0,1,1x,2,2x,3,3x,4,5,6. The 'x' outfits (and Sets 4-6) included an Electric Motor but otherwise they had the same parts as the corresponding numbered sets.

1928 Sets. The slightly simplified range for this year is shown in Column A, together with the number of models for each set claimed in a catalogue. The previous Nos.4-6 were renamed 4x,5x,6x. The new **No.2x Special** was a 2x plus Tires for the 3" Pulleys (OSN 12/317). The other sets were unchanged from 1927 except that the 00 was in fact the 1927 No.0.

Manuals (Col. B,C). For the small sets they were a **00-3x** (PR O-0628/50), & a **Supplementary Manual for 00-1**. The first page of the known example of the latter looks like a normal manual model page (starting with 00.311, Arm Chair), without a Title or Intro of any sort, and it seems possible that there was no cover. Notice the huge number of models for Set 00, some 150 more than were ever offered for Sets 00 & 0 together in any UK manual. A **4x-6x** manual is known to exist.

Early 1929 The **set numbering** (Col. F) was completely different but much remained as before. The No.0 was the 1928 No.00, and Nos.10-70 the previous 1-6x, except that all but the No.10 included 3" Tires. The **No.5 Special** was the 1928 No.00 plus a motor, 4 each of 2" Pulleys & Tires for them, 2x M1, 2x M15a, & 1x M48 (12/317).

The **parts** in these sets appear, from the limited samples seen, to have been true MECCANO parts, with .160" Ø Axles and 5/32" BSW thread.

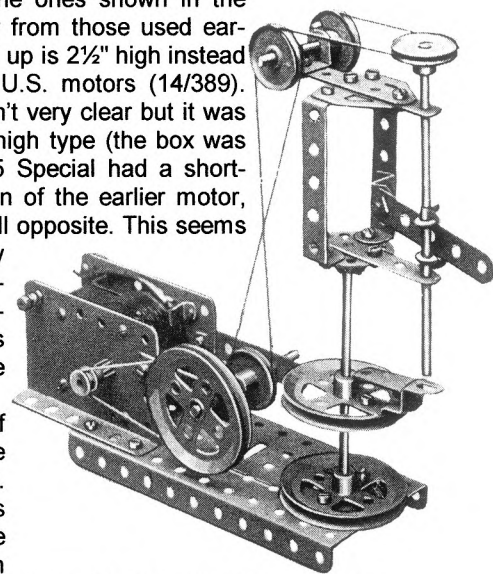
Motors. As would be expected all but the 0 & 10 in-

cluded a motor, but the ones shown in the catalogue mostly differ from those used earlier. The one in Sets 30 up is 2½" high instead of the 2" of previous U.S. motors (14/389). The motor in Set 20 isn't very clear but it was most likely the old 2" high type (the box was only 2¼" deep). The 5 Special had a shortened, 3⅞" long, version of the earlier motor, as in the Automatic Drill opposite. This seems to have been the only time it was ever included in a U.S. set - from 1930 on it was sold by Liverpool as the E1.

Manuals. Details of the 4 from this phase are shown in Col. C,D,E,G (and it is called the 'early' phase to distinguish it from 'later' when a new manual was introduced). The main manual will be called the **'1928' 0 - 40** & was basically the 1928 one with '0 to 40' pasted over '00 to 3x' on the cover. The PR was the same but pp1-8, & 105-112 (the 4 outer leaves inside the covers) were replaced. These new pages contained references to the 1929 Outfits, and since the numbering of the models hadn't been changed, a list of the models that could be made with each new outfit. This List included the models in the **1928 00/1 Supplement**, so it can be assumed that it continued to be used. The List also included the models in the **2 new Supplements**. The **No.10** contained 51 more models for the No.10 Set, and the **No.5 Special** (a sheet 6¾*27¾" folded into three) showed 23 more models for that Set. There were a few minor anomalies, but these 4 manuals account for virtually all of the models 'claimed' for the different sets. (14/388)

The 1928 4x-6x manual had a **'50 to 70'** sticker on the cover in this period and the number of models claimed for these larger sets remained unchanged.

Late 1929 The **sets** remained unchanged but a new **1929 0-40 manual**, PR O-112925, replaced the '1928' 0-40, and the 00/1 & No.10 Supplements (14/388). Details are in Col. F,G,H. The models on each page were arranged as in the 'source' manuals, and the model numbers were generally



1928			Early 1929					Late 1929		1930	
Col. A	B	C	D	E	F	G	H	I	J		
Outfits (no. of models claimed)	1928 00 - 3x Manual	1928 00 / 1 Supplement	"1928" 0 - 40 Manual	No.10 Supple- ment	Outfits (no. of models claimed)	No.5 Special Supplement	1929 0 - 40 Manual	Outfits (no. of models)	Gilbert Meccano Manual, no. of models (no Model Nos.)		
00 (472)	00.1 - 00.310	00.311 - 00.472	00.1 - 00.310		0 (472)		00.1 - 00.472	1	128: 00.175 - 00.302 from 1929 0 - 40		
1 (676)	1.1 - 1.184	1.195 - 1.214	1.1 - 1.184	1.214 - 1.264	10 (727)	5 Spec. (496)	00.474 - 00.496	3	122: most are No.0 from 1929 0 - 40, see text		
1x (686)	1.185x - 1.194x		1.185x - 1.194x		20 (737)		0.1 - 0.255	5	16, + 7 with BRIK: many are adapted 1929 0 - 40 No.1 models, see text		
2x (734)	2.1 - 2.48		2.1 - 2.48		30 (785)		1.1 1.10				
2x Spec.							2.1 - 2.48				
3x (785)	3.1 - 3.51		3.1 - 3.51		40 (836)		3.1 - 3.51				

the same. However the old '1.xyz' models were now called '0.xyz', and the only '1.xyz' models were the 10 with a motor that had been included for the 1928 1x Set (1.185x-1.194x). The 0.xyz model numbers were changed to eliminate the gap in the numbering this caused. Each model page has 'See last page of this manual for list of models built with your outfit' at the top, and said List was on (unnumbered) p136. It included the models in the **No.5 Special Supplement**, which continued alongside the new 0-40 Manual.

1930 The outfits were changed again to Nos.1,3,5,110, 115,125,150. Sets 110-150 seem to have borne no resemblance to earlier outfits but Nos.1,3,5 were essentially the 1929 0,10,20. Compared with the No.20 the **new No.5** had some Gears (a 12t Pinion, 2x 36t Wheels, & a Worm) but no Tires. Also the 8 spring Clips were replaced by ERECTOR pattern Formed Collars (#59a), and the Axles by Gilbert parts. Most of the **parts** still looked like MECCANO, but the Gears, threads, bosses, & Axle diameter were now to ERECTOR standards, and the parts were probably being made at New Haven. (12/317)

Manuals. The 1929 O-112925 continued to be used but the List of models that could be made with the 1929 sets was no longer relevant and to overcome this little difficulty a rubber stamp was applied to the cover. Two versions are known. The first from a 1930 No.5 reads 'THIS OUTFIT BUILDS ALL THE MODELS UP TO PAGE 94', and that included, as might be expected, all models through 1.10; that is all that could be made with the previous No.20 outfit.

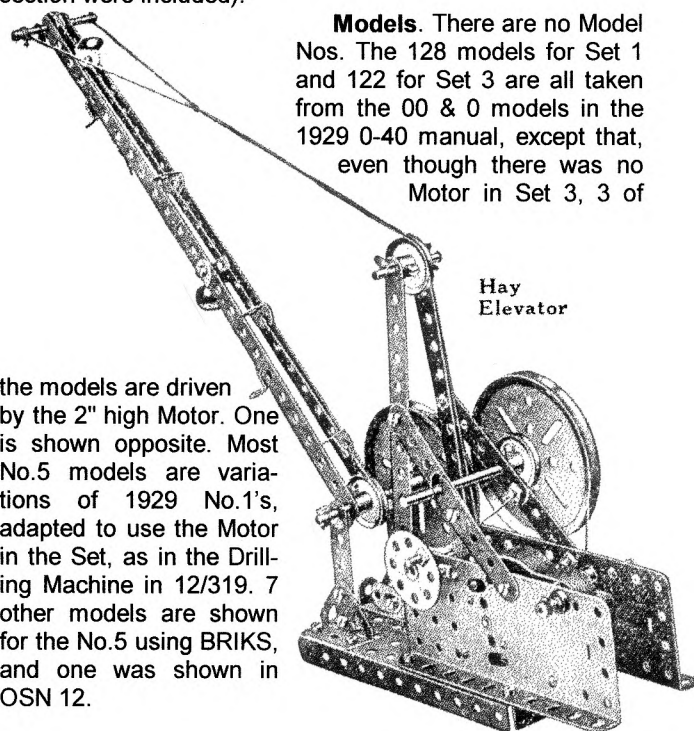
Another manual has the same overprint except that the page number is 110 (though the last digit is unclear) - 110 is the last page of the 2.xyz models (for the No.30 Set), and which 1930 outfit this would have accompanied isn't known.

A 'supplement' manual was also issued entitled '**Standard Gearing**', © 1930 from New Haven, and it may have included an illustrated Separate Parts section with prices.

LATER At some point, perhaps in 1932, a **new manual**

was issued, and it was printed in sections so a manual for any of the three sets could be assembled. One from a No.5 is made up as follows: a cover with code M 1363; 2 sections of No.1 models with M 1351 on the front of the first; 2 sections of No.3 models; the 'Standard Gearing' section; a No.5 model section; M 1417 on Sec.3A with No.5 models using MECCANO BRIK (by then included in the No.5); and M1274 on the Separate Parts section. In all there are 48 unnumbered pages (though the example known has 52 because, no doubt by error, 2 copies of the Separate Parts section were included).

Models. There are no Model Nos. The 128 models for Set 1 and 122 for Set 3 are all taken from the 00 & 0 models in the 1929 0-40 manual, except that, even though there was no Motor in Set 3, 3 of



the models are driven by the 2" high Motor. One is shown opposite. Most No.5 models are variations of 1929 No.1's, adapted to use the Motor in the Set, as in the Drilling Machine in 12/319. 7 other models are shown for the No.5 using BRIKS, and one was shown in OSN 12.

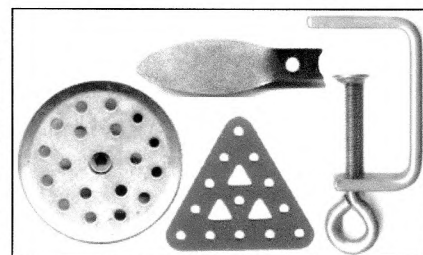
Some C.I.G.E.A. Parts Orion DreamDancer kindly sent photos & notes on some of the parts in 3 trays he has acquired. The C.I.G.E.A. parts don't fit in one but the other 2 are likely to be C.I.G.E.A. though they don't exactly match any of those shown in MCS. They are yellow cardboard, 10*14 3/4*1", with the partition tops edged in red. The parts include some BRAL & AMI-LAC but the C.I.G.E.A. ones were easy to spot since all likely ones, except the N&B, Axles, the Table Clamp, & the Propeller Blade, are stamped C.I.G.E.A. Some notes on C.I.G.E.A., mainly the range of sets, were given in 23/656.

The steel parts, including most structural parts, are probably nickel plated though many are now very dull looking. A few pieces are dark red or dark green, and in some cases the same part is in green & plated, so probably two periods are present. The bossed parts are brass, except that the Sprockets are dull nickel with brass bosses. All bosses are double-tapped, and have recessed peening rather like MÄRKLIN. The parts in the photos are listed below, with the colour if not plated. They look like MECCANO, unless otherwise noted, though the hole pitch is 13.0mm of course. Holes are about 4.4mm Ø. The thread is 'an iffy M4'. All corners are well rounded, with some near fully radiused. Scaled dimensions are prefaced by an 's'.

- **Strips.** 3,5,18,25h, #15,16,20,21. The 18h, & some of the 25h are green.
- **DAS.** 1h deep by 3,5,7h long, #23,24,25. 2h deep by 3,7h long, #98,100. 3*5*3h, #99.
- **Reversed A/B.** 1*1*1*2, #103. 1*3*1h, #?, perhaps 96.
- **A/Gs.** 11,18,25h, #79,80,81. Some of the 18h & 25h are green.
- **Flat Girders.** 3,5h, #121,122.
- **Flanged Plates.** 5*11h, #1, flanged on the 11h sides. 8h long Sector Plate, #6, with only end & centre line holes, and

6mm slots in flanges. The ends of the flanges at the 5h end have very pronounced rounding.

- **Flat Plates.** 4*11 & 4*25h, #9,10, with only edge holes. 5*7h, #8, with edge & lengthways centre line holes (see OSN 23). 5*5h, #137, fully perforated, red. 5h side Triangular Plate (below), #131, red.
- **Pulleys.** Loose, #55, one is 15.5mm o.d. & one 15.9mm. 26mm Loose, #58, with 3 face holes. 26mm Fast, #61. 60mm, #64, below, with rings of 6 & 12 holes, staggered symmetrically.
- **Of 4 black Rubber Rings,** 3 were on the 26mm Pulleys. All have 'G' moulded into them with a 4 or 5 digit number on the opposite side, possibly '23420'. They may be #228.
- **Other Bossed Parts.** 8h Bush Wheel, #51. Flanged Wheel, #53.
- **Gear,** #178, 60 teeth, s40mm o.d., no face holes.
- **Sprockets.** 14t, #164, s24mm o.d. 30t, #166, s48mm o.d, no face holes.
- **Cylinders.** s20mm Ø, s20 & s56mm long, #214, 216, steel, no holes in walls. The Cylinder End, #219, is brass, like M164 but no side holes and quite shallow.
- The steel **Table Clamp** is shown above – the body is about s79mm long.
- A steel **Propeller Blade**, above, which may be #117, is s53mm long o/a.
- **N&B.** All brass, with square Nuts, #235, 6mm A/F, and s6mm Ø fillister headed Bolts, 6 & 8mm u/h, #237,237a. Grub Screws, #237, are steel, 5.5mm long.



MERKUR in 2001 This update is based on information kindly sent by Orion DreamDancer, & also on the content of 3 web sites last June - the Merkur site, www.merkurtoys.cz; the U.S. site www.merkurtoys.com; & a Dutch retailer, www.pmot.nl. In America sets can be bought from www.erecworld.com. Incidentally MERKUR is often sold under the name M'KUR in the U.S. because, apparently, The Ford Motor Co. have registered, and I believe use, the name Merkur (it means mercury in Czech of course).

The main source of information is a **brochure** from 2001, in Czech & English. The Set Numbers alone are used on the boxes, but in the brochure have an 'M' before them. The main additions since 1997 (see 17/484) are the large No.8 outfit (see 21/613); a 2-model set, No.1.1, 4 'railway' sets, an electrical & an electronic outfit; and another 12 of the small, single model sets. Also 3 theme sets called Army, Fire, & Farmer, and the latter two are starred as being new. The 5 Mini-blister packs have disappeared, and also the 8 sets 01-08, each of which made a small rolling stock model. However similar models to most in both types are included in the new range, but not the Windmill, nor the Loco & Tank Wagon shown in OSN 17.

The lids of the existing sets are mostly similar in style to the No.6 in OSN 17 but nearly all now sport the column of little flags that can be seen on the manual cover in OSN 21. The featured models are also mostly the same and the few changes are noted below. The large red flash with 'CROSS' on it appears on most of the single-model sets, but is not on the lids of the other new sets, or on those where the lid has been changed. Excluding the theme sets, most of the new or redesigned lids have 'BIG SET' next to the set number at the top, as on the 1.1 below.



Colours. Except for the Army set the parts in the various outfits are in the usual range of MERKUR colours, although the colour may vary for any given part from set to set. This may give a better appearance in some cases but for me too many colours are used in many of the models.

The Sets in the Brochure are: • **No.1.1** (above). This measures 365*272*48mm, and has 240 parts. The 2 models



shown, a Cross-Country Vehicle & a Sporting Trike, have mainly blue parts but with touches of yellow & red. At the bottom of the last column is the rather unusual cover of the 4-page manual, mostly in shades of blue, with a rather whimsical trike and intrepid rider with a red-spotted white scarf on his head, tied at the back to give 2 flying 'pigtales'.

• **Nos.3-7** are as before except that the **No.3** now has a Mobile Crane on the lid (though the old lid is shown on the European web sites), and **No.6** has the Tractor & half Trailer that is on the M3-M8 manual shown in OSN 21, only pointing in the opposite direction. With a few minor exceptions the contents of Set 3-6 are progressive, and apart from some changes to the Tyres the No.6 is identical to the previous No.340. (The contents of the smaller sets do not correspond so well.)

The extra size of the **No.7** is because there are many more N&B, with 366 Nuts against 193 in the No.6, and in fact it has slightly fewer non-N&B parts. Compared to the No.6 it has fewer Gears, and a few less of a whole range of parts, but the most noticeable changes are extra A/Gs, 23 against 10, 13x 1*2*1h DAS, & 2 Bulbs with Holders. All these are used in the featured model, the Fire Engine, shown on the box lid, the only No.7 model in the manual (described later). This model is the same as the TECC one shown in 12/320, and though not a bad model in some ways, it is perhaps surprising that a set was created especially for it. (In passing it is worth mentioning that though the TECC No.7 is probably similar to the MERKUR No.7, the TECC & MERKUR Nos.5 & 6 certainly differ quite significantly. The contents of the MERKUR sets will be put into MCS and can be compared with those of the two TECC sets – I don't have details of the TECC No.4 except that its weight is similar to the MERKUR No.4.

• **The No.8.** The lid shows the Tracked Crane & Jeep which were on the No.6 lid. The top left inset, which could not be explained in OSN 17, are the Set 1.1 models, or very similar. The Set contains, for each part, as many as are in any of the Sets 3-7 (and probably the 1.1 as well), and a few more in some cases, plus the Motor. So a large set with 395 Nuts, 23 A/Gs, 16 Gears, 6 Couplings, and a pair of Universals. (The contents of Sets 3-7 are given in the manual below and have been quoted here; those for the No.8 are as found in an actual set. In general the actual contents of sets varies a little from the manual figures. For all the other sets the number of parts given in the Brochure is used, in preference to the number, sometimes different, which may be visible on the appropriate lid in the Brochure.) As Orion pointed out, apart from the STOKYS No.4 outfit, if it is still available, the No.8 is the only large general purpose set now on the market.

Orion sent the **M3-M8 manual** that was in OSN 17:
SUMMARY OF MANUAL •Name: MERKUR M3-M8. •Details of maker: Cross, Ing. Jaromír Kříž. •Dates &/or Ref Nos: none. •Page size: 310*212mm deep. •No. of pages: 32 inc covers, unnumbered. •Language: Czech, German, English, Spanish, French. •Printing: colour. •Page Nos. of Ill. Parts & highest PN: 30-31, 1285/4037. •Page Nos. of Set Contents & highest PN: 29, 2309/4037 (Sets 3-7 only). •Sets covered: 3-8. •No. of models for each set: 8,7,4,2,2,2. •Name, Page No. of first & last model of each set (no model nos.): 3: BAND SAW,6; CRANE,10. 4: DUMP TRUCK,11; TOWER CRANE,20. 5: BULLDOZER,19; DIGGING-WHEEL EXCAVATOR. 6: TRACTOR ZETOR,15-16; FULL-PORTAL GANTRY CRANE,22. 7: CRANE TRUCK,21; FIRE-ENGINE,25. 8: CROSS-COUNTRY RACINGS (2 models),18. •Other notes: •The models are not in any particular order. •More models, 1-11, for Sets 3-7, are on pp 26-28, with Parts Lists but no names – the first is a Saw Table & the last a Radar Dish. •The 'M8' element of this manual is on the 4 centre pages, with uses of the Motor on p17.

This manual is in the same style as the earlier 300-series, and was probably originally for Set 3-7, with the centre 4 pages added for Set 8. The other pages haven't been changed so the No.8 Set Contents aren't given, and the sets from which each model can be built stop at No.7. The No.8 pages show only the splendid No.6 Tractor that is on the cover, the use of the Motor with gearing, and 2 quite

small all-terrain models similar to the 4-wheel version from Set 1.1. Curiously none of the models on the No.8 lid are anywhere in the manual. The models for Sets 3-7 are mostly the old favourites with one or two new ones, and the No.7 Crane Truck below took my eye. None of the models for the larger sets do them justice though and it's a little sad to find only 2 models for each of Sets 7 & 8.



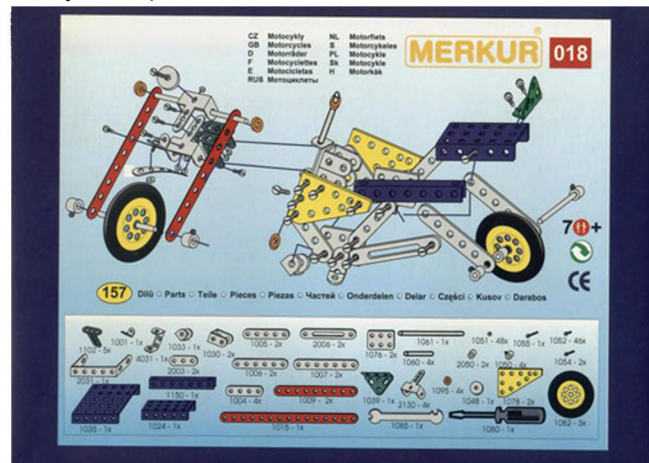
The M3-M8 manual is included in Sets 5 to 8. A known **Set 4** has an old 330 manual with an 'M4' sticker over the '330' number. The **No.3** has its own 16 page manual, 222*159mm deep, with 10 models, some new and some from earlier 300 series editions.

Next the single small model sets, **010 to 018**, of which **Nos.010 & 011** are unchanged. All the wheels on the vehicles in this series, except 018, are a Tyre on a 23mm Pulley. The parts in the sets are shown on the underside of the boxes, together with step-by-step instructions. • **012** has 143 parts and is called Service Car; the lid shows a small Jeep towing a 2-wheel Crane Truck. • The 223 parts in **013**, Helicopter, are used to make a model similar in size and features to the old Mini model. On the Dutch site the 013 has the same number of parts but the lid shows a slightly different Helicopter and a small shoulder-wing Monoplane. • The **014**, Aeroplane (94 parts) is again similar to the previous Mini model. • The **015**, Spaceship, has 168 parts and the model is similar to the old Mini Deltaplan (and that is the Czech name for the new set). The dark blue lid below



(with the corner of another set bottom right) is jazzier than any of the others. The instructions on the underside of the box are unusual in being in B&W. • The **016** Buggy (124 parts) looks the same as the old Mini set model of the same name (see OSN 17). • **017**, Truck, has 124 parts too and is an articulated lorry carrying, in the picture, a load of 'tree trunks'. • **018**, Motorcycles, has 3 models on the lid, a normal machine with & without a (rudimentary) sidecar, and

a Motor Tricycle. The set has enough parts to make any one of these but the instructions on the box (below) are only an exploded view of the 2-Wheeler. The wheels are the 38mm Pulley with Tyre.



Now **railway sets**. All the wheels are 23mm Pulleys. • The **030** (266 parts), below, makes a Loco, Tender, &



Coach, shown on the lid against a rocky backdrop. They look to be running on rails but none are in the set. The name of the set, top left, is CROSS EXPRESS. The Tender is the previous 03 model but the others are new, and the side of the Coach is a single pierced 13*5h Plate (shown later). The bottom of the box has instructions for just the Loco. • The **031** has 285 parts and makes a simple Steam Loco & a 17h long Open Wagon. Also on the lid is a small inset of the 030 models. The instructions for the models are on the front & back of a Model Sheet. • The **032** has 162 parts (the lid says 266) and makes the earlier 01 Loco & 04 Cattle Truck (or perhaps it's a Coach). • Finally the **033**, with 137 parts, makes a slightly modified version of the Crane Truck shown in OSN 17, and a 6h deep Coal Wagon with the sides made of pairs of the #1077 Angled Corner Plate.

None of the Locos is as good as the 6-wheeler shown on OSN 17.

Now for the **theme sets**. The **Farmer** has 341 parts, including about 95 N&B, in a box 365*275*48mm. On the lid is a Tractor pulling one of the other 7 models in the manual - a Harrow I think, none of the models is named. The manual cover overleaf has the Tractor, a Utility Cart (which looks as if it might sag in the middle), and a Sprayer, with the large Wheels from the Tractor as the tank. The other models are various Implements including a Combine (shown below the Manual). All simple models but reasonable enough, although it would have been nice if the Combine's rotor turned as the model is pushed along. The manual has 12 pages including covers, 223*159mm: the Illustrated Parts/Set Contents are on the BC but otherwise all the pages are devoted to the models, starting with the Tractor and finishing with the Utility Cart. Most have step-by-step pictures with the parts to be used at each step correctly coloured and the rest of the



model in a pale neutral colour. It isn't indicated in any way but it is possible to build the Tractor and any of the various attachments at the same time.

The **Fire** set is also in a box 365*275*48mm but the parts (no total is given) are in 2 layers. The lid below shows



a rather nice Fire Engine with steering and an extending ladder, and 4 other models are included in the 16 page manual. Most of the parts in the Fire Engine are red (or perhaps the MERKUR dark orange), with some bright parts which fit in quite well; but the Pulleys in the wheels, and the back of the cab are yellow, and would be much better red.

The **Army** set also has 2 layers of parts, with 677 in all, in the same size end-opening box. Ivor Ellard very kindly lent me his set, bought in Prague early in 2002. Apart from the Tools, each layer (a yellow plastic moulding in a white card tray) has identical parts in it except for their colours. In one most parts are a dark olive green and in the other, a sand shade – in both cases with a very slightly speckled finish. However in each layer the Axles, N&B, & most of the small parts are BZP, the Pulleys and a few other parts are the standard MERKUR green, and the Bush Wheels are yellow.

The box is green and there are 5 models on the lid



(above), plus a silver rocket & some soldiers that aren't in the Set. The models are 2 identical Tanks, one olive & one sand, 2 other tracked vehicles, perhaps a Machine Gun Carrier, & an Armoured Personnel Carrier, and a Machine Gun Post, or the like. On the bottom of the box are the usual Illustrated Parts/Set Contents, and instructions for the Tank, in 14 steps. In all the tracked models Plates have to be curved, which is very difficult given their thickness. The appearance of the models isn't helped by the bright and standard coloured parts, and the gun on the Tank looks a bit feeble, especially as it carries a shiny aluminium Worm as a muzzle break.

The **Motor Sets**. The 2.1 was described in OSN 17. It is now in the same size box but the top, still blue, has a different view of the Motor and a possibly different, red, 3x C cell Battery Box, open with its lid alongside. A 2.2 Set is in a larger box, 365*272*48mm, with, again, a blue top, but on it: the Motor; an OSN 17 type red & black Battery Box; a Motor-driven Mechanism; and 4 different set lids. As found the contents include more Gears, 14 in all; 2 Couplings; and a selection of structural parts such as Plates, 3 Flat & 3 Flanged; Trunnions, large & small, 8 in all; 2 each of 2h & 10h A/Gs; and various DAS. Apart from there being no Pulleys in the Outfit, the parts would be sufficient for 3 of the 5 mechanisms on the 2.1 Model Sheet.

The **Electrical Set, E1**, is in many ways similar to the earlier ELEKTRO outfit No.102 (details in MCS), but with some refinements, and with the parts used in the experiments mounted on a plastic rather than a metal plate. The parts are what might be expected in a good class electrical set and include a Morse Key, a Bell, Bulbs & Holders, a Horseshoe Magnet, a Coil, an Armature with commutator, Pole Pieces, a 6-lobe Cam, a 62mm aluminium Disc with Boss, a shallow Flanged Disc, 64mm Ø, with the flange extended by 6 lugs, a Compass Needle & Card, a Resistor & an LED (used as a diode), and Bags of Iron (filings & larger pieces), Copper Sulphate, and Sodium Chloride (salt). Also of course, structural parts, basically a yellow Plastic Plate, 25*17h, with 15 & 25h A/Gs to support the edges, and 3*5h Flanged Plates at the corners as feet. Various Trunnions & Brackets are provided to mount components and the latter are connected either by bright Strips (up to 15h) bolted to the Plastic Plate, or by Cables with split metal ends that push over the shanks of Bolts fastened to the Plate. Parts with bare wire ends are held in Terminal Posts (#5050) which have a tapped bore at one end to allow them to be bolted to the Plate. In some experiments 2 AA cells are shown clamped to the Plate by a 3h Strip, with A/Bs to locate them; in others 6v are needed and on p8 of the Manual a small multi-output transformer is shown, perhaps as a suggested power source. Among the parts are 3 & 5h Strips, and some Brackets, all with one end hole enlarged, perhaps to accept an Insulating Bush, though there is also a 3h red Fibre Strip with the same large end hole.

The manual, in Czech, is 209*150mm deep and has 64



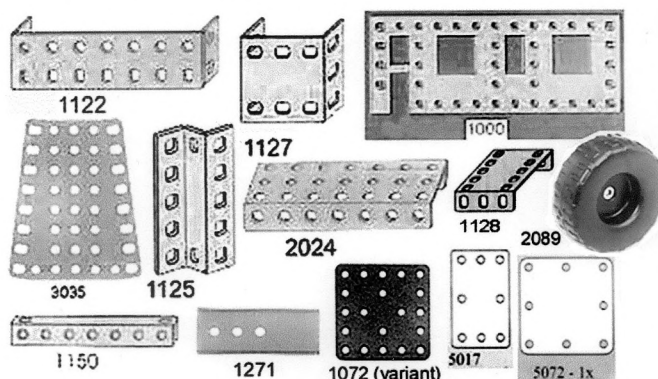
pages plus covers. The Motor on the cover above is virtually identical to the one from the Elektro set in Fig. 1B of 9/210. On p2 are a list of the 88 experiments in the manual, and they follow a 6 page Introduction. The 13 on electrostatics start on p10; the 17 on current electricity on p18; the 13 on magnetism on p27; the 25 on electro-magnetism on p34; the 11 on electrical machines on p47; the 3 on electrical measuring instruments on p54; and the 6 on electro-chemistry on p56. The Illustrated Parts/Set Contents are on pp60-63. p64 has brief biographical notes on 27 scientists, and there are portraits of 16 of them on the inside covers. For each experiment there is a photo, with a circuit diagram sometimes, and always a fairly lengthy note of (no doubt) explanation. It all looks quite serious.

The box lid is similar to the manual cover but has a red 'CROSS' label top left with some parts underneath it.

The **E2 Elektronic Set** uses the same mounting board but the wire ends of the standard resistors, capacitors, etc are looped and bolted to black plastic Component Blocks, with the same Bolts holding the Blocks to the Plate. The Blocks are connected together by Strips, or Cables with circular tagged ends. The parts include 2 Transistors, a Thermistor, and an Earphone. The 56 page manual is the same size as the Electrical one, and its cover is again similar to the box lid - with a boy setting up an experiment and another watching him. The 60 experiments inside are presented in a similar way, though with more circuit diagrams and less photos. It looks good, serious stuff, and I think I'll leave it at that.

Neither the E1 or E2 sets are listed on any of the foreign sites but since they are in the Czech/English brochure perhaps English language instructions exist. One known example of the old ELEKTRO sets has a manual in Czech plus a booklet with 'MANUAL OF INSTRUCTIONS FOR MERKUR ELEKTRO ELECTRICAL CONSTRUCTIONAL SETS' on its plain white cover. It is thought that it contains an English version of the Czech text in the Manual.

The new parts are shown below. The 5*13h pierced Side Plate, #1000, for the Coach is yellow. The Flanged Plates are: #1128 3*5h; #2024, 3*7h; #1122, 2*7h; #1127, 3*3h. #3035 is a flat version of the Flanged Sector Plate



#2035. The Plates #5017 & #5072 are Transparent Plates with only the holes shown. The 2 parts in the centre at the bottom are from the Army Set: the first is in fact an existing part, the Pole Piece #1271 in the E1 Set; the 5*5h Plate with the diamond of 4 holes in the middle is shown on the bottom of the box as the #1072 fully Perforated Plate. That leaves the 5h long Z-Girder, #1125, and the 7h long 1*1*1h Channel Girder, #1150, with only the end holes on the top face.

Other parts which may be new are: a Compression Spring, #1094, as used in the suspension of the 1.1 models; #2050, a Spacer, probably plastic, of about the size of the Collar; a 1*2*1h DAS, #4031; and a couple of Tyres - one is the #2089 Wheel used on the 1.1 models, it is probably the one illustrated in 21/613; and the other is #3089, a larger Tyre for the 26mm Pulley, used on the back wheels of the 010 Race Car.

An innovation for 2002 is a change to **Allen-headed Bolts**, though as yet they are not in all sets (they were shown prematurely in the Illustrated Parts of many of the 2001 small sets). All found to date have a smart black finish, with matching Nuts. In some sets the various lengths of Bolts have different heads and both an Allen Key & Screwdriver are provided.

In passing, the Large & Small **Pawls** (#1071 & 1070) are found left- & right-handed, and where appropriate pairs are often packed in sets.

All the **ELEKTRO E1** parts will be shown in MCS.

Parts Packs The Dutch site lists 13 of these, Nos. nd101 to nd113: Strips & A/Gs; Strips & Plates; Curved Strips; Wheels (?Pulleys); Gears; Tyres & ?Rims; Flanged & Angled Plates; N&B; 25h Strips' 25h A/Gs; Small Plastic Plates; Large Plastic Plates; Rubber Caterpillar Tracks. They vary in price from €2.50 for the Small Plastic Plates, to €14.50 for the Gears.

An oddity Over the normal black '6' in a red box, on the side of one of two No.6 sets seen, was a black '6' on a white sticker, and under it a white printed '11' in the red box. Both lids were otherwise as expected. A mistake or a new numbering scheme that never happened?

'New' System: MECHANIK The Nr.100 set (below), no doubt German, is said to be 50 years old. The box is red with most of the lid covered by a label. The name in blue is suspended from a large Crane set against a pink and white background. The right hand panel is red with Nr.100 on it, and a logo which seems to be the letters KU with the K's top oblique in the form of a crane's jib. Along the bottom in a blue panel is MECHANIK METALL-SPIELWAREN (Mechanix Metal Toys). But the X in MECHANIK might (just) be a stylised K.



The parts that can be seen are: • Strips with 3-11h, 3 & 5h long DAS, Brackets, 2h+ Ø Loose Pulleys with 4 face holes, and what may be an 8h Wheel Disc. All these parts look as if they could be aluminium. • 2h Ø Fast Pulleys, & an 8h Bush Wheel, both with a brass look. 2 of the Pulleys are fitted with black Tyres, or fat Rings. • Square Nuts and CH Bolts. A Spanner with a ring opening at one end & hex jaws at the other.

SNIPPETS: MERKUR Several out of the way sets are mentioned below, including one which might be a 'new' system. No dates can be given for any of them, indeed very few dates are known for sets before the 1990s.

Below a box lid, printed in what looks like a dull olive colour – MERKUR can be seen in the oval at the bottom of the frame at the top, and along the top the name METROPOL can easily be deduced, followed by ?EKTRUS. ELEKTRUS is a MERKUR name but there hardly seems room for the EL. METROPOL was an architectural system using Panels bolted to frames made from standard MERKUR parts. ELEKTRUS was an electrical set, probably before the later ELEKTRO outfits, but like them composed of a mix of standard & special parts.



The models to the right and in front of the boys are well known standard MERKUR, while those to the left might be METROPOL, though the skyscraper is a lot more ambitious than anything shown in MCS.

The outside of the box is probably black, with white inside, and there are 3 layers of parts, with card partitions in the bottom and the 2 trays. The parts that remain are the usual colours of green (a much lighter shade than usual) Pulleys, Bush Wheel, & Trunnions, orange-red Strips & A/Gs, and blue Flanged Plates. Short Strips & Brackets are black, the colour used before they were nicked. No METROPOL Panels can be seen, and the only part that might be 'electrical' is a bulb in a holder.

Now the No.3 Set below, in a purple box with a label showing a green loco in front of a workshop. The parts are in



a white foam tray, with green Pulleys, blue Flanged Plates, black Brackets, and brown, not orange Strips. Below the manual with the Set, orange printed in black, and the picture in the frame is the same as on the lid of the first Snippet above. Unfortunately the words at the top are not clear enough to say what they are. An open page shows models typical of those for a small MERKUR outfit.



Another set has the same label as the No.3 but on a red box; the set number can't be seen but it is a bigger outfit. The box is white inside and has card partitions, so is

probably earlier than the No.3. The colour scheme is the same, & 2 parts in very deep yellow, probably a Bush Wheel & a Contrate, are the shade of those with my own brown parts. The Manual, right, is different unless it is the title page rather than the cover.



The lid below is from a set for Denmark. It is blue with a light green panel model panel on the left, and at the top, INGENIØR-SÆT in red with



MERKUR underneath in white. Under that is SUPPLERINGSÆTKE 5L (though the L may be another letter), so a set linking Set 5 & 6, called 5B in MCS, from the 1-7 series of sets (see 9/210). The logo top left is a stylised clockwork figure with trumpet & key - it seems famil-iar but I can't place it. The letters under it are indecipherable. The bottom of the box is red, white inside with the expected moulded translucent tray for the parts. The major ones can be seen & correspond to the MCS 5B. The colours too are as expected, red-orange, green, blue, nickel, with the Gear Wheels a lightish yellow. The handle of the Screwdriver, #81, looks to be orange plastic though, rather than the wood in MCS. (According to MCS #81 is in the Set 6 but not 5B.)

The lid of the final set is olive or similar, with a label in 2



shades of blue (above). The name & FHW at the bottom are orange, & it is those initials that are puzzling. On ebay it was said that the set was made by Metallwarenfabrik Fritz Hochstrate, & that it might be prewar. FHW could stand for Fritz Hochstrate Werke (factory) but Fritz Hochstrate, or any other FHW, is not known to have been associated with MERKUR, or any other system. The box, off-white inside with partitions edged in the olive, has a mixture of parts, with most looking like TRIK. But the others include a number of black Strips & Brackets which look slightly narrower than the hole pitch. A 7h Strip with slotted end holes can be seen clearly. Also in the box is a red 5h Ø Flanged Disc Pulley. The models at the sides of the label are not similar to any in the earliest MERKUR manuals to hand (from perhaps the 1970s or even later) & are not in the style of any known illustrations. The parts in the box may not be original but even so is the set Czech MERKUR or another of that name?

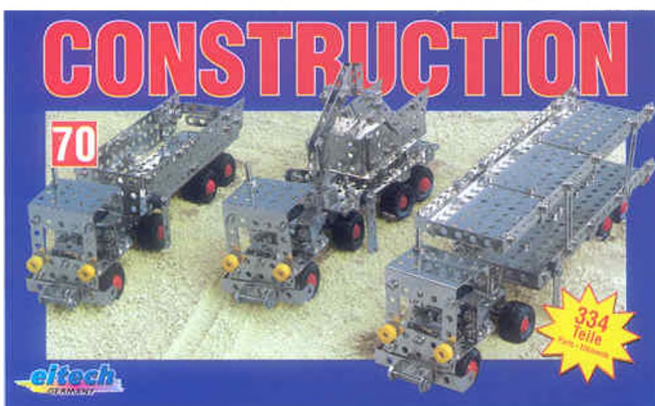
CONSTRUCTION in 2002 David Hobson kindly sent an Eitech 2002 catalogue. It's in English and apart from the language is the same as the German version on the Eitech web site (the very slow www.eitech.de). 7 of the 2001 sets (see 25/726) have disappeared, and 5 new ones have been added.

Those no longer listed are the Solar No.71, the 67 (small Space Craft), No.68 (Sportsmen), the Elektro-Box 161, No.20 (more Space Craft), and the 156 & 157 Mini (Aero) Sets.

There are two **changes** to the remaining outfits. The **No.30** Fuel Cell set has a different Cell, and a white plastic 12*16h Flanged Plate on which the Cell, the Hydrogen Cylinder, & the Motor are mounted. They are shown on the label below, on the blue plastic case, 45*34*10.5cm, that the set is now packed in. The other change is noted at the bottom of each page: 'New: includes **Philips screws** – DIN 7985'.

The **Elektro-Box 162** set is shown for the first time – it is in the same red case as No.161, and the label is similar but without the model with the swirly disc (see 25/726). The labelling of the other existing sets is as before, except that **No.155** (Eiffel Tower) has an oblong label with the same box & model as on the previous round one.

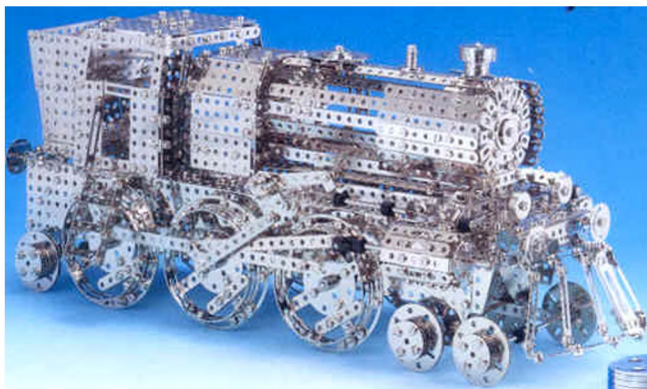
New Sets These are: • **No.69**, with one featured model a small Lorry-Mounted Crane, and the other a Snow Plough (possibly) with a 5*11h Flanged Plate as the load platform. • **No.70** (below) in similar vein but larger with 334



parts, and the 3 articulated Lorries shown are, though small, more attractive. One is an ordinary Truck, one carries a skip, with a crane behind the cab to move it, and the third is a 2-deck Car Transporter. • **No.08** is larger with 722 pieces and 'constructs a multitude of models'. Those shown are 2 types of Tractor, one with a Trailer, and a Grader. Again fair looking models, and larger, with the blade on the Grader about 15h wide. Like those in Sets 69 & 70 all the parts in the models are metal, apart from the Seat & the Wheels. • **No.32**. More Lorries, and considerably larger, some 50cm long. The set has 1482 parts and is packed in a blue plastic case, 32.5*29*7cm. 3 Trucks are shown: the basic one below, the second with a small crane behind the cab, and



the third with a blue box-shape canopy on the back, with 'eitech' in white on its sides. The Wheels of perhaps 7 or 8cm Ø look new. Leaf springs can be seen at the front, and a steering wheel in the cab, but no steering mechanism is visible. Again only one or two small parts are plastic, plus the canopy no doubt, but a less attractive feature of this approach is that the load platform of the models is only indicated by a few cross Strips, to keep cost down presumably. It might have been better to fill these in with Plastic Plates, provided they were a suitable (black or grey) colour. • **No. 31**, a set with 2566 parts in a blue plastic case, 45*34*10.5cm, to build the 60cm long Loco below. The small



wheels are made from a stack of 30mm Discs bolted to a 50mm one. The tread of the large wheels are 11h Slotted Strips suitably curved, with Curved Strips forming the flange. Both are joined to the central Face Plate by 4 Strips. The boiler is made from Strips, with appreciable gaps between them, bolted to more curved 11h Slotted Strips (it may appear from the illustration that the Strips are close together at the smoke box end but what can be seen is actually a smoke deflector, with the 'gappy' boiler behind it). There seems no reason why the boiler Strips should not be close to one another at 1cm spacing. There is no indication that the model is powered.

The **labels** on the outfits not illustrated here are in the same style as those shown.

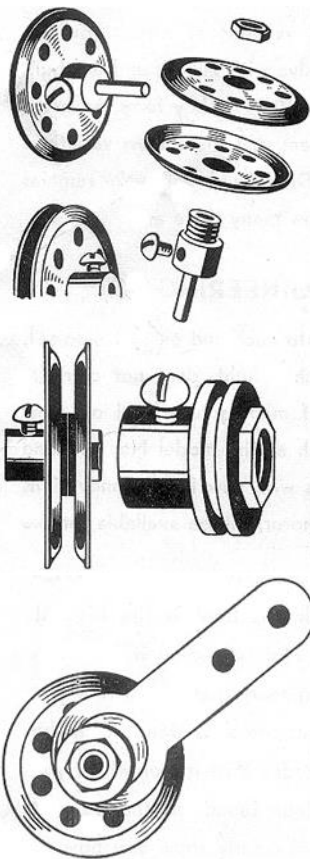
Parts Packs. Nos.101-113 are as before. **No.114** is the Motor with Gearbox that was in the C40 set, see 6/133. I'm not sure if it has been in other sets since but its case is now blue instead of yellow. No.115 isn't mentioned. **No.116 & 117** are respectively, the 3-4.5v Motor, & the Battery Box, from Pack 109.

The Catalogue came from Snooks in Bath who last April had some of the sets in stock. They included Nos.63 & 69 at £6 each, No.03 at £30, No.13 at £24, Nos.15 & 32 at £48 each, No.75 at £35, and Nos.76 & 78 at £40 each. Also Tim Edwards wrote that in July The Secret Toy Shop, The Pantiles, Tunbridge Wells, had a good stock of a number of sets, and could obtain any of the other sets.

MYSTERY PART No.12 That's the squiggly wire Screwdriver in 5/95. Orion DreamDancer has come across one in an AMERICAN MODEL BUILDER set, though there were other 'foreign' parts in it. Any other sightings?

MYSTERY PART No.45 More from Don about the 1½" Gear with the square centre hole for the boss (see 26/753). The disc is almost identical in diameter and has the same tooth form as a MECCANO 56t Gear with a similar, thin disc. Two of the 'square' ones have now been found in an American No.5X MECCANO set from c1920, and so it seems possible that the part was a wartime Meccano expedient, with the square hole for fear that a zinc boss would slip under load. As far as is known no 1½" Gears with any sort of zinc boss have ever been found in the UK, so how such parts got to be in an American set remains to be explained.

BUILDO That's the American one from just after WW2, a small system of 36 parts, plus another 12 or so to make an Electric Motor. The pitch of the holes is the usual 1/2", but their diameter is less than 4mm to suit the 6-32 N&B used. BUILD O was the brainchild of Weston Farmer (see 24/715) and its interest lies mostly in two patented features, shown right. The first was the use of a Threaded Hub (rather like the MECCANO one for the Circular Saw) to join Pulley Discs (called Diskos) and smaller Discs, all with a 1/4" centre hole; the second was an Eccentric with an Offset Disc which was attached to a Shaft using the same Hub. Most parts found are aluminium but the earliest were steel.



HISTORY The first set, No.45, with steel parts, was produced late in 1945. On the box lid is 'The Buildo Company, Minneapolis' (Farmer's company) with in much smaller letters 'BUILT FOR THE BUILD O COMPANY BY SKG CORP'N'. The address on the back cover of the manual for this set is 'THE BUILD O COMPANY, FOSHAY TOWER, MINNEAPOLIS 2, and alongside is 'Copyright, 1945'. The manual to hand has '5th Edition, 40,000 Copies' on p3 & p33, and on p14 'Buildo Bill' says 'When Weston Farmer contracted with me to build up to 200,000 Buildo sets before Christmas of '45, V-J Day had just passed.', and 'We call it "Model 45" because it was designed and built in 1945 for sale throughout '46.'

After the No.45 came Sets 400 & 600 with aluminium parts. The manuals for these sets are Copyright 1946 and the Buildo company address is given as 209 Foshay, Minneapolis 2. The 600 outfit contained parts to build a 6 volt motor called the 'Bumblebee'. Mention is made of Sets 900 & 1500 in both manuals but it is believed that neither outfit was actually produced. Both were to have included a mains motor, also called Bumblebee, and the 1500 was to have had 'Chains & Gears' (the 600 actually has Sprockets and Chain).

John Farmer, Weston's son, wrote of his recollections of BUILD O's history: 'At some point soon after the surrender of Japan in 1945, BUILD O was launched to fill a toy vacuum created as a result of metals being needed for the war effort. With the cessation of hostilities those metals once again became available to private industry for general consumer products. The initial BUILD O parts were stamped out in steel and the shipping costs were not of any great consequence at first due to the fact that the Warner Hardware Co. of Minneapolis absorbed all of the early production. By June 1946 sets made of aluminum were starting to be produced. Shipping costs were then a major consideration as production expanded to meet the clamor of retailers nationwide for toys to sell. An additional benefit of aluminum was the ease of coloring the parts by the anodizing process. Orders for BUILD O sets piled up, the electrified set was launched and expectations were at an all time high. Unfortunately the paper products industry could not keep pace with the huge demand for packaging, and heaps of BUILD O sets had been produced and were awaiting boxes, etc. - sets that had already been sold to wholesale and retail buyers, and which couldn't be delivered on schedule. The cash flow situation deteriorated and a West Coast entrepreneur, Clinton Merrill, came to the rescue by buying Buildo from Dad, along with all the orders and associated debts. He had driven to Minneapolis to complete the deal which assumed the debt and provided Weston Farmer with a royalty on future sales. Unfortunately, Mr. Merrill was killed in an auto accident on his way back West, and BUILD O died with him. So the royalties were never realized, but at least the debts were no longer a burden.

On the SKG Corp.- it is my understanding that it was a stamping/manufacturing job shop that was utilized for production because Buildo had no factory of its own. I believe that one of Buildo's investors was connected with the firm.'

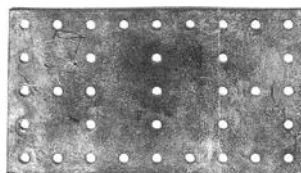
But maybe that wasn't quite the end of BUILD O because a No.200 set, not known before, has 'The Buildo Co., 416 Puyallup Avenue, Tacoma 2, Wash.' on its box and model leaflet. That's a West Coast address and so perhaps Merrill's executors sold the rights to BUILD O, or otherwise caused sets to be put on the market. The Leaflet also advertises the No.400 outfit. The only other possible clue to its date is a 'Tested & Commended by Parents' Magazine' logo on the box.

PARTS Most of the parts, from a 600 set, are shown at the top of the facing page, and the notes that follow refer to the aluminium parts commonly found in the 400 & 600 sets, with mention of the few variations known. Pieces not shown are asterisked. Except where stated the parts are made from aluminium about 1mm thick. The only slotted holes are in the Flanged Disc. The differences in the steel parts, and those in the 200 outfit are given afterwards. The numbers of parts in curly brackets are those in the 45 set, the only one with a published inventory.

DATA (in mm) Strip (11-hole): •Hole pitch/dia, 12.7/3.7 •width, 12.8; •thickness, 1.30; •large radiused ends. Boss (detachable): •o/d, 9.5; •i/d, 3.67; •brass; •single tapped. Thread: 6-32. Axle Dia: 3.33 (but see below). Nut: hex 7.9 A/F; Bolt*: pan head 7.1 dia., 8 u/h; both brass. But see also below.

Strips with 2,3,5,11, & 24*h {4,4,9,6,2}. At 1mm the 2-5h Strips are thinner than the 11 & 24h. The ends of the 2 & 3h are nearly fully radiused. The **DAS** matches the Strips {4 called 5 Hole Arches, and there are also 4 Axle Arches*, a formed DAS, shown later as the front axle of a Dumper Truck. This part hasn't been seen in aluminium.}

Plates. 5*9h Flanged Plate {1}; & 6h long Flanged Sector Plate {1}, with 5 holes across in the first two rows. Flat Plates 3*5, 5*5, & (below) 5*9h, though it may only exist



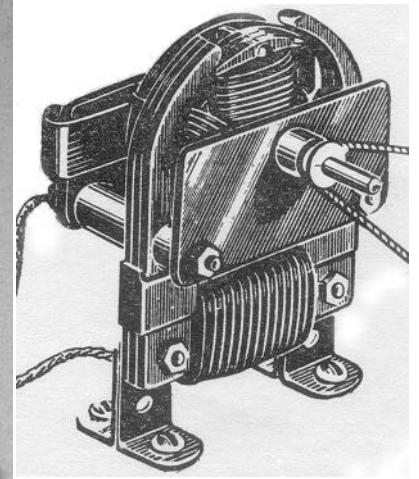
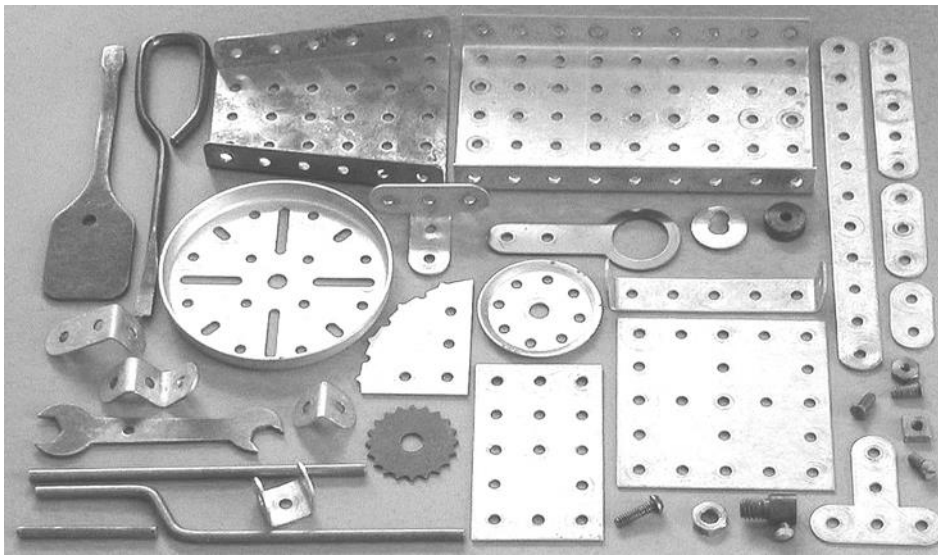
in steel {2,2,1}. All corners are square except for slight rounding on the Sector Plate. Later (probably) the two smaller Flat Plates were fully perforated, and the 5*9h had a complete row of 9 holes along the centre.

Discs & Pulleys. The Pulley Disc is 38mm Ø, and the 1/4" centre hole has PAT. APL'D FOR stamped around it. {10} It is sometimes found anodised orange. The Flanged Disc is 72mm o.d., 7.7mm deep o/a, with the same 1/4" centre hole, and slots 19.5 & 6.7mm long {1}. Discs* (washers) of about 12 & 17mm Ø with the 1/4" bore, were mostly used with the Pulley Discs to give different size pulleys {5 total}. The 1/2" **Pulley** is solid brass, 12.8mm o.d., 3.8mm bore, & 4.8mm wide {1}. The **Threaded Hub** used to join the 1/4" hole parts is brass, 3/8" Ø, 7.9mm long, with an 8mm long extension threaded 1/4"x20tpi {5}. The 1/4" hex Nut for it is 9.7mm A/F & 3mm thick; some are aluminium and some brassed steel {5}.

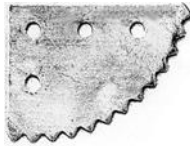
Shafts. 40 & 98mm long {2,2}, and a **Crank Handle** 125mm o/a {1}. All are steel with sheared ends, and reported diameters vary from 3.23 to 3.58mm. All are rather loose in the Hub.

Brackets. A 1*1h & a 2*1h A/B {2,2}. A Double Bracket {4}. A Reversed A/B {4}. A 3*3h T-Bracket & an Angled version of it {2,2}. The ends of all these are fully radiused or nearly so. There are also 4 unidentified 'Z Hole Clips' listed for Set 45.

Chain Parts. The Sprocket is 27.9mm o.d. and has 20



teeth; it is 1mm thick & is anodised red. At 1¼mm the Chain Quadrant is slightly thicker and has 4 shallow, triangular teeth, with a pitch of about 16mm, equivalent to 4 teeth on the Sprocket. The semi-circular cutouts between the teeth are of no apparent use. 4 Quadrants bolted to a Pulley Disc give an o.d. of about 80mm. Below is another version with 13 complete normal teeth, but at a rather coarser pitch than those on the Sprocket. In the 600 manual it is suggested that the Quadrant could also be used as a Corner Gusset. The Chain* I have has a pitch of approximately 7.7mm (about 5/16") and is 8mm wide – it doesn't run on the sprockets very well & as it looks just like ERECTOR Chain, it may not be genuine.



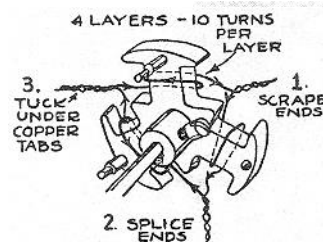
The **Eccentric** {1} Strap is 1mm thick and is usually anodised red. The Offset Disc is 1.7mm thick, 17.4mm Ø, and is similar to the 17mm Disc but with the extra ¼" hole offset about 5/32". The part's extra thickness ensures that the Strap does not bind against adjacent parts.

Fastenings. Plain steel as well as brass Nuts may be found, and several other patterns of Bolts, as follows. Dull plated steel with a tiny 5.5mm Ø mush head, and 9mm u/h. Longer, ½" u/h, plain steel with a 6.2mm RH; and long ones with fillister heads have been reported too. The Set Screw is dull plated steel with a 5.5mm Ø fillister head, and is 5mm long u/h. The Axle Stop* from a 600 set is a black fibre washer, 8mm o.d. & 1.7mm thick. It is hard to push it onto a Shaft. {50 N&B are listed with unspecified numbers of Long Bolts, Washers, & Axle Stops}.

The **Tools** are dull plated steel. The Wire Screwdriver {1} is 120mm long and the wire is 3.8mm – slightly different shaped examples may be found, with squarer top corners for instance. The Plate Screwdriver probably superseded it and is 107mm long, 2mm thick, with a 4.6mm hole in the handle. Another version* has a centre cutout in the handle and the (smaller) hole is in the flare between handle & blade. The Spanner {1} is 74mm long, 1½mm thick, with a 3.1mm hole. One end fits the standard Nut and the other the Boss Nut.

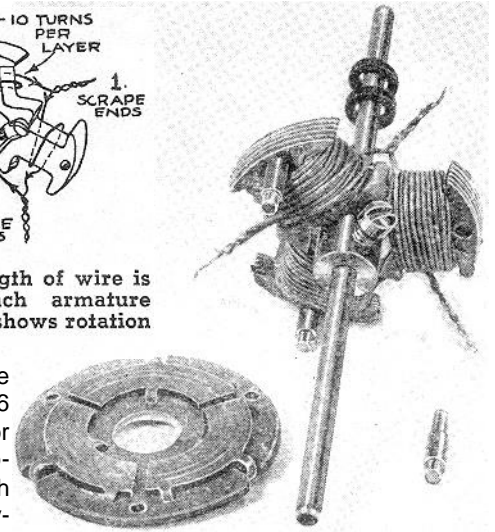
The Motor Parts. Referring to the views in the next column, from the 600 manual, the Shaft runs in front & rear brown insulating Bearing Plates, 51*27*3mm – they are identical with 7 holes: 1 in each corner, a top centre hole for the Shaft, and a smaller hole between it and the corner holes (to take a tab on the end of the Brush). The 6-32 side Studs are brass, 41mm o/a, with the centre 9.5mm Ø & 16mm long. The matching Spacer on the front side of the 7 Field Laminations (51½*64½mm o/a) is 6.3mm long. Each of the U-shaped, coppery Brushes, 11.2mm wide & .35mm thick, is bolted to the rear Bearing Plate. The 3-pole Armature, about 38mm Ø, has 7 laminations too and is fixed to the Shaft by a Set Screw in a brass boss; the copper Segments of the disc-type commutator are held by bent-over tabs through a red fibre Disc, and this assembly is a push fit

on 3 shouldered rivets that hold the laminations. The windings are to be hand-wound using the .68mm Ø cotton-covered copper Wire supplied, 90 turns for the field & 40 on each armature pole. Not easy that! The poles & field are connected in series, and the wires from the poles are held under more tabs on the Segments. I ended up soldering mine, but even then, and on

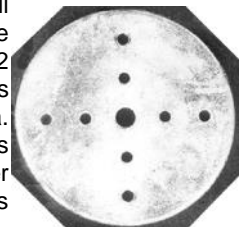


A five foot length of wire is wound on each armature pole. Diagram shows rotation of winding.

well above the recommended 6 volts, the Motor didn't really produce very much power. Has anyone else made up one of these?



The Steel Parts. The steel used in the fair selection of parts to hand is 1mm thick, even for the 11h Strip, but the 24h and the other parts made of thicker aluminium have not been seen. The finish is said in the '45' manual to be 'flash Cronak plating'. I'm don't know the term but probably the parts were originally bright – now they are dull grey with patches of darker grey, and the fingerprints that can be seen in the finish point to cadmium plating. The holes in the parts are 3.6 rather than 3.7mm. Like the aluminium ones, the parts are well made except that the radiusing on the ends of the steel Strips is not always well centred and a step on one side can be seen in one or two cases. The normal 2 & 3h Strips are known but also versions with one end hole slotted to 6mm o/a. The A/B & Reversed A/B also have this slot. The Flanged Disc on the other hand (right) has only 2 rings of 4 holes each, with no slotted holes.



The Set 200 Parts. The Flanged Plate has slightly rounded corners, and the only other Plate, the 3*5h is fully perforated. The stamping around the centre hole of the Pulley Disc is 'PAT. 2,410,409'. The Hub is aluminium and its Nut is dull plated steel. All the Bolts in the set are like the Set Screw described already, and the Nuts are square, dull plated, and 7.8mm A/F. The Spanner from the Set is missing and the Screwdriver with it has a yellow translucent handle,

though the 'plate' type is shown in the Model Leaflet. The finish on the parts is matt rather than the earlier shiny look.

SETS All the outfits except the 200 are packed in cardboard boxes with the parts attached to a backing card – often orange, but red, green, & yellowish ones have also been seen. In the 600 manual a wire hook is shown, made by 'twisting one of the clips you'll find holding the parts fastened to the Buildo box'. The parts are laid out attractively in all the boxed sets, with many individually mounted.

The 45 lid, 423*283mm, is shown below, yellow with red & black print. No set number but note the 'Steel Toy' top right.



The first 400 lid is similar but with 'Standard' under Buildo, a very small 'Model 400' bottom centre, 'Metal' instead of 'Steel' Toy at the top of the panel, and the cover of a 45 manual at its bottom. A later lid has the Model 400 in larger letters, and what may be an open manual instead of the 45 cover. The 400 lid shown in the 200 Leaflet is similar to the first type with the 45 manual at the bottom, but not all the lower lid is visible.

The 600 box is a little larger, scaling at 46½*30cm. The lid below is again similar but with 'Electrified' under Buildo,



and the boy at the bottom has a Motor-driven Windmill. The panel surround is a pair of twisted electrical wires, and at the bottom is the old 45 manual cover. '#600 ELECTRIFIED' is on the side of the lid.

Set 200 is in a cardboard tube (right) with a metal bottom & screw on lid, both brass. The overall dimensions are 80mm Ø & 192mm high. The wrap round label is yellow with red & black lettering, and 11 of the Leaflet models are printed on it in B&W. 'Buildo' is at the top front & back, with underneath 'No.200' in tiny letters under the 'Bu'. The company's address is around the bottom.

The contents of the '45' have already been given and the main parts are 1 each of the 9*5h Plate and the two Flanged Plates; 2 each of the 3*5 & 5*5h Plates; a Flanged Disc; 10 Pulley Discs & 5 Hubs; and an Eccentric. The contents of the 400 & 600 sets are only known from the models & the photos of the Sets in the manuals.

The No.400 is broadly similar to the 45 but with 2 Flanged Discs but no 5*9h Plate. There are also 6 DAS against 4 of each type in the 45. In the photo of the 400

set in the 200 manual only 4 DAS are shown. The layout of the parts in the 400 is similar to the 45 in MCS but with the 5*9h Plate replaced by the second Flanged Disc. In the photo of the 400 in the 200 leaflet, the second Flanged Disc and the circle of 4 DAS have changed places.

Extra parts in the No.600 included another of each Flanged Plate; Chain, a Sprocket, & 4 Chain Quadrants; and the Motor parts of course. The layout of the parts in the box is completely different to the 400 and a photo of it is available if anyone needs it.

From the models in the 200 Leaflet and the parts found in the Set, its likely contents are: a Flanged & 2x 3*5h Plates; 4,6,10,6 of 11,5,3,2h Strips, and 4 DAS; 8 Pulley Discs, 4 Hubs, 2 each of Long & Short Axles, and a Crank Handle; 2 Double Brackets, and 4 each of A/Bs & T-Brackets; about 24 N&B, and 4 Axle Stops. Only 3 or 4 of the 3h Strips, and none of the 2h are needed in the models.

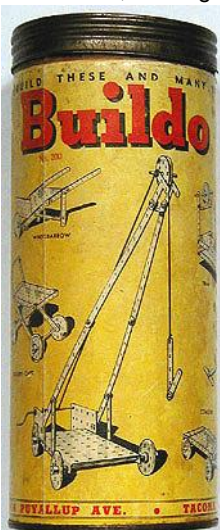
THE MANUALS & MODELS In this section models illustrated are asterisked. For clarity the illustrations are taken from a 600 manual.

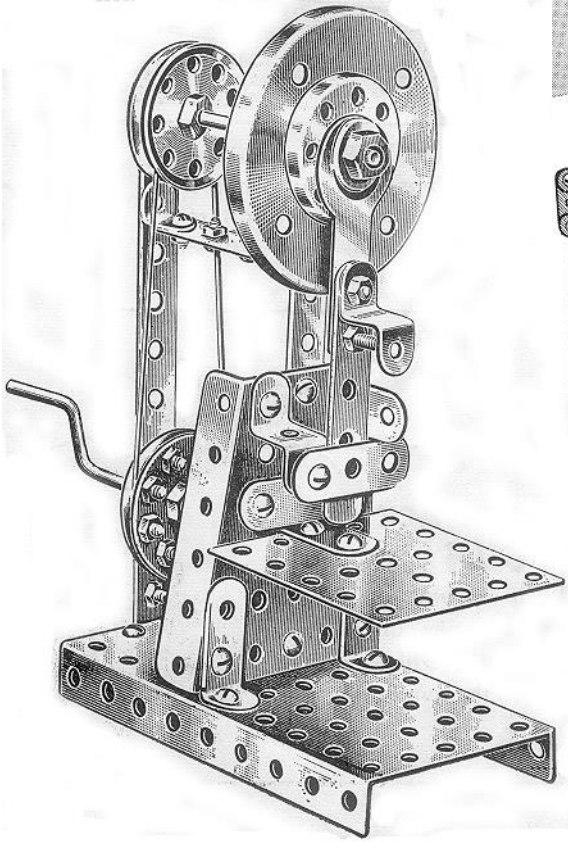
SUMMARY OF 'Set 45' MANUAL •Name: The BUILDO BOOK. •Details of maker: The Buildo Company, Foshay Tower, Minneapolis 2, Minn. •Dates &/or Ref Nos: Copyright 1945. Fifth Edition, 40,000 Copies. •Page size: 228*152mm. •No. of pages: 36 inc covers. •Language: English. •Printing: B&W ½-tones; red, yellow, black cover (below). •Page No. of Parts List/Set Contents (no PNs): 34. •Sets covered: No.45. •No. of models: 58*. •Name, Page No. of first & last model (no Model Nos.): WINDMILL, 2 & 10; STEAM SHOVEL, 32. •Other notes: *details from photocopy, *pp4,6 missing. •Notes by Buildo Bill on pp3,8,14,15, and Basic Constructions on pp5,10,35. •Picture of Set on p34.



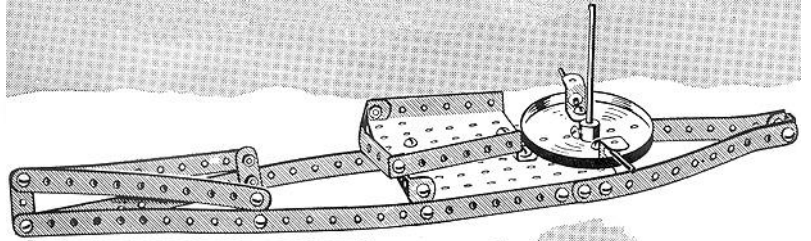
There is a halftone of each of the 60 or so models, with no Parts Lists but auxiliary views & brief constructional notes in some cases. As would be expected given the size of the Set, the models are not that large; and they are fairly basic in appearance and, with one exception, in function. But there is a good selection of the usual favourites, with machine tools and fairground models to the fore, but also cranes, windmills, an engine or two, domestic items, etc. Good use

is made of the Eccentric to give reciprocating motion in a number of the models, and it can be clearly seen in the Punch Press* on the opposite page (the Eccentric Disc is held by the 17mm Disc outside it). The most up-to-date model is the Helicopter*, with the correct step-up drive to the tail rotor. Other models to catch the eye are a neat Sewing Machine, and a Clock* (overleaf). The latter doesn't keep time and in the 45 manual this is to be deduced from the title – 'The Buildo Clock is Cuckoo, but it makes time fly'. The escapement is interesting but getting it to work is challenging. The exception mentioned above is a Steam Shovel* (from the 45 manual) with what seem to be pulley winches for the shovel arm & slewing,





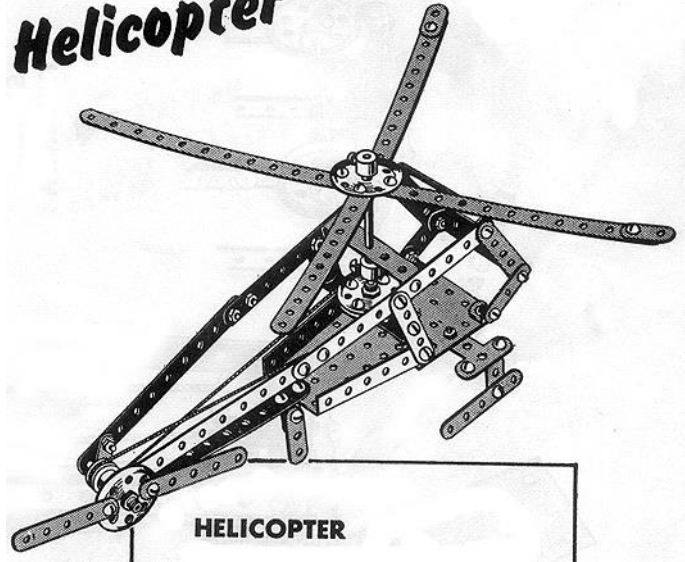
JUST LIKE THE STAMPING PRESS THAT MAKES BUILD



DESTROYER . . . Bridge is amidships, gun turret has two cannon made with short rods attached with fibre washers. Or use brass collars.

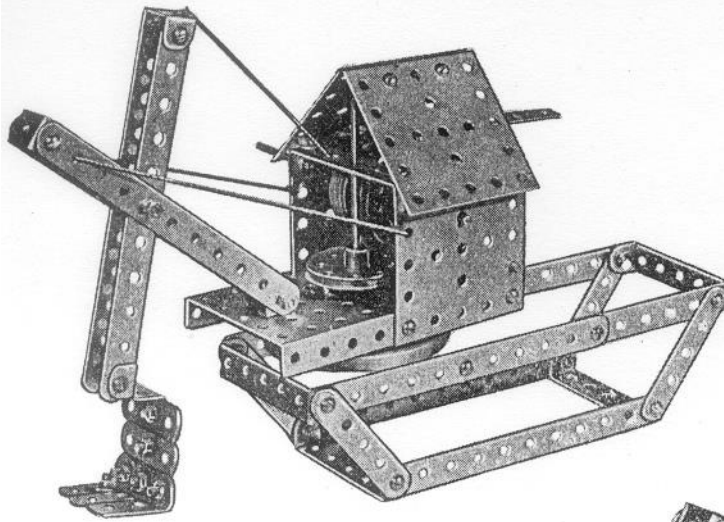


Helicopter



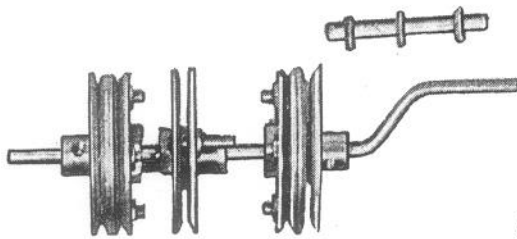
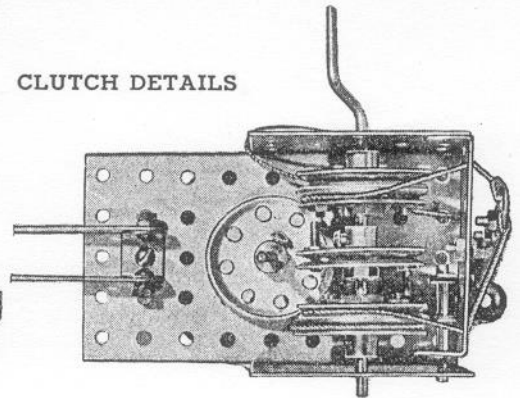
HELICOPTER

STEAM SHOVEL HAS CLUTCH FOR RAISING SHOVEL, TURNING TABLE

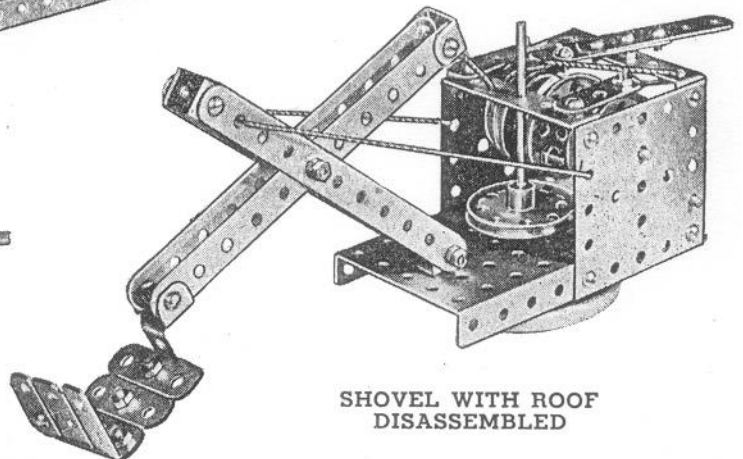


STEAM SHOVEL

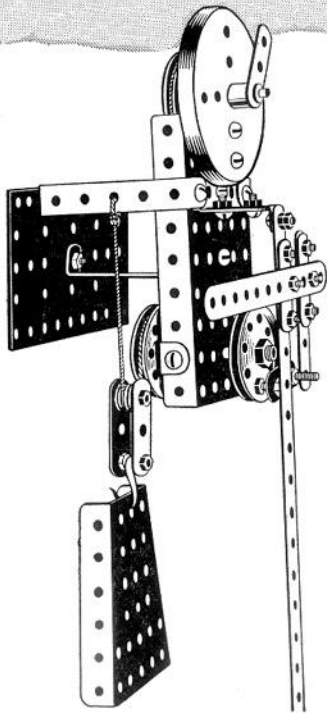
CLUTCH DETAILS



CLUTCH DETAILS



SHOVEL WITH ROOF DISASSEMBLED

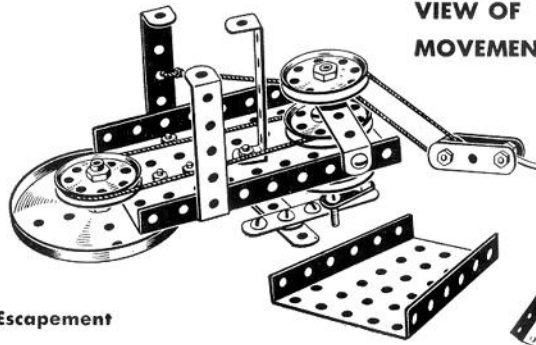


SIDE VIEW

← Escapement

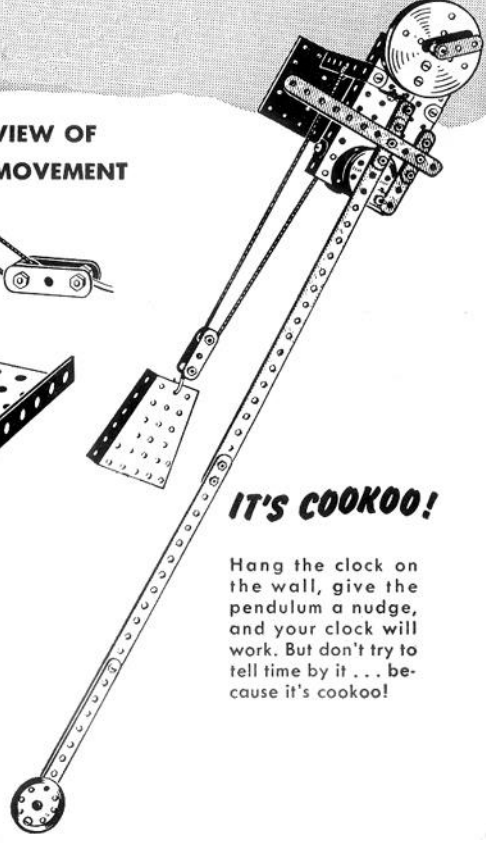
Amaze your friends with a clock that runs! With each swing of the pendulum the escape dial wheel lets the weight drop, turning the hand on the clock. Rewind when weight reaches end of string. Escapement is shown at left. Use lock nuts as indicated, and make trip from long bolt. Use one of box staples to form a hook.

VIEW OF MOVEMENT

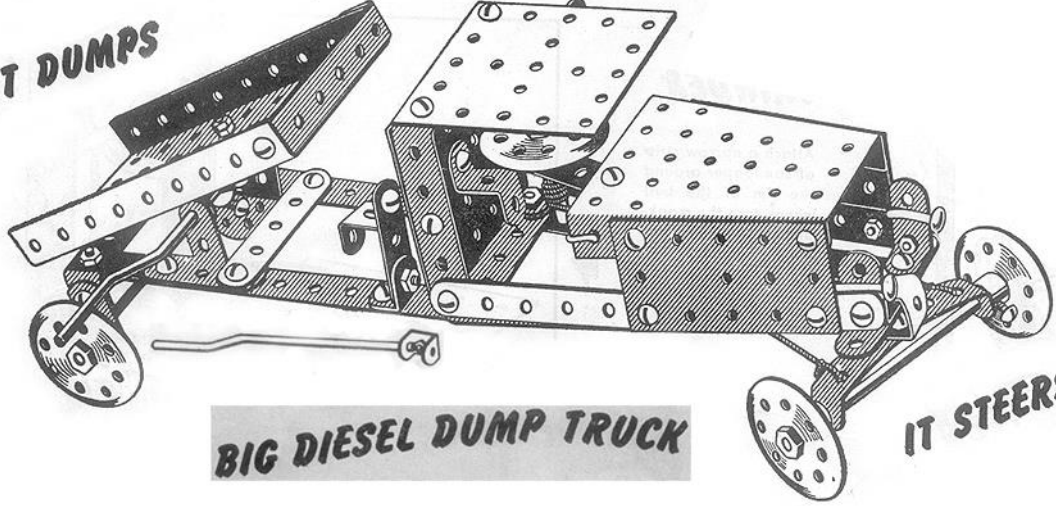


IT'S COOKOO!

Hang the clock on the wall, give the pendulum a nudge, and your clock will work. But don't try to tell time by it . . . because it's cookoo!

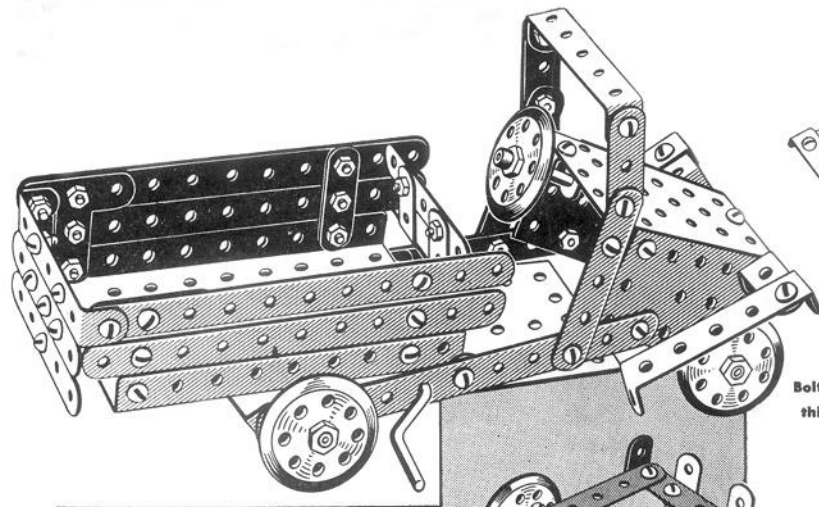


IT DUMPS

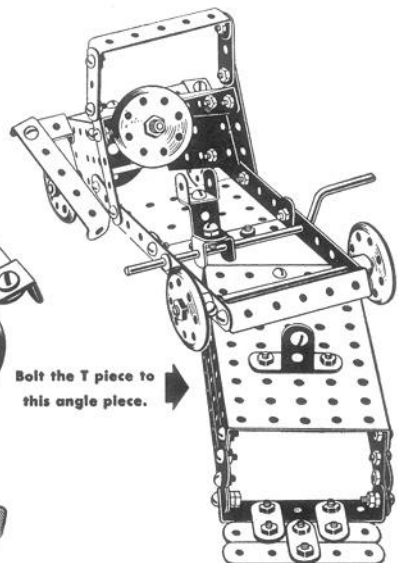


BIG DIESEL DUMP TRUCK

IT STEERS



TRAILER
Haul boats, lumber, or doll house furniture.



Bolt the T piece to this angle piece. →

Note that U piece has nut above and below, so you can fasten this part firmly to the crank rod. Turning crank lifts front of dump section. Note that the bent T piece on the dump section is bolted to the angle piece at the rear axle. Use lock nuts on this angle piece and on the tail gate.

engaged by a lever-operated clutch in between them (Bolts in the centre pulley engage those is the pulley winches). I can't quite see the run of the cord for the slewing. The inner pulleys at each side seem to be brakes operated by the lever at the back of the cab. Noticeable in the Manual is the almost complete lack of motor vehicles, and, apart from an Ice Boat, the only ship is a rather rudimentary Battleship*. It is called a Destroyer in the later manuals.

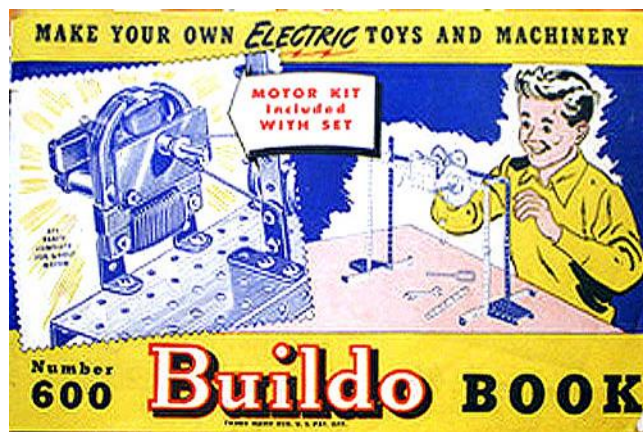
One of the several introductory pages by 'Buildo Bill' is about patents, and a novel way of getting ideas for new models. Instead of the 'valuable prizes' offered by some makers in model building competitions he offered a 'Buildo Patent' to anyone submitting the design of a model considered worthy of being included in a subsequent manual. The 'patent' was a photo of the model as reconstructed by Bill, 'mounted on a printed board stating that you, a Buildo Engineer, have invented this particular model.'

SUMMARY OF 'Set 400' MANUAL •Name: Number 400 Buildo BOOK. •Details of maker: probably on the missing p1*. •Dates &/or Ref Nos: Copyright 1946. •Page size: about 228*150mm. •No. of pages: 32+covers. •Language: English. •Printing: B&W line drgs; red, yellow cover (below) similar to '45' but different boy with yellow shirt, & no black background (as MCS/FB p2). •Probably no Parts List/Set Contents*. •Sets covered: No.400. •No. of models: 53. •Name, Page No. of first & last model (no Model Nos.): ARMY SEARCHLIGHT,3; BOAT,32. •Other notes: •details from photocopy, *p1, & BC missing. •Basic Constructions on p2,4. •Picture of Set on IFC.



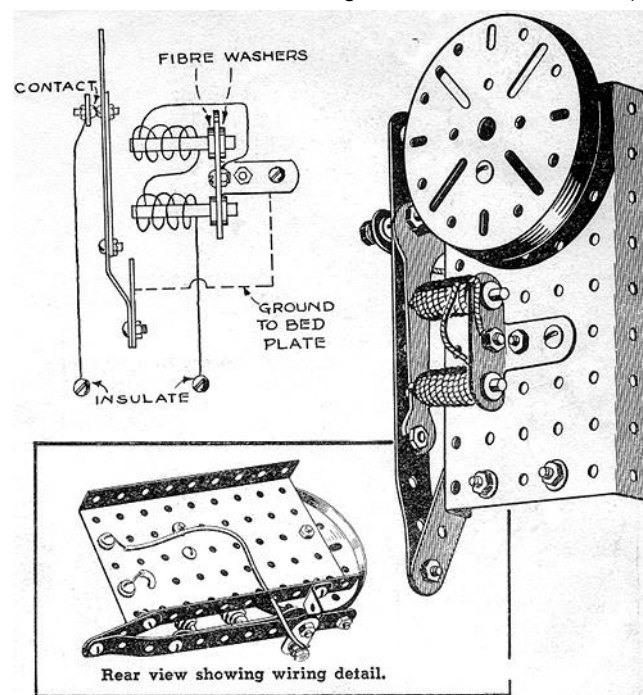
The Set No. is now on the cover and many changes have been made inside. The pages of Buildo Bill's 'chat' are gone, along with most of the very small models, but 10 or so new, mostly better, ones have been introduced, including several vehicles. Another improvement is the replacement of the halftones of the models by much clearer line drawings, with more additional views where warranted. The new models include a nice Jeep, a Bulldozer, a Hand Car using the Eccentric, and the tipping Dump Trucks* opposite. The only retrograde step is that the Steam Shovel has been much simplified with only one winch, for the shovel arm, and no clutch or brake. None of the models use the extra Flanged Disc included in the 400 outfit, and even in the new models the early pattern is shown. The Formed DAS is no longer shown in some of the redrawn 45 models, but it is still used in one of the new models, the first Dump Truck.

SUMMARY OF 'Set 600' MANUAL •Name: Number 600 Buildo BOOK. •Details of maker: The Buildo Company, 209 Foshay, Minneapolis 2, Minn. •Dates &/or Ref Nos: Copyright 1946. •Page size: 230*152mm. •No. of pages: 32+covers, +centre inset of 8 unnumbered pages. •Language: English. •Printing: B&W line drgs + some 1/2-tones in insert; insert on blue paper; yellow, blue, pink cover, in next column (as MCS/NZ p1 but the top & bottom lettering there has disappeared). •No Parts List/Set Contents. •Sets covered: No.600. •No. of models: 53 '400' models + 4 '600'. •Name, Page No. of first & last model (no Model Nos.): the '400' models as above, on the same pages; the '600' are ELECTRIC BUZZ SAW,'5'; CHAIN DRIVE GANTRY HOIST,'8'. •Other notes: •BC missing. •Apart from the 8 page insert, this manual is identical to the '400' except for the covers & p1. •Photo of Set 600 on IFC & p'1' of insert. •The insert has building instructions for the Motor on pp'2' & '3', & notes on the



Chain parts on p'4'.

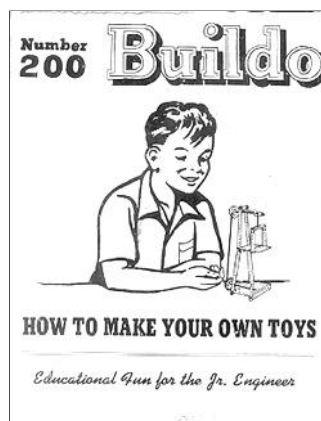
Apart from the covers and the first page, this manual is identical to the 400 except that it has a centre 8 page supplement on blue paper. This shows the assembly and uses of the Motor, how to use the Chain parts, and 4 models on pp5-8. These are • An Electric Buzz Saw with a rubber band drive from the Motor Pulley to 4 Chain Quadrants mounted between Pulley Discs as the saw. • A Jib Crane with the Motor pivoted so its weight tensions the cord drive to the winding shaft. There is also a brake with cord around a pulley made by a pair of Flanged Discs back to back (forming quite a nice flywheel), and a (tortuous) cord drive for slewing from a Crank Handle to a Pulley Disc pulley. • An Electric Door Bell*, below, using the wire from the Motor (or



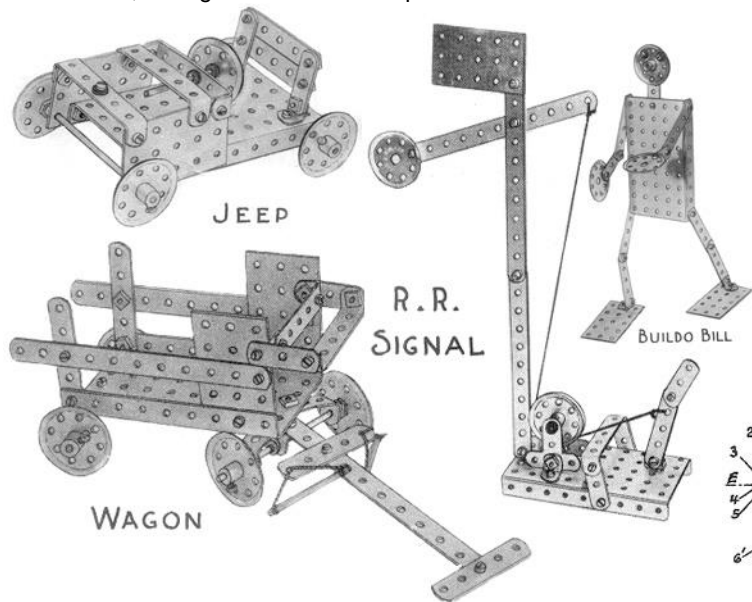
'a 10c skein of wire at a dime store'), and the steel Spanner which is attracted to the Short Shaft cores of the coils. The Flanged Disc gives a nice sound when struck. • A simple Gantry Hoist with a Chain reduction to the winding shaft, as on the manual cover.

The 200 Model Leaflet.

This is a sheet 22*7" folded into 4, printed in blue with a single halftone for each model. The front 'page' is shown right & 2 other panels have adverts & order blanks for the 400 set (it is said to have a 34 page manual), & for the parts in the 200 outfit. The address is the same as on the container. 32 models are shown on the rest of the leaflet, from COASTER to WIND MILL on the 'front' side, and TEETER-TOTTER to



ELEVATOR on the reverse. None are taken from the other manuals, though a few are simplified versions of earlier

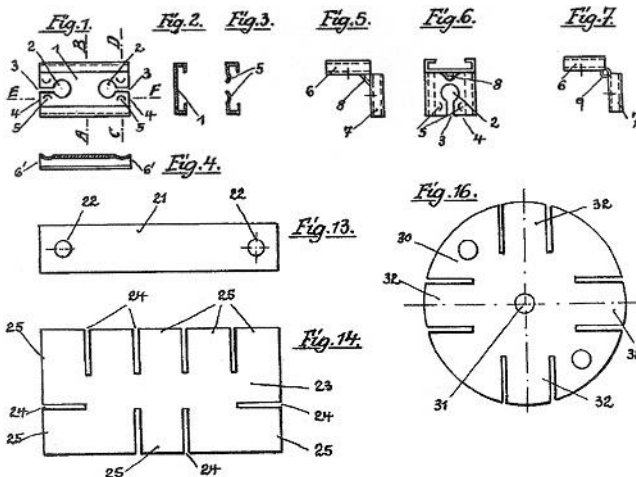


models. On the whole they are rather better than previous small models and some examples are shown above. The wheels on the models are a single Pulley Disc on a Hub, though 8 are used to make 4 pulleys in an Elevator.

PATENTS 'U.S. and Foreign Patents Applied For' appears in the 45 & 400 manuals, while in the 600: 'Buildo sets are manufactured under one or more of the following U.S. Patents: 2410409; 2042007; 2027885; 1974838. Other patents pending.'

The first of these was granted to Earl Weston Farmer, Wayzata, Minn. on Nov. 5, 1946, with an application date of Sept. 27, 1945. It covers the Hub & all the parts that fit on it, including the Eccentric. It also shows (top right) how 2 Pulleys Discs with tubular spacers between them, could act as a gear wheel, but this idea was not used in BUILD O. The

other patents are not in Weston's name and his interest in them is not known. At least on the surface they do not seem to relate to BUILD O. All three are American versions of German patents, with U.S. acceptance dates of 1934 to 1936. 1974838 (UK 378359) is for the 'Matchbox' set (see 13/345), & 2042007 (UK 434838) is for TUBA (15/419). I can't place 2027885 but, in case anyone knows it, the main illustrations are shown below. It's about 'C' section connectors (Figs.1-7) joining other parts by pushing onto the end of various length bars (Fig.13) or the tongues of plates (Figs.13-16).



THANK YOU to all who have contributed material for this account, including Kendrick Bisset, Don Redmond, Richard Symonds, and Dan & John Farmer.

SNIPPET: GORDON This East German system was mentioned in 15/415 but with no details. The box right, No.10/5, is red with a white label printed in blue & red, and the bottom is partitioned into 16 sections. The set is said to be incomplete but the parts that can be seen are described below. There is no firm indication of hole pitch but it is most likely to be in the 12.5 to 13mm range. None of the parts look as if they are the brass plated ones mentioned in 16/458. A similar set is shown in *Baukästen*, p120.

• **Blue parts.** A STABIL-style 5*11h Flanged Plate, & the 3*7h Perforated Plate from its centre. All corners are square or very nearly so. 2 MÄRKLIN-like Flanged Sector Plates (8h long with 3 rows of holes). 2 MÄRKLIN-style Flanged Disc Pulleys, but with no slots in the inner ring of 8 holes.

• **Bright looking parts.** 3, 5, & 11h Strips, which may be slightly narrower than the hole pitch. The ends of the 5 & 11h are semi-radiused, but those of the 3h are more rounded. 1*5*1h DAS, which appear to have lugs with slotted holes.

2x 8h Bush Wheels. 2h Ø Pulleys, Fast & Loose. A slightly larger Pulley but it is suspect because its boss is larger in diameter than the quite small ones on the Bush Wheel & 2h Ø Pulleys. Another Pulley is about 3h Ø and looks as if it might be aluminium or painted silver; its boss can't be seen and it is fitted with a black Rubber Ring. In the BK set the only bright Pulleys are the 2h Ø, and they are fitted with black Rubber Rings.

Axles. A Crank Handle with an offset a little larger than normal, 2½h perhaps. A part of which only a U-shaped rod with tight bends can be seen - it might be a Crankshaft with a crank pin about 1¼h long.

Additional parts that can be seen in the **BK set** are an 8h Wheel Disc; longish Flat Brackets, like STABIL, & corresponding A/Bs; a Gear (or Sprocket) Ring similar to STABIL



#29, but with only 4 mounting holes; a matching coarse-toothed Gear or Sprocket of very approximately 3h Ø, with no face holes; and small hex Nuts. All these parts have a bright, nickel look.

Electrical outfits were noted in OSN 15, & one is shown in BK. Its box is again red & the lid again whitish, but it carries only the stylised 'Gordon', in blue 'TECHNIK' outlined in red; and, in tiny letters, Nr.16. The parts are mainly Wire, Clips, Plugs & Sockets, Bulbs & Holders, and a Bell Unit. There are no 'constructional' parts.

An ebay item claimed '2 sets, Gordon 1963'. The parts in them are broadly similar to the above, though one includes a Hammer. The lid of this one is red & yellow with, in B&W, a boy playing with a set. The wording is ELECTRIC preceded by a blurred word in script which is no doubt 'Gordon'. The lid of the other is red with only COMJOU ELECTRIC on it in gold. The parts are on a backing card joined by lines indicating a circuit diagram. The card in another, virtually identical, ebay set has the stylised 'Gordon' & '5/15' on it.

CONSTRUCTION JEEP, TRUCK, etc. Some sets have been seen on Ebay and I've been looking through everything I have to see what's what.

First **CONSTRUCTION JEEP**. The parts described in 14/373, and shown in MCS under JEEP [1], were said to have been in a box 8*4½", and I assumed at the time that the set did not contain a Jeep. But I now have a photo of an outfit with a Jeep in it, in the same size box, with the same label on the lid, and with the parts laid out as in MCS. So it may well be that there was never an outfit without the Jeep. And that would make sense of the Set's title.

The box is grey, yellow inside, and the parts are on the folding panels like the set in 17/469. The label, below, with scribble at the top, has the Jeep & Crane Trailer in colour on a yellow ground, the Marusan & KK logos as in OSN 14, and also the 'No.3377'. The Jeep is dark blue and looks like the DAIYA one in OSN 17 (JEEP [2] in MCS) except that the seats are light brown with no patterning.



CONSTRUCTION TRUCK A photo of a set with the parts as in OSN 14, and the Truck itself, is now known. Apart from the colours it is basically the same as the one mentioned in 19/537. The fold-down cardboard box is 7" long by 2½" wide, brown on the outside and yellow within. The lid label below is yellow & white with the name



MINIATURE CONSTRUCTION SET TRUCK TRAILER on it, and the KK & DAIYA logos. Some parts are on the left; the Truck on the right is light green with a bright radiator grille, and has the red Flanged Plate on the back. Pivoted arms carry the red bucket at the front. These fitments are correctly coloured



but the actual Truck (left) is light blue, and has just an impressed oblong instead of a grille. As on the lid the bumpers are painted in black and yellow stripes. The Spanner is black & the Screwdriver nickel. The Model Leaflet is as in

MCS with only the name CONSTRUCTION TRUCK on it.

Another 'TRUCK' set is now known, similar but by a different maker. The box is dark on the outside, perhaps green, and the label is the same as the one above except that above 'TRUCK TRAILER' is ERECTOR CAR KIT, and along the bottom is MADE IN JAPAN SHARE A JOY WITH AHI TOYS No.???, followed by AHI in a box with something

AHI

unreadable under it (left). None of the parts can be seen except the Truck, which is as above though it looks light green rather than light blue, and, just as above, the Flanged Plate on its back. The top of the Model Sheet is visible and is unchanged.

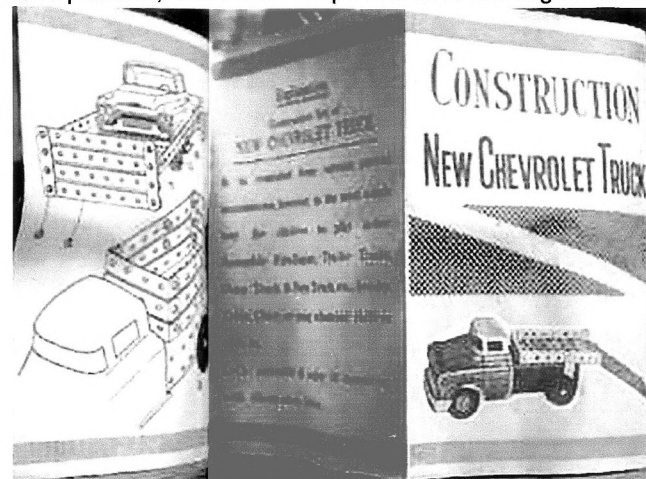
CHEVROLET TRUCK CONSTRUCTION SET This is

a hitherto unknown set by Daiya. The outside of the fold-down box can't be seen but the inside is yellow. The lid label is probably the same as the one (below) that is on the inside of the lid (most of the folding boxes have similar labels on both sides of their lids). The label is yellow & white (the dark area is shadow), and the model looks like a pick-up truck. The front part is red with a bright grille and light green top to the cab. The rear sides are dark blue with a row of 5 holes along the top & bottom of each. On top is what might be a ladder, in light green.



The parts that can be seen in the photo are 3, 4, & 8h Strips; 8x 1*4*1h DAS; 2h Strips or more likely A/Bs; & some other Brackets, probably 2*1h A/Bs, Reversed A/Bs, & a Double Bracket. All these look green in the photo. Then there are 2 black Road Wheels; 2 red Triangular Plates; a black Spanner; and, both bright, an Axle with threaded ends & a Screwdriver. All these are similar to parts in the other sets. Finally the Truck itself, as on the lid but with no back wheels, and, of course, no ladder. So it seems that the Truck had to be completed using the separate Wheels & Axle.

On the front of the Model Leaflet (below) are the words CONSTRUCTION New Chevrolet Truck, and a photo of the Truck fitted with a load platform & ramp, both of which are probably made of Strips. The 2 sketches on the left are of one model fitted with a bulldozer blade made of 4 horizontal 8h Strips, & another with a high-sided, 8h long load platform, formed from Strips with DAS forming the ends.



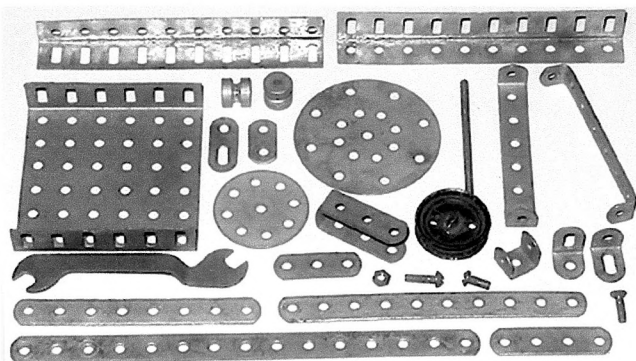
SMALL ADS

For Sale. MCS. A few copies are still available. Parts 1-4 are £21 each, Part 5 is £20, all plus postage. Please contact Jean Beadle, 33 Yoredale Avenue, Darlington, Co. Durham, DL8 9AN; Tel. 01325 356097.

QUERY 28 What is the shape of the groove in STRUCTO Rods? – square bottomed like the first MME Rods & the MECCANO Rod with Keyway, 'V' shaped, or some other? Dimensions, even approximate, if possible please. Incidentally the dimensions of the MME & MECCANO sections were given on p948 of MJ 32.

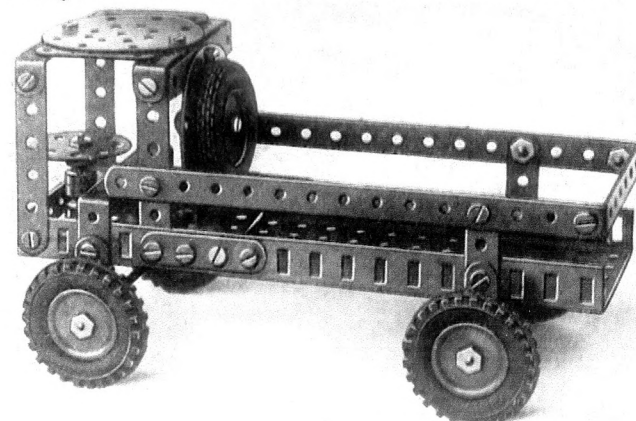
HEIKO & ZICK-ZACK [2] Werner Sticht kindly lent me a ZICK-ZACK set which also had some TRIX parts in it, and a good selection of HEIKO parts. With it were HEIKO & ZICK-ZACK Model Leaflets.

THE HEIKO PARTS Some notes on this German system with 10mm pitch holes were given in 22/649, and what follows amplifies and/or supercedes them. First the parts. All are mentioned below and are also shown in the photo. They are all steel, treated to a lightish grey colour. Most are 1mm thick, and most holes are 3.1mm Ø – the exceptions are noted. The corners of the Flanged Plate & A/G are square; the Strip parts and Brackets have semi-radiused ends. Slots are 8mm long with quite rounded ends in the Brackets, but with almost square ends in the Flanged Plate & A/G. They are generally accurately made except that the line of holes in a few Strips is a little off-centre, as in the 12h below, and one A/G has 5mm of metal outside one end hole and less than 2mm outside the other.



• **DATA** (in mm) **Strip** (10-hole): •Hole pitch/dia, 10.0/3.1; •width, 10.0; •thickness, 1.0; •large radius ends. **Boss**: • see below. **Thread**: M3. **Axle Dia**: NA. **DP (Mod)**: NA. **Nut**: hex 5.6 A/F, brass; **Bolt**: roundhead 5.6 dia, plain steel.

Details: • **Strips** 2,3,4,8,10,15h long, & 1*6*1 DAS. • **10h A/G**, 12*14mm, 7mm thick. Holes are 3.3mm Ø, and there is 5mm of metal outside the round holes. • **6*6h Flanged Plate**, .55mm thick, with 3.2mm holes and the flanges/slotted holes match the A/G. • **Discs**, 32.0 & 50.4mm Ø, the large one is .7mm thick. • The **Grooved Roller** is 10mm long and the body is 10mm Ø. The bore is 3.05mm. • Both the 1h & 3h deep **Double Brackets** are 11½mm wide and made of 1.2mm thick metal. • The **Flat Bracket** is .6mm thick & 24mm long. The **A/B** is made from it and some are .5mm thick and some .9mm. • The only **Screwed Rod** found is plain steel, 50mm long. • The **Handle Crank** (not in the photo) is made from 3mm wire, with a 30mm handle offset 25mm. • The **Nuts** are machined and 1.6mm thick. Three types of **Bolt** were found – some 7.6 u/h, some 10.4, both RH, and one with a countersunk head, again 5.6mm Ø, and 10mm long o/a. • The **Spanner** is 77mm long o/a. • The one **Pulley** is black, probably painted, It is 24.5mm o.d. by 7mm wide, and is made from deeply recessed discs, not unlike those in the Lorry below. The discs are held together by a very shallow zinc boss of about 9mm Ø, with a 5mm Ø tubular extension, which is long enough to clear the rim by about 1mm. One side of this



OSN 27/804

extension is broken away and the bore is distorted, but it would have originally accepted the Screwed Rod. The two face holes that can be seen in the photo are 2.6mm Ø and may not have been there originally. The Pulleys in the OSN 22 set, and in a photo of another outfit, look silvery and have no face holes.

The **Model Leaflet** is identical to the OSN 22 one except that the model on the front is the Lorry, instead of the Fire Engine.

Werner also sent some notes he had received from Jürgen Kahlfeldt. He has 2 incomplete HEIKO sets in boxes 270*210*23mm, and has estimated what the original **set contents** might have been: 4 each of 2,3,4,5,6,7,8,10,h Strips & 10h A/Gs; 6 ea 12 & 15h Strips; 4x 1*6*1h, & 2x 2*6*2h DAS; 1 each 6 & 12h long Flanged Plates; 2 of each Disc, and of 50 & 90mm Screwed Rods; 5 Pulleys (22.6 Ø) & 4 Tyres; 4 Grooved Rollers; 4 Flat Brackets, 15 A/Bs, 2 D/Bs, 1x 3h deep D/B; 60 hex Nuts (aluminium, 7mm A/F, 2.3mm thick), 30 Bolts (c6½mm long), 10 Long Bolts (8 or 10mm); a Handle Crank, an 'S' Hook; a Screwdriver & a Spanner (7mm opening).

Jürgen also wrote that though **HEIKO** was short-lived the firm did not close until 1974, and that Wilhelm Heike GmbH was in Ekbertstraße. That's a different address to the one on the model leaflets, but undoubtedly correct because his brother worked there until 1973.

THE ZICK-ZACK SET Some notes on ZICK-ZACK were given in 15/420 & 18/518. The present set is a **No.2** and the lid, with colour label, is shown below. A boy by a table is making a Wagon, with a real loco in the background. The colours are muted, probably faded, but are mainly pastel pink & blue. A '2' has been stamped on the lid to the left of the wolf/lightning logo. No maker's name is on the box or the Model Leaflet.

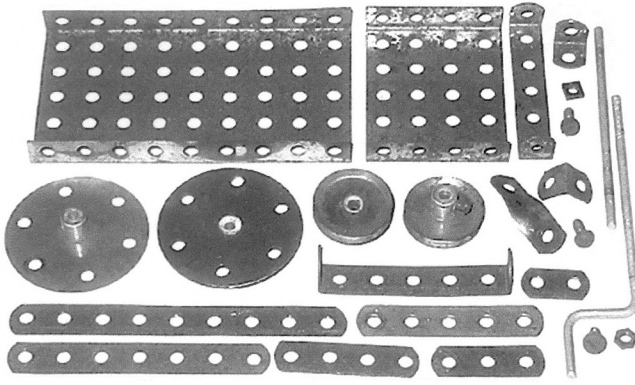


It is explained in the Model Leaflet that the No.2 is an add-on set (Zusatzkasten) and it is quite likely that all of the Sets 3-5 are also add-ons. The models in the OSN 18 manual are in fact labelled as being for Zusatzkasten 2 or 4, (and probably for the No.3 on the missing pages); in the present Model Leaflet all are labelled for the No.2 except one for Sets '3-4' and one for Sets '3 bis 5'. Presumably in all cases the No.1 is needed as well.

Returning to the box, it measures 30*21½*3cm and card partitions divide it into 1 long, 2 medium, & 4 short areas.

A photo of **the parts** is in the next column, followed by some notes about them. The numbers of each found in the Set are given in curly brackets, even though it is almost certainly not complete. Some differences were found in the hole pitch & size between the different parts, but the hole pitch is never more than 12.8mm, against the 13mm given in OSN 15, and many holes are much less than the 5mm given there. Other variations, in the thickness of particular parts for instance, also occur. All holes are round and all the steel parts are nickel plated.

• **DATA** (in mm) **Strip** (9-hole): •Hole pitch/dia, 12.7/4.4 •width, 12.2; •thickness, .95; •ends semi-radiused. **Boss**: •o/d,



9.0; •i/d, 3.9; •aluminium; •double & single tapped M3.5. Thread: M4. Axle Dia: 3.50. DP (Mod): NA. Nut: hex 7.0 A/F; Bolt: fillister head 8.0 dia; both rusty, but probably plain steel.

The parts: • 2,3,4,5,7,9h Strips {19,8,6,12,10,14} have 4.4mm holes (4.6 in the 4h). All the 2h & a few others are .87mm thick. • The Twisted Strip is a 3h Strip but with no centre hole, and a 90° twist {5}. • 1*5*1h DAS {6} variously 65 or 66mm long o/a, with varying lug lengths. • Flanged Plates 5*9h & 5*4h {1 each}, .63mm thick, with square corners. The hole pitch is 12.8mm. • 5 & 9h A/Gs, .53mm thick, and about 14*14½mm o/a. Corners are square and the holes are 4.9 or 5.0mm at a pitch of 12.75. • 28.0mm Pulley {4}, 5.4mm wide. 2 are s/t & 2 d/t. • Bush Wheel {2} with 6 holes on a pcd of 38.0mm (=3h), and a s/t boss. The thin, .60mm, disc is 50.4mm Ø • The peening has a shallow vee recess with the lip slightly clear of the disc. It looks crude but seems effective. • The Axle {6} is 92mm long; the Crank Handle {1} has 90° bends and is 121mm long o/a with a 24mm handle offset 23mm – both are aluminium with sheared ends, and are loose in the bosses, and even more so in the holes. • The A/B {20} is made from a 2h strip but the holes are about 2½mm rather apart than in the actual 2h Strip. Thicknesses vary from .6 to .9mm; typically holes are 4.4mm hole in one arm and 4.6 in the other, but some are 4.8/4.9mm. • Several different N&B were found among the parts and the ones noted in Data were the most numerous {47 Nuts, 40 Bolts 6mm u/h & 1x 14mm u/h}. Others were 19 blackened steel square Nuts, 7.1mm A/F; and a few rusty Bolts 8, 10, & 14mm u/h, with 7mm Ø round or cheese-heads. • The rusty Set Screw has a 5.8mm Ø RH, and is 7mm u/h. • Also found, Chain with 12 links of twisted, ∞ shape, 11mm o/a.

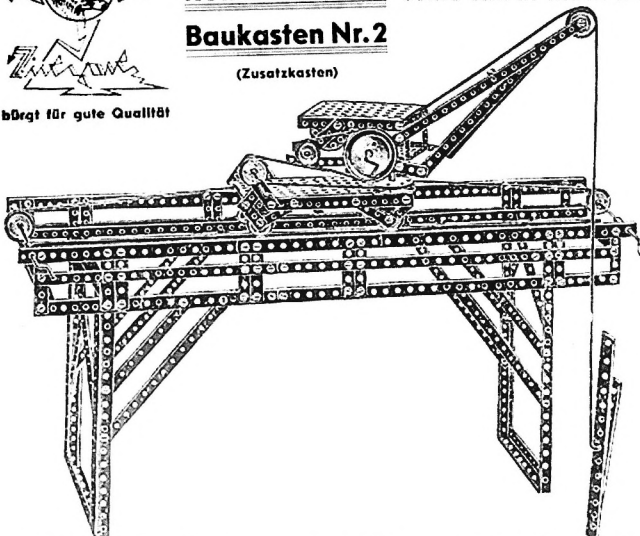
The Model Leaflet is an A4 sheet folded in two, printed in black with touches of red on the front. The top of the front page is shown below – underneath it is the Gantry Crane



»ZICK-ZACK«

Konstruktions-
Baukasten Nr. 2

(Zusatzkasten)



explained that due to shortage of paper only a few models

can be shown. This no doubt indicates a post-WW2 date in the 1940s. On the back of the Sheet is the 'Set 3-4' Fire Engine - it was shown in 25/739, but here has no Parts List or auxiliary view. Inside are 4 models, from Nr.11 Karussell to Nr.14 Bohrmaschine. All 6 models are in the OSN 18 manual, the Gantry Crane & Fire Engine as Set 4 models.

While on the subject, 2 more sets have been seen in Ebay photos. A No.2 Set has a blue & dull yellow lid label with a large grey lorry on it, and the manual has the OSN 18 cover (shown in 25/739). A No.1 Set has a manual with the same front as Werner's No.2 except for 'Baukasten Nr.1' instead of Nr.2. The lid label is yellow with a sailor-suited boy playing with a Loco, Tender & Coach on a green floor.

Four different labels can be seen on the sets illustrated in the OSN 18 manual: the No.1 is like the Ebay No.1; the No.2 is like the Ebay No.2; the No.3 is like the one for the No.S described in OSN 18; and those of Nos.4 & SO are like Werner's No.2.

Another BILDICO Manual This manual gives another indication of a likely connection between BILDICO & LYNX (see 16/440, 19/539, & 24/707), because under 'Models that work // BILDICO' on the back cover (of all known manuals) has been added 'Sole Makers - NEW LYNX MODEL ENGINEERING CO., PETCHALL STREET, PRESTON, LANCS.' No reference is known to the manufacture of LYNX by that company or at Preston, so 100% proof of the LYNX connection is still outstanding.



The cover of the 'Preston' manual is shown above (it is in full colour on yellow, with a blue band at the top) and is the same as other known covers with 2 exceptions. There is no reference to Marks & Spencer on the side of the box, and the red circle bottom right has yellow lettering instead of white, with a yellow circle near the outside.

Other differences are as follows: • The set contents show 178 parts in all against 147 in the OSN 19, OSN 24, & MCS 'M&S' manuals. The difference is because there are 60 N&B against 44 Bolts & 48 Nuts, 4 1" Pulleys instead of 2, and 2 Crank Handles instead of 1. The models in the manuals are identical and don't require the extra parts. • With one exception the text in all the manuals is identical but the M&S ones have a slightly different typeface.

Now for the exception. In the Preston, OSN 24, & MCS manuals the Bolts of different lengths are all lumped together as PN 14, but in the OSN 19 edition the different lengths have different PNs, with 30 of #14, ¼"; 2 #15, ½"; and 12 #16, 1". And in the text the longer Bolts are referred to by length whereas in the other manuals they are just called 'long bolts'.

The OSN 19 manual is perhaps later than the other 'M&S' versions because listing the lengths of the Bolt might be considered an improvement. If so the Preston edition would no doubt date from before the time that sets were made exclusively for M&S. The reduced number of parts in the M&S set might have been to meet pressure from a large customer to keep the price as low as possible.

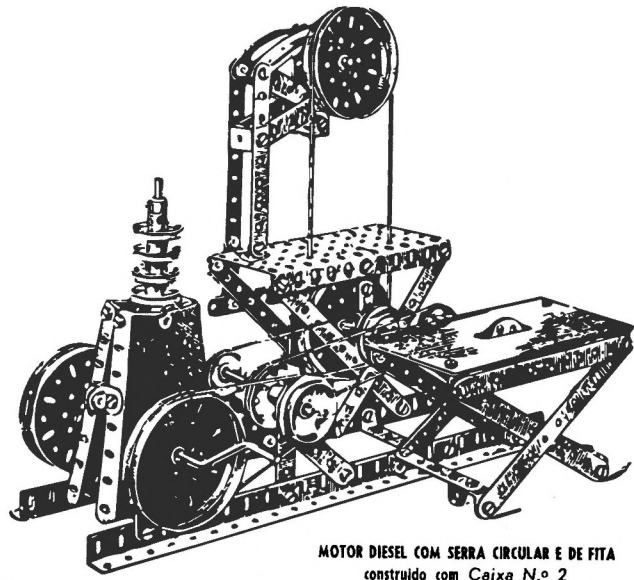
There is no mention of any other outfits in the Preston manual and hence it cannot be fitted into the range of non-M&S sets in MCS. Another puzzle is why the extra parts were not used in any of the manual models. To include some extra N&B in a set might be understandable, but less so the additional Crank Handle and Pulleys.

Construções Mecanicas

brinquedo
científico
instrutivo

name above is the main heading on a Brazilian leaflet that Jim Gamble very kindly sent. It is an ad for 10 sets of that name, and at the top above the name is, Irmãos Piacentini, Praça Veiga Cabral, 20 (Vila Prudente), São Paulo. The maker presumably, or a shop possibly. At the bottom is an 'AP' logo (left), and in very small letters, INDUSTRIA BRASILEIRA. The sets are Nos.00-2, with linking sets 00A-1A, and the 'Junior' sets 101, 101A, & 102. There is a B&W photo of each, plus 5 models from the main, & 4 from the Junior series.

Below the No.2 & 102 sets, & a 101 model, with a No.2 model right. All the 9 models are identical to ones in 1930s



MOTOR DIESEL COM SERRA CIRCULAR E DE FITA
construido com Caixa N.º 2

is included.

The lids of the linking sets can be seen, and are mottled with a label that is very similar to the manual cover (as in the No.2 Set). 2 versions of this cover can be seen, one marked 00 & 0, and the other 1 & 2 – both feature a Gantry Crane.

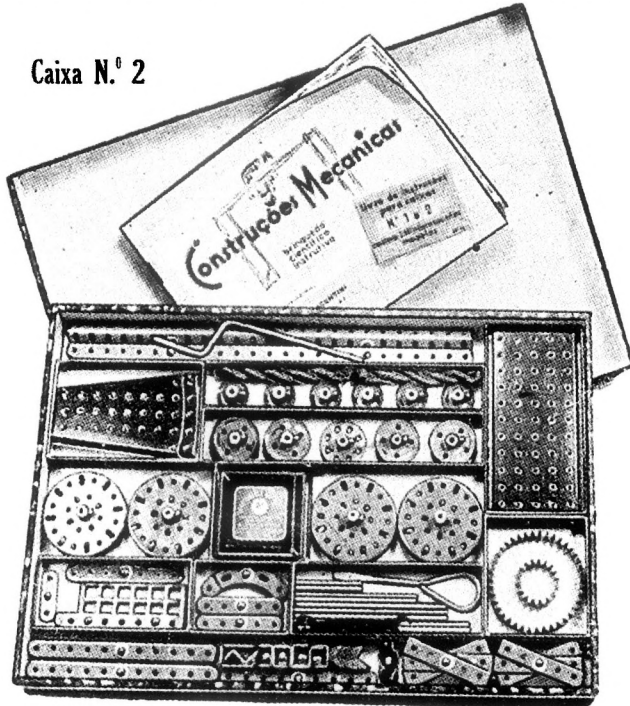
The lids of the Junior sets are all like the No.102. The contents of the 102 is almost certainly the same as the 1930s MARBI outfits 601 (see OSN 10), and the 101 is a smaller set with fewer Strips, no Curved Strips, no Hook, no 2" Screwed Rods, and no 1" Loose Pulleys. As is seen in the Cart, it does have 4 Wheel Discs and the longer Screwed Rods used as axles.

No indication of the colours of the parts is given but in the photos of the Sets the Strips look lighter than the Flanged Plates.

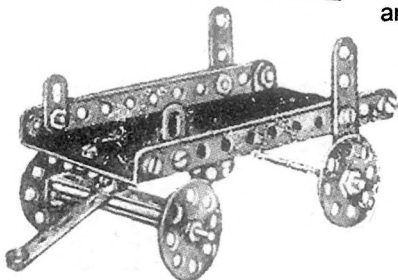
Again there is no indication of date. Pre-WW2? Probably not since Märklin might have been expected to object to their models being copied – unless it was with their permission, but in that case one might expect all the parts to match the illustrations. War time or postwar? More likely, there may have been a shortage of imported sets at the time, and using MÄRKLIN models may not have seemed a very serious matter.

FOOTNOTE I told Edmundo Veiga about the leaflet and since this account was written he has kindly passed on more details obtained from an acquaintance in São Paulo. Irmãos

Caixa N.º 2



MÄRKLIN manuals, with identical illustrations, except that the sides of the Cart are not as high. The parts totals in the main outfits are given and correspond to those in the Set Contents of a 1939 MÄRKLIN manual. All the main parts can be seen in the photos of the Sets, however a few of them look to be MECCANO pattern - the Curved Strip for example is like M90a, and there are no slotted holes along the top edges of the 5*11h Flanged Plate. The Hook looks flat and similar to the MARBI shape (see 10/246). As with the MÄRKLIN outfits the 00 has 1" Loose Pulleys, whereas in the 00A & larger sets the Fast version



● REBÓQUE construido com
Caixa N.º 101



Piacentini (Piacentini Brothers) were Märklin dealers in São Paulo from before WW2 until the 1950s. During the war they could no longer get supplies of MÄRKLIN and decided to produce a clone under their own name. After the war Märklin claimed patent infringements and forced them to cease production.

Edmundo's acquaintance owns 2 sets and his No.1 is shown in the last column. From the photo the box has a blue

check pattern with a label just like the manual cover. The latter is white with the name in brown, and the Crane & border a light blue. The oblong with the Set No. is orange. The inside of the box is orange too and the parts are in MÄRKLIN colours except that the 1" Pulleys look to have a bright finish. There are no MECCANO pattern parts, the Curved Strip has the proper long slot, and the edge holes on top of the Flanged Plate are slotted.

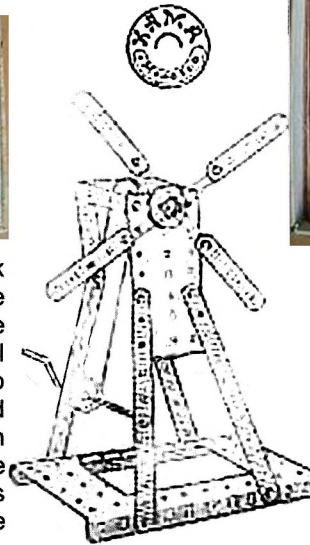
SNIPPET: A 'New' KONSTRUKTOR OUTFIT I'll call this KONSTRUKTOR [4A] – it's a small set with parts that look very much like STABIL, but painted instead of nickel plated. The range of parts, and as far as can be seen their quantities, seem to correspond to KON [4] in MCS, but its parts are said to be zinc plated, and the manual covers are completely different, with different wording and logos.



The KON 4A cover is shown above left, printed in black on a light purple, with the name in white on a red panel. The words along the top mean 'technical play'. The word in the top of the circular logo (also shown above the Windmill below) seems to transliterate as 'khama', which according to my dictionary is colloquial for boor or lout. Experts forward please. The box lid (above right) has the name in purple on a pale green ground, and the same 'technical play' at the top, in cursive script. The boy top left has a Crane, and its real-life counterpart is part of the industrial scene in the foreground, bottom right.

The open box is shown in the next column, and the main

parts are Strips (2,3,5, 7,11h long) & 2h Ø Pulleys in red; a Wheel Disc, DAS, & Brackets in yellow; and a 5*11h Flanged Plate, plus the 3*7h Perf. Plate from its centre cutout, in blue. Other STABIL-like parts are Screwed Rods (used as axles), Wire Stays, & a wire Winding Handle.



The only model shown is the Windmill left, identical to the KON 4 model in MCS, although the drawing is totally different, and much cruder.

Most recent Russian sets seem to have plated rather than painted parts and if KON 4 & 4A followed one from the other, it may be that KON 4A came first.

SNIPPET: RADIO SHACK'S MEK-STRUCT '370' SET The eBay pictures of this outfit will be compared with a photo, kindly supplied by Richard Symonds, of a standard Artin '370' set, believed to date from late 1994. The Artin lid below has small photos of 5 of the claimed 9 models on it, against a blue/purple ground.



Below it the lid from the Radio Shack set, light blue/white, with a bright red 'perforated strip' along the lower edge. All the 9 manual models are shown on it. This style of lid has not been seen before but it isn't known if it was peculiar to RADIO SHACK sets. This set is also likely to be from late 1994 because there is 9/94 on the back

cover of its manual.

Right the cover of said manual, similar in style & colouring to the lid. The Radio Shack name can be seen at the bottom left corner (it isn't on the lid, at least not on the top or on the one side that can be seen). The 9 models are as on the lid.

The Artin manual is similar in design to the '450' one in 12/311, purple at the top fading down to off-white, with a red band at the spine. The 5 models on the cover include the 4 not shown on the lid.

The models are all in the typical small MEK-STRUCT style but the Radio Shack & Artin ones are different, with only one or two having any marked similarity. No details of the inventories of the 2 sets are to hand but the parts in both are housed in identical white plastic foam blocks (with many in the usual black plastic box) and, as far as can be seen, at least the major parts in each set are the same. In both cases the colours are the standard blue, orange, & yellow.



A DISTLER GIGANT 22511 Set MCS gives details of all the GIGANT range except this one. A blurry picture of it is shown in 2/13 and a similar colour one will be included among this Issue's web colour images. The details below are taken from a Set which David Hobson kindly lent me. The GIGANT (GIANT is the English language name) parts are similar to TRIX but roughly twice the size in all directions, with 6.4mm holes at 16.0mm pitch. So, unique, formidable parts, and a 17h Strip weighs about 60g (2oz).

The end-opening box is made of corrugated cardboard, & measures 31*44*4cm. The label is white with blue lettering & a multicoloured picture. The Set No. is on the underside of the box together with '1 DISTLER-GIGANT D236'. The parts are in a grey moulded plastic tray, with the N&B in a similar box (the 'plate' top left in the OSN 2 view is the top of it).

The contents are given in the manual: • 12 each of 5,9, 17h (along the centre line) Strips, & 6 of 13h. • 6 each of the DAS ($1\frac{1}{2}*\frac{1}{2}+3+\frac{1}{2}*1\frac{1}{2}h$) & Double Bracket ($1\frac{1}{2}*\frac{1}{2}+1+\frac{1}{2}*1\frac{1}{2}h$). • 12 A/Bs. • 2 each of the 1 & 2h high Small Double Brackets (all missing). • 12 Discs, 55mm Ø; 6 Large Washers, 26mm Ø; 3 Small Washers, 13.3mm Ø. • 4 black plastic Tyres, 86mm o.d., with radial tread between a circular ridge around each sidewall, towards the bottom, & 2 centrally on the top. • M6 threaded parts. Brass Screwed Rods, 12x 115mm long, and 6x 55mm. 110 machined Nuts, 9.8mm A/F & 4.9mm thick. 80 RH Bolts, 10.0 Ø & 12.3mm u/h. The finish of the N&B is black metallic although many look like plain steel, or in between. • 2 Spanners 118mm long o/a, with 6 holes in the handle, and a wire Screwdriver (missing). • 2 Hooks, 72 mm long.

Apart from the Tyres and the N&B, all the parts are painted a lightish blue metallic.

The manual has 16 unnumbered pages, including covers, 222*156mm deep. It is all in B&W on art paper with photos of the models. The cover is like the MCS one, with the boy and Mobile Crane shown bottom right in 2/14, except that the text above the logo is DISTLER-GIGANT-GROSS-ELEMENT BAUKASTEN. No mention of the Set No. is made anywhere. After a brief Intro on p2, and the Illustrated Parts/Set Contents on p3, 30 models are shown, with a single photo for 27, and two each for the other 3. There is no text or model names. The first model, on p4, is a Shelf Unit with 3 shelves made from (presumably) card, and the last, on p16, is another view of the Crane on the cover. It is by far the best model, and the only one that uses the Tyres – the others are much simpler, small TRIX-like models, Hammers, Buffers, Scales, a Puppet, etc. The Steam Engine & Derrick shown in 2/14 (but without the Motor drive) are among the best, plus perhaps the Lorry below - it would be about 11" long. Clearly, apart from the Mobile Crane the models don't represent the Set's potential.

In passing the Motor isn't shown very clearly in MCS & OSN, so below the Lorry are 2 views of it. The grey metal

cylindrical motor drives into the bright metal cased gearbox, and both are mounted on a blue flanged plate, about 6cm wide & 8½cm long. A 10t TRIX-style gear is on the output shaft, and the terminals, and what may be the brush unit, are at the right end of the motor. The lever at the front is no doubt to change gear, and a reverse function is also mentioned in OSN 2.

Another MICKEY MOUSE Set Kendrick Bisset has kindly sent details of the Model A outfit. The photo below shows the container, blue & white on red; part of the white on blue Model Sheet; and most of the the set. The contents seem similar to those in the 24/713) but the bossed Axles are replaced by 1" Ø (no doubt like those in the MOUSE sets), & ¾" Bolts on.



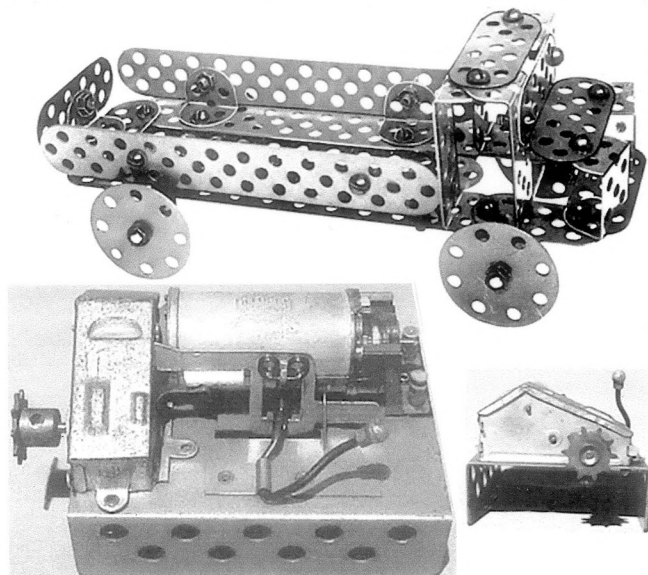
The parts found in the set were: 1 Large & 1 Small Flanged Plate; 6x 4" Strips; 6 Trunnions; 4 'Triangular' Strips ($\frac{3}{4}*\frac{1}{8}$ "); 8 A/Bs; a Span'driver; 14 square Nuts ($\frac{5}{16}$ " A/F), 10x ¼" & 4x ¾" u/h RH Bolts. The thread is 8-32, as expected. Compared with the 'S', extra parts are 2 each of Trunnions & A/Bs. Neither is needed for the models on the Model Sheet.

Said Sheet has 'Copyright 1947 by Hollywood Toy Craft Inc.' at the bottom, and shows 12 of the 14 models on the 'S' version, but redrawn where appropriate to replace the Pulleys by pairs of Discs, convex sides outwards. An Axle was essential for one of the 'missing' models, and deleting the other made room for the centre text panel. This talks of the 'S' & 'L' sets being available at \$1.69 & \$2.95, and having enough parts (including Tires in the 'L') to build over 50 & 100 models respectively – very many more than on their Model Sheets.

DER KLEINE ELEKTROTECHNIKER This German name for the MEHANO Electrical Outfit was mentioned in 22/645 & sets bearing it have now been seen. On the boxes the letters in the 3 words are equal in height, but in a different lid shown on the Mehano web site 'DER KLEINE' is in tiny letters. The English name given there is THE YOUNG ELECTROTECHNICIAN, which does sound rather better than the previous THE LITTLE ELECTROTECHNICIAN.

As with the MEHANO set (see OSN 22), the earlier, similar MEHANOTEHNIKA Electrical Outfit was sold under a number of names, and examples now known are THE LITTLE ELECTROTECHNICIAN (on an English manual), ELEKTRO-PIONIR (German), PIONIR ELEKTRO (on a Yugoslavian manual), & DEN LILLE ELEKTRIKERN (Dutch). The Set Contents in the 2 manuals referred to above are as in MCS, except for the PNs of the Connecting Wire (35 & 36 instead of the 39 & 40 in MCS), but the parts and their names are shown together, and the illustrations of some of the parts differ a little.

A leaflet in German advertising the ELEKTRO-PIONIR set is dated 1964-65.



SNIPPET: A Chad Valley PIN-IT Set The No.1 set below, apparently unused, provides the link between the original PINIT & the later Guiterman sets. The changes of ownership were explained in OSN 25/744 but at that time no Chad Valley set was known. This one looks to be the same as the one shown in OSN 25, from the first PIN-IT ad. The box, 13" long, is a bright light red on the outside, with a red & blue edging to the lid. Inside the parts are mounted on rich blue cards, fitted to the bottom & sides. (The left side of the box is missing.) Under 'The Chad Valley Company Limited' on the lid is the address: CHAD VALLEY WORKS, ??????, ENGLAND.



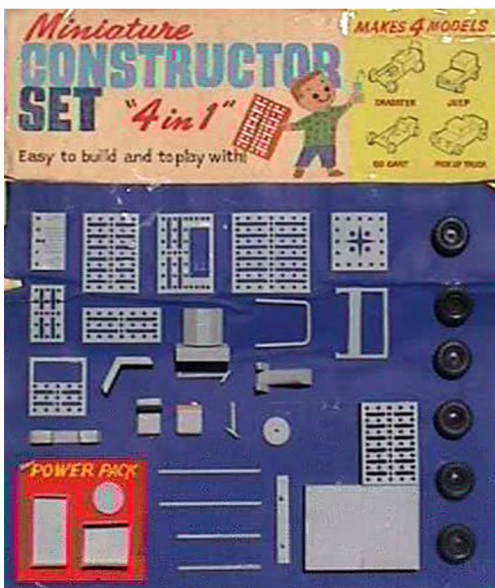
The parts visible in the set include the later 1/4" square Strips with the end hole; 1 1/2 & 2" Road Wheels, and similar looking 1" ones, all unpainted; and two 2x 1/2" Loose Pulleys.

The made-up model in the set (left) is similar to the Biplane shown on the OSN 25 Guiterman box lid, with metal Propeller, and that unusual shaped fin. The 'mystery' wing covering can be seen to be a strip of light coloured fabric lying over each wing – how it was originally attached can't be seen.



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SNIPPET: CONSTRUCTOR "4 in 1" Some notes on the ERECTOR CONSTRUCTOR "5 in 1" Sets appeared in 9/229. It seems that a "4 in 1" Set was also considered but never went into production. The illustration left is thought to be a mock-up of a possible advertising display for the Set. The parts are shown grey (or silver) against dark blue, with black Wheels. At the top above the parts are pink (left) and yellow (right) panels with CONSTRUCTOR in light blue & the other lettering red in the main. The slogan under the name is 'Easy to build and to play with', and the 4 models are shown top right – a Dragster, Jeep, Go Cart, & Pick Up Truck. At bottom left is a red panel with 3 grey components under the name Power Pack.



The parts are in the "5 in 1" style and some at least have the same pattern of holes. Noteworthy is the inclusion of a Motor – it is said that one of the main reasons the original 3 "5 in 1" sets were not very popular was that they weren't

motorised. In 1965 a Motor was included in a modified version of the Road Building Set, but none of the range survived beyond 1966. The inclusion of a Motor in the "4 in 1" might point to it coming after the "5 in 1" series. The uniform greyness of the parts is surprising but perhaps the colour scheme hadn't been decided at that stage.

SNIPPET: 'New' System: E.W.G. E.W.G. stands for Elektrobau Werner Genencher, an electrical firm of Löbau/Sachsen in what was then East Germany. It produced the OLYMPIA system (with holes at 7mm pitch, see 15/417) and apart from the name, one of its manual covers (not the one in MCS) is almost identical to the E.W.G. one below. The latter is from 1949, for the Nr.1 set, & has 20 pages.

The model on the cover is the one in MCS for the No.3 OLYMPIA outfit; it is also in the E.W.G. manual, towards the end I think, probably as an example of a model from the largest outfit. At any rate the list of parts for it is given and is the same as the MCS one, with the same PNs. It seems likely therefore that E.W.G. & OLYMPIA were virtually identical.



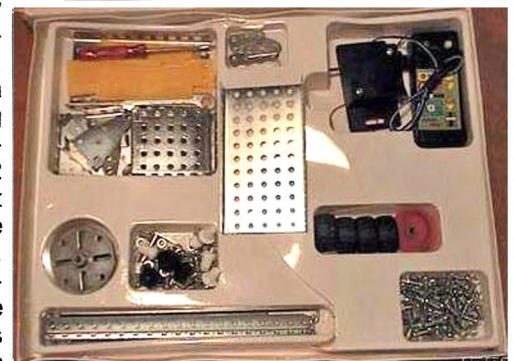
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SNIPPET: New System: METALTECHNIK The set here is said to be made in Hungary, and the lid, right, is off-white with the name in blue, & a Windmill on Wheels in a blue panel. The name 'metalcar' can be seen at the bottom right and photos of models are on its underside.

The parts sit in a brown-grey moulded plastic tray (right). They include a black looking Motor & Battery Box (for 2 AA cells), but neither can be seen clearly. With one exception all the other pieces look like the German CONSTRUCTION. All have a bright finish, apart from 4 black Wheels, yellow Windmill Sails, a red Pulley, & a red handled 'electrical' Screwdriver. The exception is a 3*5h Triangular Plate which looks to have fewer holes than the German part. Also no slotted holes can be seen (apart from in the Face Plate), but this may be the way the parts are lying.



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A.C.Gilbert's First ERECTOR Patent

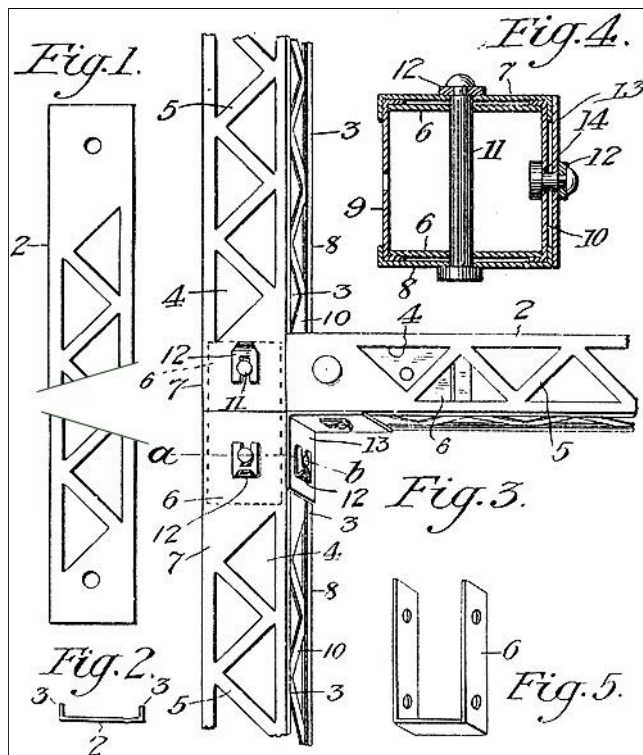
by David Hobson

Gilbert's first ERECTOR patent seems to have been US 1,066,809 of 8 July 1913, and is entitled 'Toy Construction Blocks'. Its specification is quite brief, and outlines how to make his famous box girder units from 4 strips having simple flanged edges, using U-shaped coupling pieces. (Strip is the term used in the patent for the ERECTOR 'braced' Girder.) This version was only marketed for the 1913-14 season, and Gilbert does not seem to have made application for an equivalent UK patent. For the next year the Girders were redesigned to have the familiar V-section channels along their edges, and four could then be made into a box girder without the use of a U-shaped coupling piece. This version was covered by US 1,231,728 issued in 1917, the application having been made on 26 Jan. 1914. The equivalent UK specification is No.1259 of 1915.

The figures from the patent (actually from a clearer, revised version described later) are shown right. The U-shaped coupling piece, 6, acts to hold the side strips 9 & 10 out against the lips of the other side strips 7 & 8, while the bolt, 11, presses 7 & 8 down onto the lips of 9 & 10. As shown the bolt 11 is a smooth pin with a groove near the end for a U-shaped retaining clip 12, but in the text is also '...or the bolt may be threaded and a nut applied thereto.'

In contemplating using the pin and clip method instead of bolts Gilbert may have thought it would be cheaper and offer an advantage over his competitors already established in the market - MECCANO, AMERICAN MODEL BUILDER, & STRUKTIRON. However the length of the pin had to be quite specific for the combination of strips & couplings to be joined and it could not be tightened to make a really firm joint. Packing washers might have helped in both cases but are not mentioned in the patent. Gilbert seems to have abandoned the idea of using this method of fastening and ordinary nuts & bolts were supplied in the 1913 sets. Bolts with nuts are shown holding the redesigned strips in US 1,231,728.

As already mentioned the first patent was quite brief, running to only 1 page of text. It seems to have been badly drafted, and included some obvious mistakes in the drawings. Although Gilbert soon abandoned the principles it covered, it was redrafted for some reason, with 3 pages of



text, and with the drawings amended to clarify the invention. This version was published as US Reissued Patent 14,250 of 16 Jan. 1917, the application for reissue having been filed on 29 Jan. 1914. Interestingly, although the U-shaped clip method of securing the pins is mentioned in the text as before, and is illustrated in the drawings, it is omitted from the Claims Section. By Jan. 1914 Gilbert must have abandoned the simple flanged strips covered by the patent, and had indeed just filed for patent protection of his redesigned version. Presumably therefore the reissue was for legal reasons, either at the instigation of the US Patent Office to correct mistakes, or because there might be a need to establish proper priority of the original patent in case it were to be used later, or in case of any disputes which might arise.

ITEMS FROM LETTERS

1. From Thomas Morzinck. 'Tobias Mey has told me that he is going to start a **toy museum** in the town of Calw [between Baden-Baden & Stuttgart] in which all his priceless originals will be shown in special exhibitions in 2003 & the following years. There will be special interest exhibitions for metal sets like Märklin, wooden sets like Record, stone sets like Anker and much more.'

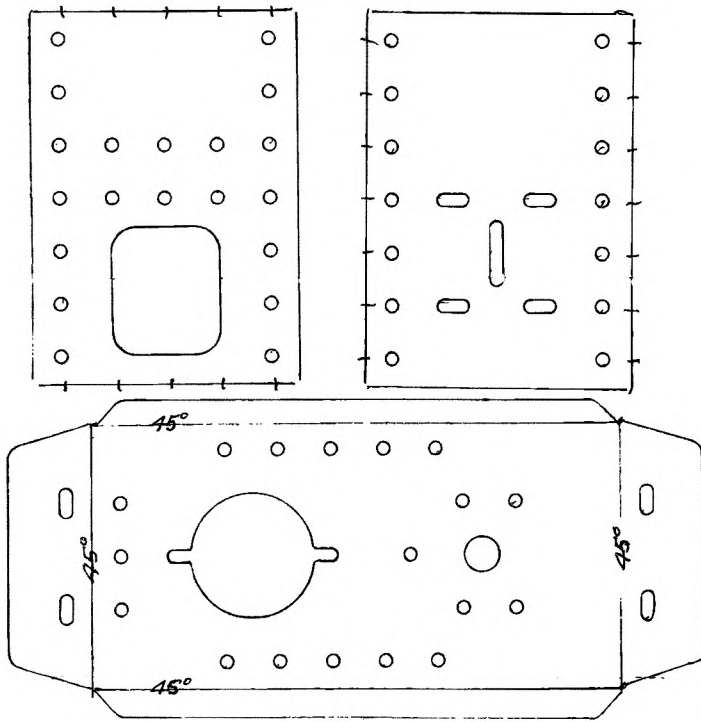
2. From Werner Sticht. 'Bad news from Switzerland, the production & storage areas of **STOKYS** Littau factory burnt down in last March.' Werner also mentioned that he now has a web site, www.stabilbaukasten.de.vu, for STABIL and other Walther products. It's in German but much is easy to follow and the pictures often speak for themselves. As well as STABIL there are sections on MINIATUR, WALTHER'S INGENIEUR, and the wooden sets. Also notes on the pioneers including Lilienthal, Hornby & Korbuly.

3. From Don Redmond. • All the Semi-circular Plates found in two strung **VOGUE** No.1 sets are the type with 2 extra holes, illustrated in 15/421. The extra holes are not shown anywhere in the manuals for the Sets. [Since Don wrote a No.2 set has been sold on eBay, boxed but not strung, and of the 6 Semi-circular Plates that should have been in the Set, 5 could be seen, and all were the type with the 2 extra

holes. The Set was in no other way remarkable: the manual cover was identical to the one shown in 17/466, and the lid label similar, with SET No.2 (STANDARD) at bottom left, just as expected.]

• On the Chinese **MECHANIC** (17/471 & 22/640) I can confirm that the No.190 exists, and that the 190-192 series is not progressive. No maker's name is given on the 190, the only source information is on the (Canadian) bilingual box: 'Imported by/importé par DMD Group, Mississauga (Ontario) L5T 1R2'. There is no French on the model sheet but a copyright date of 1993. The English model names are a little strange, Sailer for a sailboat for instance. Nice try though.

• 3 white Flanged Plates not seen before are sketched 50% full-size in the next column, and all the holes in them are indicated. The large cutout in the one top left is 30*35mm, and it has flanges on its short sides, with 5 holes in each. The top right one has 7h flanges on its long sides. The bottom Plate is 7*14cm and its flanges are at 45°. The long ones are unperforated and only 7mm wide; at the ends they are 20mm wide with 2 slotted holes in each as shown. The large holes on top are 10 & 33mm diameter. The clues to their probable identity came from their unusual hole pitch of 14mm, and the various labels stuck to them - most are 'space' but one is 'Delta-X'. So no doubt the parts are from a **DELTA-X Space Set**, not listed in MCS. [DELTA-X was the name used for the Japanese DELTAX sets when they were sold in the United States, see 11/288.]



[Editorial continued from front cover] single-sided each page will be able to be read from the right after it has been turned from portrait to landscape. Single-sided will also allow short pieces to be cut from the OSN page and included in MCS by gluing to a backing sheet or using transparent pockets (it is thought too extravagant to simply have short pieces on individual sheets). If this sounds a rather untidy procedure one obvious alternative would be to simply add references in MCS to OSN articles, which I know some do already. For me though the advantage of having as much material as possible in MCS is to avoid hunting through perhaps several Newsletters to find all that has appeared on a subject. Non-MCS material - small ads, mystery parts, etc - will be grouped together, and items now put into 'Letters' may be kept on hand until a suitable opportunity allows their use. Don't stop writing though!

Lastly, the work in producing OSN will be reduced as far as possible. Some of the ways of achieving this have already been mentioned, but in addition the layout of the Newsletter will be simplified as much as proves practical.

The proposals outlined above are not yet hard & fast, so comments, criticisms, & suggestions will be welcome.

There are two downsides that have not yet been

mentioned. First, the Newsletter will have to cost more. An increase would have soon been needed anyway to cover increased costs since the current price was set in 1993, but the main increase will come from the use of colour. How much that will be is hard to say so I propose to leave the subscription unchanged for the next two issues, and by then it should be possible to work out a new rate. At that time I'll also take into account the additional mailing cost of using slightly thicker single-sided sheets. At current prices this will amount to £0.21 per issue for the UK, £0.40 for Europe, & £0.95 for America, or £0.38 by surface. A cheaper way of distributing OSN would be to put files for all the pages on a CD. I haven't tried this yet but it sounds straightforward so please let me know if you might be interested. I use Windows 98SE & Word 2000, and for anyone without these, I'm told that Word Viewer, which allows printing, can be downloaded free from Microsoft.

The other thing is that with the larger illustrations, somewhat less ground will be covered within the present 32 sides of the Newsletter. Depending on how much time the new arrangements save, it might be possible to increase the number of pages a little. This aspect will also be considered after the next two issues but again, comments would be welcome.

One other change, this time to the OSN web site. It is nearly full and as new features, the pictures from this issue, & those from OSN 12-16 are added, the existing pictures will gradually be removed. This will start when the OSN 27 pictures are added in November. A CD with all the pictures on it can be made later if there is a demand for it.

Finally I would like to draw attention to the small ad elsewhere in this issue for the MCS volumes that are still available. There are no plans at the moment to produce more copies and even if, as is hoped, this eventually becomes possible, it is likely to be some way off.

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 £2.10 for the 14 below, plus postage. 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.

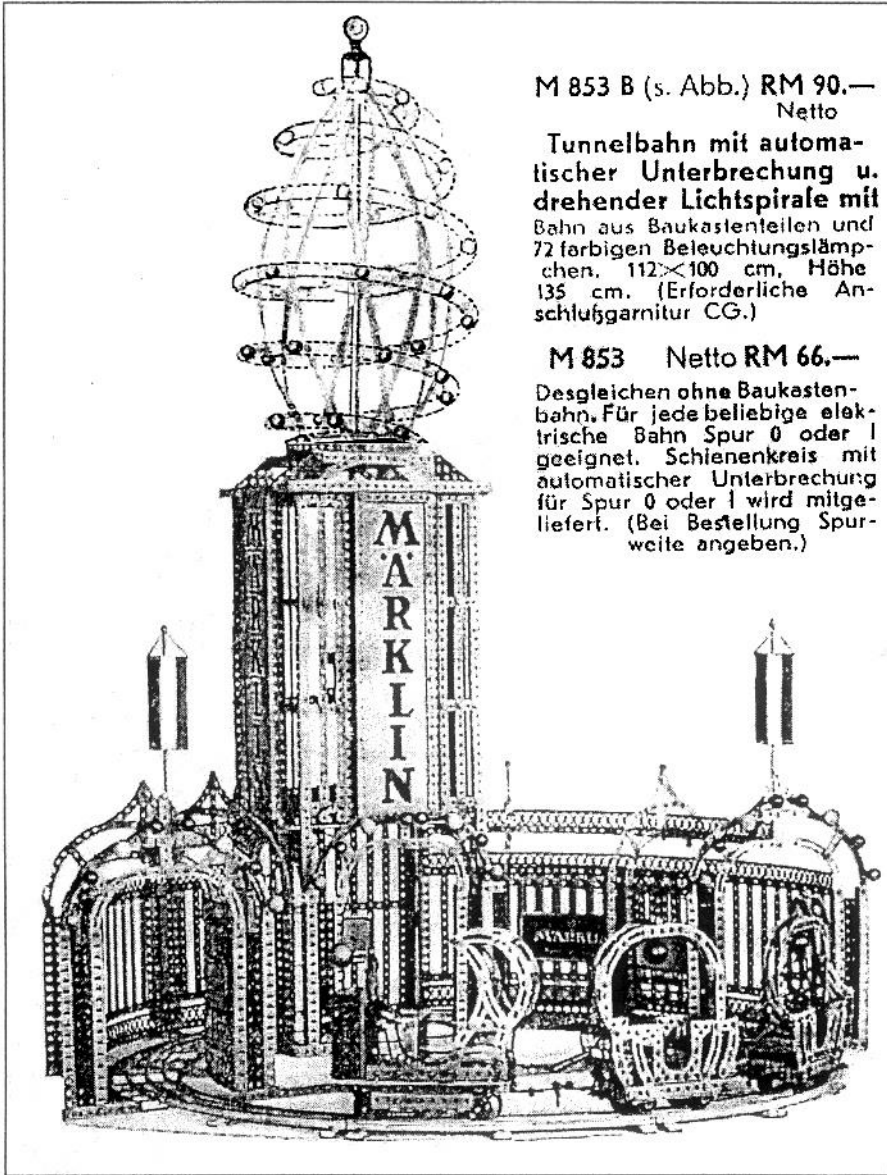
MCS Amendments, List No.11 [1 Sheet]
 BOYCRAFT: X1.1,24/6 [1 Sheet]
 CONSTRUÇÕES MECANICAS: X1.1,7,7a [2 Sheets]
 FERMO: X1.1,2/3/4,4a,5,6/7 [3 Sheets]
 LIL'N-GINEER: X1.1,2/4/6,5 [2 Sheets]
 MERKUR (B1): X2.3a/4b,6a,6b,6c [2 Sheets]
 MERKUR ELEKTRO E1: X1.1,2,3,4,4a,5 [3 Sheets]

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SMALL ADS Up to about 150 words free for each subscriber in each Issue. Insertion guaranteed in OSN 27 if ads reach the Editor by the end of January 2003.

PAYMENT Please make cheques etc payable to P.A.Knowles. Remittances should be in Pounds Sterling. Euros/U.S. Dollars in cash are also acceptable (at £1=€1.50=\$1.50). Bank charges in converting other currencies to Sterling are usually prohibitive. Payment from overseas (in U.S. Dollars) may also be made using PayPal. Overseas subscribers need not send sums of less than £5 for Back Numbers, purchases from the Editor, etc, until it is time for subscription renewal.

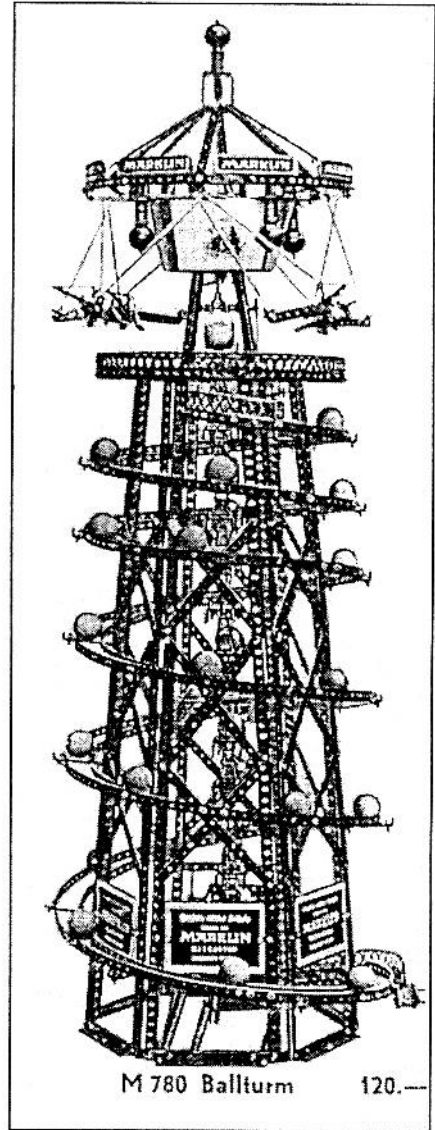


M 853 B (s. Abb.) RM 90.—
Netto

Tunnelbahn mit automa-
tischer Unterbrechung u.
drehender Lichtspirale mit
Bahn aus Baukastenteilen und
72 farbigen Beleuchtungs-
lämpchen. 112x100 cm, Höhe
135 cm. (Erforderliche An-
schlußgarnitur CG.)

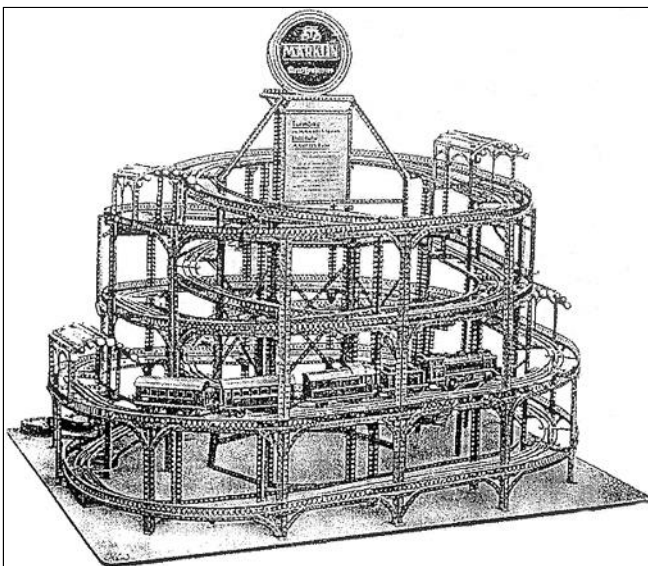
M 853 Netto RM 66.—

Desgleichen ohne Baukasten-
bahn. Für jede beliebige elek-
trische Bahn Spur 0 oder I
geeignet. Schienenkreis mit
automatischer Unterbrechung
für Spur 0 oder I wird mitge-
liefert. (Bei Bestellung Spur-
weite angeben.)



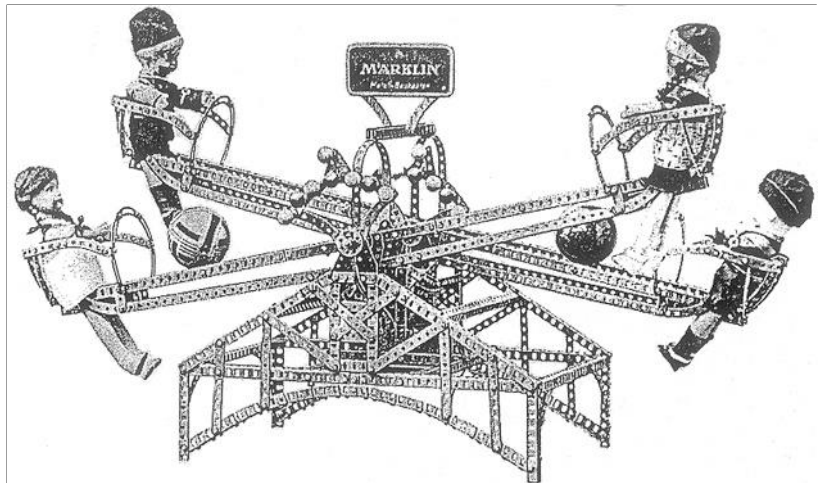
M 780 Ballturm 120.—

These are MÄRKLIN display
models. Some notes about them,
and 13 others, are on p786.



M 856 Schleifenbahn 550.—

mit elektrischem Personenzug, 32 farbigen Beleuchtungs-
lämpchen, Leuchttafel mit Blink-
vorrichtung zum direkten Anschluß an die Lichtleitung (Vollzahl angeben). 150x115 cm,
Höhe 110 cm. (Erforderliche Anschlußgarnitur BG.)
Zu der Bahn wird eine Reservelampe (RS 66/1272) gegen normale Berechnung mitgeliefert.



M 848 Balkenschaukel 100.—

mit Elektromotor 1301 für 20 Volt und 16 farbigen Beleuchtungs-
lämpchen 3 1/2 Volt, kleine Puppen (ca. 30 cm),
und Bälle (ca. 6 cm). 100x38 cm, Höhe 60 cm. (Erforderliche Anschlußgarnitur AG.)