25

OTHER SYSTEMS NEWSLETTER

OSN 25 OCTOBER 2001

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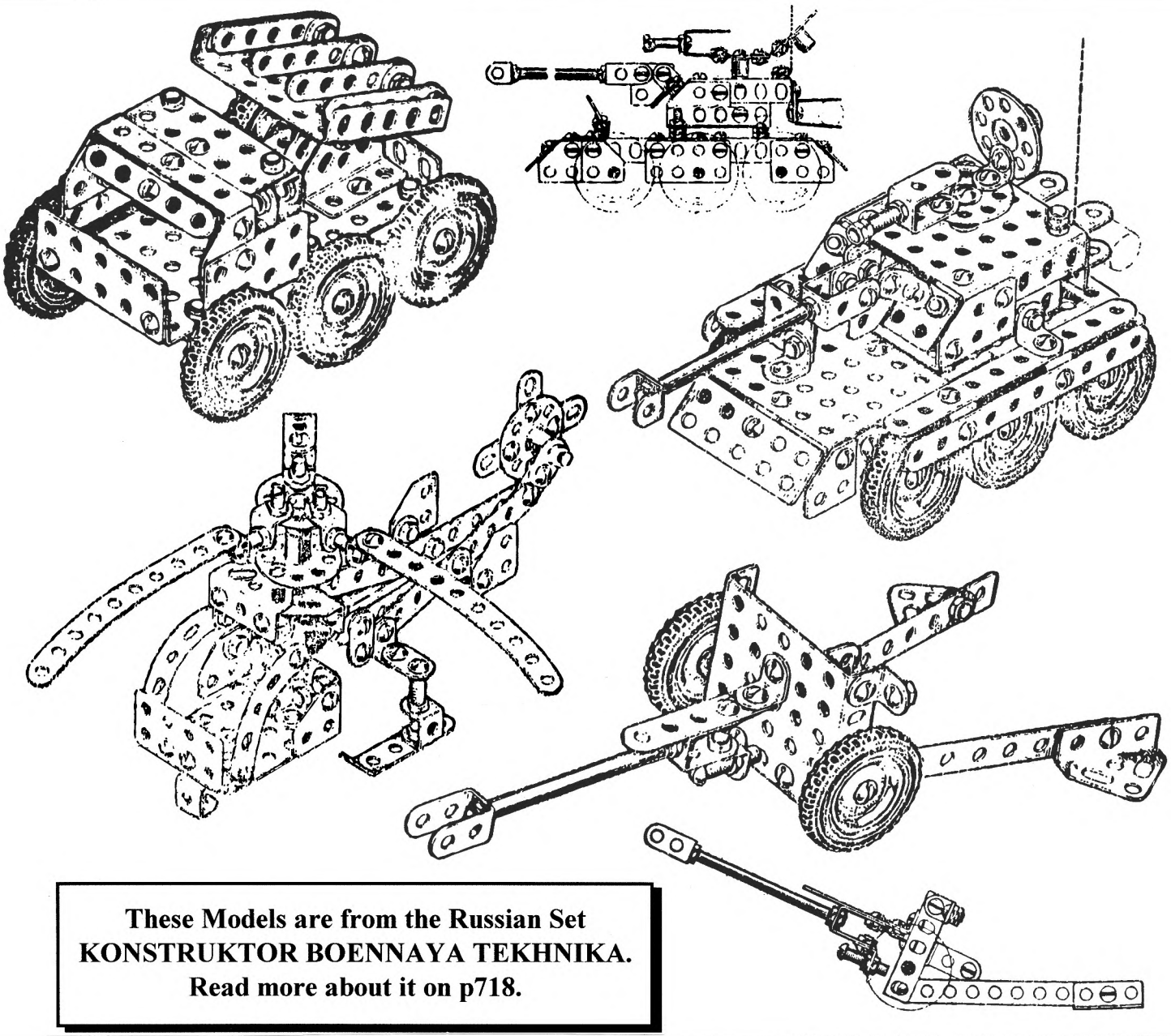
EDITORIAL For some months I've been using an American facility called PayPal to pay for items bought in U.S., and recently a reader paid his OSN subscription by paying the appropriate number of dollars into my PayPal account. It all seems to work smoothly and PayPal claim that no charge is made for using their service. However payments to PayPal must be by credit card and debits on my card are always slightly (less than $1) more than the nominal payments. I've yet to discover the reason for this. Anyone wishing to make payments via PayPal has to register at www.paypal.com and then all that is needed to make a payment is the email address of the payee, in my case as in the heading above. But please inform me if you make such a payment, because I have to formally accept it at PayPal before it is credited to my account. I believe PayPal operates in many Continental countries and I presume that payments can be made in dollars from them.

I've continued to put colour images from past issues of OSN on my web site (www.OSNL.freeserve.co.uk), and those from Nos.2-11, and 17-24 are now complete. I hope to cover the remaining ones in due course.



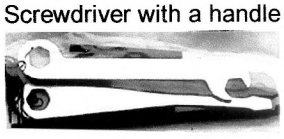
These Models are from the Russian Set KONSTRUKTOR BOENNAYA TEKHNIKA.
Read more about it on p718.

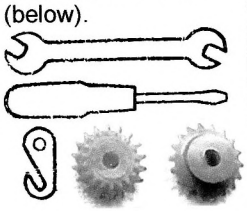
Two 'New' Russian Sets John Evans kindly let me examine these outfits which he bought in Russia in 1995. Thanks also to Michael Denny for help with the Russian.

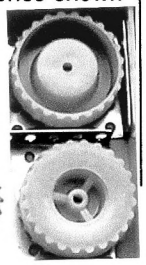
KONSTRUKTOR SHKOL'NYÏ This small Set, with 37 different parts, was made in Kursk (some 250 miles south of Moscow) and was intended as a technical toy for 1st & 2nd school classes (7-9 year olds) - the name translates as constructor, or designer, for schools. Nearly all the metal pieces are nickel plated, while the Wheels/Pulleys etc, are red or orange plastic, and Screwed Rods are used as axles. The parts are of fair quality and at a glance could be mistaken for German CONSTRUCTION. They are packed into the 9 compartments of a red plastic tray, 25½*19¾*2cm, and the card lid is as below, with a the Helicopter against a blue sky. The logo right is on its edge of the lid.

The Parts • DATA (in mm) Strip (11-hole): •Hole pitch/dia, 10.0/4.3 •width, 9.9; •ends fully radiused. Boss: •i/d, 4.2; •plastic; •not tapped. Thread: M4. Axle Dia: NA. DP (Mod): NA. Nut: hex 8.0 A/F, blackened steel; Bolt: roundhead 6.7 Ø; nickeled steel.

The various parts are listed below, marked ‡ where the metal ones differ from CONSTRUCTION ('C' henceforth), or are not in the 'C' range, with notes as necessary. As usual 'h' is hole, also 's' = slotted hole. All slotted holes are 8mm long. • 2‡,3,4,5,6‡,7,9,11‡,14‡h **Strips**. • **A/B**‡. Similar to 'C' but with slightly longer arms: 1h*1s, 16*15mm; 1s*1s, 16*15mm; 1s*2h, 16*20mm. • **DAS**. 1*1*1h‡, 14* 24mm o/a; 1*3*1h (the wide type); 1*5*1h‡, 14*54mm. • **Plates**. Flat: 3*3h, 3*7h, 5*9h, 3*3h Triangular. 5*5h Flanged‡, only 53mm wide o/a with flanges 14mm deep. • **Discs**‡. They differ in size from the 'C' ones, the 4-hole type is 34mm Ø, the other, 16mm • Plastic **Pulleys**. 29mm o.d. * 6mm wide with recessed sides, red; 16mm o.d. * 4½mm wide, with flat sides, orange. • **Road Wheel** (below). Red plastic, 48mm o.d., 'one-sided' with boss & 3 spokes at bottom of centre well. • **Bevel Gear**. Orange plastic, 19mm o.d., 18 teeth, 7mm deep including the shallow boss (below). • **Screwed Rods**‡. Blackened steel, 38, 50 (?), & 94mm long. The latter does not have the smooth centre portion shown in the Manual. • The **Hook** below is flat, 28*12mm o/a. The **Sleeve** is orange plastic, 8½mm o.d. & 8½mm long. The thin **Cord** is black. • **N&B**‡. The standard Bolts are 8mm u/h (not the 6mm given in the Manual); the 16mm ones are blackened like the Nuts. • **Tools**‡ (below left). The open end of the **Spanner** is more angled than the 'C' one; the flat **Screwdriver** is 90mm o/a. Both are unlike the ones shown in the Manual - a double-ended Spanner & a Screwdriver with a handle (below).



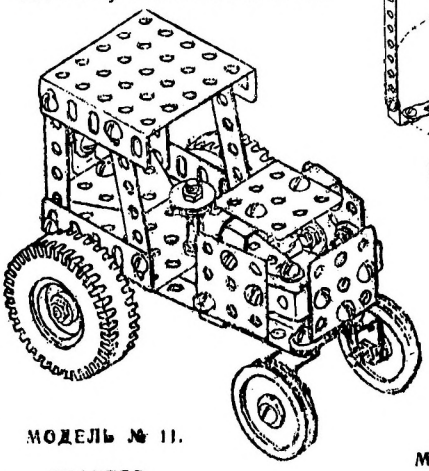




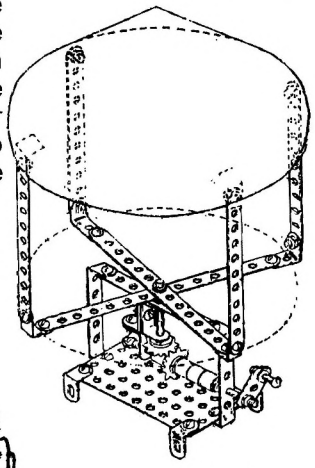
The Set includes 30 Strips, 6 DAS, 13 Brackets, 11 Plates, 4 Road Wheels, 7 Pulleys, 4 Discs, 2 Bevels, 39 Bolts, & 50 Nuts.

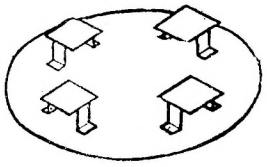
The Manual SUMMARY •Name: KONSTRUKTOR SHKOL'NYÏ. •Details of maker: Made in Kursk. •Dates &/or Ref Nos: bought in 1995. •Page size: 195*140mm deep (stapled at top). •No. of pages: 24+ covers. •Language: Russian. •Printing: Cover red on white, models B&W line drgs. •Page Nos. of Illustrated Parts & highest PN: 3,37. •Page Nos. of Set Contents & highest PN: 2,37. •Sets covered: one, unnumbered. •No. of models: 16. •Name, Model No., Page No. of first & last model: ВОЛЧОК (top),1,4; КАРУСЕЛЬ (roundabout),16,23. •Other notes: the logo at top left of the cover appears on the side of the box lid.

A line drawing & parts list is given for each of the **models**, and they range from the very simple, a Top & a Chair, through the usual Step Ladder & Windmill, to the still quite simple Crane, and the Digger on the cover. Those below show the majority of the pieces. Card parts can be added to most of the models, to improve their appearance, and patterns for these are provided in the Manual. They are not full-size but are drawn on squared paper, with each square representing 1*1cm. So junior had to do a little useful work to finish his model. The Bevels are used only in the Roundabout.



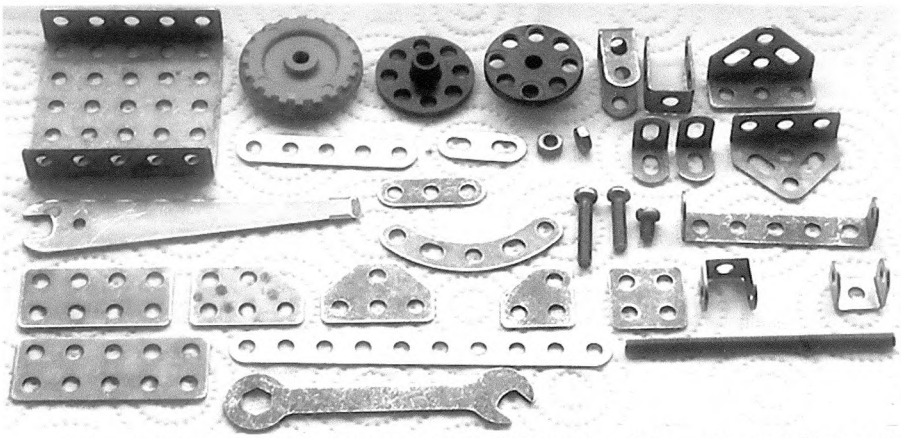
МОДЕЛЬ № 11.
ТРАКТОР





МОДЕЛЬ № 16. КАРУСЕЛЬ.

KONSTRUKTOR BOENNAYA TEKHNIKA The name (henceforth KBT) means Military Technology and the manual models for this little set (27 different parts) are all military subjects, apart from a few jet aircraft. Certain aspects of the Manual are very similar to those for KONSTRUKTOR K•115 (see 19/530), the style of the Set Contents and the table showing the parts needed for the models, for instance. Also 2 of the K•115 models are among the 15 for KBT – both are in OSN 19, the Jet, and the Jeep on the manual cover. The illustrations are identical although for KBT an exploded view has been added for the Jeep. However although both systems have a hole pitch of 10mm, the KBT holes are slightly larger, and the parts common to both sets differ in detail, for example the Strips have fully rounded ends. Also K•115 was made in Belarus while this Set hails from Cheboksary, a city of half a million people, 600km west of Moscow. It's the capital of the Chuvash Republic, part of the Russian Federation. The name of the maker seems to be 'ЧЗАЗ' and this is the basis of the logo, right, on the manual cover. Also stamped on the cover is the date of manufacture, 30.10.95.



The Parts • DATA (in mm) Strip (10-hole): •Hole pitch/dia, 10.0/4.4 •width, 10.0; •ends fully radiused. Boss: •plastic, not tapped, see below. Thread: M4. Axle Dia: NA. DP (Mod): NA. Nut: hex 6.9 A/F, dull brown steel; Bolt: cheesehead 6.9 Ø; dull plated steel.

Below some explanatory notes on the different parts, (shown above).

• 3,5,10h **Strips**. The 3h is only 9.7mm wide. Holes 2 & 4 of the Curved Strip are slotted, 6mm long. 1*5*1 **DAS**, 50½mm wide o/a, with 13mm deep lugs.

• **Double Strips**, 20.0mm wide, 2,4 & 5h long.

• **Brackets**: Flat; Angle; Double, 1 & 2h deep. Both the Flat & Angle Brackets have 2 slotted holes, 7mm long, and the lower hole in the side of the 2h high D/B is a 6½mm slot. Also 2 & 3h long **Corner Gussets** with 1 or 2 angled corners. The diagonal slots in the **Trunnion** are 8mm long.

• 5*5h **Flanged Plate**, 51mm wide o/a, with round holes in the 13mm deep flanges (though slotted holes are shown in the models).

• The 8h **Bush Wheel** is black plastic, 27mm Ø, with a 4.8mm bore in the tapered boss. The disc is 2½mm thick.

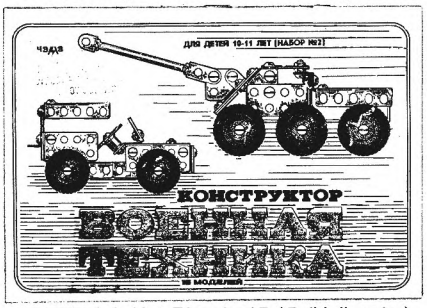
• The **Road Wheel**, 34mm Ø, bore 4.5mm, is (regrettably) a lurid red-pink plastic. Both sides are the same.

• The **Screwed Rod** is darkened steel, 70mm long. The **Bolts** are 6, 8 (not shown), 16, & 20mm u/h, and the 16mm is roundheaded. The **Spanner** is like the K•115 one shown in OSN 19, 79mm o/a & 16½mm wide. The flat **Span'driver** is 91mm long by 17½ wide, with a 3.2mm hole near the spanner end.

• **Finish**. The metal parts are probably dull BZP, but it has turned out a somewhat patchy light brown. Not entirely inappropriate for military models perhaps but touches of iridescence rather spoil the effect. The pieces are accurately made but with slight burr here & there.

The Set is housed in a plastic box, 23½*16½*2cm, with no markings on it at all, but the Manual has 'for 10-11 year old children (Set 2)' on the cover. The bottom of the box is black, subdivided into 6 compartments, and the top is grey. The main parts are: 15 Strips including 2 Curved & 1 DAS; 13 Double Strips; 42 Brackets; 3 Trunnions; 18 Gussets; 4 Flanged Plates; 3 Bush Wheels, 6 Road Wheels, 85 Bolts & 90 Nuts.

The Manual SUMMARY •Name: KONSTRUKTOR BOENNAYA TEKHNIKA •Details of maker: OAO 'ЧЗАЗ', 5, I. Yakovleva Ave., 428000 Cherboksary, Chuvash Republic. •Dates &/or Ref Nos: various on C4, starting OCT 17-882-86. •Page size: 227*157mm. •No. of pages: 16 unnumbered +s covers. •Language: Russian. •Printing: B&W cover with large letters green; B&W line drgs of models. •Page Nos. of Illustrated Set Contents: 16 (no PNs). •Sets covered: No.2. •No. of models: 15. •Model No., Page No. of first & last model (no names): 1,1 (Jet Plane); 15,15 (Helicopter). •Other notes: C2 has Intro, & C3 a table showing the parts needed for each model.

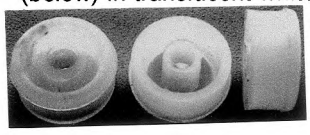


There is a line drawing of each of the 15 models, with additional exploded views to explain the construction. Apart from 3 Jets in the style of the OSN 19 models, and a Helicopter, all the models are of unnamed, wheeled Army vehicles. 3 of them, and the Helio, are shown on the front of this Issue (original size but without most of the auxiliary views). The models are not large, typically some 15cm long, but have enough detail to look the part. However, apart from the Wheels, none have any moving parts, and so, for instance, the Field Gun can't be elevated. It is suggested in the Manual that wire & card be used to improve the models, and such parts are shown as dotted lines in the models.

KONSTRUKTOR K 115 While writing about the Russian outfits above I thought I'd include one that David Hobson kindly lent me some time ago. It had been 'on hold' for a while because it looked similar to one already described, K•115 in 19/530, but in fact it proved to be the link between K•115 & KBT. David's Set, K 115, without a dot between the 'K' & the '115', is a later, very slightly modified, version of K•115 (with a dot), and is made by the same firm as KBT, in Cheboksary. Further it's packed in the same unmarked plastic box (except that the bottom part is grey like the top) and the parts are like those in KBT rather than in K•115. Also the K 115 manual cover has 'Set 1 for ages 8-10' on it, & that fits with the 'Set 2, for ages 10-11' on the KBT cover.

The parts Those common to K 115 & KBT match except: • The **10h Strip** is 9.85mm wide. • The **DAS** is 51½mm wide o/a (the KBT measurement might be wrong). • All the **Bolts** have slightly rounded cheeseheads, and their lengths are as in the Set Contents.

The other parts changed in K 115 are: • The **1*3*1h DAS** which now has 6.2mm slots in its 13mm lugs. It is 31mm wide o/a. • The **Road Wheel**, now as in KBT, replaces the Pulley & Tyre. A 17mm Ø **Flanged Wheel** (below) in translucent white plastic, replaces the Pulley. It is like an M20 with an internal, tube-like boss, with a 7mm wide flat tread and a ½mm raised lip at one edge. The bore is 4.8mm. An odd part, which isn't used as a flanged wheel – it appears only as the wheels in one Tricycle Cart and the headlamp in another. • The **Tools**, which are now as in KBT.

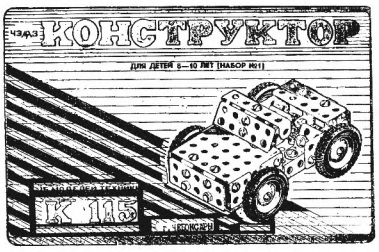


The **Hook** wasn't seen in K 115; the K•115 one (right) is probably the same, flat & 20mm long, with a 4.7mm hole.

The **finish** of all the metal parts is iridescent, mostly quite dark.

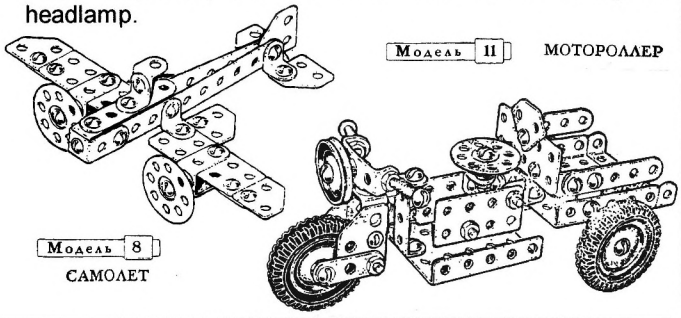
The Set The packaging has already been mentioned; the contents are as before except for the Road Wheels replacing the Pulleys/Tyres, the addition of 3 of the Flanged Wheels, and the deletion of the 2 Axles (the Pulleys were a push-fit on them; the Road Wheels run on Long Bolts).

The Manual SUMMARY •Name: KONSTRUKTOR K 115. •Details of maker: OAO 'ЧЗАЗ', 5, I. Yakovleva Ave., 428000 Cherboksary, Chuvash Republic. •Dates &/or Ref Nos: various on C4, starting OCT 17-882-86. •Page size: A5. •No. of pages: 16 unnumbered plus covers. •Language: Russian. •Printing: line drgs of models; cover, as right. •Page Nos. of Illustrated Set Contents: 16 (no PNs). •Sets covered: No.1. •No. of models: 15.



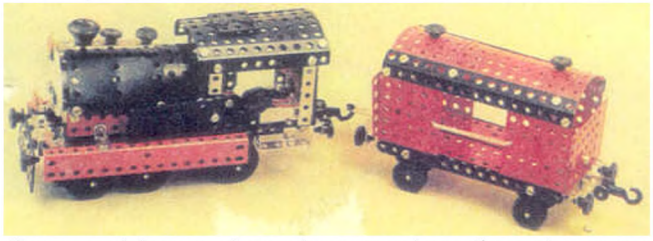
•Name, Model No., Page No. of first & last model: КРЕСЛО (armchair),1,4; АВТО ПОГРУЗЧИК (fork lift truck),15, 15. •Other notes: C2 blank; pp1-4 have title, intro, HTUP; C3 shows parts needed for all models; details from photocopy.

The logo on the top left of the cover is as KBT, also the details of the maker inside and on C4. The models are the same as before with the same line drawings, but a little smaller and altered to show the round holes in the flanges of the Flanged Plate, and the new way of fixing the Wheels. One illustration has been changed – the model on the K•115 cover has been used for Model 13. Below one of the nice little Aeroplanes, and the Trike with the old Pulley as headlamp.



More MLADOST MLADOST is the transliterated name of a Bulgarian system, made by Fabrika Vasil Petleshkov, in Bratsigovo, a small town in the south of the country, 20km south of Pazardžik. The Internet tells that one Vasil Petleshkov, as district leader, announced the beginning of the 1876 uprising, and the factory still exists in Bratsigovo, but listed as making wood products. The entry in MCS Part 5 (under the name MOADOST) mentions sets called 'Bulldozer', 'Tank' & 'Motorized', and shows the parts. Their hole pitch is given as 10mm, and a few look like MERKUR.

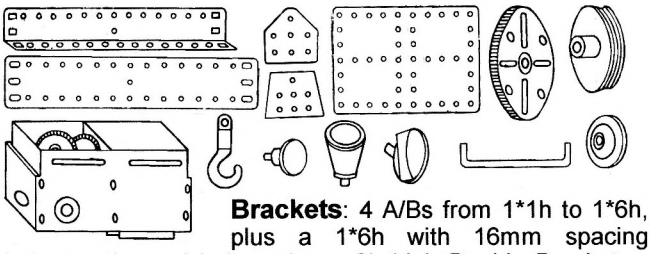
Now Kendrick Bisset has kindly sent copies from the instructions of another Set, with the stylised brand name & address as in MCS (see the drawing by the Loco in the next column). It is to make the Loco and Goods Van below, and



these models are shown in a panel on the set wrapper labelled '3' – in other panels are '1', the Loco with a similar Wagon but with closed sides; '2', the Loco with a Tank Wagon; and '3', the Loco with a Carriage. Presumably these are the different sets, although it seems strange to have a Loco with each. Below right a photo underneath the panels, of the Loco pulling the 3 Wagons & the Carriage, but without an indication that there is a corresponding Outfit.

The Tools and some other parts look like the MCS ones, but there are also Plastic Plates in various sizes, and some different Brackets. Excluding Tools, 46 different parts are used in the Loco, and 22 in the Van, of which 7 are not in the Loco. That's ignoring different colours. No doubt there are a few other parts in the Carriage & Tanker. The PNs are different to those in MCS and go from 1001 to 1120, with many gaps of course. The parts are not numbered in any particular order so there could be other sets and 120 parts in the MLADOST system.

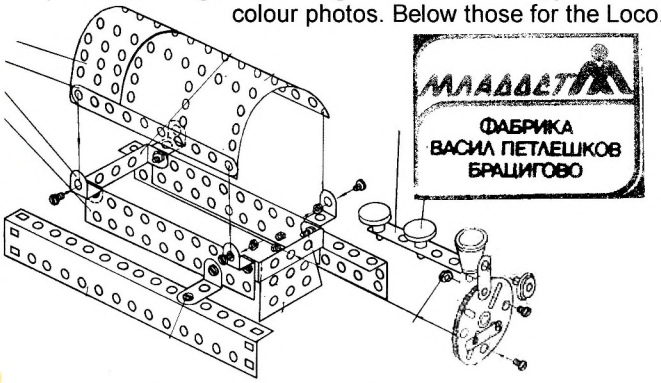
The parts in the Set are (with the items marked ‡ illustrated): • **Strips**: 2,3,10,15h, some steel, painted black; some white plastic. • **A/Gs**: 15,20h; 10,15h Obtuse; 2*1h‡, 15h long, shown with end holes oblong, but they have large radius ends in the model photos. All are steel painted black.

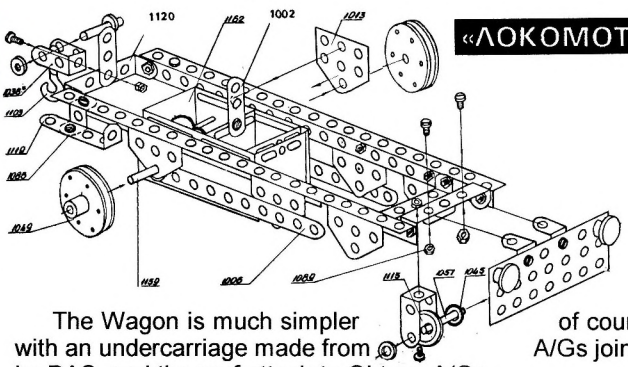


Brackets: 4 A/Bs from 1*1h to 1*6h, plus a 1*6h with 16mm spacing between the end holes; also a 2h high Double Bracket, a Reversed A/B, & a 1*3*1h DAS. All are nickel. A 7h Flat Trunnion‡ is black plastic. • **Plates**: 2*8h; 3*3,7,10,15h‡; 7*5,10‡,10h; also a Trapezoidal Plate‡. The 3*15h, used as a floor, is transparent; all others are white or black plastic, with some of the white softer than others. All are fully perforated except those shown. • Plastic **Pulleys**: white 23mm (with black rubber Tyre)‡, white 26mm & black 38mm‡ Ø. • **Gear**: white plastic, 63t‡, pcd about 50mm (Mod.0.8). • Bright steel **Axles**: 3.5mm Ø (the MCS ones were listed as 3.6mm), 20,70,81mm long. Also a U-shaped Bar‡, 13*63*13mm. • A **Geared Motor Unit**‡, black plastic with orange gears. A flat 4.5v battery fits into the bottom. It looks as if it may be the one in the MCS model. • **N&B**. Hex Nuts & CH Bolts, M4, but also 6 each M3 for the Loco (seemingly used where M4 would be too big). • Plastic **Fittings**. Yellow Hook‡, black Buffer‡ & Funnel‡, & several others, yellow & white. Also a red Switch‡ with metal lever which fits onto the side of the Motor Unit. Most of these parts are held by an Axle Stop on a spigot.

All **holes** are shown round except at the ends of the 3*15h Plate & the one A/G mentioned above. Kendrick wrote that the holes vary in diameter from 4.3 to 4.9mm, at 10mm spacing, and Strips are about 10mm wide. The larger holes can be seen at the edges of some of the Plates and in one flange of the A/Gs (also shown thus in the MCS illustrations), no doubt to allow some adjustment in the absence of slotted holes. The **Wheels** have no set screws but have tapered bores to produce a (hard!) press fit on the Axles. The exception is the Gear which has no apparent means of fixing, but none is needed as it is only used to form the front of the Loco's smoke box.

The **Instructions** take the form of (fairly) clear exploded drawings of the stages of construction, plus some colour photos. Below those for the Loco.

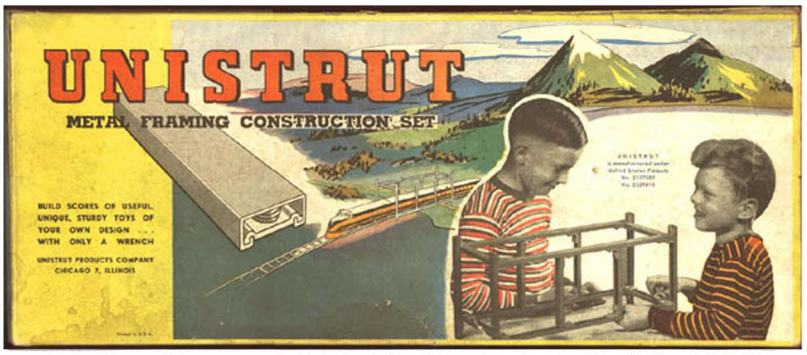




The Wagon is much simpler of course with an undercarriage made from A/Gs joined by DAS, and the roof attach to Obtuse A/Gs.

In the Instructions the Loco is black with red side frames, and the Wagons red, blue & yellow, with black frames, trim, & roofs (red on the 'open' Goods Van). They probably look better in those colours than in the black and white of the actual parts (with the roofs, & the Loco's buffer beam, white).

'New' System: UNISTRUT Thanks to Kendrick Bisset for sending the account below of his c1950 outfit. I've added the dimensions of most of the Brackets and N&B from parts which Kendrick kindly lent me.



'Here is an interesting system, as much for the parts as for the source. It consists of rectangular U-shaped channel members with clamping nuts to fasten brackets to the channels (as below). The patented nuts are oblong in plan, and cleverly designed so that they may be inserted at any point along the channels. The nut is placed in the slot in the channel, and turned through 90° (possible due to the curvature on the short sides) so that the grooves in the top of the nut engage the inward-turned edges of the channel. The spring attached to the nut pushes it up into position and holds it so the bolt can be inserted, after passing through the chosen bracket. Assembly is simple, and very rigid once the bolt is properly tightened.

FIG.6.

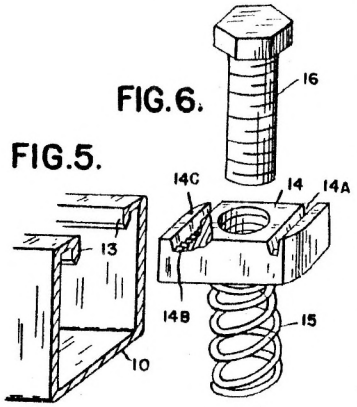


FIG.5.

FIG.7.

The **parts** found in the outfit, 11 types in all, comprise Channels, Brackets, and N&B, all made of galvanized steel. The **Channels**, 13/16" wide & 13/32" deep (20.6*10.3mm), are 6" long (x 12), 9" (x 4) 12" (x 6), and 18" (x 4).

The 5 **Brackets** are all 0.8" wide and each is stamped with a PN beginning with 'P'. Holes are 9/32" at 1 1/16" pitch. In detail, with approximate overall dimensions: Flat Brackets with two holes (P6065, 1.9" long, x 12); Angle Brackets with 1*1 holes (P6066, 0.8*1.2", x 20), 1*2 holes (two sizes: P6326, 0.8*2.3", x 2; P6458, 1.2*1.9", x 4), and 2*2 holes (P6070, 2*2.2", x 4).

The ¼"-20 hex head **Bolt** (x 53) is 3/8" A/F & 7/16" u/h; the special **Nut** (x 50) is 13/32" wide and the ends are slightly tapered (rather than curved as in Fig.7) to allow turning in the Channel.

The Channels and Brackets are very heavy: Channels are made from 0.042" sheet, and the brackets are 0.120" thick. For a construction toy, the Bolts seem very generous, too.

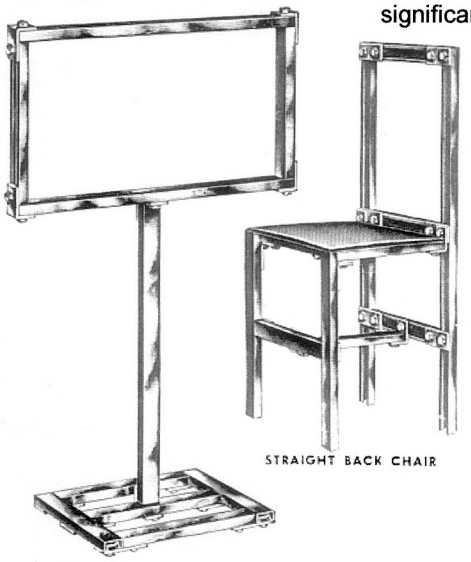
The red partitioned **box** is 18¾*8*1 11/16" deep, and weighs about 9 pounds with the parts. A smaller red box contains the N&B. The lid is shown top right – it has a yellow panel on the left, the name in red, and the mountains & sea on the right in full color.

The substantial pieces reflect the **origin** of this outfit. The Unistrut® company, still very much in business, makes industrial framing systems, used for supporting piping, electrical conduits and fittings, and all sorts of other uses. This construction toy makes use of the smallest section channel, along with a few of the associated brackets. A modern catalog shows the same parts used in the construction set, even with the same part numbers. The outfit came with a brief catalog, dated 1949, of the Unistrut system, showing five basic sizes of channels. There are now many more available, not only in steel, but in stainless steel, aluminum, and fiberglass. The array of fittings available in 1949 was considerable, but today is staggering. I have been exposed to Unistrut for many years; the name (at least in the United States) is nearly a generic term for such framing systems.

[The name of the **company** on the Model Leaflet is Unistrut Products Company, Chicago 7, Illinois; now it is Unistrut Corporation, 1140 West Thorndale Ave., Itasca, Illinois 60143. Their web site, www.unistrut.com also has the addresses of Unistrut in Canada, Australia, & the UK. Two patents are quoted on the box & Leaflet: 2327587 of Aug. 1943, & 2329815 of Sept. 1943. The Figs.5-7 (left) were taken from the latter.]

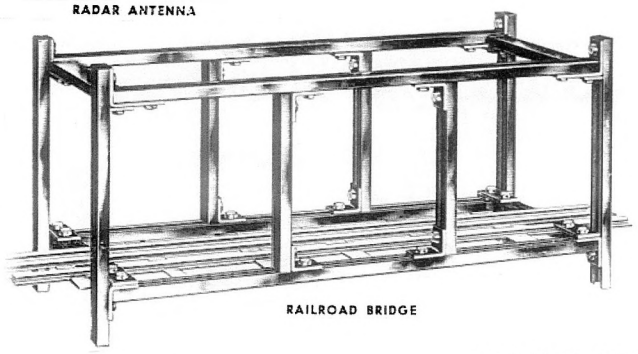
The **Model Leaflet**, a single sheet about 17*11" folded in two; it shows only 8 models, on the inside pages. The front (right) is printed in red & black, and the back is devoted to an advertisement: 'Yes, Dad, we have one for you!' with an illustration of a work bench, and 'Build Mother a fruit rack like this'. The framing for both these items use the larger sizes of Unistrut. One illustration, with no parts list, is given for each of the models. All are items of furniture except for a Railroad Bridge, a Trapeze, & a Radar Antenna. A Chair, the Bridge, & the Antenna are shown below.

Probably the most glaring **shortcoming** of the set is the lack of any mechanical parts: wheels, axles, pulleys, etc. The Brackets included could be used to support such items; adding some ¼" rods and a few wheels would have significantly increased the scope of the models possible. Another difficulty is that though joining the parts at angles is possible, it is limited to one plane. All joints in the Leaflet models are at right angles. Newer catalogs show a number of parts to allow connections at different angles.'



STRAIGHT BACK CHAIR

RADAR ANTENNA

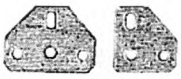


RAILROAD BRIDGE

Three more SYSTEMS for MCS What follows is from material and notes that Jeannot Buteux/Constructorama have kindly sent.

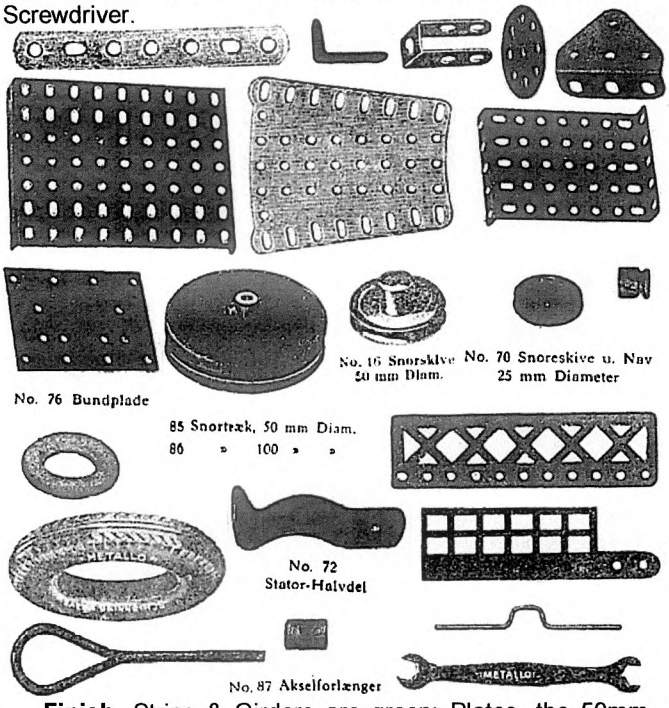
Danish METALLO The name was mentioned in OSN some time ago and as stated in the piece about D.V.s INGENIØR in 13/661, both were made by K.A.Birk of Copenhagen in the 1930s. Jeannot wrote that parts common to the two systems are identical, except for the colour & material in some cases.

The Illustrated **Parts** shows 78 useful parts, including Gears, a Curved Strip, & Screwed Rods, all essential in a 'serious' system. PNs 1-54 are used in the Sets 1-5, and the remainder run from #60-86 with a few gaps. As with D.V.s, most look like MÄRKLIN, but the pitch of the (4mm) holes is 12.5mm. The MÄRKLIN-like parts will be listed first and then the others; items marked ‡ are not included in Sets 1-5.



MÄRKLIN-like parts: 3,5,7,9,11,15‡,25h Strips. 5h long Curved Strip. 1*5*1h DAS. 11 & 25h A/Gs; 11‡ & 25h Flat Girders. Brackets: Flat; Angle; Double; Reversed Angle; Corner & Double Corner (left). Double Bent Strip. 5*11h, 5*7h, & Sector Flanged Plates. Perf. Plates: 5*9h; 7*11h. Pulleys: 65mm Flanged Disc; 25mm; small Loose. Gear Rings for 25 & 65mm Pulleys. 25t Pinion & 50t Gear (but probably without face holes). Worm‡. Bush Wheel. Axles: 3,5,7‡,9,11.5,13cm. Crank Handle. Double Crankshaft‡. Small Pawl. Hook. Collar. N&B, Washer, Grub Screw. Cord. Spring Cord Band.

The other parts (most illustrated below) are: 7h Strip with 2 slotted holes. Brackets: 1*2h Angle‡; 2h high Double. Trunnion‡. Plates: Flat Sector, 5*7h Z-flanged‡, 7*9h Flanged‡, #76 Bundplade‡. Pulleys: 50‡ & 100mm‡ Flanged Disc Pulleys (Snortræk – appear to be similar to the 65mm Flanged Disc Pulley but without the face holes.); 50mm with no face holes; 25mm Loose‡ (#70); 10mm‡. 8h Wheel Disc‡. Braced Girder‡. Windmill Sail. 50mm Tyre & 25mm Rubber Ring‡. #72 Stator-Halvdel‡ (Motor Pole Piece?). #87 Akselforlænger‡ (Axle Extender? = Coupling?). Single Crankshaft‡. 3,5.5,7.5cm Screwed Rods‡. Spanner & Screwdriver.



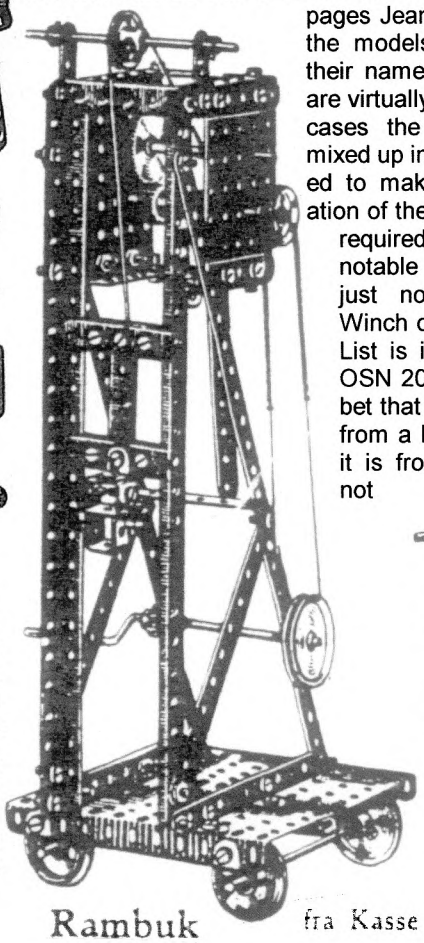
Finish. Strips & Girders are green; Plates, the 50mm Pulley, the Bush Wheel, & the Cord are red; the 25mm Pulley is beige; the Windmill Sail yellow; the 65mm Flanged Disc Pulley is nickel plated; small parts, the N&B, & the Axles are polished steel; and the Pinion & Gear are brass plated steel. The parts are of good quality but the polished steel ones are apt to go rusty.

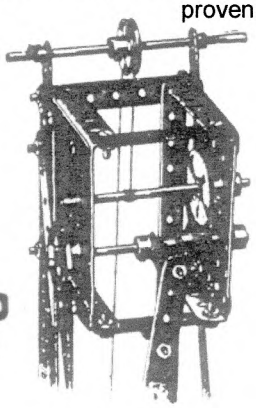
A Price List has 16 **sets**. Nos.0, 00, 0A are marked 'Special' and the 00 is larger than the 0, with 64 parts against 32. Sets 1-5 & 1A-4A are 'standard' outfits, see below. The No.6 has extra parts and cost Kr.65 against Kr.39 for the No.5. Nos.31 (215 parts) & 32 (345 parts) were sets to make Cars & Trucks respectively, with special parts, and No.35 was an Aero theme set using standard parts. In addition there were Nos.33 & 34 for Motors, perhaps built up from parts

The **No.1 Set** is a typical small outfit with 92 parts including a 5*11h Flanged Plate, 4x 25mm Pulleys, and 25 N&B. The **No.5** is shown as a 2-layer box, and it is a decent set with 12x 25h Strips, 14 A/Gs, 4x 50mm Pulleys with Tyres, 8 Flanged/Perf. Plates, 4 Gears & 4 Gear Rings, and 4x 65mm Flanged Disc Pulleys. Also among its 486 parts are 100 N&B and 50 Washers – nice to see so many Washers but hardly enough N&B to do justice to the parts.

Several **manuals** are known, all with similar covers, as above, about 24*16cm. The 3 boys are playing with a Funicular Railway. One cover has the 'DA' design below in the bottom right corner, meaning 'dansk arbejd' (Danish made). The page of models to hand has 1 each for Sets 1, 3, 4, & 5, and the No.5 Pile Driver (65 N&B) is shown below. The 50t Gear isn't shown in the Illustrated Parts but can just be seen meshing with the Pinion in the top of the model.

A **possible METALLO manual** for Sets 21-24 was described in 20/565 and can now be compared with the pages Jeannot sent. The parts in the models look the same and their names in the Set Contents are virtually identical. Also in both cases the manual models are mixed up in terms of the set needed to make them. The presentation of the model names & parts required have similarities and notable differences, but I've just noticed that a simple Winch on the METALLO Price List is identical to one of the OSN 20 models. So it's a fair bet that the OSN 20 manual is from a Birk outfit, but whether it is from METALLO remains not proven.





Rambuk fra Kasse No. 5 eller 4 + 4 A.

MA TOUR CONSTRUIT The name of this 1930s French system was mentioned in 17/491 and now some details are available. The illustrations below are from the Model Sheet, 48*32cm, folded into 3, and printed on one side only. The parts in the models bring STANDARD L.R. (SLR in future) to mind, however Jeannot wrote that they don't have the indentations for locking parts at right angles, which was an important (patented) feature of SLR, and there are many less parts, no Gears for example. The maker of MA TOUR isn't known.

Parts The Sheet doesn't show the 40 individual parts but their names are given in the Set Contents, and many of them can just about be seen in the models. As with SLR the lengths of the main parts are in multiples of 5cm, and the holes (4mm Ø) are mostly at alternate pitches of 40 & 10mm in the Strips & A/Gs. What can be said of the parts follows:

Strips & A/Gs are 5,10,15, & 25cm long with holes as above except that the 5cm Strip has a hole at each end & one in the centre. The 4 holes in the Curved Strip look to be equispaced (unlike SLR), and 4 seem to make a circle of 8cm pcd. Then the chord between adjacent hole centres would be 20mm.

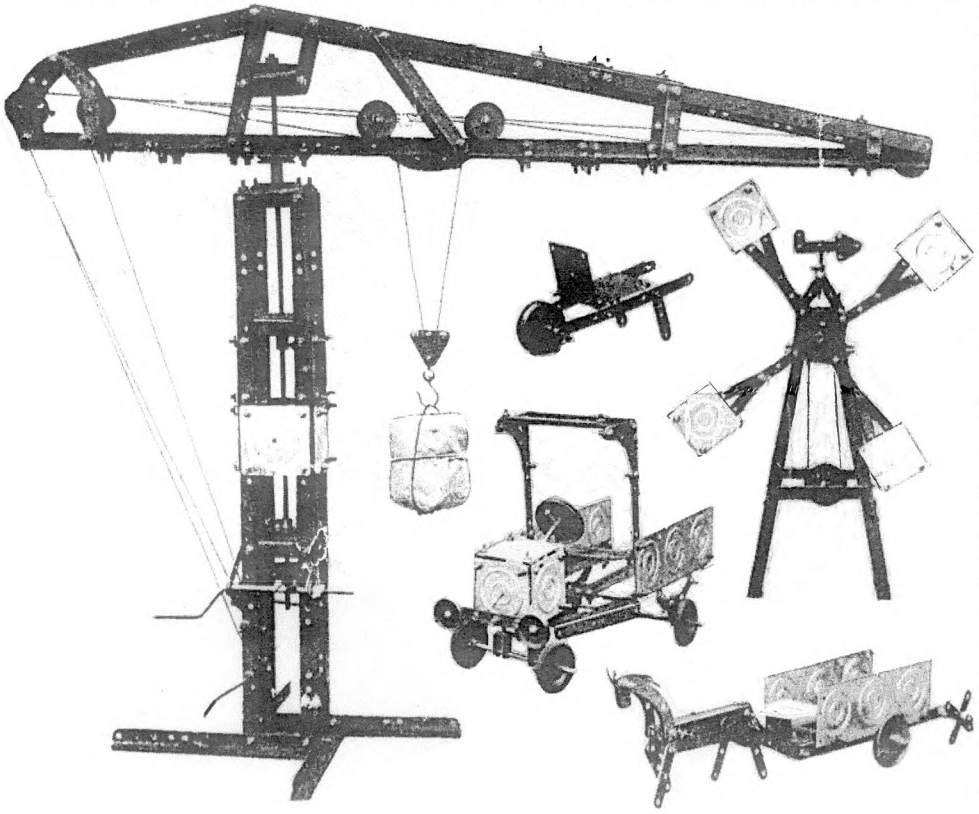
Joining parts are an A/B; a flat connector, perhaps a Flat Bracket (as at the left end of the wind vane atop the Windmill maybe); a small Triangular Plate (as on the right end of the vane, and as the side of the Crane's pulley block, though both might be made from two smaller, triangular plates); and a deep Double Bracket, as in the middle of the Lorry's front axle.

Plates are a 5*5cm with corner & centre holes (see the Barrow), and Infill Plates, 5, 10 & 15cm long, made of bare aluminium, with embossed circles in each 5cm 'bay', corner holes, and top & bottom edge holes between the bays.

Pulleys: 12, 28, & 45mm Ø Fast, and 12 & 28mm Loose. All bosses, a **Collar**, & a **Rod Coupling** are fitted with Grub Screws. A **Tyre** for the 28mm Pulleys was supplied.

Axle Rods are listed at 20,40,60,120, & 200mm long, also a Crank Handle (see the Crane).

Other parts are a loaded Crane Hook; Cord with black & orange strands; a Screwed Rod '– Cy 40'; a Nut; 10 & 15mm Bolts (the 10mm is so long that there's a note saying that the heads must be on the inside of A/Gs); and a Span'driver.



The parts are quite 'solid'. Most of the steel ones are polished but with a roughish, grenaillé (granulated) finish. Exceptions are the red painted 28mm Pulleys, and the smooth polished steel N&B, Axles, & Screwed Rods.

The sets are Nos.1 & 2 with 247/385 pieces including 24/38 Strips, 14/18 A/Gs, 8/13 Plates, 8/16 Pulleys, 4 Tyres, & 66/110 N&B. The No.1 has all the different parts except the longest Strip, A/G, & Axle, and the 45mm Pulley.

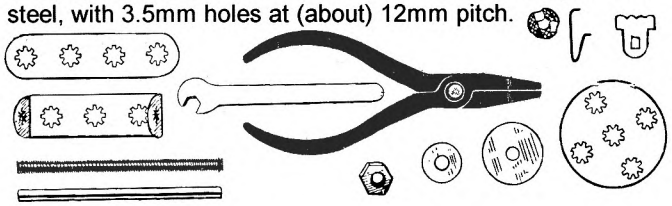
14 quite fair **models** are shown on the Model Sheet, with one photo of each (those opposite are full-size), and it is explained that they are 'only examples, because it is certain that models designed and constructed by yourself will give much more satisfaction than ones simply copied'.

Finally Jeannot pointed out that the **name** MA TOUR CONSTRUIT is strange because it means 'my tower builds', or '... is building', whereas if it were CONSTRUITE it would mean 'my built tower', that is, a tower I built. There's no Tower at all on the Model Sheet.

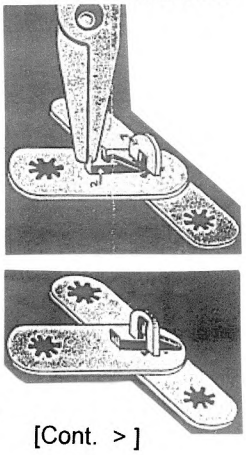
'New' System, MONT' VITE The French patent for this small system with 8-point star-shaped holes, No.736852, was described in 13/363. The name was registered on May 24, 1932, 15 days after the application for the patent was made, and it went on sale in that year, made by the patentee, Amédée Sagnier, of 111 rue Ledru-Rollin, Saint-Maur, near Paris. It isn't known how long it lasted.

"MONT' VITE"

The Parts There were 2 sets and all the different types of part in the No.1, as shown on the Model Sheet, are illustrated below, except the 6 & 8h Strips. Some extra parts in the No.2 can be seen in the models overleaf: an 11h Strip, an A/B, Cord, & a Hook. So 23 in total and all are polished steel, with 3.5mm holes at (about) 12mm pitch.



The parts are held together by the flat T-Clips, in 3 lengths, to accommodate 2, 3 or 4 thicknesses of metal. The T-Clip is held in place by a Clip Spring, pushed home (right) while held in the Pliers.



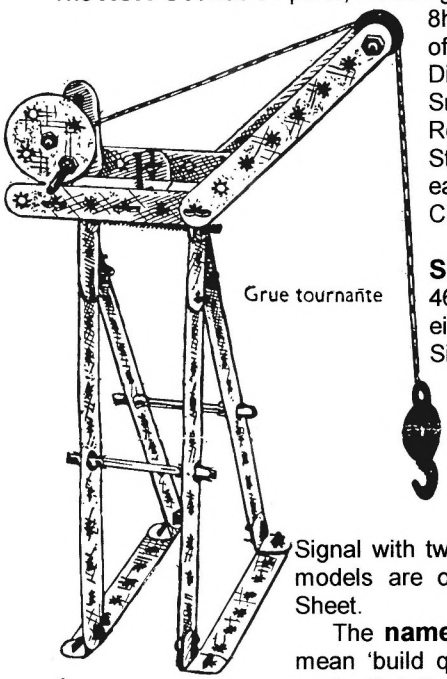
The part to the left of the T-Clip is an Axle Stop, with 3 springy arms as in the patent, and it can be seen holding Rods in place in the Crane.

The Discs scale at 28, 16 & 10mm Ø and the Axle Rod & Screwed Rod are both 87mm long. The latter is used as an axle in the models and I'm not clear why the smooth Rod is needed. Without it the Axle Stop wouldn't be needed either.

The Spanner scales at 79mm long, and the Pliers at 115mm.

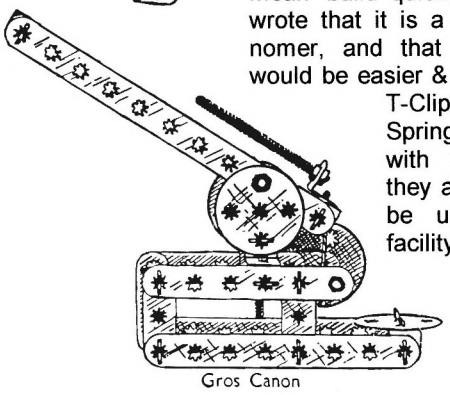
[Cont. >]

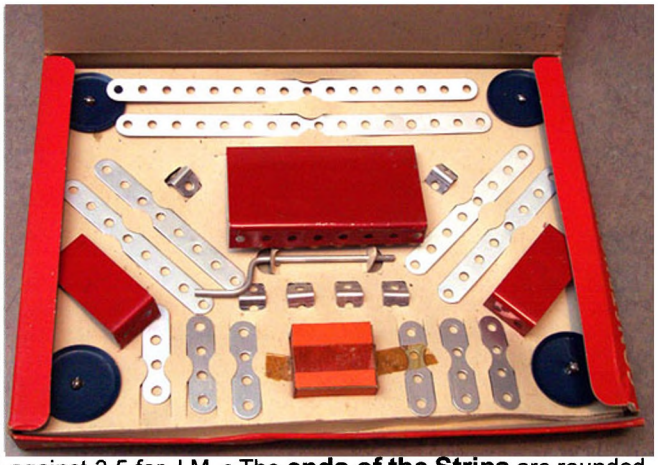
The **No.1 Set** has 81 parts, including 10 Strips from 3 to 8h long; 2 DAS; 4,2,1 of the 28,16,10mm Discs; 2 each of the Smooth and Screwed Rods, 8 each of Axle Stops & Nuts; and 18 each of the T-Clips & Clip Springs.



The large **Model Sheet**, about 36 by 46cm deep, shows eight simple Railway Signs, & five models for 'Sets 1 & 2' - the two left, a Band Saw, a Goods Elevator, and a lever-operated Railway Signal with two arms. More No.1 models are on the back of the Sheet.

The **name** MONT' VITE may mean 'build quickly, but Jeannot wrote that it is a complete misnomer, and that Nuts & Bolts would be easier & faster than the T-Clips and Clip Springs. The problem with these is that they are too small to be used with any facility.

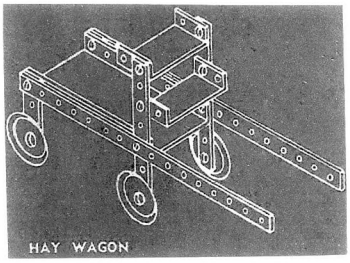




against 3.5 for J M. • The **ends of the Strips** are rounded, sometimes quite close to the end hole, and sometimes fully radiused at one end and not quite fully at the other. • At 38mm the diameter of the **Pulley Disc** is slightly greater, and the rim is narrower, leaving a flat centre of about 33mm Ø, against the J M 27mm. • The Flanged Plates & Pulley Discs are **painted** on both sides.

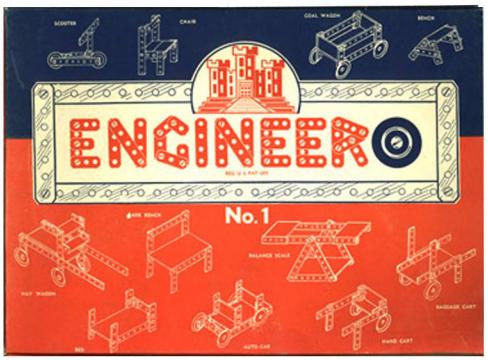
Other details of Kendrick's parts: • The **Large Flanged Plate** is 3⅞" long by 2⅛" wide, with ½" flanges. The bend is very rounded & obviously less than 90 degrees. The metal is 0.027" thick. • The **Small Flanged Plate** is 1" long with other dimensions as above. One has an extra small hole in one flange. • The 4 & 16-hole **Strips** are 0.050" thick; the 8-hole are thinner, only 0.038". • The **A/B** is 0.027" thick with both holes round. • The **Pulley Disc** too is 0.027" thick. • Many **holes** are very roughly punched, with lots of flash. • The 12x 5-40 **Nuts & Bolts** are plain steel and are contained in a small red cardboard box. The Bolts have 5.9mm roundheads, and are ⅜" under head; the hex Nuts are 7.8mm A/F. • The .123" Ø aluminium **Crank Handle** is 4" long o/a, with a 1" handle offset about .8", and the thread is ½" long. Full details of the J M part weren't given in OSN 12, but the corresponding dimensions for one from another J M Set are .124"; 3.8"; .7"; .6"; 11/16". The ENGINEERO bends are nearly at 90° too. The J M thread is 5-40 as would be expected but on the ENG part it has 32 tpi and the o.d. is .124". In Kendrick's N&B box (still sealed by old tape) there was one Nut that would go on it, the same size outside as the others, but aluminium and threaded 6-32, so a slightly loose fit. (Also in the Box, for no apparent reason, a single 3/16"-32, 1" u/h, round head bolt & hex nut, and 2 square nuts, 0.384" A/F, perhaps threaded 6-32.) •There was no **Screwdriver** or **Wrench**.

Neither Set had a **model leaflet** or **manual** and with the instructions & models on the box there probably never was one. All the 20 models on the box are in the J M manual but 3 are for J M Set 201. Two of them can in fact be made with the No.1 or J M No.101 parts, and the other can easily be adapted to use only those parts. One model is shown right.



Apart from the possibility that there may be a No.2 ENGINEERO Set waiting to be discovered, that may not be the end of the story of the red Flanged Plates with holes only in their flanges. The Mystery Parts No.23 (11/283) correspond to the parts above except that the Flanged Plates are only 2" wide, but are .6" deep, and at .040" the metal is thicker. The 8h Strips are about the same thickness. Also I wonder if Don Redmond's parts in 14/395 can now be identified as ENGINEERO.

'New' System: ENGINEERO



This is ENGINEERO, Set No.1, made by Namac Corporation, Newark, New Jersey - no relation to the much earlier ENGINEERO with the unusual Strips, described in 18/520. In many ways this system is very similar to JUNIOR MECHANIC (see 12/327, 13/361 & 18/522), with aluminium parts that differ only in detail, the same colour scheme, the same model illustrations & names, and the layout of the parts in the No.1 Set, is identical to that of the J M No.101. So the guess is, therefore, that ENGINEERO was made shortly after WW II.

Thank you to Kendrick Bisset & Jacques Pitrat who both sent notes and pictures of their unused No.1 sets, and what follows is a fusion of the two.

The **No.1 Set** is packed in a box with folding lid, 29*21*2½cm. The lid (above) is blue at the top, red underneath, with REG U.S. PAT. OFF & No.1 under the name. The bottom part is red with ENGINEERO CONSTRUCTION SET on the side. On the bottom of the box are some constructional hints in a light centre panel and another 9 models. The layout of the parts in the Set (top right) is the same as the J M 101, and the method of holding the parts to the backing board is the same too. Said board looks orange in Jacques' set & buff in Kendricks. Apart from the N&B (no 101 details are available) the set contents of the two sets are the same.

Compared with the 101 the main differences in the parts are: • The **holes** are larger, they vary from 4.5 to 4.7mm,

CONDOR Frank Paine kindly lent me his No.4 & No.5 manuals, and some parts which are probably most of the corresponding sets. Both the manuals and parts are clearly later than those described in 17/497, with more modern manual covers, some BZP parts, and plastic Gears.

Both manual covers are of similar format, with a B&W photo of the Set & a yellow band on the right. The lid design shown on the No.4 cover is the same as in the No.5 below: it is in MCS/FB on p7.

The parts seen are mentioned below and are as in MCS unless otherwise stated (and they correspond to those shown on the Manual covers). **Slots** generally have large radius 'BRAL' ends. • **DATA** (in mm) Strip (11-hole): •Hole pitch/dia, 12.7/4.2 •width, 12.0; •thickness, .83; •ends near fully radiused. Boss: •o/d 10.0; •i/d, 4.1; •brass; •single tapped; peening has curved recess. Thread: 5/32" BSW. Axle Dia: 4.00. DP (Mod): 38 probably; 14.5 (1.75) for large-toothed Gears. Nut: hex 8.0 A/F; Bolt: CH 6.8 Ø; both brassed steel.

• **Strips** with 3,5,7,11,25h. **Curved Strip** as in the OSN 18 Sets, with centre & end holes slotted. 1*5*1h **DAS**. • **Brackets**. **Flat** (4.4mm hole; the slot is about 6mm long). **Angle** (made from the Flat Bracket). **Double**. 3h high **Double**. **Reversed Angle** (no slotted hole). **Double Bent Strip**. • As in MCS the **Trunnions** have the 2 vertical slots (17mm apart, with rounded ends), and a Strip can just be bolted through the top hole & the slot, although the centre distance is a little under ½". • **Flanged Plates**. The 5*11h has 6.8mm slots in all 4 flanges. The **Sector** has the same slots in its flanges, and is 8h long, with 3 rows of holes. • **Flexible Plates**. 3*5,11h & 5*5,9,11h. All holes are slotted, with a centre slotted hole in the 3*11h. • **Braced Girder**, 11h, matches the 7/156 pattern, with the solid diamond centres. • The Windmill Sail is 82*36mm o/a, plus the arm. • **Bush Wheel**. 37.3mm Ø. • **Pulleys**. **13mm** o.d. Loose, aluminium. **27.9mm** o.d., light red plastic: **Loose**, 4.6mm bore; **Fast**, push fit with integral untapped boss. **68.4mm** o.d., M19b pattern, light red plastic moulded onto brass boss, 3.9mm holes, slots 4.6mm wide. • **Tyre**. White plastic, 38mm o.d. for 28mm Pulleys. • Large-toothed **Gears**. Blue plastic with integral s/t boss. 20 & 38t; 38.6 & 70.2mm o.d. They run at 4h spacing (with a tight spot). • **Collar**. Brass, 10mm Ø by 7mm wide, s/t. • **Propeller**. 102mm o/a. Brass boss with 4.2mm bore. • **Spanner**. About 80mm long o/a. • **Axles etc**. Sheared ends, with a few down to 3.94mm Ø. Rods 30,50,83,90mm; Crank Handle 155mm o/a. • **N&B**. Pressed **Nut**, 2.1mm thick. **Bolt**, 7mm u/h; **Set Screw** likewise but with RH, 4.9mm Ø. • **Finish**. Apart from some slight burr here & there, and a few dimensional irregularities, the parts are well enough made. The **colour scheme** is different to the OSN 18 Sets, with all the metal parts BZP except the light red Braced Girder, Flanged Sector Plate, & Windmill Sail; pale Green Flanged Plate; dark blue Flexible Plates (except the 3*5h), plus the 3*5 & 3*11h in light green.

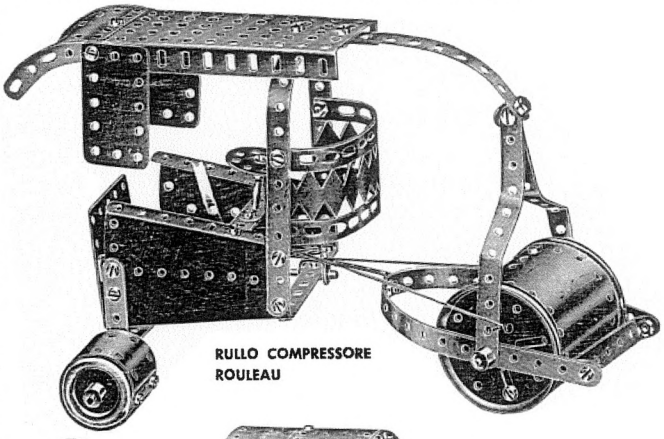
Manuals SUMMARY of No.4 •Name: CONDOR •Details of maker: none. •Dates &/or Ref Nos: none. •Page size: 247* 168mm. •No. of pages: 32+covers. •Language: Italian, French, English, Spanish. •Printing: Shaded line drgs of models; cover, as below left. •Page Nos. of Illustrated Parts List & highest PN: 6-9,69. •Page Nos. of Set Contents & highest PN: 4-5,69. •Sets covered: 1,2,3,4. •No. of models for each set: 5,9,18,3. •Name, Page No. of first & last model of each set (no Model Nos.): 1: SLIDE CAR,10; GANGWAY,11. 2: IDROVOLANTE,12; WINDMILL,15. 3: AUTO VAN,16; ELEVATOR,27-28. 4: PULLMAN WITH STEERIN ROAD (sic), 29; STREETCAR CARRIAGE,31. •Other notes: There are also JEEP & LINER models on p32. •C2-4 blank. •Italian model names above where there are no English ones.

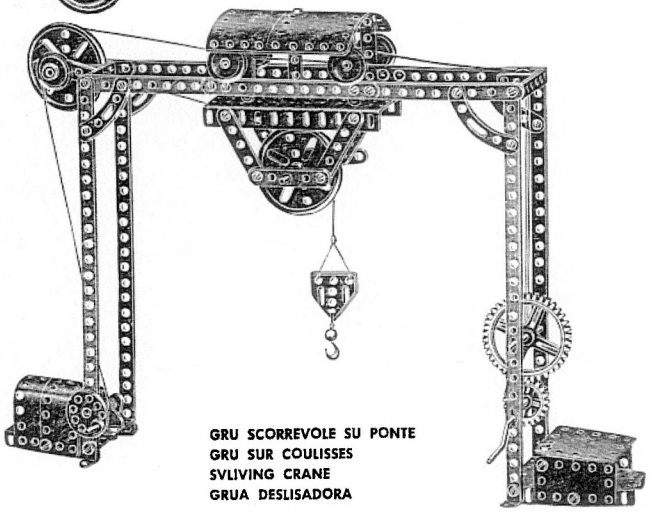
Although the cover is more modern the models are probably unchanged; all have the same 'elderly' look and certainly the previously known ones are still there. Oddly there are lots of No.3 models, but only 3 for Set 4. The models are shown as large line drawings, and each has a Parts List. They are simple (Set 4 has only 45 N&B) and not particularly attractive, but mostly original as far as I know. The No.4 Coach in MCS/FB, p5, is the most advanced mechanically with centre-pivot steering. Some of the parts in the models are shown with different hole patterns, round holes in the Flexible Plates being the most noticeable.

Details of the **No.5 manual**, where they differ from the No.4, are: SUMMARY OF No.5 MANUAL •No. of pages: 48+ covers. •Sets covered: 2,3,5. •No. of models for each set: 2,18,20. •Name, Page No. of first & last model of each set: 2: MERRY-GO-ROUND,14; WINDMILL,14. 3: as No.4 but on pp15-27. 5: RULLO COMPRESSORE, 28; MERRY-GO-ROUND,47. •Other notes: •pp10-13 show basic constructions & cord/gear drives. •The JEEP & LINER models appear again, on p48. •pp10-13 & notes on models are in Italian only.

There are no No.4 models but the 3 in the No.4 manual are included as No.5's. Some of the No.5 models are more interesting looking (65 N&B), and the Gears are used in many of them. One of the two that include the Braced Girder is shown below, along with one of the Cranes.

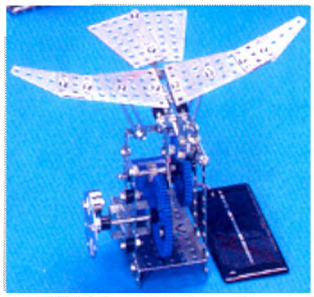
The Sets in MCS/NZ go up to No.8, but in /FB, and in these manuals, a No.9 is also shown in the Set Contents (though no 8a). It has 220 N&B against 200 in the No.8, but there are much larger increases in many of the other parts, with the total going from about 250 to over 450.





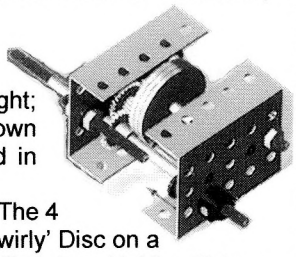
CONSTRUCTION in 2000 & 2001 First a catalogue with '*eitech*' & 'DAS KREATIVE CONSTRUCTION SPIELZEUG 2000' on the cover. The lid of each set is shown and in most cases the style is similar to the No.66 set shown in 22/622, but 2 sets are packed in plastic cases with different labels. In the order of the catalogue the sets are:

SOLAR Nos. 71,76 & 77 have **SOLAR** on their box tops, and **Nos.71 & 76** were described in 22/622. **No.77** was mentioned in 23/682 and the models include a Cyclist, a small Chair-O-Planes, and the model left, an Ornithopter I suppose. Blue Gears for 2 stages of reduction can be seen and the linkage to the wings is a 6h Slotted Strips on either side. The wings are made from metal Plates & with the limited power of the Solar Motor, the flapping motion may not be very large.



METALL • All the other sets in the catalogue are under this heading, but unlike SOLAR, the name isn't on the box tops.
• Nos.61-67 are small sets featuring 1, 2 or 3 models each, and **Nos.61-66** are as described in 22/622. The 3 small Space Craft shown for **No.67** (mentioned in 23/682) use the 6*12h Flexible Plate rolled into a cylinder as the body or engine, and the largest has 7*5h Sector Plates as 'wings' & 5*3h Triangular Plates as fins. As usual the models are on the box lid but for this set (left) they are shown against a 'space' background rather than the normal plain one.

• The numbers of parts in **Sets 01-05** remain the same (see 11/293) except that 04 has 252 parts instead of 205. Some of the (simple mechanical) models for it are new and one uses a pair of Universals which were not in the earlier set. The only other noticeable change is the colour of the Motor, blue now instead of yellow.
• **Nos.11, 13, 15, 17** are as described in 14/383. The built-up Friction Motor in No.13 is shown right; No.17 has a Geared Motor, shown black, and probably the type used in the P01 & C40 Sets (6/132-3).

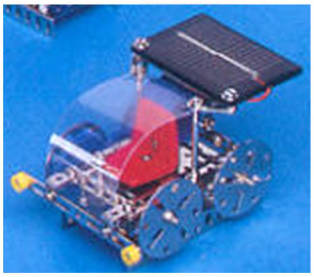


• Next **ELEKTRO-Box 161 & 162**. The 4 models shown for the 161 are: a 'swirly' Disc on a Motor powered by a Solar Cell; a Bulb in a Holder, lit by a blue Motor acting as a generator, hand-driven through several stages of step-up metal gearing; a simple built-up Motor with a 2-pole Armature inside shaped Pole Pieces, mounted on a white 7*5h plastic Plate with unperforated flanges on the long sides; a 12*16h white Flanged Plate with a Bulb in Holder & 2 other small Parts mounted on it – one is probably a Sound Unit. I think it says that all 4 can be made at the same time. The Set is supplied in the red plastic case right (395*280*80mm), and the 4 models above are shown on the blue label. The name ELEKTRO-Box along the bottom is mostly obscured in the original by horizontal white lines. The No.162 is probably in the same case, and has the same contents except that no Solar parts are included.

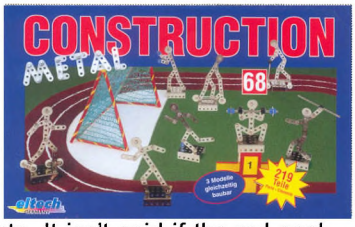
• Next the **Nos.156 & 157 Mini Sets**. No.156 makes a small Biplane with a 3h Strip as propeller, a 3*12h Plastic Plate as the top wing, a 3*6h Plastic Plate for the tail, and no fin. The 157 is a tiny Helicopter with the 3-bladed Tail Rotor of old as the main rotor, and crossed 3h Strips for the tail rotor. In both the fuselage is a pair of plastic Beams, #1020 (see 3/35), side by side. Perhaps these models look better in the flesh than on paper.
• Then No.20 with 365 parts, and it features 5 Space Models with a flashing Light. They are simple models but rather larger than those in No.67, with 8 of the 7*5h Sector Plates used in one. As with Set 67 the models on the lid are set against a 'space' backdrop, in this case a 'lunar' landscape
• Finally the Set to make the **Eifelturm** reported in 22/622. It is **No.155** and is in a blue plastic case similar to the 161 one but 325*290*70mm in size. The circular label on it has a boy looking up to the top of the model. The illustration doesn't show anything other than a structure with a Light at the top. One note by the model says that 3x R14 batteries are needed but not what for, and another recommends use of the Flashing Light Parts Pack C112, apparently as an extra.

PARTS PACKS These are numbered 101-113 and as before the parts are in a clear plastic bag with a card top, blue with a photo of various of parts, stapled to it. In order the Packs contain: A/Gs & 11-25h Strips; 2-9h Strips & metal Plates; DAS & Brackets; Face Plate, Discs, & Axles; Gears (not the 'blue' plastic ones) & mechanical parts; Pulleys & Tyres; Flanged Plates; N&B; 4½v Motor in blue casing, & 3-cell Battery Box; Solar Rotor as used in the No.71 Helicopter; Solar Cell and blue-cased Solar Motor; Battery Box (as above), Flashing Lamps & Holders; the Adapter Parts (shown in 23/682).

Werner Sticht kindly lent me the *eitech* **2001** catalogue and it has the same front cover as the 2000, apart from the year. All the 2000 items are included plus another 4 outfits, making 29 in all, with 3 of them marked as being new.
• The reintroduced one is **No.75**, described in 22/622.
• The first **new set** is the SOLAR **No.78**, with 414 parts, and among the 6 small models shown are a Unicyclist and the nice little 'Buggy' right, with 4 Face Plates as wheels and a curved Transparent Plate over the red Seat. Blue Gears are used in several of the models, and as well as the one with 6 face holes, (see 22/622) there's another with 4, of perhaps 40mm Ø, and a Pinion of say 20mm Ø.

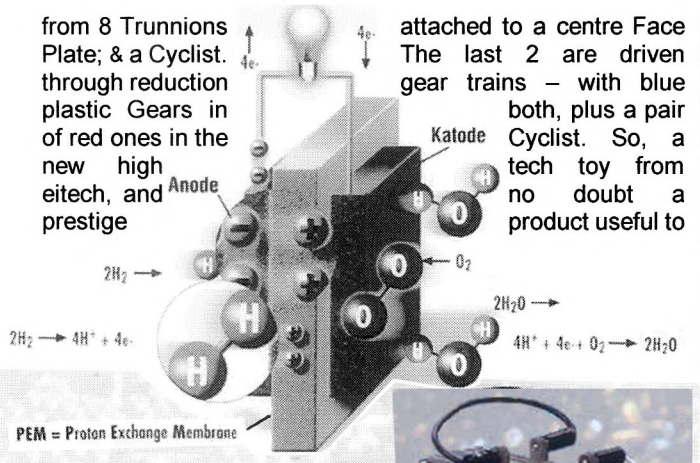


• The second **new set No.68**, right, has 219 parts. On the lid (right) is the word 'METAL' & 8 Sportsman Figures, any 3 of which can be made at the same time. They are shown against a brown running track with a green centre, and each stands on a 3*5h Flanged Plate. It isn't said if the red goal frame with blue netting at the left end is included in the outfit.



• **BRENNSTOFFZELLE** The third **new set**, **No.30**, has that name on the box & numerous times on the 2 pages of the catalogue devoted to it. My dictionary says it means Fuel Cell and it is shown on the next page at the right end of the Flanged Plates, with the 'chemistry' above it (the lamp at the top is shown lit by the current produced by the Cell). If I've got it right the Cylinder contains a metal hydride, which by some means gives up the hydrogen needed, while the oxygen presumably comes from the atmosphere. The pipe from the Cylinder seems to pass through something that looks like a microswitch, but is no doubt a valve, operated by pressing the red button above it. Water is produced as a by-product but there's no indication of how much or where it collects. The Cylinder charge is said to be enough to last for 200 hours running time, and may be rechargeable (nachfüllbarem). The Cell is shown powering a Motor in 3 models, wired directly to the Cell via a yellow Connection Block. The models are as on the box lid, shown below the unit: a Gear Train using the blue plastic Gears; a 'Roundabout' made

from 8 Trunnions attached to a centre Face Plate; & a Cyclist. The last 2 are driven through reduction gear trains – with blue plastic Gears in both, plus a pair of red ones in the Cyclist. So, a new high tech toy from eitech, and no doubt a prestige product useful to



the advertising department. But how far it will appeal to the 14+ year olds that it is said to be suitable for is perhaps questionable. Unlimited experiments are mentioned, but quite what can be done apart from powering up simple models by pressing the red button isn't clear. Perhaps schools might use it to demonstrate the principle. Kosmos also have a Brennstoffzelle set on sale and on the box is a simple 'car' made of transparent plastic and powered by the Cell. In a photo of the set there's something that might be a small multimeter, and if so it is no doubt for use in the 30 experiments that are claimed on the lid.

MANUALS None are shown in the 2000 catalogue; in the 2001 three are shown with the 03 Set (there used to be one with models for Sets 01 – 04) - the only cover visible has '03' on it, & the Lorry & Gantry Crane that are on the 03 box lid.

Contacts The address - *eitech*, 37308 Pfaffschwende, Germany - is unchanged; phone: 03 60 82 / 4 32-0, -22 (export), -24 (sales), -23 (dispatch); fax 03 60 82 / 4 20 28; email: eitech@t-online.de; web: www.eitech.de.

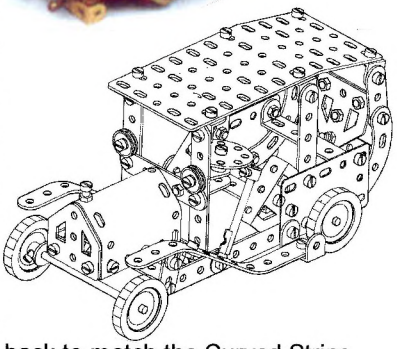
News of AMI-LAC The last update on this Italian system was in 1996 (15/401) and it's nice to hear that it is still being made. Werner Sticht came across their stand at the Nürnberg Toy Fair early this year and kindly lent me the leaflets he acquired.

The two showing the **6 'i kits'** and the standard **sets 2-6** are identical to those in 1996, but some other outfits are included in a price list. In the standard range are a **Set 5L**, a No.5 in a wooden box, and **Sets 7, 8, & 9**, also, along with the No.6, in wooden boxes. A No.6 box Werner saw was made of unvarnished plywood and the parts were fitted into blocks of styrofoam. The manual for it was exactly the same as one from the 1960s (with the type of cover shown in OSN 15), and even the prices of parts hadn't been changed. The No.9 is only available to special order. Prices (possibly trade) go from €8 for the No.2 to €27 for the No.5, and €40 for the 5L to €129 for the No.9.

The i kits are called 'Set Kit Junior' on the price list, and run from €4 to €6 - there is one not on the Leaflet - **#106 Scooter**.

Also new since 1996 are **3 'Multi Kit' sets**, and a leaflet shows the boxes and small photos of some of the models. Each box has 5 models on the lid and they are generally much better looking than the run of AMI LAC manual models. One outfit, **#2000/1**, price €24, is meant for 7+ year olds, and the rather elegant lid (below) has 5 models set against a flat B&W townscape, with a yellow band at the bottom. The models are a 3-Wheel Delivery Truck, a Tramcar (not so good), and the Loco, Motor Scooter & Motor Car below. They are all about 7" long with 1" Pulleys as

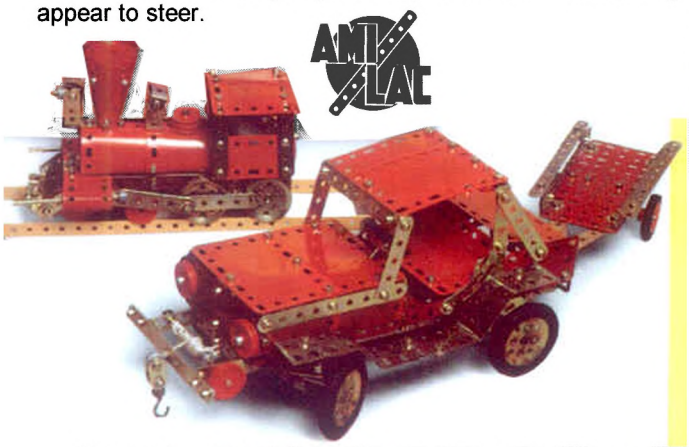
wheels, and Tyres where appropriate. The Car is taken from an A3 model sheet that shows 7 constructional steps in B&W, but whether this is the type of presentation used for all the models, or is just a publicity handout I don't know. The model looks well to me but has no mechanical features & requires bending several parts, including curving a Flat Trunnion at the back to match the Curved Strips.



The other two sets are listed as 'Multi Kit Senior' and the smaller one, **#200**, costs €38, and is for age 8+. The lid has the yellow band at the top and the models are against a red foreground blending into a blue background. '5 GRANDI MODELLI' are claimed on the box and they are a nice 9½" span Fokker Triplane, an 11" Aircraft Carrier & a Helicopter,

both above average, a quite good Windmill, and a long but indistinct Low Loader.

The other Set is **#201** at €60 and the lid is in the same style as the #200 but across it is '10 GRANDI MODELLI MOTORIZZATI' - so the Set must contain a Motor. The 5 models shown, all interesting looking & realistic, are: a Ship, perhaps a frigate, about 20" long with what might be a little Helicopter on the afterdeck; a decent size Crane with a grab, and a 4-Wheel Truck to take the spoil; a Tractor with 2" Pulleys/Tyres as the back wheels, and fitted with a 4-furrow plough on the back which can be raised & lowered; the 4-4-0 Loco below with 1" & 1½" Pulleys as wheels, a conical funnel, & a cowcatcher (I think); and, also below, what I'll call a Pickup Truck & Trailer – it has a winch on the front, the wheels are 1½" Pulleys/Tyres and, as on the Tractor, they appear to steer.



The **parts** used in the new sets appear all be from the standard range, apart from some white plastic looking Windmill Sails – they are 5½" long, taper from 1½" to 2½" wide, and have a hole in each corner. Colours too look standard with the Flexible Plates mostly red but with a few in blue.

The name & address of the **firm** are much as before: Lac di Ausonio Alemanni, I-26841 Casalpusterlengo (LO), Vicolo Draconi, 5. The phone/fax is now 0039 0377 84225/84120, and the email address is lacgioc@tin.it.

Four ONADO Sets Courtesy David Hobson I've been able to examine two No.2 outfits and two No.3's, all apparently unused. All but one No.3 have the earlier, unpainted parts, but have proper manuals, and are thus thought later than the 'No.1' described in 15/404. They will be described in their probable chronological order, based on their packaging, followed by notes on the painted No.3. Leaving aside the introduction of paint, only very minor changes can be seen in the parts, but there were several different types of N&B, and two different threads were used in each Set, but not in a consistent pattern.

First No.2 The box is of plain brown cardboard, 11¼*9¼*1", with a 'No.2' circular sticker on the side of the lid. The lid label is the same as the later No.2 shown in 22/629 except that the girl's dress, the boy's shorts, & the small lettering are red (maybe bleached out of the OSN 22 item). Brass clips are again used to attach the parts to a backing board, light yellow in this case.

The contents are as in the OSN 22 'painted' No.2 - the parts are laid out in the same way in both sets, & are as described in OSN 15 & 22 except: • Their bare steel finish, bar the tinplated Spanner & Road Wheels. • The Collar, single-tapped as before but 5/32" BSW, with a 7/16" u/h RH plain steel Set Screw. • The Spanner – it's the flat type shown in 21/615 but 100mm long and the 5 holes are parallel to the tapered edge. • The commercial 4BA N&B – the 42 hex Nuts are machined brass, 6.3mm A/F & 3.5mm thick; the 36 CH Bolts are dull treated steel, 3/8" u/h, with 6.2-6.4mm Ø heads. The Nuts fit the ring opening of the Spanner. • The brown card box for the N&B, right, which measures 2½*2*½".

The manual is an earlier version of the OSN 15 one, with 4 pages of the same size, plus covers. The front cover is the same but the Tower Bridge is grey (ordinary ½-tone), the lettering blue, and there's a note on the model, 'See instructions on Page 4'. As in the OSN 15 Leaflet the Intro talks of parts 'preserved in oil', and Sets No.2 & 3. There is no allusion anywhere to sets smaller or larger than these. The models are as before for Sets 2 & 3, and so the last one is the TRAVELLING CRANE on p4. The note on the cover about the Tower Bridge (which was later a No.4 model) includes the extra parts needed above a No.3 Outfit. The list of parts on the IBC is as in the OSN 15 Leaflet except that the Winding Handle has been added, and the lengths of the Spindles are given (as 1" & 3").

Second No.2 This is identical to the first one except: • The N&B. The Bolt is as above but with a RH; the Nut (62 were found against 35 Bolts) is a steel, commercial machined thin type (2.1mm thick) with the same finish as the Bolt. • The box for the N&B is different – the same size as the one shown in 21/615 and made of the same ivory card, but with no printing at all on it. • There was no manual with this Set.

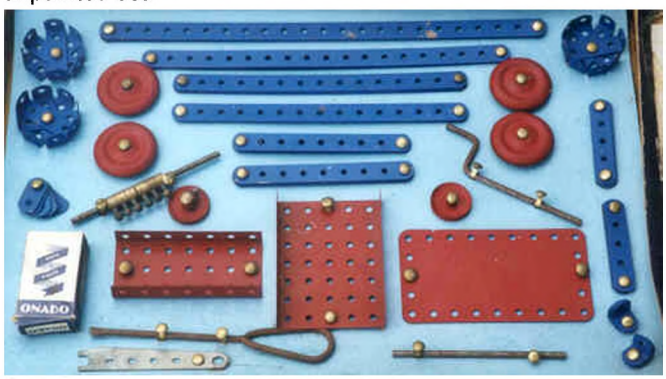
The 'Unpainted' No.3 The box (16*11*1¼") is a rich blue on the outside, and has the same label as the sets above, and 'No.3' on a similar sticker. The box for the N&B is the one in OSN 21 printed in navy blue. (No precise dates are known for ONADO but the set box was made from salvaged card, and 'DE IN HOLLAND' can be seen stencilled in black inside the lid).

The parts are clipped to a backing board as before but it is mauve in this set. The extra parts in the No.3 compared with the No.2, are: 2 each of 19 & 23h Strips, 8x 2h Strips, 4x DAS, a 5*7h Flanged Plate, 4 Collars, 2 Road Wheels, 1 each of 1" Pulleys, Fast & Loose, 1 Crank Handle, 2 Axles, 4" (instead of 1x 3"), a 5*9h Flexible Plate, and more N&B – 48 Bolts & 54 Nuts. Oddly there are only 8x 9h Strips against 9 in each No.2.

The parts are as already described except that • The Flexible Plate, and the discs of the 1" Pulleys, are tin plated. • The screwdriver is the same wire type but at 5¾" is slightly shorter. • There is 6-point peening on the Loose Pulley, and its bore is 4.1mm. • The N&B are different. The Set Screw in the Fast Pulley is 5/32" BSW, steel, 3/16" u/h, with a 5.9mm Ø CH. The Collars on the other hand are now tapped 4BA, with a 3/8" u/h, 6.2mm Ø RH Set Screw. The N&B, of plain steel, have changed to the BSW thread - the pressed hex Nut is 2.5mm thick, & 8.0mm A/F (and so fits the open end of the Spanner); the Bolt is ¼" u/h, with a 5.8mm Ø CH.

The manual with this set is identical to the one with the first No.2.

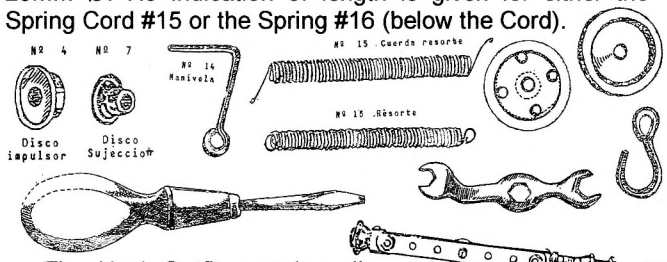
The Painted No.3 The box is the same as the unpainted set except that it is purple on the outside. The arrangement of the parts is identical (as in the photo below) but the backing card is light blue. The N&B box is the same navy patterned type. The only difference in the parts is that the Spanner is the OSN 21 type with holes parallel to the base edge, but even shorter at 87mm o/a. The manual is as in the unpainted set.



'New' System, CONSTRUCCIONES METÁLICAS

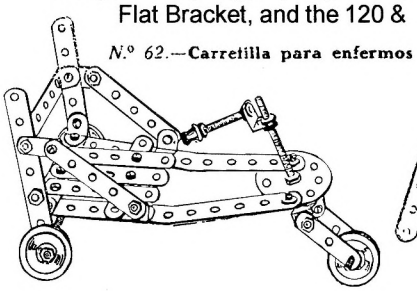
Josep Bernal kindly sent a photocopy of a manual for Set No.1 of this small Spanish system. Nothing is known of the parts or the manufacturer, but it is possible that it was made in the Alicante region in the 1930s. From the few dimensions given the hole spacing may be ½", or possibly 12.5mm because some of the parts have a STABIL look to them.

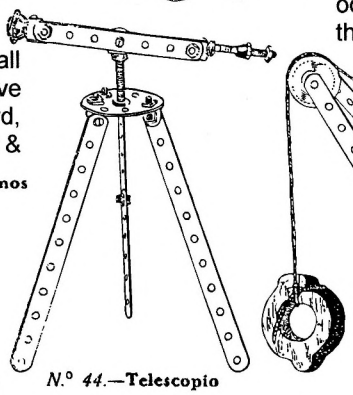
There are 28 different parts in the system. The 'run of the mill' ones are Strips with 2,3,5,7, & 11 holes; an Angle & a Flat Bracket; a 38mm Ø 8h Wheel Disc; 25,50,90,120 & 150mm Screwed Rods, used as axles (the 90mm is given as 70mm in the Illustrated Parts); a CH Bolt, & hex Nut (shown square in some models); and a Hank of Cord. The more unusual pieces are shown below. The #4 is either called Disco Impulsor (Drive Disc) or (in the plural) Rodillos Impulsores (Drive Rollers), and in the models it looks rather like the STABIL #9 Cheek Piece (see 13/352), and has similar uses. #7 is Disco Sujeción (Fastening Disc) or sometimes Rodillos Sujeción, and seems smaller than #4 but is used in similar roles. Whether either is threaded isn't clear. The Pulley, with 4 face holes, & the Wheel are both 25mm Ø. No indication of length is given for either the Spring Cord #15 or the Spring #16 (below the Cord).

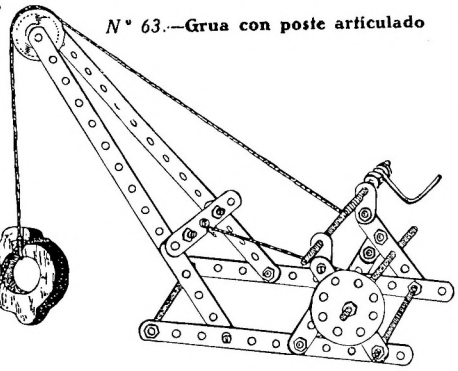


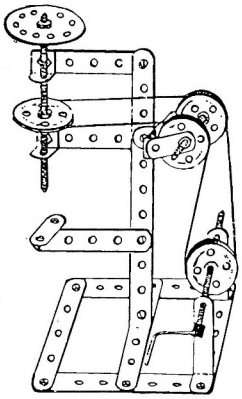
The No.1 Outfit contains all the parts mentioned above except the Spring, Spring Cord, Flat Bracket, and the 120 & 150mm Screwed Rods. The main pieces in the No.1 are 18 Strips, 10 A/Bs, 1 Wheel Disc, 4 Pulleys, 8 Wheels, 24 N&B, and 20 extra Nuts. No mention of other sets is made.

The Manual, about A4 size, has 16 unnumbered pages including covers. The front above features what appears to be a little girl, and then, after an Intro on C2, the Illustrated Parts, & the Set Contents, are 12 pages of models, 67 in all. They run from No.1 Serrucho a mano (Hacksaw) to No.67 Aparato de moletas con transmission especial (moletas? Not in my dictionary). A very fair selection of the usual variety of simple models, with card parts used in some, & Cord drives where needed. The models below give an idea - the Telescope shows PN 4 at the left end & #7 at the right. One odd thing, no Hook is used in any of the 3 Crane models.









Another TEKNIK Set David Hobson kindly lent me a recent acquisition, a selection (rather random) of new looking parts in an orange plastic, fishing tackle box with a label (below) inside the transparent hinged lid – it is loose but a tight fit, and is like the one used on box lids in the 1960s (see 20/576), but with 'Special-sortiment' in the circle at top right, instead of the set number. No such set is mentioned in any literature to hand and one theory is that it was sold just before the factory closed in 1970 to help dispose of surplus parts. Of course the parts, with others as well perhaps, may have originally been sold in different packaging, but the loose label, which has obviously never been stuck on to anything, gives the fishing box credibility. On the label the name at the bottom is 'Clas Ohlson AB', possibly the owners at the time I suppose, and the PR under it is '790 30 INSJÖN'.

The box is 27*15½*4cm, & the main parts are: 33 Strips from 3 to 11h long; 12 A/Gs 5-17h; 2 & 3h wide 1-Flange Plates up to 11h long, 12 in all; 1 each of 5*5,7,11h 2-Flange Plates; 6x 3*5h & 2x 3*5h Perf. Plates; 4 each of Large & Small Trunnions; 2 DAS 1*3*1h, & 1 with centre boss, 17 Brackets, various; 4 each of 6-hole Wheel Discs, and 22 & 37mm Pulley Discs; a 13mm Pulley; 5 Collars; 4 Threaded Pins; 2 Crank Handles, 7 Axles from 60 to 115mm; a Spanner & Span'driver; 25 Bolts up to 25mm long, 40 Nuts, & 50 (sic) Set Screws. A full list is available if needed.

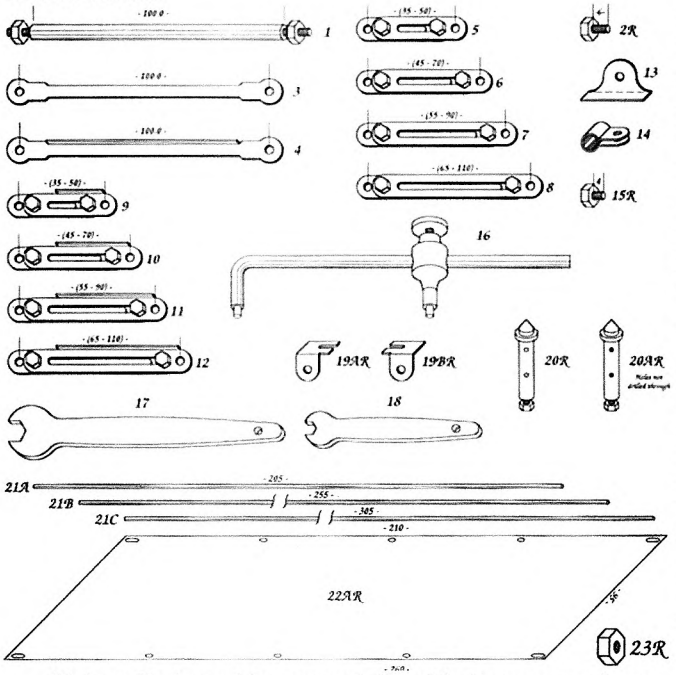
The parts generally conform to the descriptions given in OSN 20, but differences, and a few parts not previously mentioned, are noted below.

• The boss of the 3h long DAS with Boss is 11mm Ø. • Some Axles are BZP & some nickel. All have sheared ends. • The Screwed Rod is 55mm long. • The Short Crank Handle is 52mm long o/a. • The Nuts, 5.5mm Bolts, & Set Screws have an iridescent look (against rich brass for the 15 & 25mm Bolts). • All brass looking parts are steel, brass plated.

The parts not noted before (and not in known Parts Lists) are: • A 22mm Ø Pulley Disc, nickel. • 29 & 65mm Threaded Pins with 8 & 12mm of thread respectively. • A nickel 1*1*2h Z-Bracket with a 9mm slot in the 1h foot.

ANKER Metal Parts Jacques Pitrat kindly sent references to web sites which give information about these parts, and some notes on those in one of his sets. First, the **1895 parts** that were mentioned in 10/260. All the 16 models in the Manual are shown at: www.algebra.uni-linz.ac.at/~noebsi/anker.html. Click successively Exhibition_Buildings; Bruecke_1895; Bauvorla. The model in OSN10 is one of the 16 shown, and the others are various configurations of Girder Bridges, all forming the span between stone towers.

No original parts have ever been found and it's possible that the only sets made were for exhibition purposes. However replicas have been produced, based on the parts shown in the Manual. Details of these are on the web site at Bruecke_1895; Neukopie, and the various types of parts are shown below.

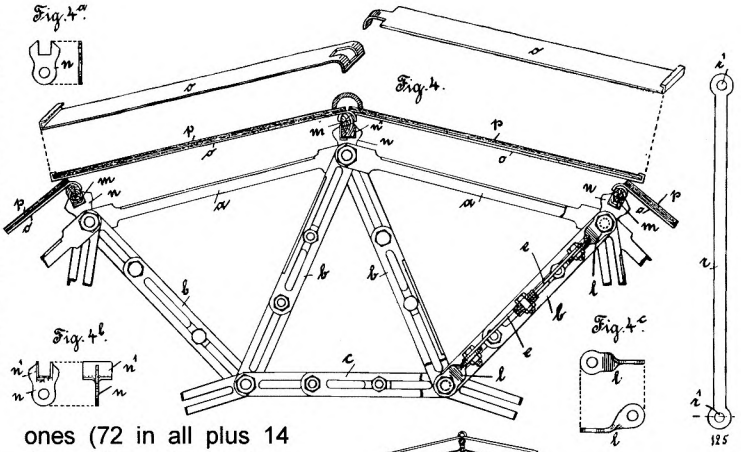


#1 is a Rod used to connect the side trusses made up from the parts. #3, & 5-8 are Tension Beams, with the latter adjustable over the lengths shown (there are 4 pairs of the slotted strips to cover lengths of 35 – 110mm); and #4, & 9-12 are Compression Beams, similar but with a small flange to stiffen them. #16 is a Gauging Tool. 19AR & BR are Brackets to attach the Road Plates 22AR, BR, & CR (the latter, not shown, are 260 & 310mm long respectively). #20R & AR are Pillars for the Railings 21A,B,C. The Bolt for the Beams, #2R, is M2.5; the other threads are M3. The steel plate used for the parts is .7mm thick, and all are nickeled steel except the brass N&B and Rods.

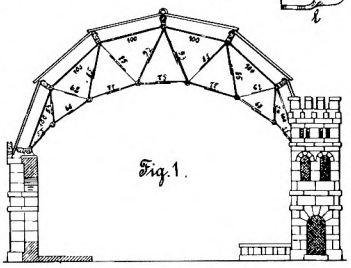
The repro parts were sold as a Set called 'Bridge of 1895' in 1995. It contained 386 parts plus some 900 NBW, and included 170 Beams & 6 Road Plates. This Set is no longer available but a new batch may be made if there is sufficient demand. The cost would be €1250 per Set.

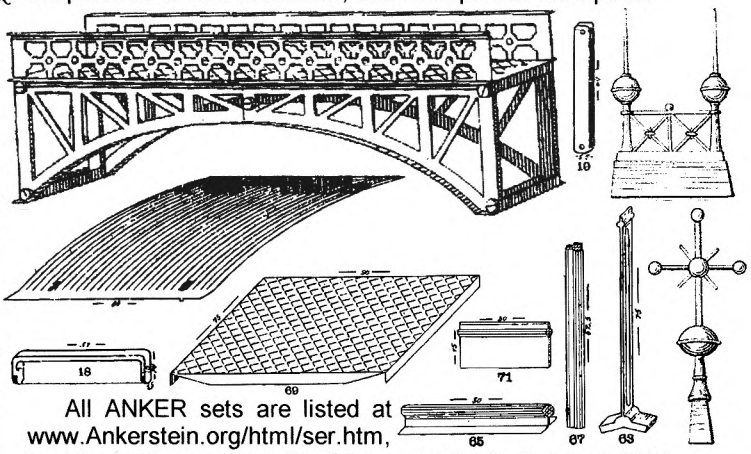
Some notes are given on the site as to the origins of the Richter Set. The parts were based on the 1892 Julian Weiss German patent (No.67599) which Richter bought from the inventor. Some of the parts look very similar to those in a slightly **later Weiss patent (76747 of 1894)**, and this also included parts to allow glass panels to sit on the top of a series of connected trusses to form roofs over structures such as a railway terminus. These 'glass' parts were never included in the Richter system but examples have been made in recent years for ANKER enthusiasts. At the head of the next column are figures from the patent showing the 'glass' system. In Fig.4 the glass panels 'p' sit on the plates 'o' which rest on wooden beams 'm', carried in the brackets 'n' (Figs.4a,b). The RH diagonal of Fig.4 shows ties 'e' (in a range of lengths) bolted to Brackets 'l' (Fig.4c), to give cross bracing between the trusses.

The same web site illustrates all the **ANKER parts in 1904** - click on Special, then on Stein Kateloge. The metal



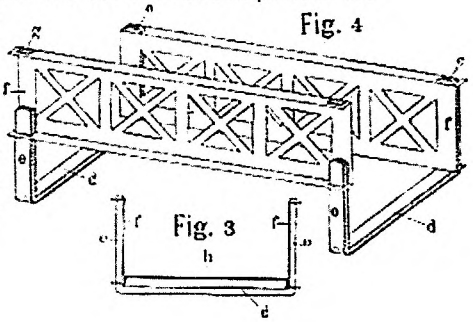
ones (72 in all plus 14 decorative spire parts – Jacques mentioned that MECCANO only had 59 metal parts in 1914) are mostly variations of those at the bottom of 10/261. They are of course very much simpler than the original type, which were perhaps too expensive or too complicated in use. The Bridge below shows some of the parts – the Railings are held by lugs which engage the top Bolts of the main arch Frames. Other Side Frames are humped with cross bracing between the verticals, and a pair are about either 8 or 12" long. (Dimensions in inches are approximate.) There is also one one-piece humped Side Frame, 6" long, and one oblong 4*4" Frame with 2 cross-braced panels. The various sizes of Road Plates all have the criss-cross pattern, as below. Also below a Strip, #19, & DAS, #18, several lengths of each are shown, and a Curved Panel, which might perhaps be used as roofing. Then there are Uprights, as #63, from 2 to 4" high, Bars, as #67, from 2 to 8" long, and the parts 65 & 71. Also below, two examples of the Spires.

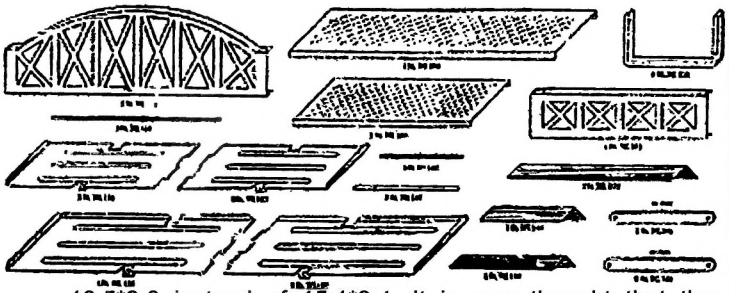




All ANKER sets are listed at www.Ankerstein.org/html/ser.htm, together with some details of the parts' finish. Between 1901 & 1909 all the bridge & roof parts were nickel plated, then from 1910 onwards they were lacquered.

At some point the design of the parts was further simplified to allow assembly without N&B. This is the method mentioned in 19/555 and the illustration below is from Jacques' 5A Set, made for the American market between 1911 and (probably) 1914. The holes in the flanges of the Side Frames just slip over the deep DAS, and the Road Plate sits between the Side Frames. The various parts in the Set are shown on the next page. The bridge parts are smaller than those in the 19/555 Eisenbrücken Set, for example the length of the humped Frame is 15.5cm against 20.6, & the rectangular Frame





10.5*2.6 instead of 15.1*3.4. It is now thought that the Eisenbrücken Set, with its longer 6-bay Rectangular Frames, was made just after WW1.

As well as the bridge parts there are others to make pitched roofs. Each sloping side is made from Roof Panels joined by a Rod passing through the lugs, as in Fig.1 below, and then the two halves are joined at the apex by another Rod as hinge-pin through the 'hinged' edges (shades of ASSEMBLO, only 20 years before their patent). A Strip is used as a cross brace (Fig.2). In the models thin blue, stone 'tiles' are used to cover the assembled Roof Panels in a diamond pattern, with their weight taken on the bottom lip, and a Ridge Angle sits over the apex.

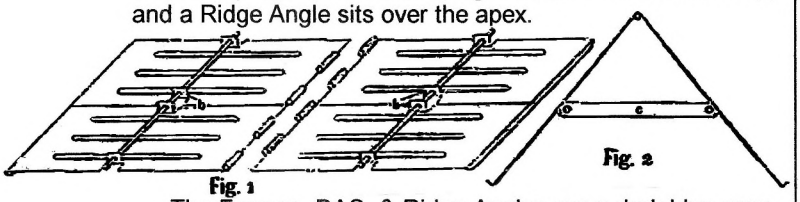
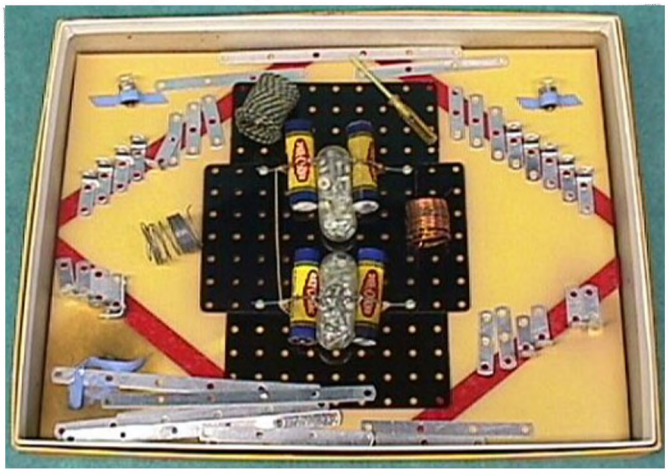


Fig. 1 Fig. 2

The Frames, DAS, & Ridge Angles are a dark blue-grey, and the other parts a dark orange-brown, exactly the same colours as in the OSN 19 Set.

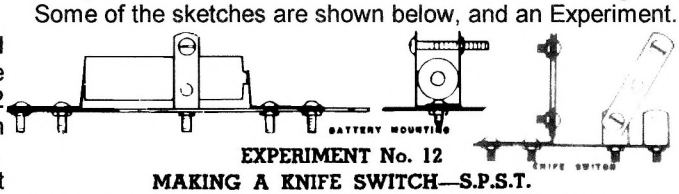
'New' Sytem: LECTROKIT The recently discovered LECTROKIT Set 'A' dates from 1946 and the main parts are some aluminium Strips & Brackets, Insulating Plates, 2 Bulbs, & 4 Dry Cells. Several of these Sets were sold on eBay recently and Kendrick Bisset kindly sent some details.

The Parts The holes, .140" Ø, are at ½" pitch, except they are 1" apart in the 2 longer Strips. The 16 or so different parts & the quantities of them seen in various Sets follow – most can be seen in the set shown below. • **Strips**, 5/16" wide: 8x 3h (½" pitch); 6x 4h & 5x 6h (1" pitch). • 20x 2*1h aluminium **A/B**. • 4 dark brown or black insulating **Plates**. Kendrick's are 5*7h, but some of the eBay ones look to be 9h long, and are possibly 7*9h, a size that can be seen in some of the Manual models. • **N&B**. They look bright plated with RH Bolts of perhaps ¼" & ⅞" u/h, with possibly other lengths, and hex Nuts about ¼" A/F. The thread might be 4-40. • A small **Screwdriver**, some 2½" long (top right on the Plates), with a yellow handle. • 2 torch **Bulbs** (described as Miniature Screw Base Lamps No. 222 or 223). • 4 AA RAY-O-VAC **Dry Cells**. • 2 Coils of **Wire**, one with a steel & one with a copper look; also in one Set, a third that might be insulated wire. • In a different Set, a roll of what looks like herringbone pattern **Webbing**, about 1" wide (top left on the Plates). • **Washers** are called for in the models. • A **Switch Arm** is shown in the Manual (right) but whether it is just a Strip bent to suit isn't clear.



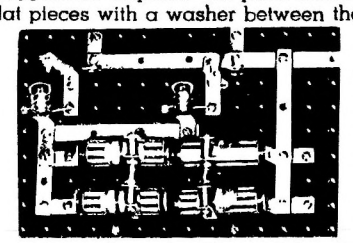
The Set The box scales at 9*11½", and the yellow lid is nearly covered by a label which is very similar to the centre panel of the manual cover, shown below. The parts are mounted on a yellow card with the Batteries & transparent tubes of N&B strung down on the Plates. The Strips & Brackets were 'stuck' on the red diagonal tapes. The bulbs in the top corners are held with strips of blue tape.

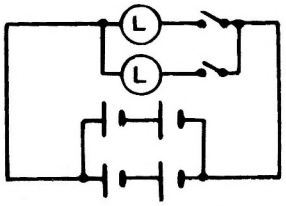
The Manual cover, 93*217mm, is pale brown with a yellow circle & boy making a model on the centre blue area. There are 8 pages, unnumbered, plus covers, & after some General Instructions, 18 Experiments. They cover every way of wiring up the Bulbs & Batteries, ending with a circuit allowing a light to be switched on/off at two different places. Then sending Morse from one room to another using copper wire from 'any hardware store', & adding another Battery if the voltage drop gets too high. Within the chosen field, a fair & instructive selection, & reasonably well explained. The circuits are made up by bolting Strips to the Plates, with a pivoting Strip as a switch blade for instance. The Batteries & Bulbs are clamped down by Strips & long Bolts, or held with Wire, with the A/Bs bent to contact the ends. Not so good. Some of the sketches are shown below, and an Experiment.



EXPERIMENT No. 12
MAKING A KNIFE SWITCH—S.P.S.T.

Suggestion: Replace the push buttons of Exp. No. 11. Use two flat pieces with a washer between them at the outer end.



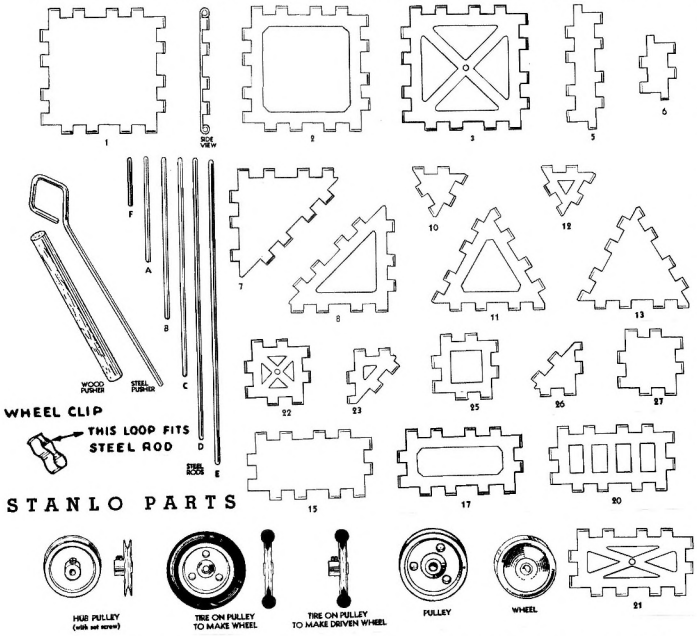


As well as the Manual the Set contained a Model Sheet headed 'Fun with Lectrokit'. It is about U.S. Letter size and a single photo of each of 6 models is shown, all incorporating the Bulbs as lighting. They comprise an Aeroplane, a Bridge, a Tower, a Flasher (with a switch operated by a pendulum) & the Signal House left (because it will copy best). Quite fair models considering the size of the Set. It's hard to see the parts clearly but more of the the longer Strips may be needed in some of the models than noted earlier.

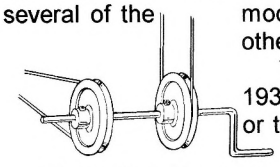
LECTROKIT was made by DeVel Industries of Pasadena, California, and on the Manual cover is 'Published and copyrighted 1946'. Also 'One of the INSTRUCTOKIT SERIES'. STRUCTURKIT, one of this Series, is mentioned twice in the Manual, as providing Angles (A/Gs) for various purposes. The back cover has some models of Railings, Girder Bridges, Ramps, & simple Buildings which 'show the possibilities which can be obtained with parts included in the different kits which comprise the INSTRUCTKIT series'. 2 Set lids can be seen in the illustration but all that can be gleaned from them is that they aren't LECTROKIT.

STANLO 1933 to 1937 This account is based on a 1937 STANLO No.1300 outfit, lent to me by David Hobson, some parts that were with a ©1933 manual, and other manuals ©1934 & 1936. Thanks are due to David, and to Bill Harrison & Richard Symonds for their contributions. All dates below are these copyright dates. STANLO first appeared in 1933 and continued until after WW2, 1948 is the date given in MCS. There were a good range of parts, though only half as many as in ASSEMBLO (see 15/420), but from early on STANLO included Lighting Parts in some sets, and also 2 mains Motors.

The PARTS All the basic structural parts, and nearly all the others, were introduced in 1933. The side of the largest **Square Plate** measures 73.0mm (2⅞") between the centres of the joining Rods, and about 77.3mm o/a. The **Rods** are in 6 lengths, 30,64,100,136,171,218mm, with ends slightly tapered in many cases. Most seen are 2.95mm Ø but quite a few are 2.99mm. The i.d. of the edge loops is between 3.1 & 3.2mm but, except on the smallest parts, one on each side is partially cut through to give a short length (called a 'friction loop') which is nipped in slightly – however, particularly on the later parts, the nip is often not enough to actually grip a Rod. The Instructions suggest closing up the loop if necessary, by pushing it down with the Wire Pusher, but it's quite difficult to do, a pair of pliers is really needed.



Above the 3 circular parts. The **Wheel** (on the right) is 31.8mm (1¼") Ø, a steel pressing with a brass tubular boss, bore 3.0mm, as in the sketch left. The steel **Loose Pulley** is 35½mm o.d., with both discs well belled at the centre, and peened through at 3 points, leaving holes large enough to take a Rod. The **Fast Pulley** is 34mm o.d. with steel discs joined by a 5/16" Ø brass bush with deep conical peening. The boss is single-tapped 6-32 and the Set Screw is steel, 4mm u/h, with a rather flat RH, 5.5mm Ø. A fat black rubber ring style **Tire** is shown fitted to either Pulley, and the ones to hand, hard with age, are 52mm o.d. Loose wheels are retained on the Rods by **Wheel Clips**, of blued steel, 12mm long & 3mm deep. All these parts date from 1933 except the Fast Pulley & Tire, which were not in the Illustrated Parts of either the 1933 or 1934 manuals. The Fast Pulley though can be seen on several of the models in these manuals, along with others fitted with Wheels.

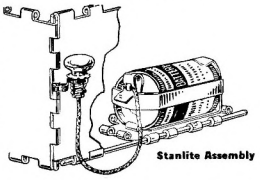


The **Crank Handle** left, is from the 1936 manual, and can be seen in one or two earlier models, but it wasn't in any of the Illustrated Parts.

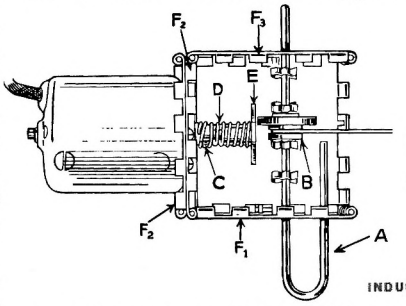
The tools in the manuals are a **Wire Pusher**, 148mm o/a & 2.75mm Ø, and a **Wooden Pusher** of ⅜" dowel, 4" long, with a shallow Rod diameter recess in each end face. A **Screwdriver**, presumably for the Set Screws, was included in some sets but hasn't been seen.

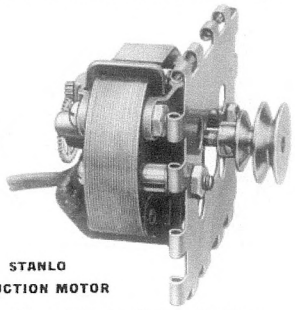
The **colours** of the parts will be noted under Sets below.

The **Lighting Parts** were introduced in 1934 and are shown in 8/201. A 1936 illustration (right) shows the lead from the Bulb attached to a Battery Clip (not listed as a separate part), with a rubber band around the battery holding the Clip against its centre terminal.



Motors aren't mentioned in 1933 or 1934, but both types are in 1936. Below on the right is the **Induction Motor**,





bolted to a special Plate and fitted with a Triple Drive Pulley. The **Universal Motor Unit** on the left has the Motor (with black crackle finish body 2¼" Ø, 2½" long) bolted to a pair of Plates, back to back, (F2, with four ⅜" holes, to admit cooling air to the Motor, around a centre 1" hole). Fixed to these, and each other, are a standard bottom Plate, and 2 special Side Plates with holes for the 4.00mm Shaft, A. The friction drive between the Motor and the Output Pulley, B, on Shaft A, is as shown for the MORECRAFT Motor in 11/290. The spring-loaded steel Driving Disc, E, is 1⅛" Ø and runs against the Friction Wheel, B, which is free to turn on Shaft A, and incorporates the 14mm Output Pulley - it is located by standard Clips which fit into grooves in the Shaft. The friction element is a 4mm wide leather disc of about 28½mm Ø, between a 1" Ø steel disc on one side, and a similar disc with the integral Pulley on the other. A label attached to the Unit recommends that the leather be oiled if it gets dry and slipping occurs. In practice an additional Plate across the top or the open front, is needed to make the Unit rigid enough to allow the Shaft A to slide easily. Both Motors were for 110v.

The SETS In **1933** there were simply 7 sets, **Nos.1-7**. The parts with the 1933 manual, probably most of a No.1 set, consist of Plates painted red or ivory (off-white), and 4 red Wheels. A photo of a No.3 Set, from either 1933 or 1934 also has some green Plates.

3 additional sets were added in **1934**, and some details of certain sets are given in the manual. The lid of an actual cardboard box as used for the smaller sets is shown below, blue with a black centre, and the models in colour. The set number is shown on the side of the lid. Sets 5-7 were packed in 'mahogany finished' wooden boxes; the outside of the lid can't be seen but on the inside is a small label, similar in design to the card lid, but without the models – it may have carried the Set No. The No.5 was said to have 'the gray and white engineering pieces and the bright colored solid pieces'; the No.6 had coloured parts; and the No.7 gray & white engineering parts with no mention of other colours. Many of the parts in the 'engineering' sets are the Plates

with diagonal bracing, and they are only used in models for Sets 4, 5, & 7.

The new sets were • The **Stanlite** outfit which included a Battery, the Holder for it, and 2 each of all the other lighting parts. The box lid has models at the 4 corners, a Ship, Bridge, House & one other, with in a centre panel 'STANLITE // *A Complete Electric Light Unit for* // ????'. • **No.33**, Railroad Stations for Electric Trains, with coloured pieces and the Stanlite parts excluding the battery items ('power from the tracks'). • **No.44**, Railroad Bridges and Towers for Electric Trains. The parts are Plates with cross bracing or other cutouts, which look as if they may be gray, and solid Plates which look white. Also lighting parts as in No.33.

By **1936** all the sets bar the No.1 had different numbers, with the new ones probably representing their price in cents. Colours are now described as 'four brilliant colors', probably cream, green, red, with yellow Pulleys/Wheels, and the engineering parts in 'modern Aluminum finish and outdoor red'. Was 'aluminum' the same as the earlier gray? From the details given in the Manual & the models shown: • **Nos.1, 200, 300, & 500** had '4-color' parts, with 4 Wheels in the 1 & 200, 4 Loose Pulleys & Tires in the 300, and 4 Fast Pulleys & Tires in the 500. The lighting parts were included in the No.200, but not apparently in the larger outfits. Apart from this, and perhaps the different Wheels/Tires, these sets were progressive. • Unrelated to the above was the **No.E300**, the Young Engineer's Set, with engineering parts, mostly aluminum finish with a sprinkling of the smaller parts red. • Then there were 5 **Sets with Motors, Nos.E500, 750, 1000, 1250, & 1500.** The No.1250 had 4-color parts; the others were Engineering Sets with aluminum parts, plus some which look light coloured rather than red in the B&W illustrations. (A photo of a reputed E500 shows red, green & cream parts as well as the majority in aluminum, but they may be a mix from more than one outfit.) The E500 & 750 had the Induction Motor, the others the Universal/Friction Drive Unit. The E500 was in a card box, probably 13½*10½* 3", with the lid similar to the earlier one but a darker blue with STANLO in red, and 6 models as on the 1937 label below, but with no green parts, only red & 'white'. The others are in metal boxes with a similar label inside the lid. Only 4 Pulleys/Wheels can be seen in any of the sets; they look like Fast Pulleys, and are fitted with Tires in the 3 larger sets.

All the set numbers except No.1 & E500 were changed in **1937**, and now certainly denoted the price in cents – the No.1 cost $1.25. The numbers were **1, 250, E300, 350, 500L, E500, 850, 1150, 1300, & 1500**. Colours remained the same and the only advertised difference was that the 500L now had the lighting parts as well as the No.250.

David's 1300 is in a blue steel box 19*10*3", with card partitions and false floors in all the compartments except where the Motor sits. The Rods, Tools & Clips are in a card box 9½*2¼*1¼" with a blue top. It has the Set No. on it and this is the only indication of which outfit it is. There is no label at all on the outside of the metal box, but inside is the one below, similar in colour to the earlier card lid, but with 6 different models. I wonder if a printed card sleeve was around the set when it was new. As would be expected the parts are in cream, red & green, with yellow Pulleys. The special Motor Plates are red. The set is not quite complete but as found it contained 19 Full-size, 28 ½-size, & 24 ¼-size Plates, and 16 Large & 18 Small Trianges. All the different piercings are present except the ½- & ¼-size 'Braced' Plates, and Pierced Triangles. It had 6 Loose & 3 Fast Pulleys, a surprise because illustrations never show more than 4 Pulleys in any set. 4 of the Loose Pulleys were fitted with the rubber ring Tires. The Screwdriver that should have been in the Set was missing.

The MANUALS These are the ©1933, 1934 & 1936 editions for the non-powered sets, and the ©1937 version for the Motor sets. All have the same page size and general layout, with the copyright date & an Intro on C2, followed by building instructions, illustrated parts, models through C3, and ads on C4. Exceptions are noted in the summaries below, but unchanged details are not repeated. All the covers are cream printed in red & shades of grey.

SUMMARY OF 1933 MANUAL •Name: STANLO •Details of maker: Stanlo, New Britain, Conn. •Dates &/or Ref Nos: ©1933 on C2. •Page size: 287*159mm deep. •No. of pages: 20+C1-4 (no page nos.) •Language: English. •Printing: cover (below), black & red on cream; ½-tones of models. •Page Nos. of Illustrated Parts & highest PN: 2-3,27 & E. (No Set Contents) •Sets covered: 1-7. •No. of models for each set: 50,18,15,18,12,8,8. •Name, Page No. of first & last model of each set (no Model Nos.): 1: High Back Chair,4; Beacon Light,6. 2: Factory,7; Lighthouse,8. 3: Camouflaged Tank,9; Street Car,10. 4: Viaduct 63" long,11; Dirigible Mooring Mast,13. 5: Aircraft Carrier,14; Puppet Stage,16. 6: Freighter,17; Industrial Plant,19. 7; Suspension Bridge,20; Cantilever Crane,C4. •Other notes: models not ads on C4.

SUMMARY OF 1934 MANUAL •Dates &/or Ref Nos: ©1934 on C2. •No. of pages: 16+C1-4 (no page nos.). •No. of models for each set: 50,18,15,18,2,2,2. •Name, Model No., Page No. of first & last model of each set: Sets 1-4 as 1933. 5: Yacht Club,14; Airport,14. 6: Freighter,15; Fifth Avenue Bus,15. 7: Vertical Lift Bridge,16. Multiple Arch Bridge,16. •Other notes: C1 as 1934 but with TETA logo at bottom right; Illustrated Parts are line drgs, not photos & include Stanlite parts; Sets 33, 34 advertised on C3, & Stanlite Set on C4; details from photocopy.

SUMMARY OF ©1936 MANUAL •Dates &/or Ref Nos: ©1936 on C2. •Page size: 280*158mm deep. •Sets covered: 1,200,300, E300,500. •No. of models for each set: 44,15,14,17,15. •Name, Model No., Page No. of first & last model of each set: 1: Kitchen Cabinet,4; Tabouret,6. 200: Farm Truck,7; Beacon Light,9. 300: Diesel Launch,10; Lighthouse,12. E300: Single Span Crane Hoist, 13; Swivel Crane,15. 500: Modern Bus,16; Steamship,C3. •Other notes: Illustrated Parts include Fast Pulley & Tire; ads for Sets E500-1500 on C4; C1 is shown below.

SUMMARY OF ©1937 'Motor' MANUAL •Name: STANLO WITH ELECTRIC MOTOR. •Dates &/or Ref Nos: ©1937 on C2. •Illustrated

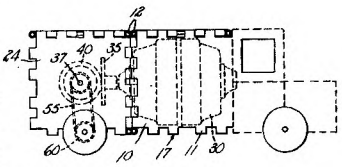
Parts on pp5-6. •Sets covered: E500,850,1150,1300,1500. •No. of models for each set: 7,9,5,6,4. •Name, Model No., Page No. of first & last model of each set: E500: Airplane Sky Ride,6; Saw Mill,7. 850: Water Wheel,8; Ferris Wheel,10. 1150:Train and Railroad Crossing,11; Windmill,12. Grist Mill,13; Observation Tower and Elevator,15. 1500: Double Span Bridge,16; Stern Wheeler,C3. •Other notes: the Motors & their use on pp1-2; ads for Sets 1-500L on C4; C1 as in MCS (with Universal Motor & 2 boys with models).

The **1933** manual includes a wide range of models, with many domestic items, buildings, bridges, & vehicles, and some ships & mechanical models. One fairly good photo is given for each, with a Parts List for those from Sets 5-7. A few models are rather bizarre but most are credible, with the Buildings particularly good. Many of the Bridges likewise but some of the larger ones are rather clumsy. The Vehicles, like the No.1 Set Street Car below, are quite fair, but the Wheels are much too small in certain cases. The Plates with the square & oblong cutouts often greatly improve the appearance of models and to me look better, and are more versatile, than the DINKY BUILDER parts with painted window panes. Cord is used to operate a few Cranes & Lifting Bridges but the means of winding it unclear, with the Crank Handle visible in only one model. A chain hoisting cord can be seen in the No.7 Cantilever Crane below.

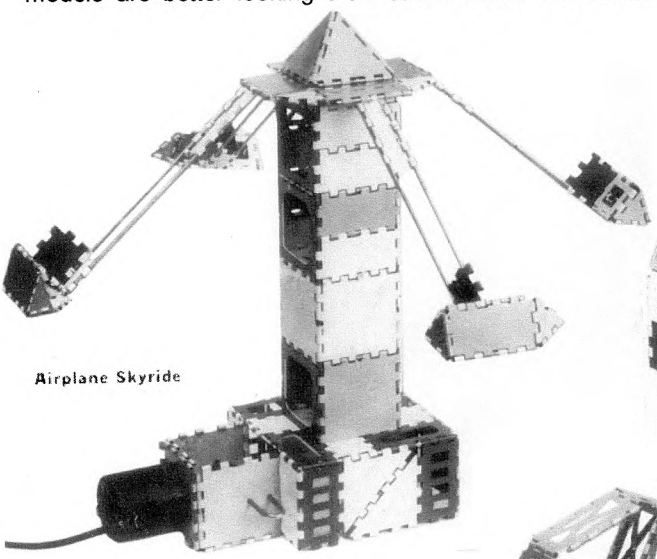
The cover of the **1934** manual is as the 1933 except that a TETA logo appears in the bottom right corner, as it does in all later editions – what was TETA? The models are the same too and the pages for Sets 1-4 are identical; but Sets 5-7 get only one page each, with a photo of the Set and 2 models (without Parts List) in every case. Was there a separate manual for these outfits? The 3 models bottom left are some of those from an ad for Sets 33 & 44. All, including Bridges, a Tunnel, & other Buildings, look to be fair models although perhaps slightly too large for a 0-gauge layout.

The elegant lady, smart gent, pristine boy & girl, and small dog on the front of the 1933/34 manuals gave way to a larger dog & a very slightly dishevelled boy on the **1936** cover. The models too are new apart from most of those for the No.1 Set, and even for those different photos have been used in some cases. For all Sets there is a greater proportional of Vehicles than before, and in general the new models are better looking than earlier ones. The No.200 models are small and each is fitted with the 2 Stanlite lights included in the set. The 300 models are mostly reasonable Vehicles running on Loose Pulleys with Tires, but also include the Town Hall below. The E300 'engineering' models are medium sized and the 'Braced' Plates work quite well for Bridges & Cranes, but not so well for a Locomotive and a Steam Roller. The 500 Set models are again medium sized with some good Buildings & fair Vehicles.

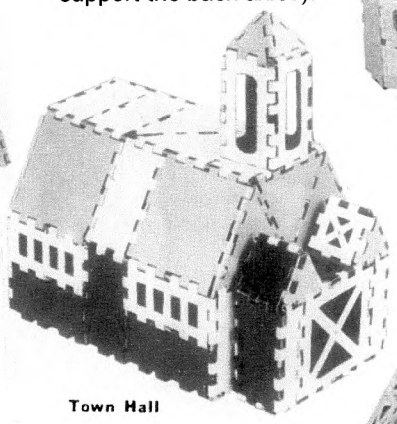
The **1937** manual is for the sets with an Electric Motor and the cover is as in MCS with the Friction Drive Motor, and 2 boys with various 'engineering' models. It is thought that there is a 1937 manual for the non-Motor sets with a 1936-style cover. As in the other manuals there is a single photo of each model, of good quality, but the internal details can often not be seen, and no parts lists are given. All the models are motorised and all use a cord drive to a rotating assembly or a winding spindle. No Vehicles are among them, and there are fewer Bridges than before, but several Fairground Rides & a Walking Beam Engine (with an octagonal flywheel). Again the models are generally better than before, but again the Braced Plates are not ideal for some of them – the 1300 models with only a few Braced Plates, and the larger Bridge & Crane models are the best. The Steam Engine below is from the No.850 outfit, and the Airplane Skyride is a No.1300 model.



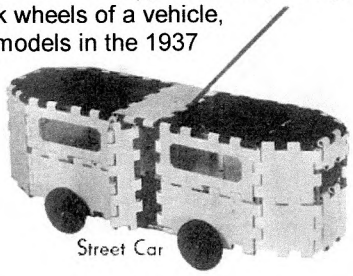
PATENTS All the manuals, back to the ©1933, have 'PATENT APPLIED FOR' on the front cover but the only patent known is No.2044735, about the friction drive assembly, and its application date was 25 Jan. 1935. It was in the name of Henry Pelton of New Britain, Conn., assignor to The Stanley Works, and the main aim was to 'provide an improved driving arrangement which is characterized by its extreme simplicity & cheapness in construction'. On prices, the STANLO friction drive assembly in 1937 cost $1.50 while the ERECTOR 2-speed & reverse gearbox for the A49 Motor was $1.25 when introduced in 1938. The unit in the patent is very similar to that actually produced but one of the applications (above), with a cord drive to the back wheels of a vehicle, was not used in any of the models in the 1937 manual (and what would support the back axle?).



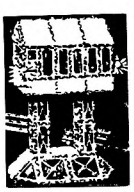
Airplane Skyride

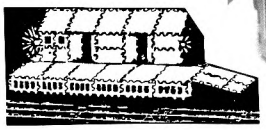


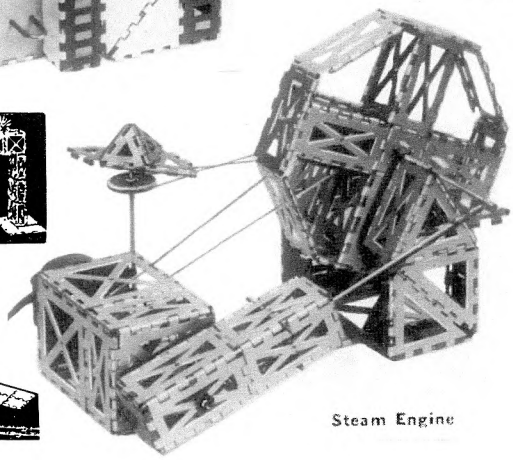
Town Hall



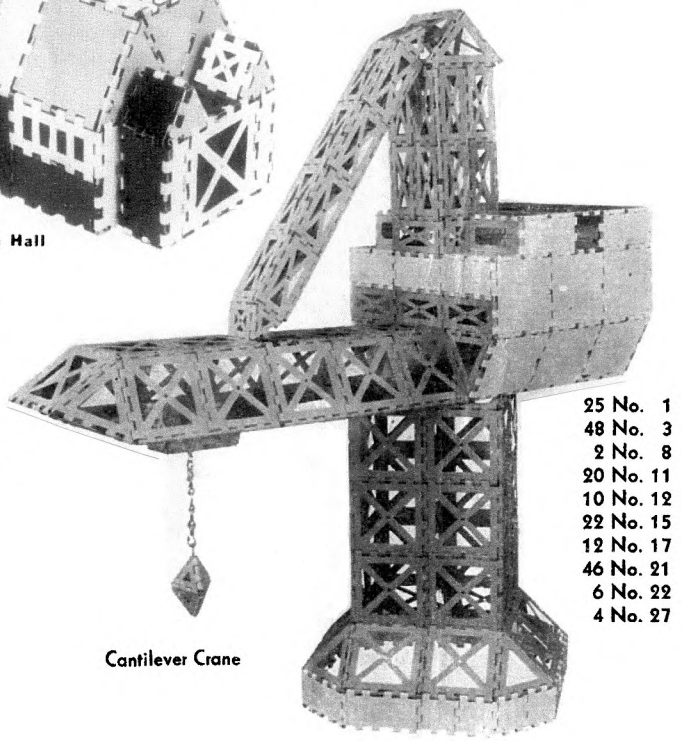
Street Car







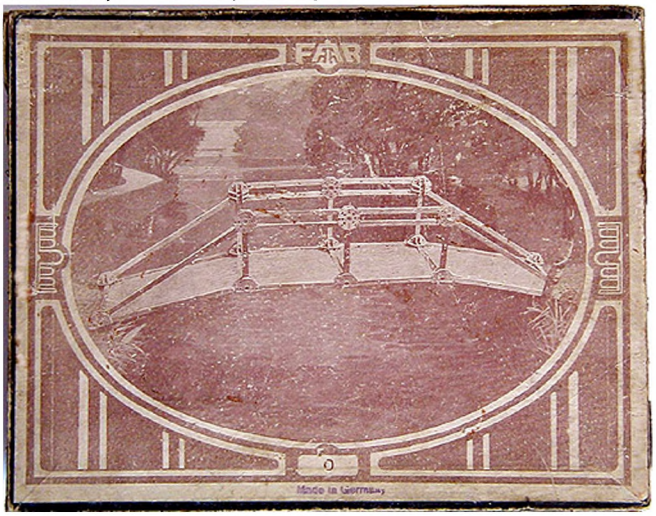
Steam Engine



Cantilever Crane

25 No. 1
48 No. 3
2 No. 8
20 No. 11
10 No. 12
22 No. 15
12 No. 17
46 No. 21
6 No. 22
4 No. 27

An ANCHOR ENGINEER No.0 Set Some parts and a manual from this Richter system were described in 17/486; now thanks to Kendrick Bisset I've been able to examine a near complete outfit, probably sold in the UK in 1914.



The box, 25*20*3cm, is black with the label above covering all the top of the lid. It is a light purplish-brown colour and shows a model Bridge over a tree-lined river. The name isn't on the box, just Richter's initials 'FAR' at the top, with an anchor through the 'A'. At the bottom 'Made in Germany' is rubber stamped under the '0'. The inside is dark red with partitions as left (from a Bassett-Lowke ad), and a half depth false floor in each compartment. Each type of part in the set is shown full-size on the inside of the lid in gold, with its PN and the number in the Set. A lighter red card fits inside the box above the partitioning, leaving space above it for the manual.

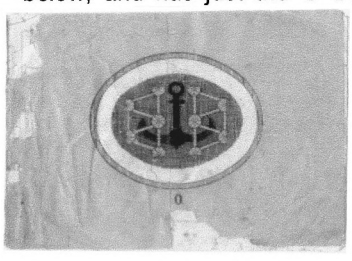
The parts are as described in OSN 17 except:

- Some of the **Hub centre tubes** are steel, some brass.

- The **Handle Crank**, left, 55mm o/a, is made of 5.0mm rod. It is bored out at one end to push onto the Axles but is a loose fit on some of them.
- Above, the flat, .75mm thick, **Fastening Hook**, is 25* 25mm o/a; it is to be hammered into a base board, around the tube in a Hub, to hold models down when 'driven by a steam engine'.
- All the **Axle Clips** have the 'tail' shown in OSN 17.
- The **finish** of all the parts, apart from the brass Hub tubes, is metallic black.

The main parts are 27 Stays, 16 Hubs, 4 Small Pulleys, 5 Axles, 6 Axle Clips, 4 Base Clips. A detailed list on request. The instructions speak of removing Rubber Rings from the Pulleys when necessary, but none were in the Set, and the part isn't shown on the lid, or in the manual models.

The Manual. It has suffered over the years and the unnumbered pages have been sellotaped together in the wrong order. Basically one can imagine an 8-page booklet with models Fig.1 - 26 and no other text - but there is also a single sheet with instructions in English and Figs.I – III on the back, illustrating the use of the parts. This could have been separate or stapled up with the booklet, with perhaps a back cover. The pages are 225*157mm and, starting with the '8-page booklet', the black on yellow cover is shown below, and has just the '0' beneath the Richter logo. The models start on C2 with Fig.1, a Parallelogram, and run on to Fig.26, a Trolley on C3. Models 1 – 6 are shown as engineering drawings; there is one good-size photo of each of the others. C4 has small photos of 3 models belt driven from Pulley Shafting, and it is explained on the 'separate' sheet that these are Set 1 models and so is the Bridge on the box lid. Each page has 'F. AD. R J.O.' at bottom left, and C4 also has at bottom right 'WANGERIN & CO., G.M.B.H., BERLIN', the printer no doubt.



Unlike the 'model booklet' the Sheet does have the name on it, in the heading: 'How does the young Anchor Engineer build?'. It also has a PR: Imp. O 146 E 3, partially similar in form to the manual PR in OSN 17. Thus 146 would mean June, 1914. Detailed instructions are given and at one point it is explained how one model can be used to prove 'the Pythagorean theorem' from 'the first book of Euclid'. On the panels shown in some models, it is made clear that they were to be cut from card and wedged between the Stays.

There are a number of Trucks & Trolleys among the models, but a fair variety otherwise including a Monoplane, a couple with Pulley drives, and those below, with tiller steering on the Cart.

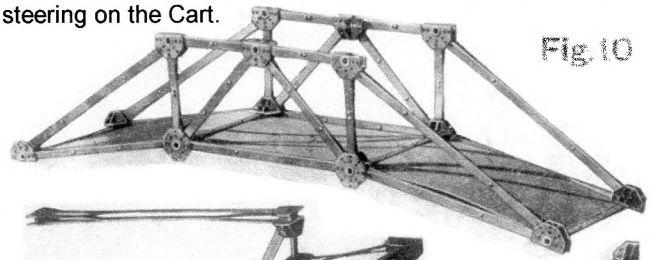


Fig.10

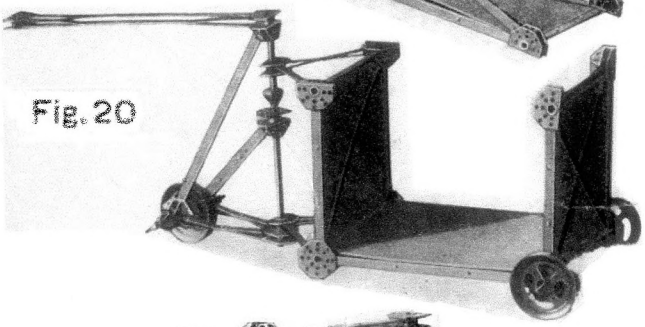


Fig.20

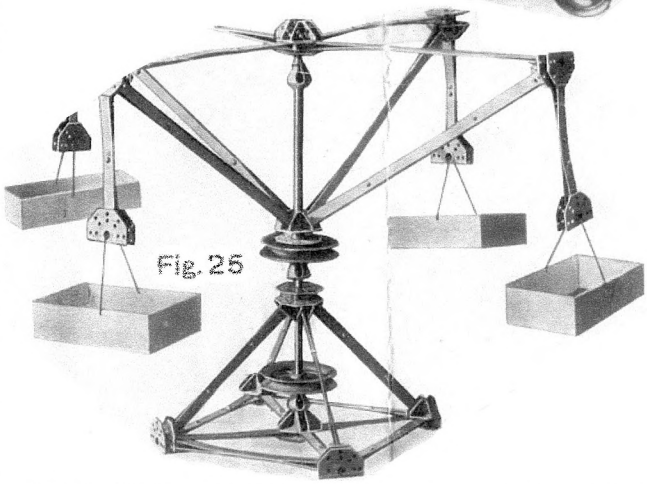
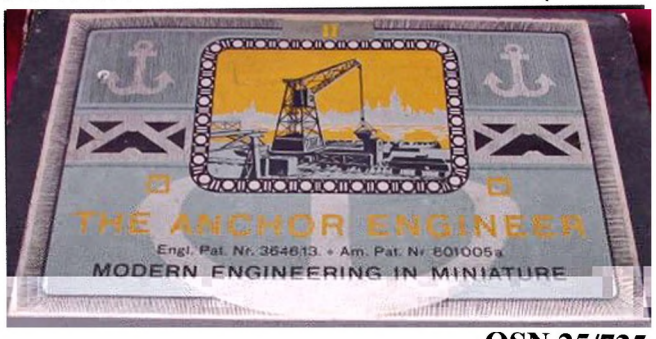


Fig.25

ANOTHER SET Photos of this larger, and no doubt later outfit, show the lid below, with a bluish label printed in black, white and yellow. The picture is the same as the ANKER METALL BAUKASTEN one in OSN 17. The inside of the box and the bottom of the lid are in similar style to the No.0 above, while the 3 model pages of the manual visible are as in the OSN 17 manual. Of the parts that can be seen the Large Pulley, Propeller Blade, & Fastening Hooks look black, but the numerous Stays & Hubs all look brass coloured. The British patent on the lid was mentioned in OSN 17; the 'Am. Pat. Nr. 801005a' hasn't been traced - the U.S. 801005 dates from 1905 and is about curtain poles.



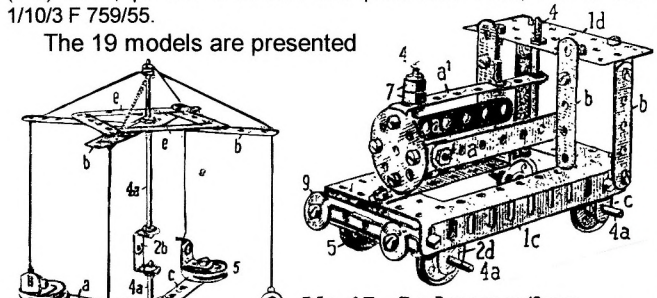
'New' System – BSL METALLBAUKASTEN Werner Sticht kindly lent me a photocopy of the manual for this East German system, sent to him by Jürgen Kahlfeldt. It was made by VEB Blankschraubenfabrik of Luckenwalde (100km north of Leipzig), probably in the 1950s, and its 43 parts seem to be an exact copy of STABIL. So the hole pitch may well be 12.5mm.

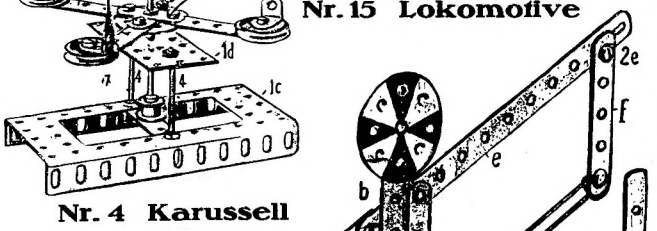
The PARTS Referring to pp3/4 of STABIL (C) in MCS, they are as follows: 2,3,5,7,9,11,15,25h Strips; 15 & 25h A/Gs; 5*7 & 5*11h Flanged, and 3*3 & 3*7h Perf. Plates; Angle, Flat, Double, Reversed Angle, & Corner Brackets; N&B, but the thread is M4 and the Bolt 8mm long; 50, 90 (not the STABIL 100mm), & 120mm Threaded Rods; 26mm Pulley; wire Handle Crank; Collar, Bearing for Threaded Rod (STABIL #17a); wooden-handled Screwdriver; Spanner, but it looks flat; 1*5*1 & 1*3*1h DAS; Flanged Sector Plate, but not the Triangular Plate from its centre cutout; 28 & 80mm Ø Patent Gears (the sizes correspond roughly to those of STABIL #25c & 25e but are shown, perhaps wrongly, with 12 & 22 teeth); Windmill Sail; 38 & 62mm Discs; 50,90,120, 150mm Smooth Axle Rods; and a rubber Tyre. The last 5 parts have no PNs, and the Smooth Rods are a puzzle because none of the parts as shown have tapped bosses.

The SET Every part is included in the only (undesignated) set mentioned. The main ones are 4 of each A/G, 4 to 8 of each Strip, 32 Brackets, 4 Flanged & 3 Perforated Plates, 80 N&B, 1 of each Gear & Disc, 6 Pulleys & 4 Tyres, 2 of each Rod, Smooth & Threaded, and 4 Windmill Sails. So, a decent size set but perhaps rather deficient in Plates, and certainly deficient in circular parts, particularly since each Gear has to be mounted on the appropriate Disc.

The MODELS SUMMARY OF MANUAL •Name: METALL+ BAUKASTEN BSL •Details of maker: VEB Blankschraubenfabrik, Luckenwalde. •No Dates or Ref Nos. •Page size: 211*147mm deep. •No. of pages: 24 unnumbered inc covers. •Language: German. •Printing: black on light green with shaded line drgs of models. •Page Nos. of Illustrated Parts and highest PN: 6-7,15a. •Page No. of Set Contents & highest PN: 5,15a. •Sets covered: 1 (no number). •No. of models: 19. •Name, Model No., Page No. of first & last model: Haspel+ rad,1,8; Kippwagen,19,23. •Other notes: details from photocopy; p2 (IFC) blank; p5 has 5 unmunbered parts after #15a; PR on BC: 1/10/3 F 759/55.

The 19 models are presented in the distinctive STABIL manner – they are all quite simple and most, perhaps all, are STABIL models for the No.49 Outfit. The only main parts used in them are 11h & shorter Strips 11h, the 5*11h Flanged & 3*7h Perforated Plate, the 38mm Disc, and Pulleys - no smaller Plates, A/Gs, Tyres, Gears, etc, etc. In the models in the previous column some of the parts, for example the buffers of the Loco (the STABIL Cheek Piece #9), and the Wire Stays (STABIL #40) in the Crossing Gate, are not in the BSL range.





'New', SCHUCO JUNIOR TECHNIC Older readers may remember owning, or coveting, one of the super little prewar Schuco clockwork cars which whizzed around and had features unheard of in the snail-speed Mimic range. The name now belongs to a company called Dickie-Schuco GmbH & Co. KG, of Werkstr. 1, 90765 Fürth, who sell a range of toys under the general name 'Junior Line'. Their 2001 catalogue has alas no clockwork cars but along with teddy bears, dull 'Dinkies', & electronic sets, are 10 JUNIOR TECHNIC constructional sets, introduced earlier this year. The sets are marked 'Made in China' but the parts and many of the models look exactly like MERKUR – most of the sets too judging from the numbers of parts quoted (none are illustrated). All but 3 of the outfits have known MERKUR equivalent and no doubt the Czech company has introduced new sets since those reviewed in 17/485 & 21/613.

The SCHUCO Sets are listed below with their English names (German & French ones are also given), and their probable MERKUR equivalents where known. 2 or 3 models are shown for 2 of the Sets but otherwise only one, with no mention of the possibility of being able to build others, even when the Set seems to correspond to a MERKUR standard outfit. In some cases the Schuco illustration shows small differences compared with the MERKUR model, and different photos are used even when the models appear to be identical. A few parts are in different colours too but all are in known MERKUR hues except for a couple of white Plates. The Schuco catalogue numbers all start with '378', followed by the numbers given below. Their last 2 digits correspond to the supposed MERKUR analogue, where known.

Schuco® JUNIOR TECHNIC

• **8103 Dump Truck, Small**, 218 parts. The same number as the MERKUR No.3, & the (unattractive) model is the one on the No.3 lid. • **8104 Pick-up Truck, Large**, 602 parts. Model (below) as MERKUR No.4, & the same number of parts.

• **8106 Tractor**, 828 parts. The model is the No.6 TECC one shown in 20/569, and the parts correspond to the MERKUR No.6. • **8108 Caterpillar with Jeep and electric motor**, 1405 parts. The models are very similar to those on the No.8 lid (they also appeared on the No.6, see 17/485) except that the Jeep has a spare wheel on the back. The parts are as the MERKUR No.8. No sign of an electric motor can be seen in the photo I have of the No.8. • **8010 Formula Racing Car**, 206 parts. This is the model shown in OSN 17 from the 010 Set. • **8011 Motorcycle**, 230 parts. Again this model, from the 011 Set, was shown in OSN 17. • **8013 Plane, &**

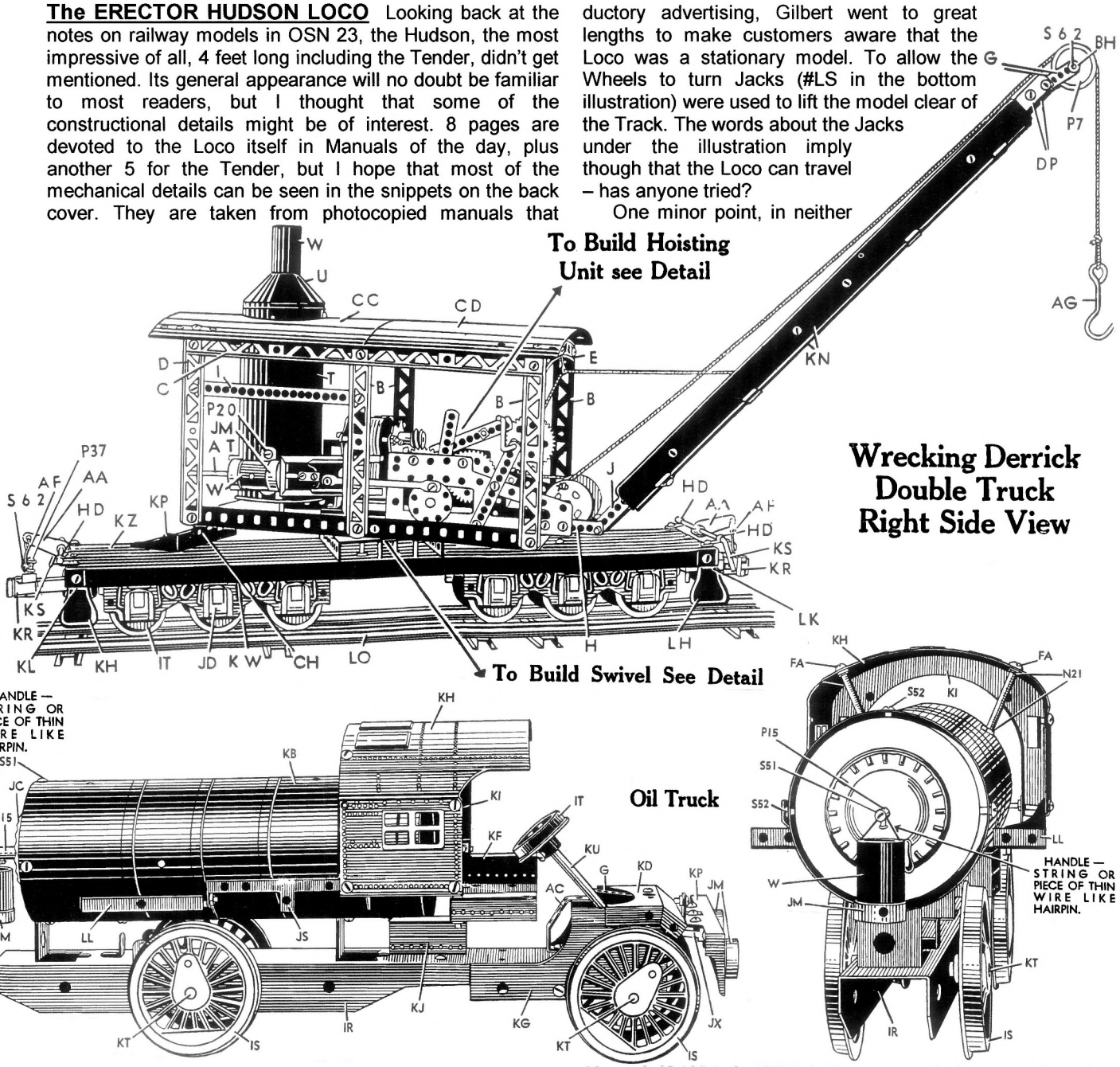
Helicopter, 223 parts. No equivalent MERKUR set is known – the Plane is the model from the 110 part Trempik *mini* set; each of the 2 rotor blades of the Helicopter is an 11h Slotted Strip. • **8016 Buggy**, 124 parts. This is the model shown in OSN 17, from the Buggy Skoda *mini* set. • **8017 Semitrailer Truck**, 124 parts. This Set and its model (below) are also 'unknowns'. I wonder if the timber (plastic?) is included in the Set. • **8018 Motorcycle, Trike, & Motorcycle with Sidecar**, 157 parts. The third 'unknown'. All the models are about the same size, with the 3h Ø Pulley plus Tyre as wheels. They are quite simple with no 'features,' and the sidecar is rather rudimentary.

Thanks are due to Werner Sticht who lent me the Catalogue on which the notes above are based.

The ERECTOR HUDSON LOCO Looking back at the notes on railway models in OSN 23, the Hudson, the most impressive of all, 4 feet long including the Tender, didn't get mentioned. Its general appearance will no doubt be familiar to most readers, but I thought that some of the constructional details might be of interest. 8 pages are devoted to the Loco itself in Manuals of the day, plus another 5 for the Tender, but I hope that most of the mechanical details can be seen in the snippets on the back cover. They are taken from photocopied manuals that Richard Symonds was kind enough to send.

A few points of interest. The note under the smoke box front indicates that Nuts are held fast inside it, but I'm not sure how the 'little prongs' actually achieve this. The bottom of the Motor can be seen at the left of the underneath view. The drive to the (single!) axle is by Chain from a 12t Pinion on the Motor to a 36t Gear below it, then via Bevels to another Pinion which engages with a 72t Gear bolted to one of the drivers. It is said in *Greenberg* that in the 1931 introductory advertising, Gilbert went to great lengths to make customers aware that the Loco was a stationary model. To allow the Wheels to turn Jacks (#LS in the bottom illustration) were used to lift the model clear of the Track. The words about the Jacks under the illustration imply though that the Loco can travel – has anyone tried?

One minor point, in neither Manual (©1931 & 1934) is the name Hudson mentioned. The Manuals contain a number of other models, all of which use the special Hudson parts to a greater or lesser extent. To my mind the special & standard parts don't usually blend well together, but there a few exceptions. Railway items include various 'shortened' Locos, and a good selection of Wagons, usually built on the Tender chassis. One of the more interesting ones is shown above. The other models are mostly Steam Engines, or similar, with & without boilers, but also a few Cranes, the Oil Truck above, & even a Windmill.



RECORD This is the c1950 German RECORD with a 'C', and is entirely different from the German REKORD, which I'll mention afterwards. Some very brief notes on RECORD were given in 15/418 & 17/476 but now Werner Sticht has kindly sent a photocopy of a manual with models for all the sets. The main parts in the system are Strips, Brackets, & some special parts, and it is very much geared to making large fairground models and in particular the Roundabout shown on the manual cover below. Full details of said model, too lengthy to include here, will be in new Extra MCS Sheets. Nothing is known of the maker except the WB or WR logo on the cover.

The PARTS are shown below, taken from the Manual of course, with some notes about them. I've added some numbers for ease of reference. The hole diameter & pitch aren't known but the N&B are M4, and from the few dimensions given the pitch is likely to be about ½" rather than 1cm. The parts are shown blue on the manual cover but in a small blurry photo of a set appear to be quite dark.

• There are 12 **Strips** (#1) with 2,3,4,5,6,7,8,9,10,13, & 17h. • The **Rods** #2 all have threaded ends and are 4,6,12,20,25, & 32cm long. • A **Tapped Coupling** #3 is to join the Rods.

Parts used only in the 'super' **Roundabout** include: • 8 of the **Rail** #4 to form a ring which carries the inner platform rolling on 8 **Flanged Wheels** (with M3 set Screws). • The **Slotted Strip** #5, 2 of which are used but I can't see where. • The large diameter **Centre Post Unit** #6, which is a tube with a stepped spindle running inside it, tapped M8 just outside the ends of the tube and M4 at the extreme right end. • The **Large & Wheel Discs**, #7, with an enlarged centre hole to fit over the Centre Unit spindle, and held by M8 Nuts, #8. • **A/Bs** (#9) set at 70 & 110°. • Long & Short **Crank Handles** #10. • The **Rod** #11, 9cm long and threaded at one end. • The large decorative **Panels** (a,b,c) with 'a' to go around the top, 'b' for the vertical sides, & 'c' for (perhaps) the outer rotating platform. • 3½ & 25v **Bulbs** (#12), and what seems to be a **Multi-Bulb Holder** (#13) & possibly a **Terminal Block** (#14). • A **Slip Ring**, #15.

The SETS The basic outfits are Nos.0, 1, 2 & 3, with linking sets 1a & 2a, an add-on set 3a, and an Electrical Accessory Set, 3b. The label of a set (30*19*2.5cm) on p219 of *Baukästen* covers all the lid and is exactly the same as the manual cover above.

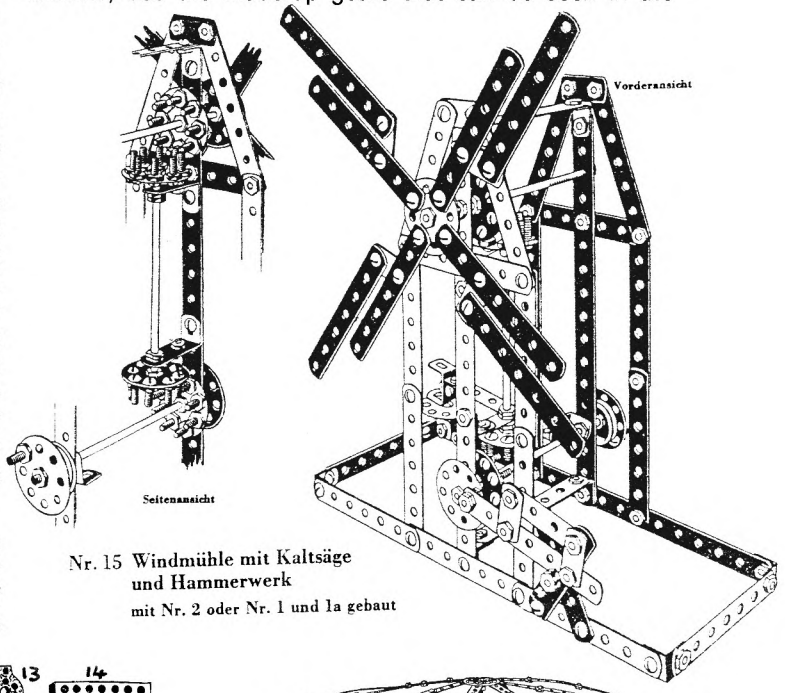
The **No.0** has 20 Strips from 2 to 17h, 4 DAS, 8 Brackets, 4 Wheel Discs, & 22 N&B. **No.1** has more of the same and **No.2** more again plus 1 Large Disc.

Yet more in the **No.3**, with now 100x 17h, 300x 7h, & 72 shorter Strips; 349 Brackets; 30 Wheel Discs, 3 Large Discs; & 700 N&B. New parts include 16 Wheels, a Pulley, & a Coupling. The **3a** parts include 152 Strips, 229 Brackets, 2 Large & 1 Wheel Disc, both with the large centre hole, 8 each of the Rails & Flanged Wheels, and 510 N&B.

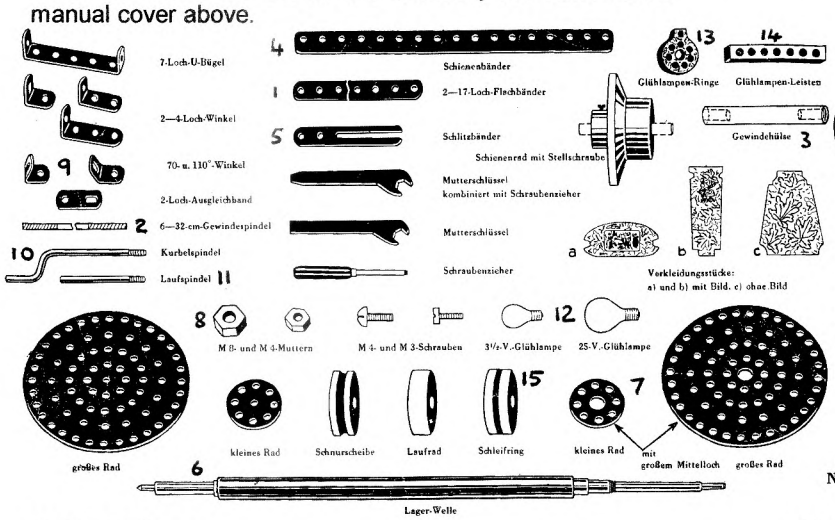
The **No.3b** parts include a Slip Ring, 8x 25v Bulbs, 2 of the Multi-Holders & 16x the 'Terminal Blocks' (if such they be, in German Glühlampen-Leisten 3,5 Volt). No mention of 3.5v Bulbs. Also in this Set, 16 each of the Panels.

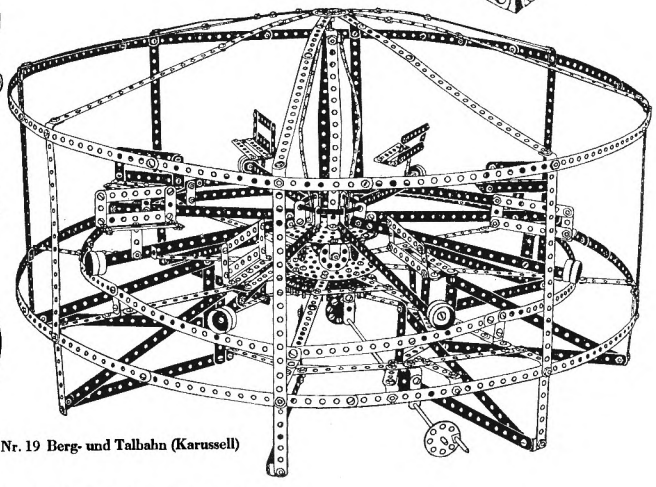
The MODELS SUMMARY OF MANUAL •Name: RECORD Metallbaukasten. •Details of maker: WB or WR logo on FC. •No dates or Ref Nos. •Page size: 295*187mm. •No. of pages: 20 unnumbered inc covers. •Language: German. •Printing: cover blue & red on light blue; line drgs of models. •Page Nos. of Illustrated Parts: 20 (no PNs). •Page Nos. of Set Contents: 18-19. •Sets covered: 0,1,2,3,3a. •No. of models for each set: 10,4,3,3,1. •Name, Model No., Page No. of first & last model of each set: 0: Warnungstafel,1,2; Segelflugzeug,10,5. 1: Straßenbahnwagen,11,5; Übergang mit Signal,14,7. 2: Windmühle mit Kaltsäge und Hammerwerk,15,7; Flieger-Karussell,17,9. 3: Riesenrad (Wiener Rad),18,10-11, Mondrakete (Karussell),20,13. 3+3a: Stufenbahn (Karussell),21,14-17. •Other notes: the contents of an Electric Accessory Set 3b are given on p19; the PR on p20 is 4891 3000 25.10 50 P1/27; details from photocopy.

There is a parts list and one or more clear line drawings for each model. Those for the **No.0 & No.1** Sets are simple & ordinary, for example a Swing, a Mobile Crane, a Tramcar, & a Bridge with Signals. The Windmill with Saw & Hammer (below), a Shipyard Crane, and a Chair-O-Planes from the **No.2** Set are a little more ambitious. They, and all later models, use the made-up gears that can be seen in the



Nr. 15 Windmühle mit Kaltsäge und Hammerwerk
mit Nr. 2 oder Nr. 1 und 1a gebaut





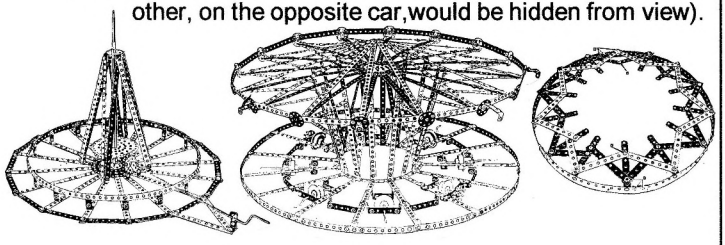
Nr. 19 Berg- und Talbahn (Karussell)

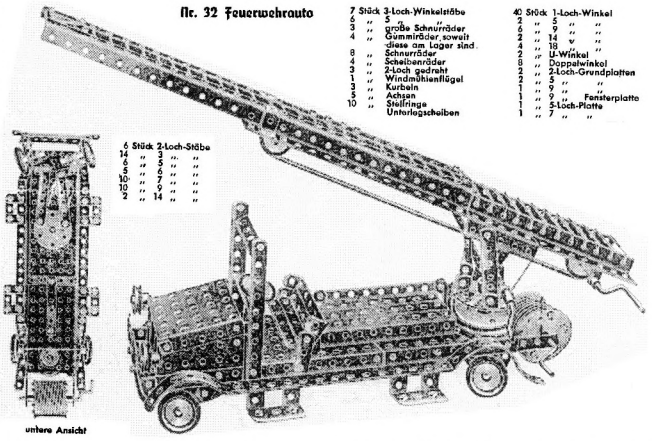
Mit Rekord-Metallbaukasten Nr. 3 oder 1, 1a und 2a gebaut:

Windmill, with the Large Disc used in some cases to give a reduction ratio. The Bolts shown are quite long, as they would need to be, but would seem to be the standard issue since no extra long ones are listed. The **Chair-O-Planes** is about 18" Ø with 4 aeroplane 'chairs', and among the parts needed are 57x 17h Strips, 33x 7h, & 50 A/Bs. The **Crane** has a jib about 24" long and simple hoist, luff, & travel motions. Slewing is through a pair of the made-up gears with 4 Wheel Discs under the jib, rolling on a Large Disc.

The first model from the **No.3** outfit is a **Big Wheel** of some 30" diameter with 8 cars and a loading platform underneath it. This is the other model in the Extra MCS Sheets. The **Roundabout** at the bottom of the last column is the second model - its 8 cars are on arms pivoted at the centre and follow an undulating outside track. The final model, another **Roundabout** has again 8 pivoted arms but the Wheels at their ends run on a flat track in a plane tilted up from the horizontal.

The last model is the **Roundabout** on the manual cover and needs **Sets 3+3a**. Referring to the small illustrations below, on the left the Centre Post is supported by 8 Strips and its spindle is driven from the Crank Handle via built-up gears. The circular track is made from Strips and is attached to the radial Strips by Brackets. The centre view is the main rotating assembly and part of its weight appears to be taken by the 8 Flanged Wheels, jounalled in Strips between the radial Strips, which run on the fixed circular track of the base. The platform ring carries 8 cars, 2 of which rotate about a vertical axis by being geared to the Flanged Wheel axles. The inner platform ring carries 4 cars and is on top of a criss-cross of Strips (below right) with a circle of Rails attached to the outside by A/Bs. The Rails sit on the 8 Flanged Wheels and so the inner & outer platforms rotate in opposite directions. In all there are 5 types of car. The parts count for all this includes 417 Strips, 538 Brackets, & 1196 N&B. So an impressive model but some care might be needed in building it, with no A/Gs to give a solid basic structure. The lighting parts are only shown on the cover picture, with alternate 3.5v Bulbs, & 25v Bulbs with reflectors, around the outer edge of the canopy, and a cluster of 3.5v Bulbs in a Multi-Holder above one of the cars (the other, on the opposite car,would be hidden from view).





was a page, perhaps from a manual, with a Fire Engine on it which is clearly the same as a model in the OSN 18 manual, though there (above) an extra view & parts list is included.

Of course there's nothing to say that the literature and parts went with the box originally, but there must be a good chance they did, especially the parts, and if so REKORD & ZICK-ZACK are probably closely related, as well as coming from the same firm. The REKORD lid label looks more modern than those shown in the OSN 18 manual.

Going back to the Set, its large flat box scales at 50cm wide, and is dark red with the label set in a light red rectangle; the inside is orange and in one compartment is a dark red backing card. All but 4 of the parts that can be seen clearly are like ZICK-ZACK and include Flanged Plates, 5*5h, & 5*9h (with & without centre cutout); 5 & 9h A/Gs; Strips up to 9h long; 4 each of 6h Bush Wheels, 50mm Pulleys with the single face hole, & 2h Ø Pulleys with Tyres. The Pulleys are red but otherwise all the parts look as if they might be nickel. Parts not previously noted as ZICK-ZACK are Tyres for the 50mm Pulleys, a Gear of 36mm Ø, and Contrates of 33 & 14mm Ø (all scaled dimensions). The Gear matches the 'nickel' parts but the Contrates are lighter, more the colour of BZP.

'New' System: REKORD Werner Sticht also alerted me to an eBay item, a set with REKORD at the bottom of the centre of a blurry lid label below left (it has a red car on a road with a railway bridge behind, set on a blue ground). For several reasons it seems almost certain that the Set comes from the same stable as the ZICK-ZACK system described in 15/420 & 18/518. First the logo at top left of the label looks like the wolf's head with lightning flashes that is on the manual described in OSN 18, and the name under it might even be Zick-Zack. Next, most of the parts in the Set look like ZICK-ZACK. Thirdly, the cover of the manual that was with the Set, is identical to the OSN 18 one (right), with ZICK-ZACK on it, but not REKORD. Also with the Set

A WISDOM/MECHANIC Set This is a No.1 Outfit, still strung, with WISDOM packaging, but the Strips are blue like the later MECHANIC (see 17/471) and the Model Leaflet is also MECHANIC, with Item No.191 on the front.

The box, 10½*8*¾", has the usual WISDOM top, with a purple & yellow border around a large transparent panel. As well as WISDOM it has the French SAGESSE name on it (see 10/238), also MM191, and a stuck-on label with CE \ E.S.L.MALTA on it. Inside the parts are in a white formed plastic tray, strung with thin white cord, like the Cord of the Set. (I don't recall seeing a strung WISDOM set with this type of tray before.) The contents are exactly the same as the WISDOM No.1 in MCS, with 30 N&B (not in MCS).

Apart from their colours the only notable features of the parts are that the Spanner doesn't have its centre hexagonal piercing, and the DAS are the wider MECHANIC type. The Spring Clips are too wide at the neck to grip the Axles.

The colours are a bit of a mixture with the Strips & DAS blue; the Flanged Plate & Trunnions red, but a plain light red, not the usual WISDOM/MECHANIC darker metallic shade; the Flexible Plates yellow; and the usual parts in nickel. (In fact this is a MECHANIX colour scheme, see 24/710). The Bolts are cross-headed, and the flat end of the usual green plastic handled Screwdriver just fits them.

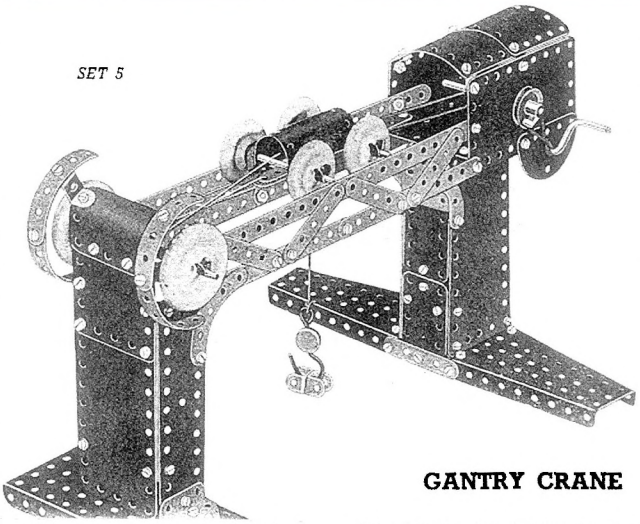
The Model Leaflet is in the same style as the 193 one of OSN 17, and is the same size. Again, there are 20 models, and with the same colour scheme. They are, with very minor changes in a few cases, the same as those in an old 'red & green' No.1 CONSTRUCTION MODELS/ WISDOM Leaflet.

The box carries no maker's name, just 'Made in China', but there is '©1993 UPRIGHT MANUFACTURERS INC' on the Model Leaflet, so no doubt this was an early set from the new company using old packaging.

Thank you to David Hobson for lending me his Set for these notes.

CONSTRUCTO That's the UK one, and some notes on probable parts from it were given in 19/539. Now 2 sets have been found, nearly identical, which for reasons to be explained, were likely to have been factory experiments. However the parts in them can be assumed genuine. My thanks to Malcolm Hanson who discovered the sets, & to David Hobson who lent me one, and provided a photo & notes on the other.

The boxes are 16¼*11¼*1½", green, with the whole top (above) printed to show a river scene with the name on a red panel, and 2 models in B&W. One is exactly as, and one is similar to, manual models. Above the bridge is an aeroplane which looks very like a Comet IV, and that first flew in 1958. The parts are attached to a fawn backing board which is about 3 times as big as the box. It has 2 wings which fold over with the parts upside down, first one, and then the second, so there are 3 layers of parts in all.



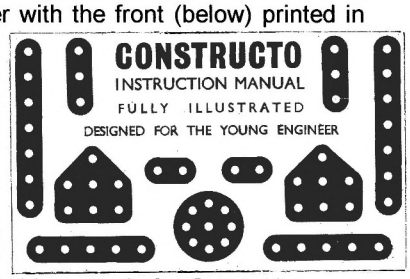
GANTRY CRANE

There is no indication of the outfit number. The set looks unused but contains no Brackets, N&B, Axles/Crank Handle, or Tools. There are 2 cutouts which could house boxes for small parts, and there would be room for the other missing items, but no holes have been punched for them. So that is one reason for the 'experimental' supposition. As well, whilst 1" long shaped metal clips are used to hold some of the parts, the others are secured by lengths of paper covered wire. The contents of the two aren't quite the same either, with 2 extra 5h Strips in one & different Road Wheels - one has 8x the 40mm grey balloon type, while the other has 4 similar but 51mm Ø, plus 4x 1" bossed Pulleys with black Tyres. 2 sizes of Wheel are included in the Parts List in the CONSTRUCTO manual (see MCS), and the model in MCS, and others in the Manual, show up to 8 balloon type Wheels, with some always looking larger than others. This can be seen in the No.5 model above, and also visible is the Hook, not yet seen in the flesh.

Notes on **parts** not described in OSN 19 follow, together with differences from the previous account. Holes are 4.0-4.1mm Ø unless otherwise stated. • The 25 & 15h **Strips** match the 11h with 4.6-4.7mm holes. The 7h is like the 5h. • The hole pitch in the 11h **A/G** is 12.7mm. • The 1*5*1h **DAS** has 4.7mm holes; the 1*3*1h is nickel, and one has 4.7mm holes, against 4.0mm in the other 3. • The 40mm **Road Wheel** matches the UMAKIT part (13/339) and the 51mm is the same pattern. • The **Loose Pulley** is tinplate and 26mm Ø as before, but has no face holes, and a ⅜" Ø boss which extends for 2mm on one side, with a thin ring of peening on the other. It is also is wider, 5 against 3mm across the V, and is actually made, by accident or design, from 4 discs, 2 each side, held by the boss. From the photo the **Fast Pulley** looks very similar apart from the longer boss. • The 9h **Gusset** is identical to the one in OSN 13. • **Colours**. All the red parts are a light shade; the greens vary with a few medium and the rest lighter, but not as bright as the OSN 19 parts.

A very large lot of what seem to be CONSTRUCTO parts has turned up since the OSN 17 notes were written, and among them were 3.96mm Ø **Axles**, 3" & 4" long, which match the UMAKIT one, and a matching **Crank Handle**, 4½" overall with 90° bends, and a 1" long handle.

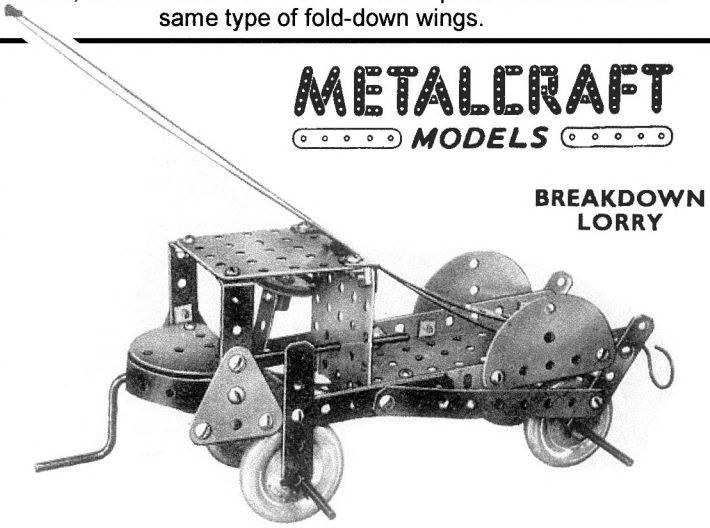
The Sets had identical **manuals**, both enclosed in a light brown paper wrapper with the front (below) printed in green. The manual includes the MCS pages, & has the Petrol Tanker on the cover. It contains 12 pages including covers, 191*114mm deep, all in B&W, with 14 models inside, unnumbered. Those for Set 3 go from Delivery Van on C2 to Light Drawbridge on p2; for Set 4: Hammerhead Crane on p2 to Aerial Conveyor on p5; and for Set 5: Light Army Tank on p6 to Suspension Bridge on C3. There is one good photo of each model and all are slightly modified versions of MECCANO 1937-61 period models, usually from the same numbered set, though the No.5 'improved' Gantry Crane above was for the No.4 MECCANO Outfit. The Spare Parts Price List is on C4.



The similarity between CONSTRUCTO & **UMAKIT** is heightened by 2 points - first the 1" metal clips used to hold the parts are identical in both, and they are unusual, with ends that are reduced in width from 5.2 to 3.5mm - secondly, the backing boards are made from similar, textured card, & the cutouts in them for small parts boxes have the same type of fold-down wings.

METALCRAFT This is the METALCRAFT that is closely related to PIONEER & VOGUE, and some details of it were given in 14/393 & 15/421. The only part of the manual available at the time was the back cover, but now thanks to Don Redmond & Clive Weston, particulars of the whole manual are to hand.

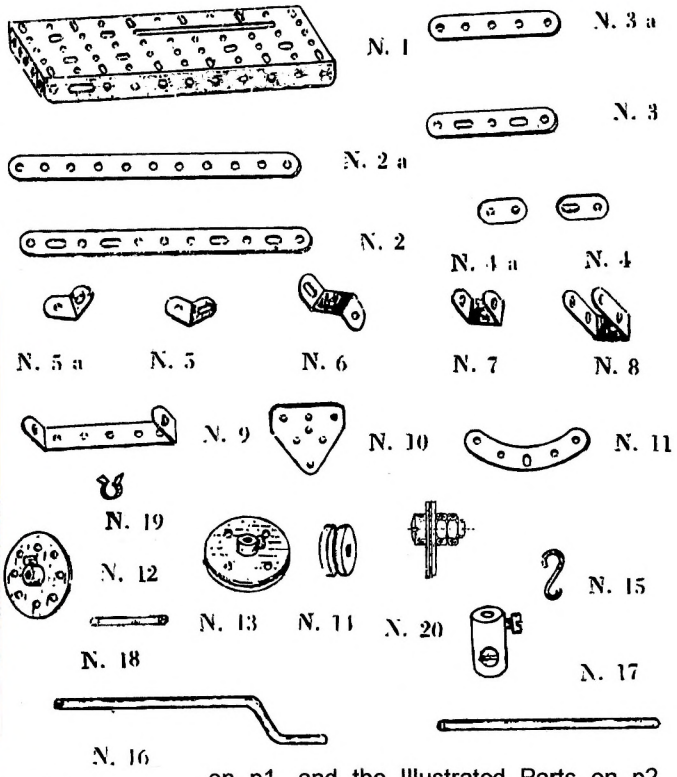
SUMMARY OF MANUAL •Name: METALCRAFT •Details of maker/dates/Ref Nos: none. •Page size: 223*141mm deep. •No. of pages: 16 inc covers. •Language: English. •Printing: ½-tone models; colour covers. •Page No. of Illustrated Parts List & highest PN: 16,20. [no Parts List or Set Contents] •Sets covered: one unnumbered. •No. of models: 25. •Name, Page No. of first & last model: BOARD & EASLE,3; AEROPLANE,15. [no Model Nos.] •Other notes: very similar to the PIONEER manual.

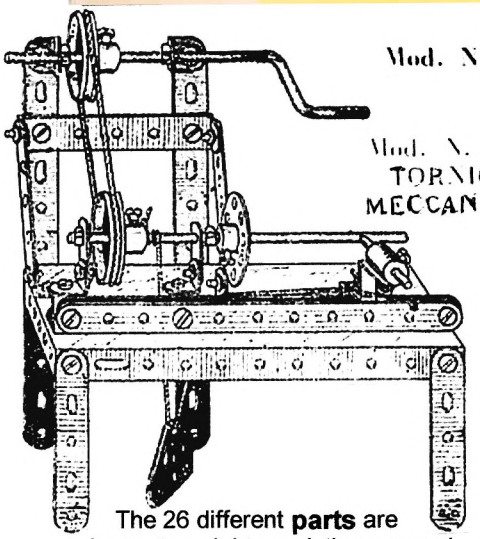


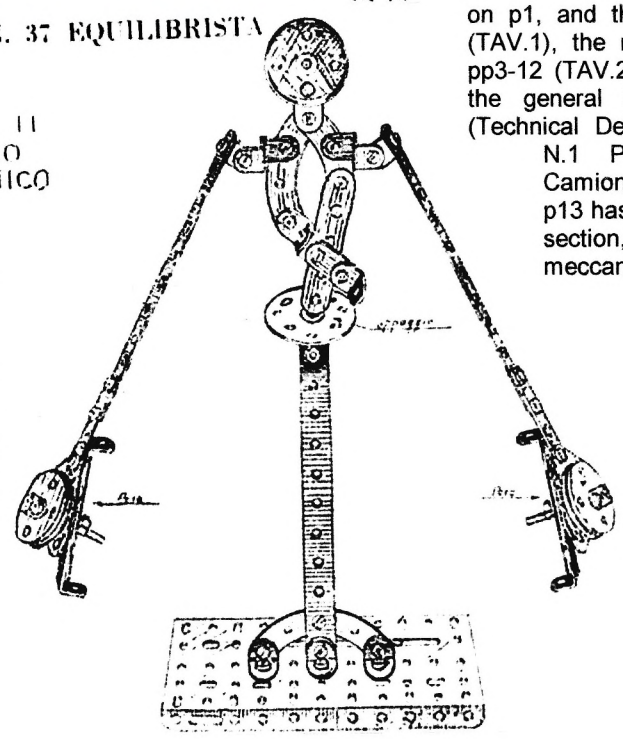
Compared with my PIONEER manual, in which 2x 9h A/Gs are used in some of the models, 16 of the METALCRAFT models are exactly the same, while the other 9 (the Swing Boat on p7, the Swing on p10, and the last 7) are very similar but with 9h Strips used instead of the A/Gs, and a few other changes, notably to the Windmill & Breakdown Lorry on p13. The latter is shown on the previous page.

The METALCRAFT cover, right, is similar in style to the PIONEER, and to the coloured VOGUE pattern, shown in 17/466-7. Its typeface and the wording on the inside front cover, are identical to the PIONEER version.

'New' System IL METALTECNICO Jacques Pitrat kindly sent copies of some pages from the manual of this small Italian system. No actual parts are known. The manual cover is shown below – the name is orange and the blueprints, & an orange boy holding a set square, are in a yellow panel. At bottom left is Scuola Tipografica Istituto Artigianelli (perhaps Craft Dept., School of Printing), 2 via Magenta, Monza, presumably the manufacturer. The words under IL METALTECNICO mean 'Design – Physics – Construction'.







The 26 different **parts** are shown top right, and the unusual features are the hole pattern in the Flat Trunnion, the slotted versions of the 5 & 11h Strips, the slot in the Curved Strip, and those in the Flanged Plate, especially the long slotted hole towards one end of the side flange. No indication of the size of any of the parts is given.

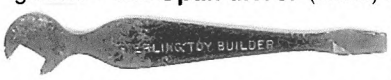
The **manual** has 24 pages about 25*17cm, plus covers, all plain except the front. The pages aren't numbered but most have a 'TAV' (Table) number. After an Introduction on p1, and the Illustrated Parts on p2 (TAV.1), the manual is in 2 parts. On pp3-12 (TAV.2-11) are 20 models under the general heading Disegno tecnico (Technical Design), and they run from N.1 Ponte (Bridge) to N.20 Camioncino (Light Lorry). Then p13 has an Introduction to the next section, Elementi fi fisica e meccanica (Elements of physics & mechanics), p14 is blank, and pp15-24 (TAV.12-21) show 20 models from N.21 Bilancia a piatti (Pair of Scales), to N.40 Ginnasta (Gymnast).

Models. The 2 pages of models which Jacques sent give an idea of the scope of the system. The first from the Disegno tecnico section shows two models and an explanation of a 3-view draw-ing of a pulley. The models are a Deck Chair and the Lathe left. A page from the second section has some notes on mechanical stability and two models which demonstrate two aspects of it, a Spinning Top and the High-wire Walker left.

STERLING TOY BUILDER Parts Some notes on the parts, based mainly on what is shown in manuals, were given in 16/430, but now Kendrick Bisset has kindly sent details, and some samples, of parts that he has discovered. They were in a lot that also contained some Phase 2 MODELIT, & a few pieces of ERECTOR – most of the STERLING items were easy to identify because they were in the unique 'antique copper' finish, but some were more difficult, until it was found that the STERLING Axle diameter, at .153 - .156" is smaller than the .157 - .158" of the MODELIT, and most MODELIT Axles would not fit in the STERLING bosses.

As mentioned in OSN 16, apart from the Plates, the design of many STERLING parts, as illustrated, closely resemble AMB (AMERICAN MODEL BUILDER), and telling them apart might be difficult for STERLING parts with the alternative nickel finish. Examination of the actual STERLING parts, and samples of AMB parts from a 1914 No.6 Outfit, showed that the similarity does exist, but there are many subtle differences, enough to distinguish between some of them. The details follow, and I've added some comments in square brackets based on some AMB parts thought to be from about 1916. Notes on AMB parts were given in 9/218, 11/278, & 18/504.

• The holes through the **Crank Handles** are 1½" from the bend, as in AMB. [AMB Axles & Crank Handles are .155" Ø.] • **Strips** are thicker, .042 - .044" against .035 - .037" for AMB. The wide radius ends are similar. • The nickel **Propeller Blade**, 4.6" long, is identical except that the AMB part has less twist. • **A/B**. The 10 black examples resemble AMB; of the 41 nickel ones many have holes off centre and/or not at the same spacing from the ends, and with varying bend points. [The 7 seen though have 8.4mm slots against 9.0 for AMB.] • **25h A/Gs**. Ends are like AMB, with partially rounded [large radius] corners. [Slots are 8.3mm v. the AMB 9mm.] • The **Angle Plates** are .024 - .027 thick. • **Sprocket Chain** is made from .042" wire and has 3.3 links per inch. The figures for AMB are .035"/3.5. [.042"/3.3 for reputed AMB Chain, and 2 samples of ERECTOR gave 3.3 with .036" & .040" wire. All including the STERLING were about 5/16" wide o/a.] • The **Spring** is .26" Ø & 1¾" long, plus end loops; the AMB part is .25" Ø by 1 11/16". Both are bright, perhaps unplated, & the AMB is much weaker. • The **1" Pulley** is brassed steel with a brass boss. • **Crown Wheels**. Both the 40t, 1½", & 20t, ¾", are all brass, & exactly the same diameter as the AMB parts, but the 1½" has a flatter disc and a smaller ring of boss peening. Both the AMB Wheels are nickel plated steel. [Both have nickeled brass bosses.] • The **Eccentric Wheel** is nickel but it isn't sure that it is STERLING. • The **Bush Wheel** has a brass plated steel disc & a brass boss. • **Sprockets**. The 1½", 14t, has a root diameter of 1.29"; the AMB part is similar but the root diameter is 1.22". The corresponding figures for the 1", 10t, are .90" & .87". All are nickeled including the bosses. • **Pinions**. Both are solid brass while the AMB parts are 2 piece. 2 examples of the ½", 14t, have face widths of .204 & .208", and are .427 & .434" long o/a; an AMB has a .220" face and is .413" long. [The '1916' part has a .196" face, is .378" o/a, with a Grub instead of a Set Screw.] • The **Collar** is brass, 5/16"Ø by 3/16" wide. • **N&B**. See Data below. • **Worm**. Brass with square end, .495" o.d., .704" long, fits 9 tpi thread gauge well. The AMB Worm is between 9 & 10 tpi and has steeper sides with flats top & bottom, but other examples are 9 tpi with a 'V' groove. [The '1916' is the type with 'flats' and has a slightly convex end. It is .549 o.d. & .681" o/a.] • The flat **Hook**, .98" long, with out turned tip, is shown left, with the nickel AMB one far left. • The **½" Pulley** is turned brass with a V groove, and 2 examples are .114 & .130" thick. The AMB part is .097" thick with a rounded groove. • The **Span'driver** (below) is nickel, 3.37" long, & has STERLING TOY BUILDER stamped along it. • The **Flanged Wheel**. This believed STERLING part is steel with a 5/16" Ø brass boss, all nickeled, and the outer pulley disc is 1.38" Ø, slightly smaller than the 1.43" inner. The (inside) boss is long enough (.635" o/a) to allow the Set Screw to be clear of the tread. The AMB version has a shorter boss, about .525" and the tapping is angled slightly to allow the Screwdriver access. • The main **parts not seen** are: the Eye Piece, Double Bent Strip, Flat Plates, 1½" Pulley, Pawl, Gear Wheel, & Coupling.



• DATA (in mm) Strip (11-hole): •Hole pitch/dia, 12.7/4.3 (other holes 4.2-4.3) •width, 12.7; •thickness, .89; •ends radiused 5/16". Boss: •o/d, 9.5–9.6; •i/d, 3.96-4.01; •nickeled brass; •single tapped 6-32. Axle Dia: 3.88-3.96. DP: 30. Thread: 8-32. Nut: square 6.4 A/F; Bolt: roundhead 7.2 dia; both nickeled steel.

New Names: FLEXO-BUILDO An ad for this system, said to be from the 'teens', was offered on eBay recently. One corner of it is shown below, together with the name. The sales pitch is: 'Makes three times as many working models for the same money. Can be used many times. Varied colored, patented, thick, strong strips of flexible fibre. Can be bent two ways, cut in any number of equal lengths. Makes permanent, useful, ornamental things – baskets, lamp shades, doll houses, etc., or mechanical models and toy bridges, engines, hoists, etc., which can be taken down.'

So the main parts were not metal, but would there have been metal Brackets, Axles, and possibly the Discs that can be seen in the model? And is the frame around the ad made of A/Gs? One N&B can be seen at each corner joint.

So maybe not really an MCS, but an interesting early attempt to produce a cheaper constructional toy.

The ad was from Gaylord Bros., 506 Clinton Street, Syracuse, N.Y., and Sets cost 50c or $1. Extra 'construction material' was 50 cents per 100 feet.

SAKOLI The little set right was on German eBay, and was described as a SAKOLI Accessory Outfit, though the word SAKOLI can't be clearly seen in the photo. What can be seen are 4 black Tyres, some dull looking Strips or A/Gs, & 2 large, bright metal, annular Discs, with holes around the edges, possibly 12 on the outside.

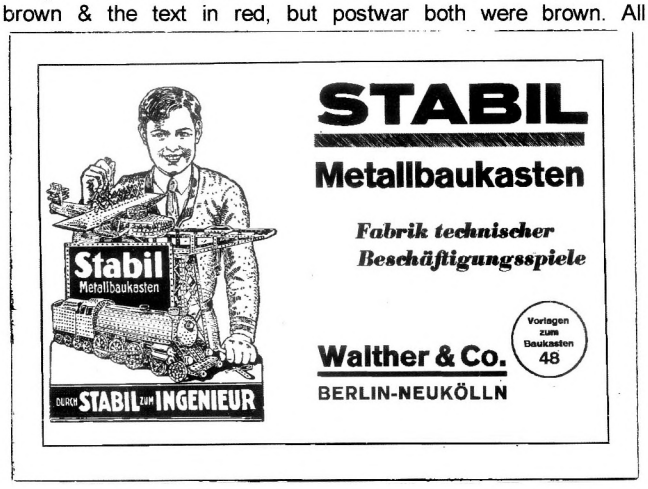
Softening hard Rubber Parts I was derusting my old ANCHOR parts in pickling vinegar recently but hesitated over some Pulleys fitted with white Rubber Rings. The rubber had gone hard with age and it was clear it would break if the Ring was removed. I wasn't sure what effect the acid would have on the rubber but eventually soaked one overnight as an experiment. Happily all turned out well, the rubber had softened and swollen a little, and the Ring could be easily removed. After cleaning the Pulley the Ring was replaced and after a few hours it had gone back to its original state. Same story with the other 7 Pulleys/Rings, but I can't guarantee that the treatment would work with all rubber parts.

KNIRPS & STABIL Set 46 & 48 Manuals Werner Sticht has kindly passed on some information supplied to him by Jürgen Kahlfeldt. First about a **KNIRPS Nr.1** manual, dated March 1932, not previously known, and very probably the first edition. It is a single sheet printed in black, and folded into 6 to give A5-size portrait format. At the top of the front is a boy with 3 models, as on the 1966 Nr.48 shown below, with the name underneath, and some text including assurances that KNIRPS parts could be used with STABIL. No parts list is provided but it is said that the contents are shown on the envelope the set was packed in. The contents were given provisionally in 11/272 but from the models it seems that there were 4x 5h Strips, 16 Nuts, 8 Bolts, and the Screwed Rods would need to be 55mm long. Also in the Set, a Spanner & a Crank Pin. The latter has never been seen but is sub-standard in diameter to fit the small holes in the Wheel Discs. It can be seen in the models, as in the Crane below, but it isn't clear how it is held in place. Such a Pin, with a flange near one end, is used in ULOX (see 10/253) with the flange clamped between 2 Discs, but in the KNIRPS models only one Disc can be seen. The 93 models shown start with the numerals 0-9 and all the alphabet except 'J' (Das Knirps-ABC). After these, the first is Nr.36 Leiter & the last Nr.93 Segelboot. Also on the back are 3 slightly larger models, 101-103, which need more than one Set.

A **KNIRPS Nr.2 / STABIL Nr.46** manual from March 1932 is also known, and again it is likely to be the first edition. Once more it is a sheet folded to A5 size, but this time with 8 'pages'. The front has the same illustration as the No.1 and the title is 'Instructions & Models for 'Knirps-Baukasten Nr.2 u. Stabil-Baukasten Nr.46'. In the text underneath it is explained that the only difference between the two Sets is that there are 4 Tyres in the Nr.46. 131 models are shown starting with the Knirps-ABC (but smaller letters than the Nr.1 ones), followed by Nr.26 Fußtritt to Nr.131 Segelschlitten.

The KNIRPS Nr.2 / STABIL Nr.46 manual in its final form was issued in October 1932. The cover, now in landscape, has a large inset of 2 boys, a train on a Bridge, a Flying Boat, & a Tower Crane (it is shown on KNIRPS: X1.2 in MCS). It was printed in black on paper of different colours in different years - blue in 1935 & 1936, and green in 1939 are known. 150 models are illustrated, starting, after the Knirps-ABC, with Nr.26 Barren, and finishing with Nr.150 Eisenbahnkran (shown in 11/273).

Finally the **Set Nr.48** manuals. The models were never changed from the time the Set was introduced in 1931, but the ads on the back cover varied and 4 different front covers, all A5 landscape, were used. The first was similar to the 1966 one below but was printed in B&W. An example of the Danish edition dated May 1931 is known. The second, at the top of the next column, was in full colour, with the boy wearing a red top, the Bridge against a yellow backdrop, and various small models on the blue floor. It was probably used only in 1932 and the example known is from October of that year. After that the first design was used: up until WW2 the illustrations were printed in brown & the text in red, but postwar both were brown. All



these manuals have 16 pages including covers, and the models go from Nr.48/1 Gabel on p2 to Nr.48/205 Stichsäge on p15.

More SCHEFFLERS & METALLBAUKASTEN Dates

After the account of these two systems in 23/662, Clive Weston kindly lent me two manuals. The first was a **SCHEFFLERS**, probably from 1962 (PR III-10-6 Ke 60-62 13000), and it is very similar to the 1966 one in OSN 23. The size & number of pages, parts, set contents, & models are identical although the text has mostly been reset. The covers are the same colour but are of thicker, with a light, embossed pattern, and METALL-BAUKASTEN under *Schefflers* has a hyphen (cf top right of 23/662). The scatter of loose parts has been slightly rearranged too, but the big difference is that the sets are the early ones, as in the MCS/NZ.

Photos of all the old-style sets are also shown inside, & opposite is the label from a 1/2 linking outfit. If the dates assumed are right, the lid label & packaging changed between 1962 & 1966.

The PR of the second manual, a **METALLBAUKASTEN** one, indicates a 1974 date, & so it is within the OSN 23 range of dates. As would be expected the models are as in the SCHEFFLERS manual, with the same text, reset, & photos of all the M-B sets except the Elektro-mechanischer. No doubt its inside pages are identical, or virtually so, to those in the OSN 23 Freeman one. However the covers of the two are not identical though they have the same PR (III-8-9 KI 654 73 1502 on C3) - the coloured band across Clive's is turquoise instead of blue, and there are other small changes. Also there's a second PR, III-8-9 KI 61/74 2476, on 'p63' (it's not numbered), so the inside is apparently a year later than the covers.

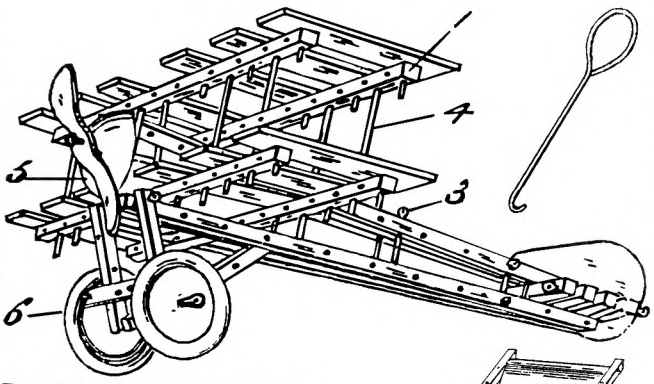
In passing the front cover looks identical to the one in the SCHEFFLERS entry in MCS/FB, and the 'p63' with its PR can also be seen in the /FB SCHEFFLERS, on p6.

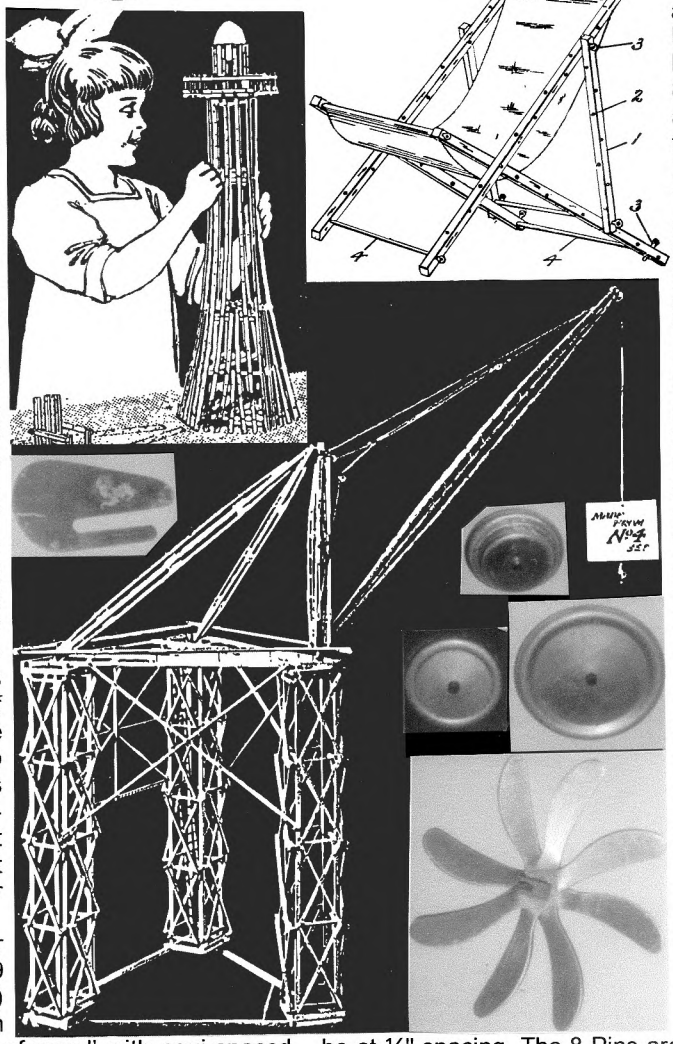
SMALL ADS

For Sale: **CONSTRUCTION:** Sets C07 (two), C12, C13, C14, plus spares (mainly gears) and 1 motor. **ERECTOR:** Fair quantity in original red metal boxes (2) plus genuine Erector motor. **TRIX:** Modest quantity with several motors. More details from Bill Charleson, tel: 01924 493413, or email: charlesonb@aol.com. (Space needed! so open to any reasonable offers.)

Building Toys List. Update of 1997 database now listing brief details of 900+ building/construction toys, mostly not covered in MCS/OSN. UK £3.50; Europe £4/$6; elsewhere £4.50/$7, including postage. Overseas payments in either UK currency, U.S. dollar bills, or into Editor's PayPal account (please see Editorial, p 717). David Hobson, 'Woodington', Edford Green, Holcombe, Bath, BA3 5DB, England.

PINIT & New PIN-IT These two systems creep into MCS by virtue of the steel Split Pins that are pushed through the wooden Strips to pin them together, and the various metal pieces such as Wheels & special parts. PINIT sets turn up from time to time but until recently the only PIN-IT outfit known was an Accessories set containing metal parts, and the differences between the two systems weren't clear. Now David Hobson has found a small, No.10 PIN-IT Set, which he kindly lent me, and much is now clearer. He also supplied the information on patents & advertisements below. First the





HISTORY The inventor of PINIT was Percy Samuel Fowler, an automobile engineer of 15 Cobham Road, Norbiton, Surrey, and the application date for his patent, No.159330 was Nov. 1919. MCS mentions a patent date of 1912 but nothing from that date has been found. A 'catalogue' date of 1913 is also given in MCS but on the face of it this seems unlikely because of the patent date. However Fowler was granted a patent No.4520 in 1915 (it is quoted on some PINIT boxes as well as the No.159330) but it was based on broad general claims which overlapped those in other patents, and it may have been revoked or abandoned after his specification was referred to the Comptroller of Patents. It did though include the use of pins with tapered ends to hold (metal) parts together, so it's just possible that Fowler marketed an earlier construction set based on this idea, and if so it might have been withdrawn after the problem with the patent.

To avoid infringing earlier patents the claim in the 1919 patent, (accepted in Feb. 1921) was restricted to the use of 'thin and comparatively long lengths of wood' with equi-spaced holes, for use with split pins. Top centre above are illustrations from the patent – a Biplane, Deck Chair, & a tool for removing the pins.

The first known ad for PINIT, from Pinit Ltd., Old Palace Yard, Richmond, Surrey, was in a March 1921 *G&T*. The system was referred to as 'The new constructional toy and model maker' and Sets 1-4 were announced at 7/6, 12/6, 21/- & 35/-, with 'Other sets' to follow. A No.0, price 5/- is listed in MCS. In the ad is a girl building a Tower, plus the Biplane & Deck Chair of the patent, all shown above. The ad was repeated regularly until Feb.1922, but after that no other references to PINIT are known until, according to *Tin Toys*, the company was taken over by Chad Valley in 1926.

The first known reference to PIN-IT, with the hyphen, is in *The Toy Trader* of April 1930, which carried a news item about 'Pin-it' – 'This line has been on the market for some years and was recently taken over by The Chad Valley Co. Ltd., who have laid down special machinery for producing it, and also have considerably altered and improved the details of the toy.' In July 1930 a Chad Valley ad in *G&T* announced The NEW PIN-IT, with Sets A, 0, 1 ,2, 3 & 4 at 3/6, 5/6, 8/6, 12/6, 21/- & 35/-.

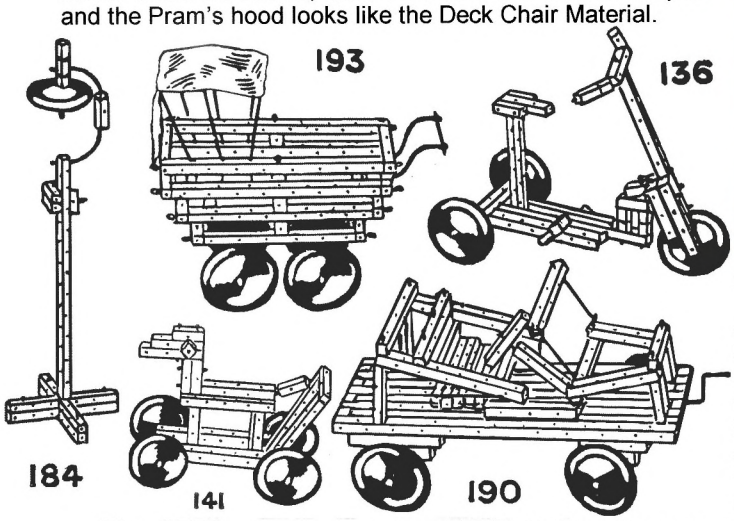
The next ad was in *G&T* for Feb. 1932, from the firm S. Guiterman & Co. Ltd, of 35/36 Aldermanbury, London, E.C.2., 'sole manufacturers of The New PIN-IT'. Larger pins, larger strips, larger holes, metal strips, and coloured wheels were claimed. The logo used by Guitermans at the time is shown above.

Similar ads continued and in October 4 sets, Nos.1, 10, 20 & 30 were listed, price 2/6, 3/6, 5/6, 8/6. Competitions were advertised from October to the last known advert in December. An ad in the 10/32 *The Toy Trader* also gave details of a competition to complete a piece of wretched doggerel. The prizes that were 'open to all' were '2/6 PIN-IT Tubes', so perhaps the No.1 Set was normally packed in a tubular container. PIN-IT users were offered prizes of up to £2·2·0 but had to 'attach words 'NEW PIN-IT', cut from box label, to entry form'. Vandalism. The firm was in business until at least 1937 but nothing more is known of PIN-IT.

The PARTS Details of most of the **PINIT** parts are given in MCS. The Strips are listed in 24 lengths from ¼" to 11¾" long, and in 4 sections: 5/32" & ¼" square, and ½" & ⅝" flat. Longer lengths up to 2 feet were also available. The holes in the square Strips are at ½" pitch; those in the single row along the centre line of the Flat ones appear to be at ¼" spacing. The 8 Pins are from ½" to 2" long. Other parts include Wheels, a Propeller, Domes in 3 sizes, Rings (not seen) to hold them in place, a Tail Piece (Fin) for Biplanes, Airships, etc, and Stitched Material (red in the set seen) for Deck Chairs, Swings, etc. Excluding the Material, all these are aluminium apart from the steel Rings & 1" Solid Metal Disc Wheels. The other Wheels, 1½" & 2" Ø Road Wheels & a 1" Flanged Wheel, are double-sided with brass bushes (presumably the 'turned brass Axles' in the MCS list). Photos of the Road & Flanged Wheels, the Fin, & 4 Propellers are shown beside the Crane above.

PIN-IT parts are known from the Guiterman No.10, & from the Accessory Set, maker uncertain, and it isn't clear exactly when the changes to the different parts occurred. The Strips, at least in the smaller sets, were ¼" square, against 5/32" before, and at 1.9mm the holes are larger, to take 5/64" instead of 1/16" Ø Split Pins. Also they had a ½" deep longitudinal hole at each end, to allow 2 Strips to be joined at right-angles in the same plane. Pins from ¾" to 2" are in the No.10 Set. The 1½" & 2" Road Wheels are steel, painted red & green respectively, and with no bush. Two substantial new steel parts, .038" thick, and tin plated, are 2" Strips, ¼" wide, with square corners and 8 holes at ¼" pitch, and a 1 7/16" Ø Disc with 2.2mm holes, one in the centre, and

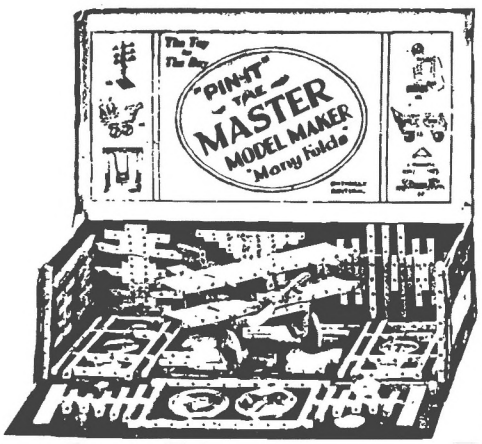
2 rings of 8 on ¾" & 1¼" pcd. Other parts seen are red Cord and a Hook Tool, 2⅝" o/a. The models below, from the Model Sheet for Set 10, show Pins bent into various shapes and the Pram's hood looks like the Deck Chair Material.



The SETS Photos of various **PINIT** Outfits 0-2 are to hand, and boxes are blue with a label covering all the top of the lid. A typical example is shown below, and is white on black with

PINIT, & the frame with re-entrant corners, in red. It is probably an early one because others have a telephone number under the address. All seen are similar though the models vary and some are plain B&W without the red. Inside there are partitions and the Wheels, etc are attached to blue or red backing cards. Some publicity notes on the sets are given in MCS - the No.3 is said to have been in a 'handsome wood frame box, and the No.4 in a handsome case. The No.4 was often called the Scotch Crane Outfit, after a large model that could be made from the set, with the aid of a special blue print, and for which special nickel Pulleys & Brackets were supplied. A feature of PINIT was the inclusion of a made-up model in each set, or more than one in Sets 3 & 4. For the small sets it was a Chair or similar which could be pivoted flat to fit in the box. In addition to two models the No.4 contained made-up sections of the Scotch Crane to illustrate the method of construction.

The set below was shown in the first **PIN-IT** advert and has



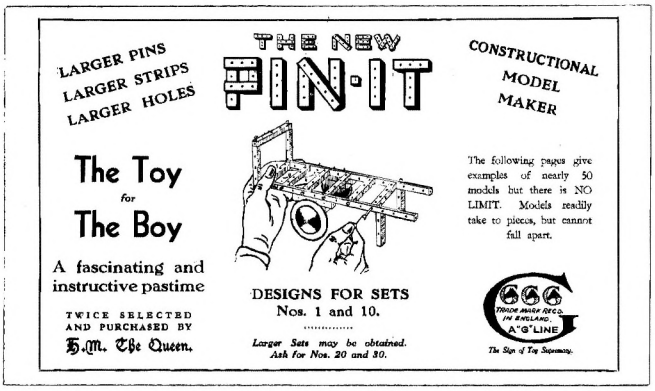
a made-up Biplane in it. The words top left in the centre of the lid are 'The Toy for The Boy' but I can't understand the last words in the oval that look like 'Many Folds'. The box of the No.10 PIN-IT is blue, 13¼*6½*⅞", & the lid, inside & out, has the same label, (at the top of the next column), which covers the whole area. It is printed in red & black on yellow. The Biplane is cruder looking than before but Strips with one end tapered appear to be used in the fuselage, and the other 'mystery' parts are the curved members joining the leading & trailing edges of the wing. No sign of partitions can be seen inside the box, but some ½" brass bifurcated paper clips present

may indicate that they were used to attach parts to a card.

The PIN-IT Accessories already mentioned were packed in a box 5*3⅝*½" with a white lid label printed with red text (see MCS). The only designation is 'No. "A" Asst.' but it doesn't seem likely that this was the Chad Valley No.A unless the price had been reduced drastically to 1/-. On the other hand in favour of it being a Chad set is the lack of the a 'G' logo of any sort, used on most Guiterman material. 'Asst' probably stands for 'assortment'. The contents were 4x 1½", & 2x 2" Wheels, 2 Metal Strips, & 20 Metal Circles, the Discs described above. But why 20? Was there one model that needed lots of them?

The MANUALS Only the cover of the main **PINIT** manual has been seen and it is just black text on white, as in MCS except that the 3 lines below PINIT are actually in a panel, with the faint shape of an airship behind the lettering. No doubt all the MCS PINIT material was taken from it. For Sets 0 &1 a B&W Model Sheet, about 20*18¾", folded into 6, was used. It contains a list of sets, from No.0 Kindergarten Set to No.4, with 'Other sizes to follow'. The set this Sheet was with had Jan. 1923 rubber stamped several times on the lid, no doubt by its original owner. One side of the Sheet has some Instructions and 20 models from No.21 FLEXIBLE CHAIN to No.10 WINDOW CLEANER'S LADDER. 10 are for No.0 and can all be made at the same time from the Set. They are fair little models, Chairs, including the Deck Chair using the Material, Tables, etc. 9 of the other 10 are also simple but the set needed isn't given; the tenth, a Wheelbarrow, is more complicated and needs a No.2 – it is the only one of the 20 to have a Wheel. On the other side of the Sheet there is the girl/Tower already shown, and the No.4 Crane on the opposite page, 3 feet 6 inches high, the Scotch Derrick presumably. 13 other models are shown, some for the No.2 Set, and 4 specifically for the No.1, from No.16 BENCH to No.19 SEE-SAW. One of them needs four Wheels. It seems that all the models could be bought readymade and there is a price by most – from 2d for Garden Tools to 30/- for the Crane. The Biplane cost 2/9.

The Sheet with the **PIN-IT** No.10 is 20*6" deep, folded into two, and is printed in blue on cream paper. On the front (below) is 'Designs for Sets Nos. 1 and 10'. Inside are line drawings of



36 models, from 23 to 141: none have names or the list of parts provided for most of the PINIT models. On the back are instructions and 5 more models, printed white on blue, and without numbers. None of the models were on the PINIT Sheet and they are more adventurous in subject, with for example a Telephone, a Bird, a Railway Footbridge, and what may be a simple Abacus. The models are 'signed' G.S.M.W.

Finally how good were PINIT & PIN-IT? 1920s PINIT was not a cheap toy but the parts seem to have been well made and the models are quite appealing. And they probably held together better than many push together toys - today the Pins are rather hard to push into the Strips but that may be due to the wood shrinking a little over some 80 years.

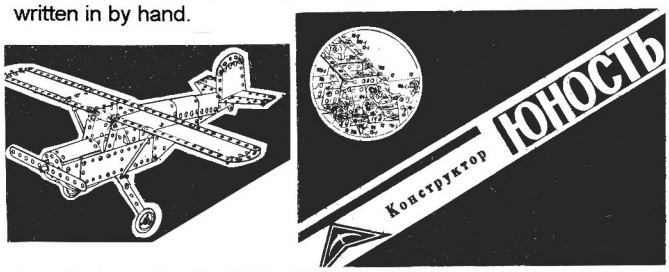
ITEMS FROM LETTERS

1. On the date when Rayon Surfaces Ltd. was making **EZY-BILT** in New Zealand (see 7/144), Mark Coghlan had a set in 1960, which included a Ref.F manual with manufactured by Rayon & Ezy-Bilt on its back cover).

2. From Orion DreamDancer. On the **LIONEL** inventories in MCS (which are probably based on the parts needed for the manual models), Orion pointed out that the outfits are progressive and so for example, the red Boiler in the 343 set should be in the No.454 (and in the 565 not shown in MCS). Also photos of the 454 show 10 Wheels/Tires.

3. Philip Hore sent some notes on an unused **YUNOST' No.2 Set**, including some differences from the Outfit described in 18/500. The Crank Handle is 130mm o/a. The 2 Rubber Rings in the Set are moulded 'O' rings, 25mm o.d. & 1½mm section. A third, no doubt the Driving Band, is the same o.d. but is roughly stamped from 1mm rubber sheet, with a face width of about 1½mm. The metal Flexible Plates are steel [though not stated, so were the OSN 18 ones]. The 3*5h is mid-green like the others, though some variation of shade is present in the green parts in the Set. Flexible Plastic Plates are all translucent, but vary in colour from very pale straw to dirty orange. The Flanged Plates is the same colour as the Strips, pale straw. The Bush Wheel disc is aluminium, painted mid-green. All bosses are steel. The Screwdriver has a white plastic handle. The bends in the Reversed A/B are fairly sharp, and similar to those in the other parts. There were no stick-on labels in the Set.

The manual cover, below, 198*135mm, is different to the one in MCS – printed in B&W against the orange-red top triangle, & blue-grey bottom one. The back cover is similar but with an Aeroplane (below) at top left [M4.1 of 1962-69]. The last model, on p32, is the Swing Bridge, as in MCS, but the PR at the bottom is 'ВМО. Зак. 4038 Тнр. 150.000', with the numbers written in by hand.



[eBay photos of a **No.3 Set** show all Plates, including the Flanged one, blue, Pulleys & Trunnions yellow, & Strips pale yellow & silver. The Screwdriver handle looks dark grey. The parts are housed in a white polystyrene block, and the box size is given as 43* 30*3½cm. The lid is similar in style to the OSN 18 one above (courtesy David Hobson), but with a different, younger boy, & different models, and with the 'swallow' logo but no CCCP. The models, all MECCANO, of course, are a Fork Lift Truck (with the boy), a Tower Crane, a Tipping Lorry, & the '62/69 M3.10, Revolving Jet Planes. No manual was shown.

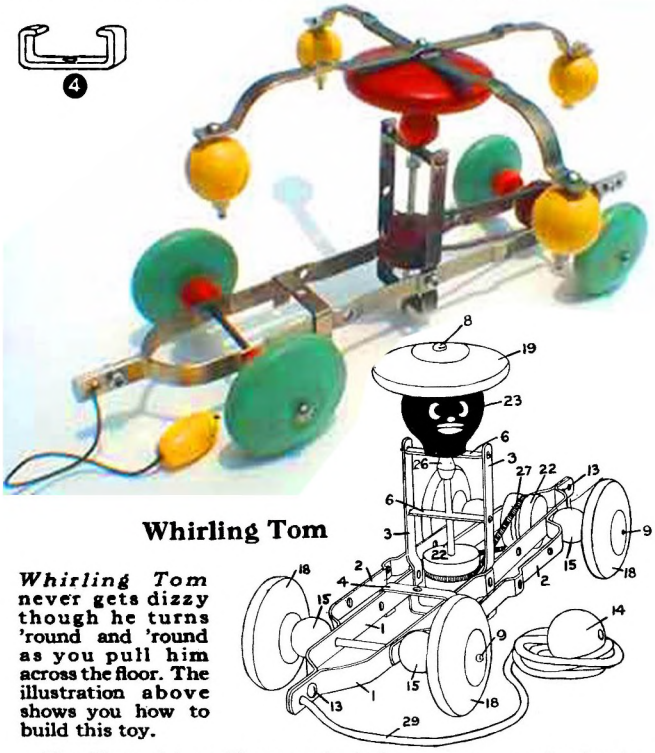
Another photo (B&W) shows a No.3 lid in the same style, (with 'swallow', & no CCCP) but with different models and the OSN 18 No.2 boy above. The models are the Helicopter, small Excavator, & Low Wing Monoplane of the No.2, plus a Gun Boat & a small Shipyard Crane.]

4. From Kendrick Bisset. "I have received nine CD-ROMs from George Hardy – they are mostly about Richter's ANKER stone blocks (packing plans, manuals, and LOTS of other stuff, including his book in both German & English). They are quite cheap - $2 for any one, & $1 for each additional." [Full details at www.ankerstein.org - CD #7 has material on **IMPERATOR** (UK ANCHOR ENGINEER, see 17/486). Contact is George Hardy, 1670 Hawkwood Ct., Charlottesville, VA 22901, U.S.A., or georgeh@ankerstein. org.]

5. From David Lawrence. "On **Hustler Toys** (ACTION TOY BUILDER in 9/228 and BILDKRAFT in MCS), I found the following web site, showing mainly data on the pull-along toys that the firm made from 1919 to 1934: http://www.oldwoodtoys.com/hustler_toys1.htm.

Also somewhat surprisingly the parent company - Frantz Manufacturing - are still trading (they have a web site), and are still at Sterling, Illinois. Today they make ball bearings - via the roller skates which they made until 1970."

David also found an **ACTION TOY BUILDER Set** with no N&B but otherwise nearly complete. From a competition closing date in the Manual it is from 1927, a year earlier than the OSN 9 one. On the **parts**: the holes are $^{5}/_{32}$" Ø at $1^{5}/_{8}$" pitch; Axles are .121" Ø; and the Strips are $^{5}/_{16}$" wide & .048" thick. The Strips (PNs 1-6) in the Set are the same as in OSN 9 but in the Manual #4 is shown as below and both the long Strips, #1 & #2, have a 'boss' only at its centre hole. There were 29 parts in the system in 1927, & 4 new ones were added for 1928, the Wood-screw, Driving Band, Screwdriver, Propeller, & Spring Cord.



The **Manual** has 16 pages including covers, smaller in size than the 1928 version, and the cover, though similar in design, is in B&W. The presentation of the models though is completely different, with one to a page, and a clear line drawing of each, with the parts labelled with their PNs. Another line drawing shows a boy (and for one, a girl as well) playing with the model, to make it obvious how it is meant to perform. Much better to my mind than the 1928 method. 10 of the 12 models were carried forward to 1928 but Whirling Tom & the Friction Drive Engine gave way to the Aeroplane & the Friction Grinder. Poor Tom and David's Merry-Go-Round (MECCANO to the rescue for the N&B) are shown above.

David now has a **web site** all about ACTION TOY BUILDER – www.kzwp.com/hustler – including beautiful photos of some of the manual models he has made.

6. From David Hobson. Two items from *Toys, Dolls & Automata*, by Gwen White, Batsford, 1975. • On **MOKO'S SIMPLEX** (24/686), the name **Moko** (registered in England in 1900) was formed from the initial letters of Moses Kohnstam's name, & was attached to many of his products. His factory was at Fürth in Bavaria and he also 'invented' the Sunny Jim mascot figure used in the advertising for the breakfast cereal Force.

• By 1914 a German firm called **Suszkind** was importing (among a range of toys) MECCANO, ERECTOR, & EREKTIT. [EREKTIT was better known under the name BILDICO, see MCS. That's the 1913 BILDICO of course, with structures made

of Rods pushed into Clips.]

7. From Philip Woodcock. "• On **METALCRAFT** (24/689), provided there is very little actual rusting of the steel underneath, the tarnish causing the 'dull patchy grey finish' can be easily removed with metal polish, especially using wadding-based polishes such as Duroglit or Silvo. With sufficient elbow-grease the results are really splendid and give an almost chrome-like appearance.

• On **CONSTRUMENTS** (see 5/79), a Set 200 recently acquired is described on the box lid (via a stuck-on overlabel) as 'Cinematograph and Optical set'. Its manual, which runs to 112 pages and 111 models, refers to British patents 289574 of 2/2/1927, 305780 of 3/1/1928, & 345013 of 23/1/1930.

• On the end date of **MANUFAX** (see OSN 7/155), my manual has the printer's reference 'D.G.H. 8/46' and the Manufax address is still Cressy Road, NW3. So even if the sets were old stock, the manuals were being printed post-war.

• My 3 sets of **LES JOUETS "AUTO-CYCLE"**, with one manual, build up into a realistic 1920s Sports Car; some very attractive Bicycles of all shapes & sizes; and lastly a very peculiar Aeroplane. They date I assume, from the 1920s, and are made from aluminium with brass N&B." [This system is in MCS as AUTOCYCLE and though a selection of parts are shown, there's nothing on the sets. Nor are dates given but David Hobson tells me that it was patented in France in 1919 – the UK patent is 156061 of 1920. Philip would like to exchange information with anyone who has knowledge of this system.]

8. From Don Redmond. • On the **ERECTOR Trunnions** (24/714), the S E type shown in 23/666 will be called Fig.5. The problem with this part was that a 34mm Ø P8 Small Wheel (Pulley, S E PN X7A), journalled in the top hole (½" above the row of 3 holes) would foul Bolt heads in the bottom centre & side holes. It seems from the '1920' Set in Greenberg (p62) that it was the first ERECTOR pattern (dated by Sternagle as 1923 - the '1920' Set has a 1922 patent date on its lid). Note it was the Fig.5 part without slots in this Set, not the Fig.3 part stated in OSN 24. [Correct, a mistake.] It is thought that by 1924 the design was changed to that of Fig.1, for the reason given above. Probably this design was short-lived because the No.4 on p74 of *Greenberg*, labelled 1924, has the Fig.2 design (with the slotted side holes), and these are commonly found. Then in 1935 the Fig.4 pattern, painted red, was introduced, with the lower position apex hole reinstated. As far as in known the Fig.3 type has never been found.

• On the **ERECTOR 24t Gear**, my 1920 No.6 Set includes a 2-hole one without boss (see 24/714), and one can just be seen in the top right corner of furthest right compartment of the right-hand tray of the 1915 No.8 on p56 of *Greenberg*.

• One or two more details on **KONSTRUKTOR [3]**, see 22/648. The M4 Bolts are roundheaded and 8mm u/h; the M3 Set Screws provided for the 29mm Pulleys & Collars are also 8mm u/h, far out of scale even for the sturdy 12mm bosses. The hex Nuts are 6mm A/F, but the Spanner has 7.5mm wide jaws.

9. Jeannot Buteux sent a copy of a magazine page, courtesy

M. Bertin, about the East German Tractor Set **UNSERE TAKTSTRASSE**, mentioned in 17/477. The box lid and one of the two models that could be made are shown above. The photo is from eBay and 40cm was mentioned, so quite large models if that is their length. The Set was produced by VEB Traktorenwerk Schönebeck, an agricultural machinery manufacturer, and was introduced in 1958. 'Kasten 1' can be seen on the lid, so there may have been more than one Set. On the manual cover, inset, the 2 models are called Geräteträger RS 09, & Hopfenschlepper RS 56. Both are red with yellow wheels, and black seat & tyres. They are fitted with a motor (I think) and have Ackermann steering.

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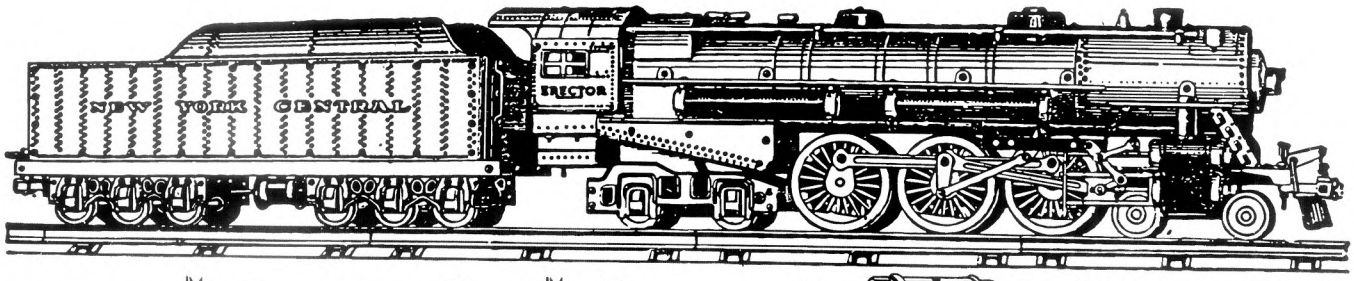
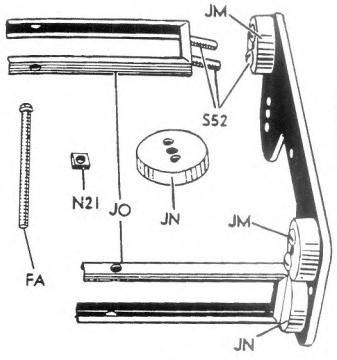
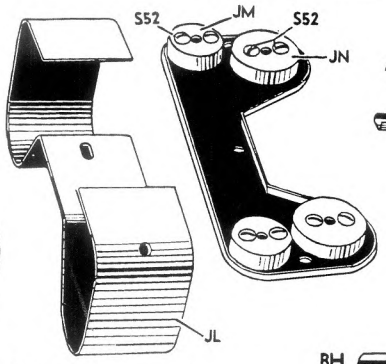
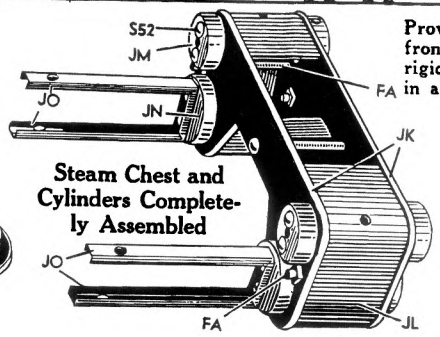




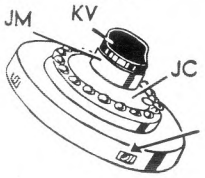


Steam Chest and Cylinders Assembly



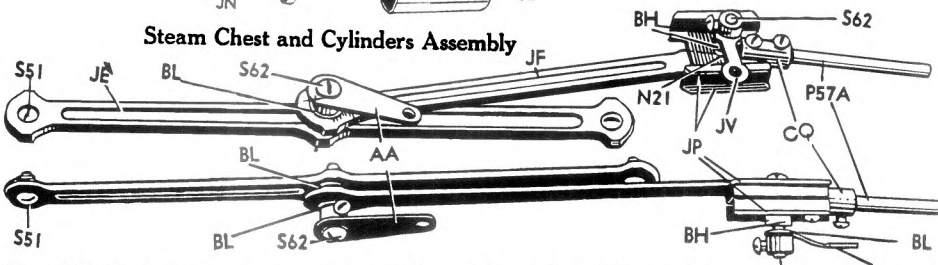
Steam Chest and Cylinders Completely Assembled

Provision has been made inside the smoke box front JC to hold N21 nut in place. To insure rigid fastening press little prongs to hold nut in alignment with hole.

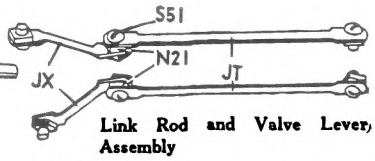


ERECTOR

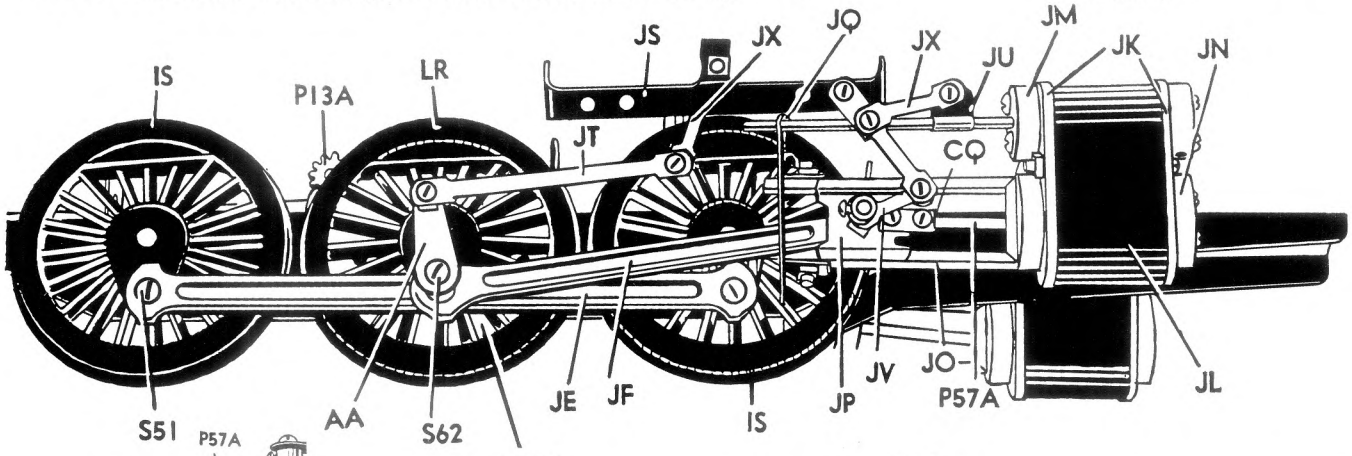
THE LOCOMOTIVE AND TENDER

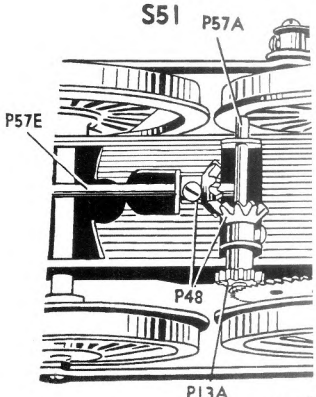


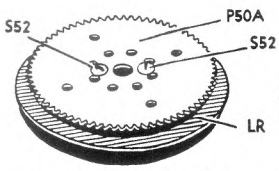
Parallel Rod Main Connecting Rod and Crosshead Assembly



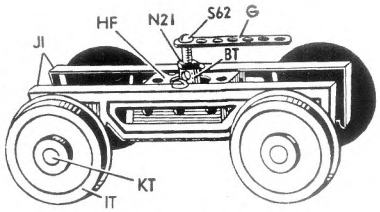
Link Rod and Valve Lever Assembly







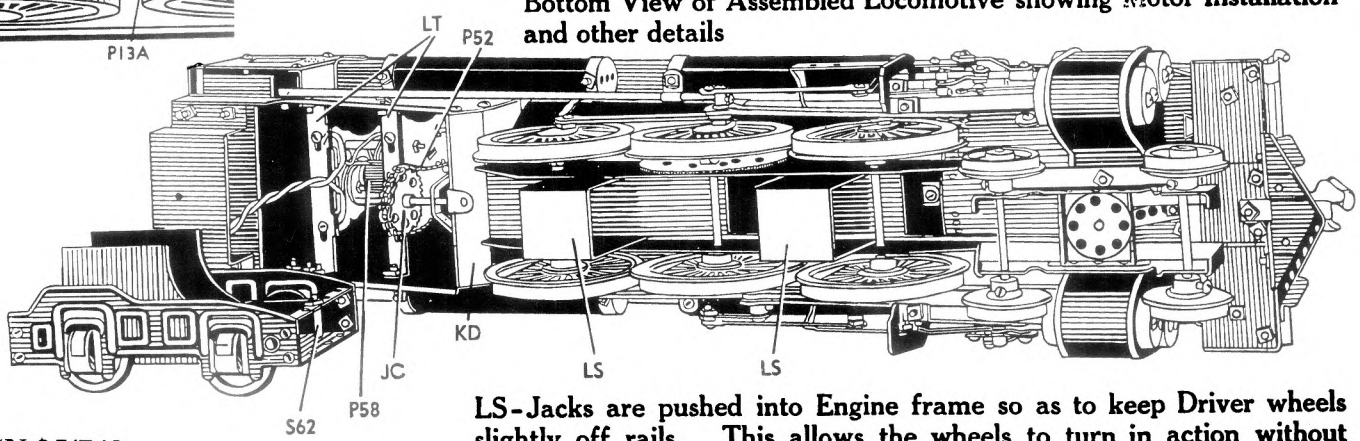
Drive Gear and Drive Wheel Assembly



Front Truck Construction

More about the Loco Outfit Models on p737

Bottom View of Assembled Locomotive showing Motor Installation and other details



LS-Jacks are pushed into Engine frame so as to keep Driver wheels slightly off rails. This allows the wheels to turn in action without traveling. Jacks to be removed when traveling on rail.