

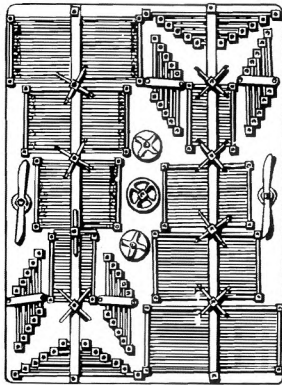
EDITORIAL Nothing of any great note this time, so I'll simply mention a couple of points which readers have raised about the colour illustrations on the OSN web site. First, each page of pictures should print out on one A4, or US letter, side, even if it doesn't look as if it will on the screen (with a large space at the end of one or more rows, and a solitary image in the row below).

Secondly, it has been pointed out that some of the pictures are sideways or upside down. The orientation depends on which way it was most convenient to put the

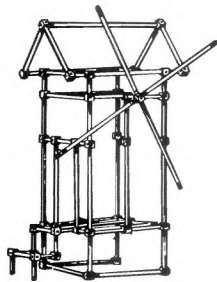
original on the scanner, and I've assumed that it doesn't matter, given that the pictures are going to be cut out. Turning them would take a little time, and perhaps have quality or file size disadvantages, so I wouldn't want to do so unless the present arrangement causes real problems.

Finally, several readers have asked if I can supply a list of contents for all the issues of OSN (as opposed to the Index offered in 21/600). I have recently put one, albeit rather sketchy, on the web site, and I can make copies for anyone who can't 'log on'.

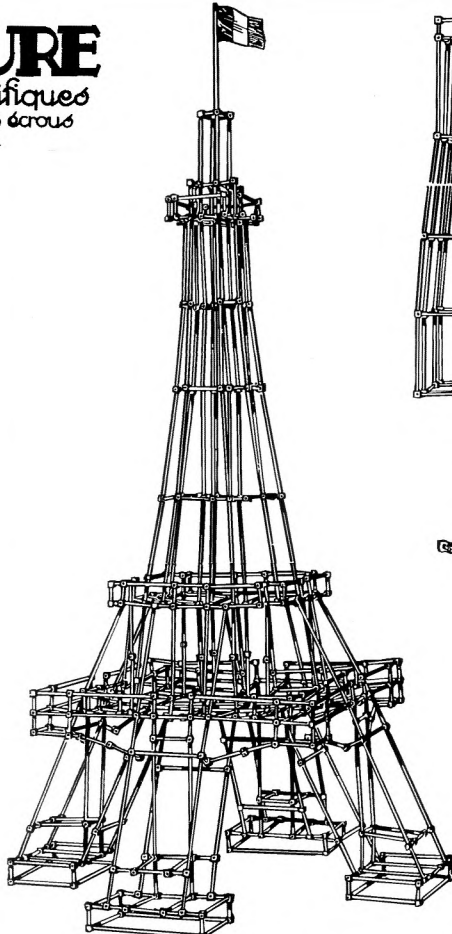
ARMATURE
Jouets Scientifiques
sans vis, sans écrous
BREVETE S.G.D.G.



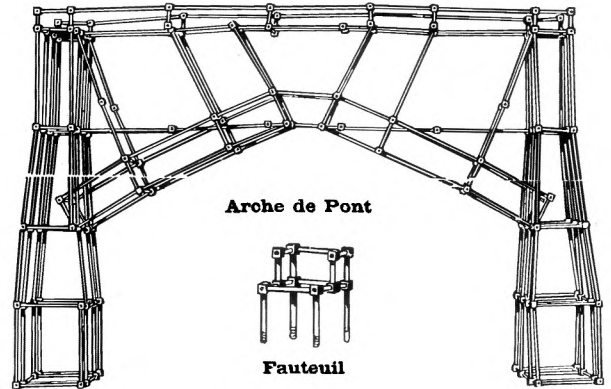
Boite N° 3 : 135 Fr.



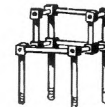
Moulin



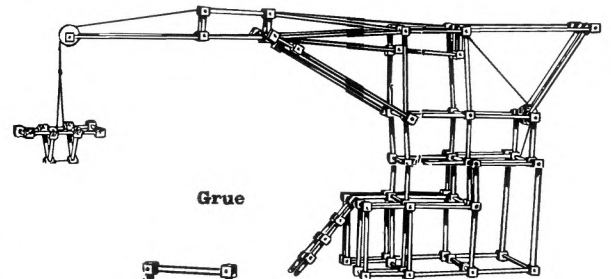
Tour Eiffel



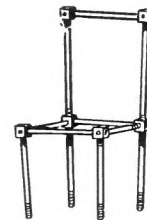
Arc de Pont



Fauteuil

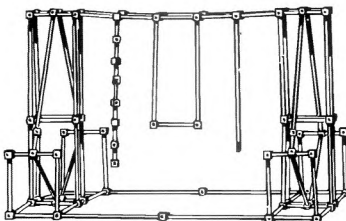


Grue

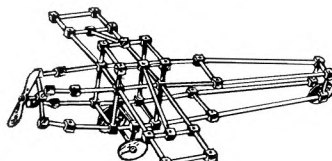


Chaise

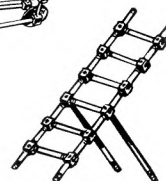
**See page 655
for more on
ARMATURE**



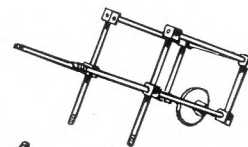
Portique



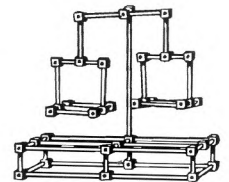
Aéroplane



Echelle



Brouette



Balance



Cubes

MILLE JOUETS EN UN SEUL !

The STABIL INVENTOR'S SETS Manuals Thanks to Werner Sticht full details of all known Inventor's manuals are now to hand. The first is the one mentioned in 14/370, for Sets 57 & 58.

SUMMARY OF MANUAL •Name: Wather's Erfinderbuakasten STABIL Nr.57 u, 58. •Details of maker: Walther & Co., Berlin SO 33. •Dates &/or Ref Nos: 1. Auflage. Juni 1925 on C1. •Page size: About 240*160mm deep. •No. of pages: 32+covers. •Language: German. •Printing: shaded line drgs of models; colour cover with 3 children & Log Saw, see 14/370. •Page Nos. of Parts List & highest PN: 4-6,81. •Page Nos. of Set Contents & highest PN: 12,82. •Sets covered: 57, 58 (with std sets). •No. of models for each set: 18,1. •Name, Model No., Page No. of first & last model of each set: 57+50: Bauwinde, 601,16; Rundlauf bezw. Reckschaukel mit Zahnrad+betrieb,611,23. 57+51: Standschaukel,650,24; Wasserrad,653, 26. 57+52: Lastkraft+wagen,700,27; Karussell,702,31. 58+53: Flettner-Rotorschiff, 750,32-C3. •Other notes: •Details from photocopy. •Ads for Motors on C2; Intro on pp1-3; use of parts, pp4,6-11; reading drgs, pp12-15.

As pointed out in OSN 14, the Large-toothed Gears in many of the models look rather out of place, and in some others, particularly the smaller ones, the large diameter Shafts are not strictly necessary, and don't add to the appearance. But in some models the new parts can add greatly to the realism, as in the Feldgeschütz below. I don't think it actually fires though.

There is no date on the next manual, referred to briefly in 14/371, but it is thought to have been issued in 1926. The cover is the one with the Crane, Bridge & Ship models, the 4th one down on 13/350, but with 'Nr.57 u. 58' in the oval at bottom right. Inside it is the same as in 1925 but with additional pages 34-44 showing 4 more models for Sets 58+53. Details of these are:

•Name, Model No., Page No: Wasserrad mit Steinsäge,751,34-5; Raddampfer, 752,35-7; Trioblechwalzwerk,753,38-40; Sternwarte (Observatorium),754,41-4. •Other notes: •Details from photocopy. •Sets 58+53 are needed for these models but are wrongly given for #752 (57+53), & #754 (53).

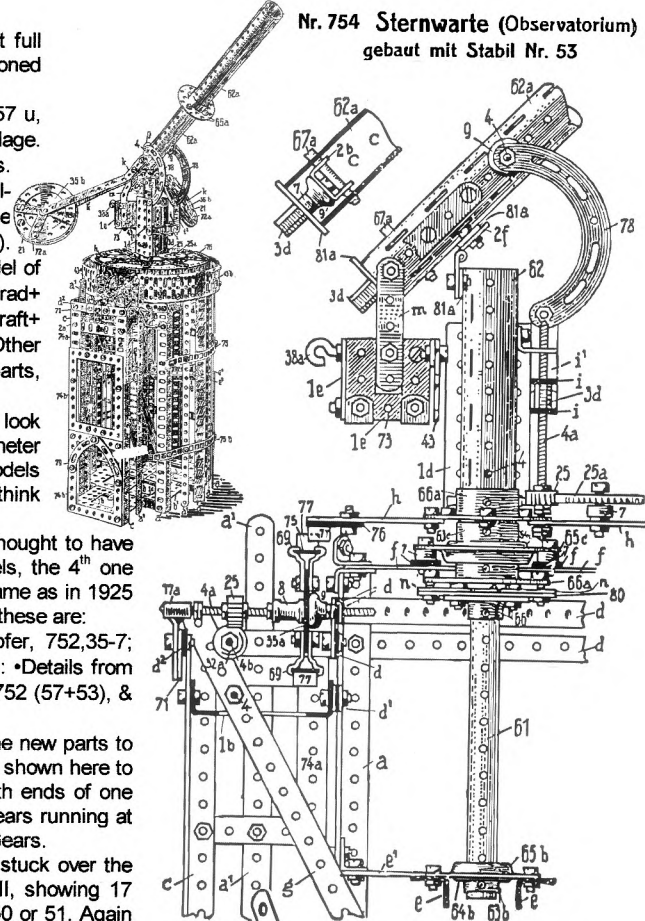
The models are not complicated mechanically but are large enough to allow the new parts to look right in them, and again to add realism. Limited views of two of the models are shown here to give a general impression. The 3-Roll Sheet Mill below has a geared drive to both ends of one roller, while in the Telescope (top right) slewing is through a pair of Large-tooth Gears running at right angles, and elevation is achieved by a Screwed Rod (4a) driven by standard Gears.

Finally the same manual but a rectangular label with 'Nr. 56, 57, 58' on it is stuck over the oval on the cover, and glued in, immediately after the front cover, 12 pages I-XII, showing 17 models which could be made using the No.56 Outfit, together with either Set 49, 50 or 51. Again the date is uncertain, but the Contents of the No.56 are given, and included is a Sparbüchse (Money Box), an item introduced in 1931. The key models are:

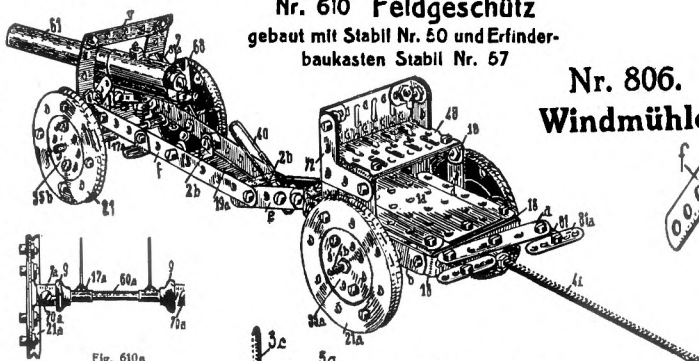
•Name, Model No., Page No. of first/last model of each set: 56+49: Fahrbarer Säulenkran, 801,II; Fahrbarer Steinbohrer,808,V. 56+50: Bohr-maschine,809,VI; Pappenschneidmaschine, 814,IX. 56+51: Steindruckpresse, 815,X; Eisenkalt-säge,817,XII. •Other notes: •Details from photocopy. •p1 has No.56 Contents; & ads inc Sets 56a, 57a, Motors inc Magnet-Dampfmaschine.

There are no Large Gears in the No.56, the main parts are 4 & 14mm Shafts, and bearings for them. However even Set 49 had a pair of the '1926 Patent' Gears and these are more suitable in size for the smaller models. Many of the models are machine tools with some of the normal Screwed Rod axles replaced by the new Shafts running in the Ball Bearings. In the Windmill far right the 14mm Shaft makes a good post, the gear Shafts run in Ball Bearings, & the 14mm Bearing Cups are used to fill in the bottom of the front & back.

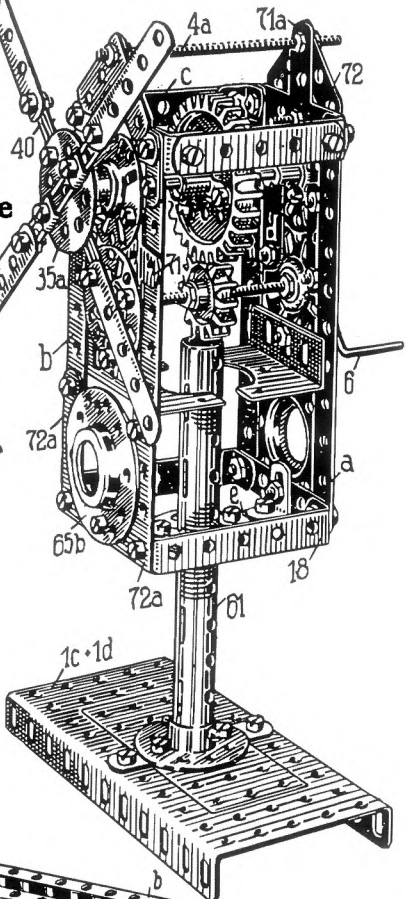
Nr. 754 Sternwarte (Observatorium) gebaut mit Stabil Nr. 53



Nr. 610 Feldgeschütz gebaut mit Stabil Nr. 50 und Erfinderbaukasten Stabil Nr. 57

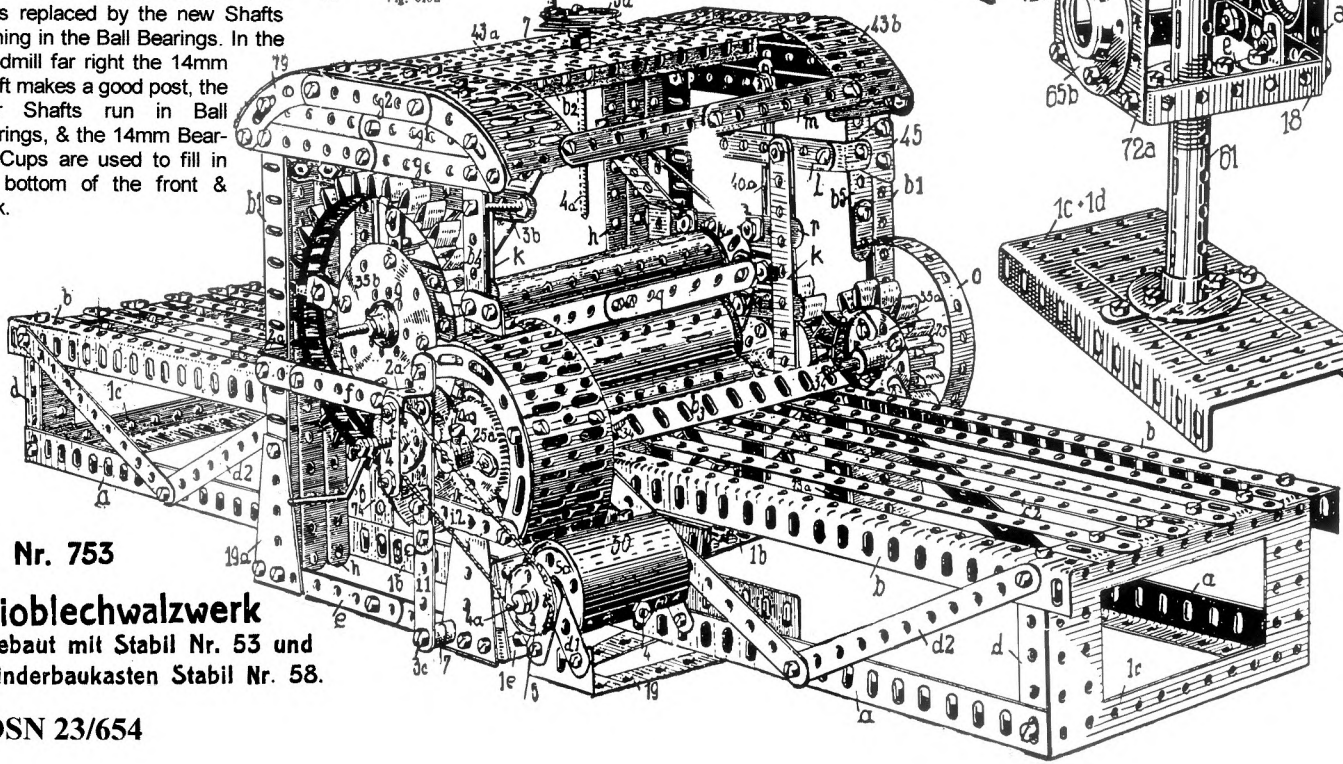


Nr. 806 Windmühle



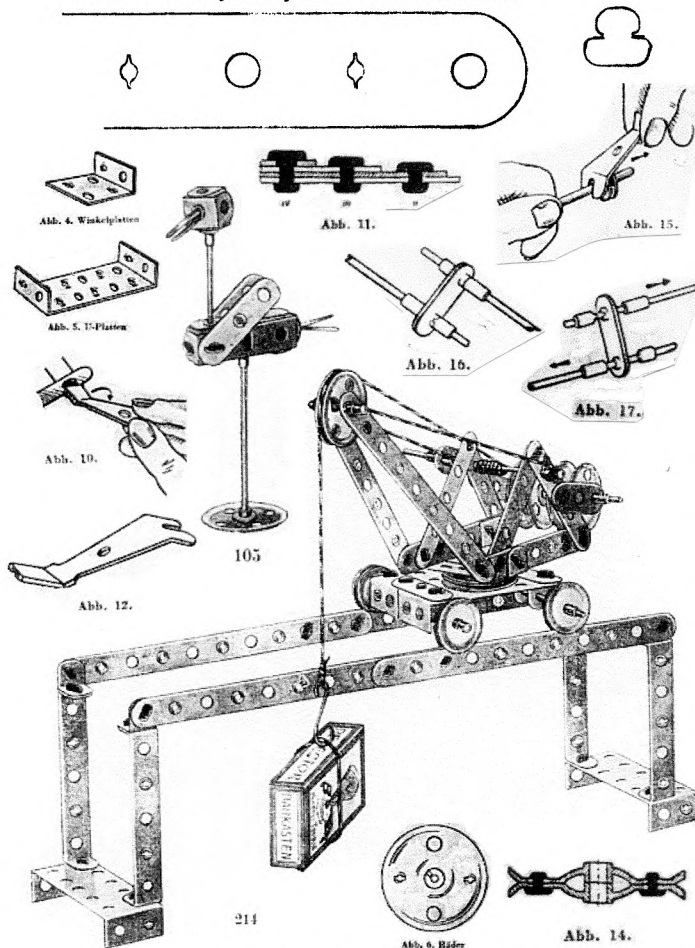
Nr. 753

Trioblechwalzwerk gebaut mit Stabil Nr. 53 und Erfinderbaukasten Stabil Nr. 58.



PERFECTOR This small Austrian system was mentioned in 22/650, and below an account of it, mainly from a copy of the manual. Kendrick Bisset sent it and he obtained it from Charles Smith, who owns a set - my thanks to both.

PERFECTOR consists of 40 different parts with a 'nickel plate type finish', and its unusual feature is that they are joined by special, flat Keys. A tracing around one of these is shown below, together with a tracing of part of a Strip, both full size. To join 2 parts a Key passes through a large round hole in one, through a slot in the other, and is then turned through 90°, using a special Tool (Abb.12 below), to lock it (Abb.10). 3 depths of Key are provided to join 2, 3 or 4 parts (Abb.11). The holes are at 15mm pitch - the large one looks to be about 5mm Ø; the small one with slot about 2 to 3mm. Generally every other hole is slotted.



Axles run in the small holes, and the Pulleys can be locked to them using a Driving Dog on one side and an Axle Stop on the other. These are a push fit on the Axles and the other end of the Tool can be used to move them along the Axle (Abb.15). The Dog engages a recess in the Pulley, and also in the Crank Strips. The latter allow a crank handle to be constructed (Abb.16,17). It might be thought that the Dog would be sized to engage with any of the slotted holes, and this may be the case, but if so it isn't clear why special Crank Strips are needed - as drawn these seem to have small bosses with slots for the Dog.

The parts are: • 2,3,5,7,9,11h Strips, with 2 versions of all but the 2h, the second with the round & slotted holes interchanged. • A 2*1h A/B; 2 versions each of: a Double Bracket, and 5 & 7h wide DAS. • The 2 Flanged Plates (Abb.4,5 above). • Pulleys which scale at 25 & 38mm Ø; the larger one (Abb.6) can be seen to be made from 2 Pulley Discs (Abb.14). • 2h long Crank Strips, one with 1, and the other with both holes slotted. • Axles 30,48,60,78,108, 150mm long. • The Axle Stop and Dog already mentioned, and a Coupling which is probably a push fit too. • Washers whose use isn't described but might be useful as packing if a Key were to be rather loose. • The Tool, and another called Radabzieher, which isn't illustrated but from its name

may be to move the Pulleys on the Axles, though the Tool seems able to do that. • The 3 sizes of Clips, and a Bifurcated Paper Clip, used as decoration, and sometimes to join parts.

The manual is ©1947 and has models for Sets No.1 & 2. The No.2 has 44 strip parts, 6 Plates, and 65 Clips; the No.1 has all the different parts, generally in half the quantities of the No.2. There was a linking set 1a. The cover (see OSN 22) is grey-blue & blue-black on white; the label of the ebay set is similar but with the centre 'P' & the background to 'PERFECTOR' in red.

SUMMARY OF MANUAL •Name: PERFECTOR BAUKASTEN •Details of maker: Kappl & Trubrig, Wien 1. •Dates &/or Ref Nos: © 1947. •Page size: 210*142mm deep. •No. of pages: 28 unnumbered inc covers. •Language: German. •Printing: Blue/black on white cover (see 22/650); ½-tones of models. •Page Nos. of Parts List/Set Contents (no PNs): 27. •Sets covered: 1,2. •No. of models for each set: 60,31. •Name, Model No., Page No. of first & last model of each set: 1: Ente,101,5; Teigknetmaschine,160,22. 2: Windmotor,201,23; Koller+gang,231,18. •Other notes: •Details from photocopy with pages ordered as received (which seems correct but results in many models being out of sequence). •Model names are on pp25-26.

The large selection of models starts with some attractive birds, including the one left, followed by a wide range of fairly ordinary models, including many machine tools. Some lack the triangulation that would be needed to ensure adequate rigidity. The largest Crane is shown opposite. Cord drives are used in many models and some of the vehicles have cord operated centre pivot steering. None of the 3 larger models on the manual cover (at the top), a Lorry, Loco & Tender, and a Marine Engine, are in the manual.

No mention is made of a patent. On the back cover of the manual is the promise of add-on sets with simple Gears, A/Gs, Junction Plates (Knotenbleche), Large Wheels, and other 'versatile innovations'.

ARMATURE Jeannot Buteux/Constructorama kindly sent a copy of a Leaflet, all that is known of this French system. It is thought to date from around 1930, and may have been made at Lyon. The Leaflet has illustrations of 3 sets, Nos.1,2 & 3, together with a list of extra parts, & 18 models. No indication is given as to which of the models can be made with which sets. All the large, and a selection of the small models, are shown on the front cover, full-size. The main parts are Rods of 6 different lengths, from 25 to 150mm, & cubical Joints. It has been suggested that the parts may be wooden and this seems likely, though it does raise one or two questions.

One is about the ends of the Rods. At a glance they appear to be threaded, but by scaling, the Rod diameter is very roughly 4mm and this doesn't seem big enough to allow a wooden part to be threaded successfully. And in any case I don't see how the Cubes, for example, could be assembled using threaded Rods.

Perhaps the 'threading' is merely fine grooving to allow a more effective push fit in the Joints. A patent is claimed on the Leaflet but with no number given - no doubt it would tell all.

Another question is price. If the Rods just push into the Joints, ARMATURE is a very simple system, but maybe not a cheap one - the 3 Sets ranged from 55 to 135 Fr. and if that was around 1930, by way of comparison, a No.0 MECCANO cost 34 Fr. in 1931, and a No.3, 185 Fr. So was there something special about ARMATURE? Alternatively, I think there was some inflation in France during the 1930s, and perhaps the Leaflet dates from later than 1930.

The Price List of spare parts has the Tiges (Rods) in 6 lengths, and 'Dés : 0 50 pièce'. I don't know the word 'dés' but I suppose it's the Joint, an abbreviation perhaps. No mention is made of the Propeller, and the 2 types (at least) of Wheel &/or Pulley that can be seen in the No.3 Set, and in a few of the models.

News from Italy

The notes that follow are based on material kindly sent by Umberto Delaini.

C.I.G.E.A. Sets C.I.G.E.A. was the large Italian system, dates & full details unknown, which had many parts that resembled MECCANO, though with holes at 13.0mm pitch, and some of original design. MCS contains some information, with illustrations of some of the parts, & some of a lettered series of sets, plus in Part 5, the Set Contents of a different run of sets, 00 - 3. Now, more is known from a copy of a manual, which has the Contents of Sets 00 - 9, and, through Frank Beadle, a copy of the Set Contents of the lettered sets. The new material will be included in the MCS Extra Sheets but points of general interest follow.

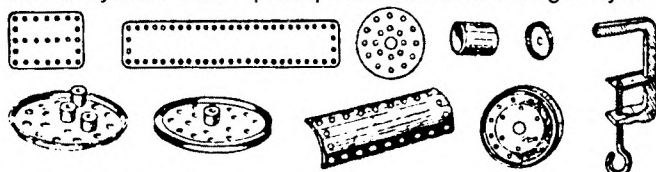
It is assumed that the lettered sets preceded the numbered ones because Set H is very much larger than Set 9, the largest in each series. All the sets are called 'LA MECCANICA per ragazzi' ('Mechanical Engineering for kids' perhaps).

The Lettered Sets The Set Contents of these are headed C.I.G.E.A., Milano, Italy, alongside the logo above. By each part its price has been typed in, with a handwritten note at the top indicating (I think) that they must be increased by 20%, and dated 19-1-55. That's the only date I have for the system.

The Sets covered are Baby, A - H, and linking sets A1 - G1, all in the 'serie BOY-MEC'; and 2 'FIS-MEC' ones, Alfa & Beta. The BOY-MEC ones have the same totals of parts as those in MCS. A 'Rosso' manual is advertised on the MCS Part 5 Sheet 3a and is said to contain 'Applicazioni fisiche-meccaniche', hence no doubt FIS-MEC (fisiche - relating to physics).

The 220 different parts in the H Set is the only list of parts available but there may have been others because the PNs go to 352, and 'over 300' are claimed on p4 of MCS. I haven't been able to understand the name or purpose of certain parts in the Contents, in particular Nos.51-53,106, 109,118,206-8,255,257,260-1,280,283,285-6,290,322, and 325b. Notes on some of the more unusual parts follow, with those illustrated marked '¶':

- 4h wide Plates, perhaps flexible, length 5,11,18, & 25h[¶]. There are no other flexible plates in the Sets so these might be thought to be the equivalent of MECCANO Braced Girders. Within the same group of PNs is a 5*7h Plate[¶] with a line of centre holes. The 18h part is an unusual length and there are also an 18h Strip, A/G, & Flat Girder. These may have originally been the only size between 11 & 25h because the 13, 15 & 21h have a letter suffix after their PNs.
- DAS 2,3 & 7h wide, each 2 & 3h deep.
- 2 Circular Plates, 60 & 80mm Ø, each with & without a centre boss. The 80mm is the largest circular part. The large centre hole in the smaller 'without' one[¶] is probably about 5/16" Ø to suit the addition of a boss.
- A 40mm Loose Pulley, and 40 & 60[¶]mm Fast Pulleys. Also what looks like one disc of the 60mm with extra bosses to give an 2-Throw Eccentric[¶]. It is shown alongside the 60mm Fast Pulley. There is a Tyre for the 60mm Pulley.
- Sprockets with 14,18,30,34,47 teeth.
- 19 & 35t Pinions, each with 6,12 or 18mm face widths; 60 & 100t Gear Wheels. The 35t is shown with a recessed side, like M31. The 19/35t & 19/60t are said to run together with ratios of 2:1 & 3:1 but perhaps these are only approximate and the unusual number of teeth is to do with using a Mod. of .65.
- A pair of 9t Helicals that presumably mesh at 13mm centres.
- Two Cylinders listed as 20[¶] & 56mm and there is also a Cylinder End[¶] - perhaps the 56mm is a longer Cylin-



OSN 23/656

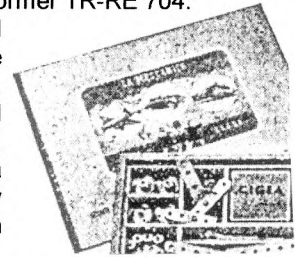
der of the same diameter as the 20mm. • The Curved Boiler Plate[¶] seems a better idea than a one piece Boiler. The larger sets contain 3 of these and if they formed a complete circle with a 1 hole lap, the diameter would be 37mm. However the illustration of the Boiler End[¶] (next to the Boiler Plate) looks larger than that, and the holes in a cylinder made up of 3 Plates would not always be very convenient. • A Table Clamp[¶].

• Some basic electrical parts including a 2mm N&B and an Insulating Bush & Washer, like the prewar M182/182a. • A 3*2h A/B[¶], a Double Reversed A/B[¶], & a 2h wide Girder Bracket[¶] that looks to be made from a Flat Girder.



Returning to the sets, the G is quite large with 3174 parts in all (about the same as the last MECCANO No.10), including 86 A/Gs, 36 Flat Girders, 26 Flanged or Perforated Plates, 20 Flexible? Plates, 10 Sprockets, 31 Gears, & about 700 N&B. It has 8x 60mm Pulleys but only 4 Tyres for them. The H is identical to the G except that it has the electrical parts, an upright sideplate 12-24v Motor, ME 507 (shown in MCS), and the Transformer TR-RE 704.

The lid labels and manual covers can just be seen in the illustrations of the sets in MCS, and all are similar to the lid label opposite, with from left to right, an aeroplane, a car, and a something else. They are clearly not the same as the cover with the Loco in MCS.



As well as the Rosso manual already mentioned 2 others are advertised on the same page: Verdi (Green) for 'ingegneria meccanica', & Bianco (White) for 'supermodelli'. These may be over and above the standard manuals.

Another Set not yet mentioned is MOTRAR, a Motor Set, which is also advertised on p3a of MCS Part 5, though it isn't clear if it was contemporary with the lettered sets. It contained 168 parts including a cylindrical type Motor, a Transformer, a Rheostat, & a selection of parts - standard as far as can be seen but a Manual is mentioned on elementary electro-mechanics.

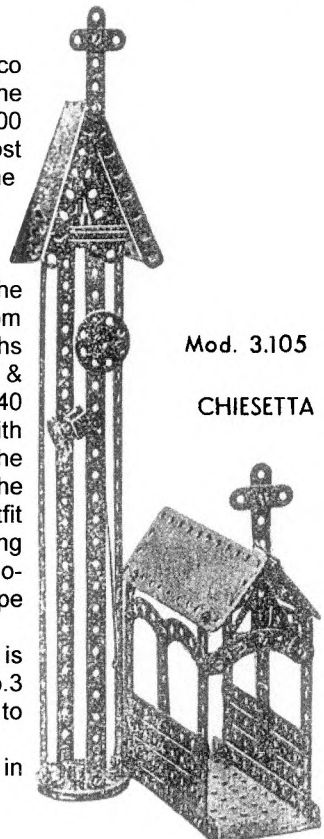
MCS has nothing on the colour of the parts but the A - H Sets are called a 'Serie nichelata' in MCS, so perhaps the parts are nickel plated.

The Numbered Sets

Umberto's manual has the Loco cover shown in MCS, and the range of sets in the Contents is 00 - 9, with linking sets 1a - 8a. Most have been radically changed - the number of parts in the largest is reduced from 3174 to 1350, & the number of different types of part from 220 to 146. The 'missing' parts are a little from everywhere including all lengths of Strips & Girders between 11 & 25h, except the 18h ones; the 40 & 80mm Ø parts; the Gears with faces wider than 6mm; and the Bulbs & Bulb Holders. But the No.9 is still a respectable outfit with 320 N&B, 16 Gears including 4 Bevels & 2 Helicals, and a Motor - now the long-sideplate type ME 411.

Of the smaller sets the 0 is very similar to the Baby, the No.3 to the B, and, broadly, the No.6 to the E.

The Motors & Transformers in



Mod. 3.105

CHIESETTA

MCS are advertised in this Manual, along with the MOTRAR set, and the Bianco & Rosso manuals, though the FIS-MEC sets aren't mentioned. The Verde manual is no longer listed. The Illustrated Parts page is as in MCS.

A few more details about the Manual. It is the 11th edition, and though the cover has a '2' in the white roundel, models for Sets 00 - 3 are shown. There is a clear photo and a Parts List for each, more than adequate for the simple models possible with these small sets. Nos.00-2 have no Flat Plates and the models are the sort found in early 1930s MECCANO manuals. In fact very many look as if they are identical or very near it. There are 2x 4*11h Plates in the No.3 and many of the models are original. The Church on the previous page is the most unusual.

SUMMARY OF MANUAL •Name: LA MECCANICA per ragazzi. No.2.



•Details of maker: C.I.G.E.A., Milano.
 •Dates &/or Ref Nos: Undicesima Edizione.
 •Page size: 246*176mm deep.
 •No. of pages: 32 inc front covers.
 •Language: Italian.
 •Printing: ½-tones of models; cover red/white/black on green.
 •Page No. of Ill. Parts & highest PN: 8,233.
 •Page Nos. of Set Contents & highest PN: 6-7,326a.
 •Sets covered: 00,0,1-3.
 •No. of models for each set: 19,22,18,22,13.
 •Name, Model No., Page No. of first & last model of each set: 00: COMPASSO, 00.1,9; CARRO PER LEGNAME,00.23,12. 0:

SCIABOLA,0.25; ROULETTE,0.50,17. 1: SEDIA A SDRAlO, 1.53,18; GRU A SNO?-?,1.73,22. 2: SEGA PER METALLI,2.76,23; PIATTAFORMA MOBILE, 2.100,28. 3:CHIESETTA,3.105,29; AVVOLGITRICE,3.120,32. •Other notes: details from photocopy.

The Contents of Set 00 - 3 in MCS/FB are identical to those in Umberto's manual - perhaps they came from a later edition, with the larger sets omitted for some reason, or perhaps they no longer existed.

'New' System, FAI MECCANICA Umberto sent a photocopy of a manual from this small Italian system, photos of a set, and leading details of the parts. The manual is for Sets 00 - 2 but mention is also made of larger outfits. The No.2 is in many ways comparable to an early 1930s MECCANO No.2, but has a slightly wider range of parts, 46 in all, including a couple of unusual ones, a pair of Gears & more A/Gs. All the parts are chemically blackened, including the bosses, and they generally look to be a cross between MECCANO, & MÄRKLIN, with a touch of BRAL. Holes are 4mm diameter but the hole spacing is only 12.0mm. No dates or details of the maker, presumably FAI, are known.

Sets. The Set is a No.00 and is packed in a red box which scales at 32*19cm. The lid label, red & black on blue, with a man at a lathe and a boy with an Inclined Delivery Chute, is shown below. The inside of the box is cream with the parts within red card partitions, and strung through the bottom of the box with black cord. One compartment for the NBW is square with a red lid. The main parts are a Flanged Plate, 10 Strips, 2 each DAS & Flat Trunnions, 6 Brackets, 4x 25mm Pulleys, and 10 N&B - somewhat less than an early 1930s MECCANO No.00.

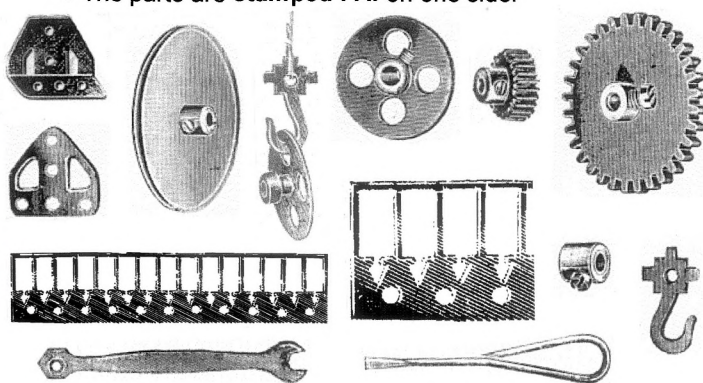


Outfits 3,4 & 5 are mentioned in the Manual, and also a Motor set, an Electrical set, and others to make a Steam Loco, a Car, & an Aeroplane. Nothing is known of any of them.

Parts. The notes below are based on the Illustrated Parts List in the Manual, & the information from Umberto. The parts look similar to MECCANO (M) except as stated - K denotes MÄRKLIN. Parts illustrated are marked †.

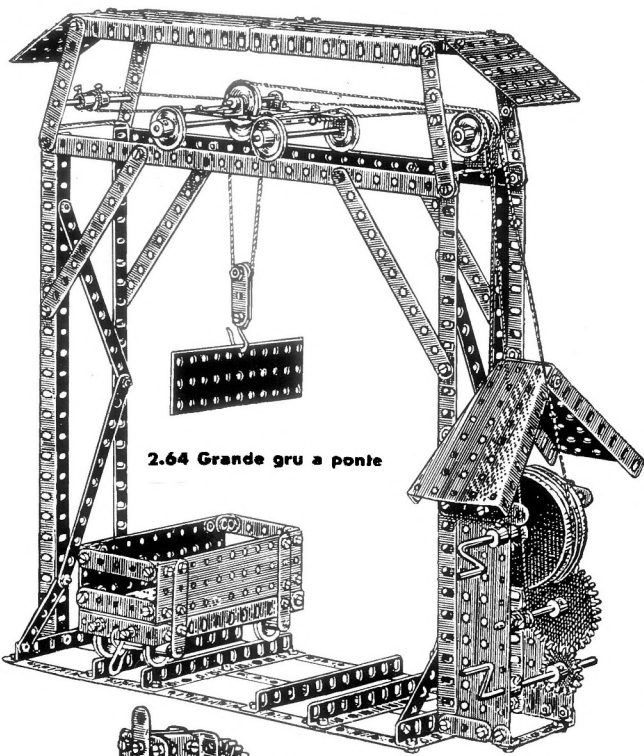
• **Strips**, 3,5,7,13,25h with fully rounded ends. A Curved Strip like M90a but with no slotted holes. 1*5*1 & 1*3*1 DAS. • **A/Gs**, 5,7,13,25h with K-like, slightly rounded corners. • **A/Bs**, Flat, Angle & Double (including M11a). Re-

versed A/B (K-like with no slotted hole), & Double Bent Strip. A **Trunnion**†, flat-topped like BRAL, and a Flat Trunnion†, but the cutouts in the actual part looks M-like. • A 5*11h **Flanged Plate** (K-like but with no slotted holes in the top). A Flanged Sector Plate (8h long, K-like). • **Pulleys**, 25 & 58†mm, & an 11mm Loose Pulley. • **Bush Wheels**. 32mm 4-hole,† & 36mm 8-hole The 4-hole is only shown once in the models, as a weight for a Hook† - it is called up for other models but the 8-hole is actually shown. The Contents show the 4-hole in Sets 0-2, with 3 in the No.2, and just one 8-hole, in Set 2. • **Gears**. A 14t Pinion† & 46t Wheel†. They mesh at 2h centres and that gives a Mod. of 0.8. The Pinion is also said to be able to run with the Gear at right angles, ie like bevels. • A unique 11h long Railing or **Windmill Sail** (†, with a section enlarged - it is called Striscia a cancello - Gate Strip?). A K-type **Hook**†. A **Collar**†. A loop of **Spring Cord**. Red **Cord**. • 4mm Ø **Axles**, 25,65,85,115,150mm long, & a **Crank Handle** with square bends, about 13½cm o/a. • **M4 NBW**. The Bolts are round-headed, 7mm Ø, and 7 & 10mm u/h; the Nuts are hexagonal, 7mm A/F & 3.3mm thick. The Washer is given as 4.3mm i.d. and is 8mm o.d. • **Tools**. The wire Screwdriver† scales at about 13cm o/a. The Spanner† (10cm o/a) looks like the K-pattern in the Set, with the open end cranked. • The parts are stamped FAI on one side.

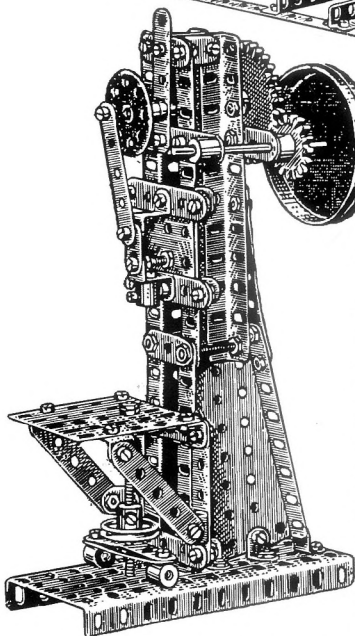


The Manual. It has 48 near A5 size pages and the cover is identical to the lid label. Although it says 'Instruction Booklet for Sets 00, 0, 1, 2' on the inside front cover, no 00 models are shown, though a few of those for Set 0 could be made with the No.00. The layout of the 87 models is unusual with models from the different sets often grouped together by type, usually preceded by a page or two of explanations. Thus all the Cranes follow notes on pulley blocks & cord brakes, notes on gearing & pulley transmission lead to Machine Tools, and Vehicles follow 'wheels'. There are also notes on Levers, a Watt's Governor, & Newton's Disc.

[Cont. »]



2.64 Grande gru a ponte



2.47 Pressa ad eccentrico

FAI Meccanica

In all there is a good selection of reasonable to good models and each has a clear line drawing and Parts List. Many, probably most, are adapted copies of models from other systems, and in some cases the original illustrations have been used. In these, and in some of the 'adaptations', parts are shown that are not in the Sets, but the Parts Lists include substitutes that would allow the model to be built successfully, albeit with a little difficulty. Two of the MECCANO models that

haven't been altered at all are a Tower Wagon and an Inclined Delivery Chute, and they didn't appear in MECCANO manuals after 1929 & 1922 respectively.

2 of the better models are shown above & a number of 'foreign' parts can be seen in them. It's possible of course that some could be FAI parts from the larger sets - the PNs listed in the Manual are 13-60 with Nos.20,35,36 unused.

SUMMARY OF MANUAL •Name: FAI Meccanica. •No details of maker/dates/Ref Nos. •Page size: 205*152mm deep. •No. of pages: 48 inc covers. •Language: Italian. •Printing: line drgs of models; cover as lid label. •Page Nos. of Ill. Parts List/Set Contents & highest PN: 4-6, 60. •Sets covered: 0,1,2. •No. of models for each set: 22,37,28. •Name, Model No., Page No. of first & last model of each set: 0: letter E, not named, 0,1,7; Agitatore d'aria,0.80,42. 1: Pinza da meccanico, 1.6,8; Scala pieghevole su carro,1.85,45. 2: Accoppiamenti di ingranaggi,36,19; Carro a torre ripieghevole,2.87,46. •Other notes: •Details from photocopy. •No 00 models are shown though the IFC has 'LIBRETTO D'ISTRUZIONE (per le scatole nn. 00 - 0 - 1 - 2)' •The models aren't in numerical order. •The first No.2 model is labelled .36. •PR on IFC: Organizzazione Stab. Umbria - mod. 170 - UNI A4 - Nova Tipografia.

And More To Come Umberto hopes to sent some details of certain other Italian systems - STAR and ITALMECC (both 'new'), VULCANO (as in MCS), FALCO (with DINKY BUILDER type parts, mentioned in 5/83), and LETRIXMEC (the name was given in 9/227). He also has more on the ALPHA KANONEN Set (see 17/476).

TECHNICAL TRAINER As mentioned in 22/650, a set with a Farmingdale Aircraftmen label has now been found, and Kendrick has kindly sent copies of the literature that was with it. The main item is a Model Leaflet, 8½*22" folded in half, which was stapled to the inside of the box lid. The top of the front page (below) is a photo similar to the lid label, see 10/264, with the fairground photo, and the logo with 'T' on the blueprint, (with F.A.M. on it as explained in OSN 22). The missing word over the entrance is 'Carnival'. Above the photo is 'PAT. PENDING', which wasn't on the Tucker label. Under it is 'BASIC SET - Model "A"'. Under the photo is text extolling the virtues of the system. More of that on the next page, under, in large letters, 'Ask about the DE LUXE ADVANCED TRAINER SET "B" for 1947 / POWERFUL ELECTRIC MOTOR WILL BRING LIFE TO YOUR CREATIONS / NEW PULLEYS AND BELTS - MANY ADDED PARTS'. Nothing is known of this development.

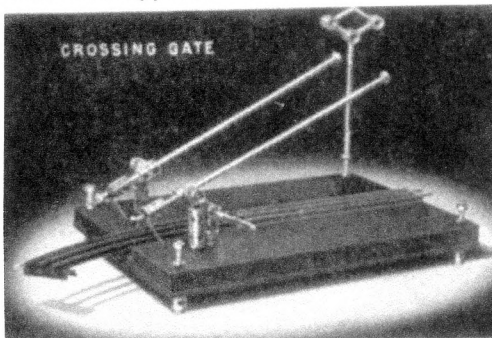


The third page has small photos of 11 small models, all new and generally much simpler than those in the Tucker manual. Some are more realistic and others are more utilitarian, including a Picture Frame, a Step Ladder, & a Spinning Top. A Crossing Gate & a Dancing Man are shown below. Under the models are the names of the maker and distributor, as in 19/529; the Kruse address is given as 301 Forest Av., St. Louis (19). The back page is blank. No indication of the set contents is given except that above the models is '113 Individual Parts - 17 Different Parts'.

Stapled to the bottom of the box inside was a price list of spare parts. All the Tucker List parts are there, plus the 3rd type of Terminal & the Crank Handle. Another part not in the Tucker list is a Hook (though it isn't used in any of the models), and that makes the 17 referred to in the Model Leaflet. Also in the List are 3 parts that are probably used to hold the rest of the parts in the box: Rack, Rod; Strip, Rod Retainer; & Clamp. There's also a 'Box Assembly', perhaps the box itself: at \$3.38 it costs some 5 times as much as all the preceding 3 'packaging parts' together.

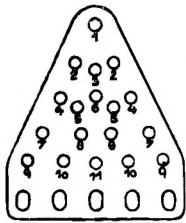
The prices of the parts are much less than in the Tucker list, with the Terminals reduced from 50¢ to 19¢, the 12" Rod from 25 to 16¢, and the Large Wheel from 20 to 6¢.

How long did TECHNICAL TRAINER survive, and did Set B ever appear?



DANCING MAN

An AMI LAC Question On the No.9 manual described in 15/401, Josep Bernal has pointed out that the Triangular Gearbox Plate, left, is shown on the (unnumbered) p25 as PN 113, but that neither the Plate, nor a #113, is to be found in the Illustrated Parts, or elsewhere in the Manual. The numbers by the holes are used in a Table to show which pairs allow particular combinations of Gears to mesh. So was there ever a Part 113, and also were there originally parts to fill other gaps in the part numbers? Incidentally #113 was the pre-WW2 number of an identical looking MÄRKLIN part.



There was certainly more than one type of



manual - the No.9 manual cover from OSN 15 (left) is in MCS/NZ, but the different one, under it is in the /FB edition. It has only AMI, not AMI LAC, on it (note though that inside both have just AMI). The p5 /FB model, a Travelling Band Saw, from Set 6, seems to be the same as a No.8 model (top right) in the OSN 15 edition. (The view in MCS is from the other side and shows a pulley drive from the rear wheel to the gear-box, and from its output shaft to the lower band wheel.) So it's a good bet that the /FB one is the earlier, but Frank tells me that there



output shaft to the lower band wheel.) So it's a good bet that the /FB one is the earlier, but Frank tells me that there

A later MINIATUR Outfit Werner Sticht has passed on details of a No.20 Set, near complete and with manual, owned by Jürgen Kahlfeldt. My thanks to both.

The box is black, 258*175*20mm, with a large colour label just like the DEN LILLE INGENIØR manual cover in 7/157, except that the LH panel has fancy scroll work top & bottom, and 'WALTHER'S Miniatur No. 20' in between.

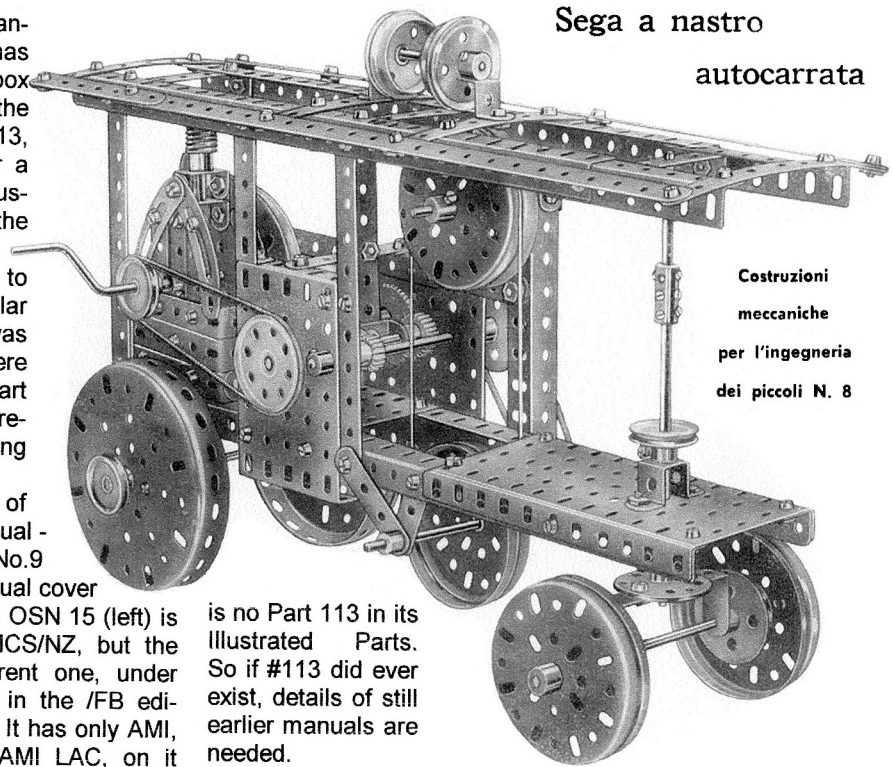
The manual is the same as the 1915 one described in 17/469, and the Set Contents are identical to those in it (see MCS), except that the quantity of Nuts in Sets 20/21 is given as 44/67.

Parts. The Strips are .65mm thick and vary in width from 9.4 to 9.6mm. Holes are 3.2mm and the spacing varies from 9.96 to 9.98mm. The Saw Blade & Fan are similar to STABIL parts but smaller in diameter. [The sizes given in OSN 17 are the same as STABIL parts.]

The N&B were missing from the Set but the **thread** on the Screwed Rods has an o.d. of 3.15mm and 40 tpi [so probably 1/8" BSW]. The jaws of the Spanner are 5.8mm wide.

Date. The box label indicates 1919 or later, and the prices in the manual could be either from before 1918 or from December 1923 onwards (with high inflation in between). So it's reasonable to think the Set is from 1924 or later.

Sega a nastro autocarrata



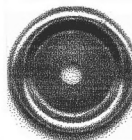
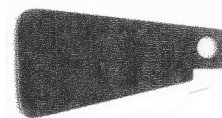
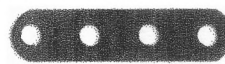
is no Part 113 in its Illustrated Parts. So if #113 did ever exist, details of still earlier manuals are needed.

Some PFIFFIKUS Parts David Hobson kindly lent me some parts which he found in a mixed lot, and identified from a small photo in *Baukästen*, p218, as very likely to be PFIFFIKUS - a small German system, said to be from the 1930s, maker unknown. The hole pitch is 12.5mm and unusual features are Strips a little narrower than normal, holes a little larger, a small Windmill Sail, a pressed Half Road Wheel, & 2 SAS (Single Angle Strips). Screwed Rods are used as axles.

• **DATA** (in mm) **Strip** (11-hole): •Hole pitch/dia, 12.5/4.5; •width, 10.9; •thickness, .65; •ends semi-radiused. **Boss, Axle Dia, DP (Mod):** N/A. **Thread, N&B:** not known.

The different parts in David's haul are listed below. All holes are round and vary from 4.4 to 4.5mm Ø.

• **Strips**, 2,3,4,5,7,9,11h, mostly 11.0mm wide & .70mm thick, with ends cut well back, sometimes to 2½mm outside the end holes. The 4h is shown below.



• 1*3*1 & 1*5*1 **DAS**; 1*6 & 1*10 **SAS**; and an **A/B**, all made from the appropriate Strips.

• A 3*7h **Perforated Plate** with very small corner radii. A **Windmill Sail** (left), 45mm long o/a & 23mm wide - it is shown on a Windmill in *Bk* (bolted to an 8h Wheel Disc),

but in the little Biplane that David made with his parts, a pair bolted together make a good propeller.

• The **Half Road Wheel** (left) is 28½mm Ø & 3mm deep. The centre hole is 4.3mm, and it is surrounded by a flat circle of 18mm Ø. Two together give a complete 'tyre', and back to back a pulley of sorts.

• The parts are well enough made for what was probably a cheap set, though the holes in some Strips are slightly off centre and the hole pitch not quite correct in some pieces. All are plain steel with no sign of paint or plating, but in *Bk* the Half Wheels have a brass look.

• A 2-ended **Spanner** can be seen in the photo, with hex openings; one end is straight and the other is cranked & angled.

A modern dictionary gives 'artful dodger' & 'sly dog' as meanings of Pffiffikus, but a prewar one prefaces those by 'clever fellow'.

Four more Systems for MCS

Jeannot Buteux/Constructorama has kindly sent MCS material and some extra notes for the following.

'New' System - HASSIA

The only outfit known is the No.A, from 1948, made by Metallwarenfabrik Oberbiel K.G. of Oberbiel über Wetzlar. This town is near Wetzlar, some 50km north of Frankfurt, and just to the east of Gießen (Lahn on an older map). The 15 different parts are similar to TRIX but with slightly larger holes, 4mm instead of 3.6, at very slightly longer pitch, 8mm against 7.8.

One type of Set is known and is packed in a large box, 26*29cm square. The lid has the name, the maker, a lion logo (left) & the huge Big Wheel above, some 120cm high, with 12 cars. It can't be seen how it is driven. The parts are attached to a backing card.



A different box (top right) is shown in the manual, and a Boat & the letter 'A' can be seen on its lid. It scales at only 18cm long but the very small manual would still fit into it without folding.

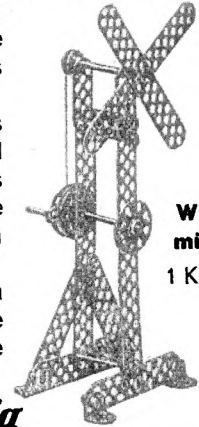
The parts with quantities in curly brackets (given in the manual as contents of Set A) are: 5,9,13,17h (along centre line) Strips {4,4,2,4}; DAS, about 5h long {2}; Angle & Dou-

ble Brackets {4,2}; 8h Discs {4}; Washers {3}; a Hook - the one top right in the manual box looks to have only one hole in its (flat) ball; N&B - they are missing from the known Sets, and are thought to have been in paper packets {25,30}; 2 Spanners.

The Strips are red, the angled parts dark blue, the Discs & Hook yellow, and the Washer bright steel. All the paint is matt and comes off easily. Otherwise the parts are of average quality, but apart from the DAS, are of rather thin metal.

The manual is 162*82mm and has a plain cover with the words below on it. The models need one or more of Set A, & one is shown far right, actual size.

Modelle zum Hassia Baukasten



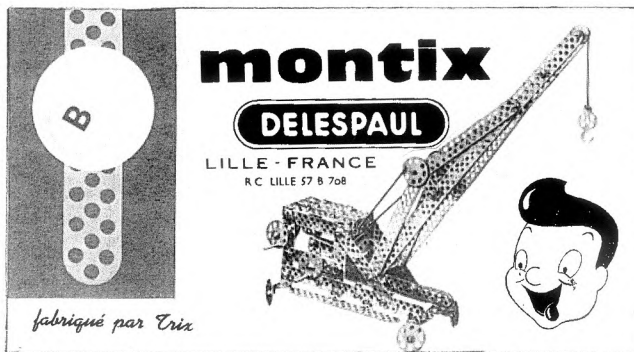
Windmühle
1 Kasten

MONTIX

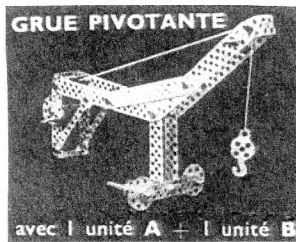
The name was mentioned in 11/291 and the parts are identical to TRIX except in colour. They were made by Trix/France for a French firm called Delespaul, of Lille, makers of biscuits, confectionery, etc. Sets were given away to those who collected enough 'points' from their products. Perhaps rather like the BAUFIX clone CRÈME ÉCLIPSE (MCS & 6/136). All the relevant MONTIX names are on the box top above (full size 155*83mm).

Sets are known from 1964-65, & 5 were available, Units A, B, C, D & G. Their contents were identical to UK sets except that the 'G' had 60cm of Chain instead of '18". A Manual, and Packets containing N&B, or five 55mm Tyres, were also available.

The parts comprised the whole French/UK TRIX range except for the electrical



fabriquè par Trix



items and the larger size Tyres. No motor was offered. All parts were of excellent quality, with a first class paint finish, special for MONTIX - light blue long Strips, bright red short Strips & Hook, zinc plated DAS & Double Brackets, nicked A/Bs & Washers; brass plated N&B, Screwed Rods, & Spanner.

As an interesting aside Jeannot wrote that Trix/France made painted parts - in dark blue & dark red (bleu marin, rouge bordeaux) - from 1958. Also that the colour of parts stamped 'TRIX ECF' (MONTIX parts weren't stamped) are quite close in colour to the MONTIX shades. However the significance of the letters 'ECF' is still not known.

8 small models are shown on a Delespaul leaflet about MONTIX, and all but the Radial Crane left were in the TRIX manuals to hand.

RUR Another name from 11/291, and this time it's that of one of the many small sets that appeared in Germany soon after WW2. In this case the sole set contained 20 different parts, conventional looking but with 12.0mm hole pitch, & some are brass or copper plated. The parts are badly made & the holes vary in size from 3.5 to 3.7mm. There's nothing on the box or manual to indicate the maker and the name RUR isn't on the manual cover (right). No firm date is known and any time between 1946 & 1950 is possible.

A list of the parts with quantities (from the manual) in curly brackets, follows - no illustrations are available but most types can be seen in the Signal and Windmill models.

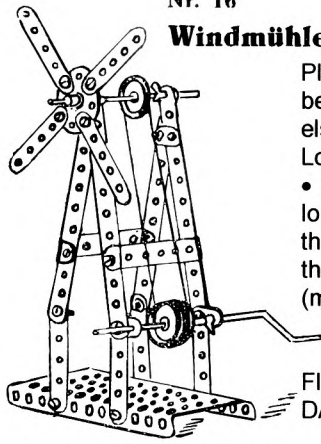
• Strips, 1.2mm thick, with 3,5,7,11,25h {2,10,1,6,4}; 1*5*1

OSN 23/660



Nr. 16

Windmühle



DAS {4}. • Angle & Flat Brackets {8,4}. • A Flanged Plate, probably 5h wide despite being drawn with 4 in some models. • A Bush Wheel, a 12mm Loose Pulley, & 6x 25mm Pulleys. • 11.5 & 5cm Axles {3,1}; a 17cm long Crank Handle. • 4 Collars, though Spring Clips are shown in the models. A Hook. • 30 N&B (missing from the known set).

The parts are of polished steel except the brass plated Flanged Plate and copper plated DAS, A/Bs, & Pulleys.

The only set known is in a box 30½*15½cm, with a label 15*20mm. Its centre is shown top right. No indication of size is given on the box or in the manual, so there are probably no other RUR outfits.

On the manual cover (207*143mm) it is said that

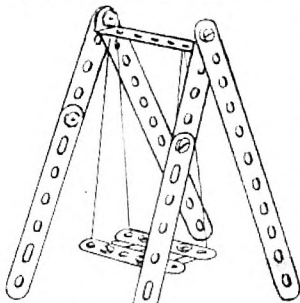
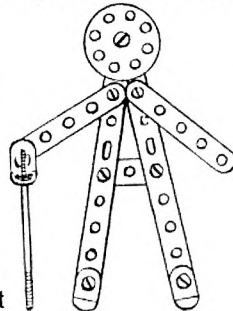
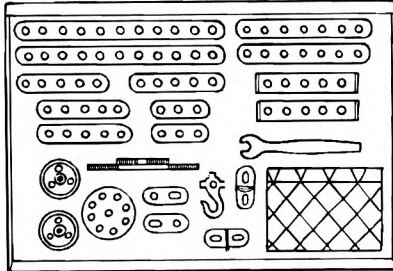


instructions for 30 models are included. A rather poor line drawing, and the Parts Required, are given for each of the 3 to hand.

D.V.s INGENIØR This Danish system was mentioned in 16/444 and Jeannot wrote that the parts are colourful and of quite good quality. They are mostly like MÄRKLIN but the hole pitch at 12.5mm is slightly less. No precise dates are available but the system is known to be from the 1930s. [The spelling of certain words was changed in 1939, when for example 'Baand' became 'bånd'.] D.V.s was made for a department store called Daell by K.A.Birk & Co. of Copenhagen. This firm also made METALLO, another 1930s Danish system - some 90% of its 80 parts had a MÄRKLIN look to them, so it's possible that many D.V.s parts are from that range. Full details of METALLO, including the hole pitch, aren't available though.

There were 6 D.V.s sets, Nos.7200A to 7200F, & details of the Illustrated Parts/Set Contents for the A & F Sets are to hand. They differ in character with Screwed Rods as axles in the A, and normal Rods & bossed parts in the F, but I don't know for sure that they are from the same period.

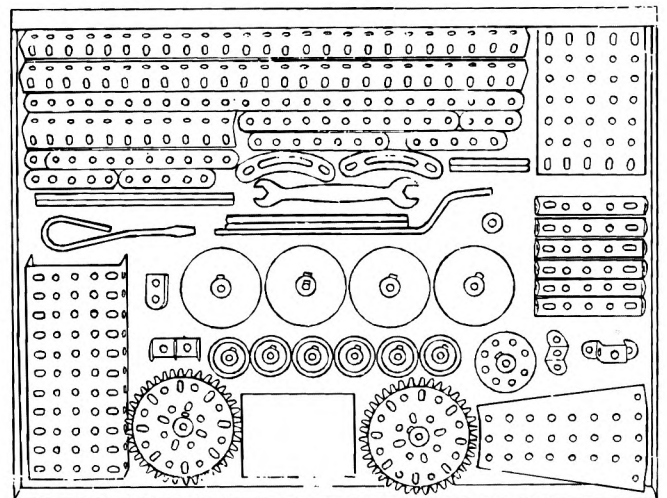
The A Set is shown below and all the parts can be seen



in it except the 10/8/4 NBW. Apart from the Hook the parts, the Pulley for example, appear to be nearer to MECCANO than to MÄRKLIN. Screwed Rods are 7.5 & 3.0cm long, and the Pulleys is 25mm Ø.

The Strips are called Pladejern but the 7h has a different name, flade Baand, and is shown in the models above to have some slotted holes.

The F Set is shown at the top of the next column. 6 of the A parts are not in it, including the 7h Slotted Strip, and the DAS is modified with MÄRKLIN style outer slotted holes in the top. All the other parts look to be MÄRKLIN pattern except that the Double Brackets look narrower; there is a 1*2h A/B (not illustrated);

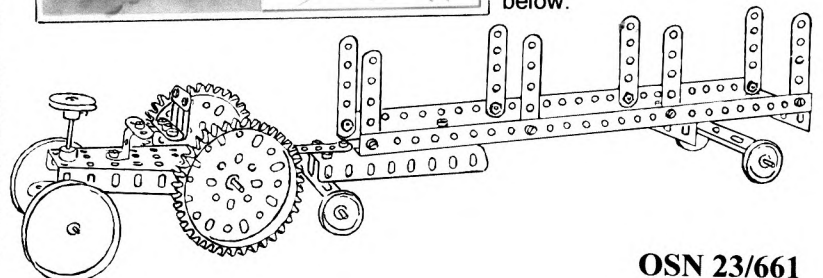
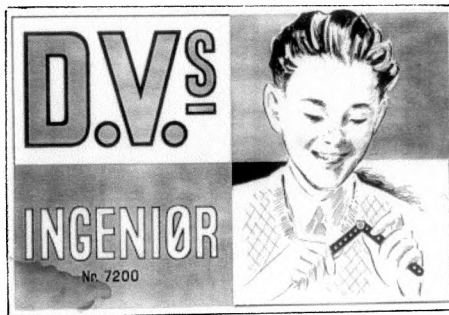


the 50mm Pulleys have no face holes, and the Tools are different. The Gear Ring pushes over the 6.5cm Flanged Disc Pulley of course, and in different drawings is shown with either 38 or 39 teeth, against the 40 of the MÄRKLIN part. The Axles are 13, 11.5, & 5cm long.

Quantities. 4,12,4,2,8,6 of 3,5,7,9,11,25h Strips; 4 Curved Strips; 4x 11h A/Gs; 2 Flanged Sector Plates; & 40 N&B. The other main parts can be seen above.

Strips & A/Gs are painted green, Plates red, large & small Pulleys beige, and other Pulleys blue. Some small parts are made of unpainted aluminium, and short Strips are of polished steel. Other parts, believed D.V.s, have been found unpainted.

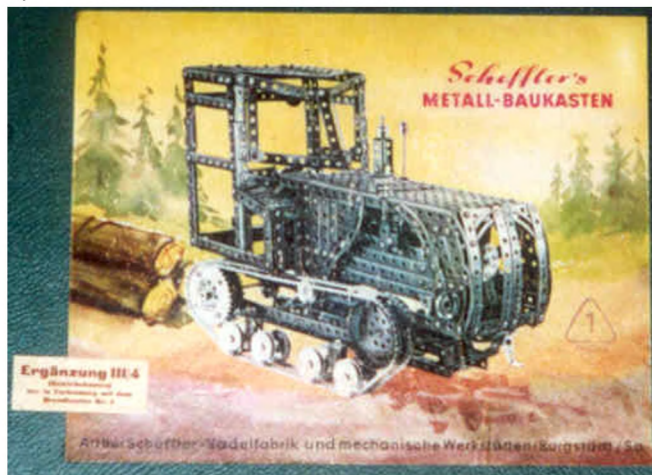
The manual, 240*164mm, includes models for all the sets, and has Nr.7200 on the cover (left) under INGENIØR, if it can be seen. The three F models to hand have no title, model number, or parts list - one of them is shown below.



SCHEFFLERS to BURGSTÄDTER Chris Freeman kindly sent photos and some details of 3 sets that he had obtained as one lot. They have much in common with each other, and with BURGSTÄDTER, but one has the name SCHEFFLERS METALL-BAUKASTEN on the box lid & manual, while the other two, have only METALL-BAUKASTEN. (In both systems the name occurs with & without the hyphen.) SCHEFFLERS & BURGSTÄDTER are mentioned in *Eisenzeit* & *Baukästen* but not, as far as I can see, plain METALL-BAUKASTEN.

SCHEFFLERS A few details of this system were given in 15/418, and Chris confirmed that the hole spacing is 12.8mm. What appear to be early sets are shown in MCS/NZ, and their lids labels carry the name but no picture of any sort. The range of parts at that time looks to have been the same as later on, likewise the outfits, with standard sets Nos.1, 2 & 3, linking sets 1/2 & 2/3, and an add-on set with gears, III/4. (Later the linking sets are usually listed as I/2 & II/3.) The III/4 is said to be newly introduced. Tafel 66 in *Eisenzeit* shows SCH sets in red, light green, dark green & yellow boxes but no details are given and the only lid that can be seen is like the one described below.

Chris's set is a III/4, and the label on its lid is shown below. Both it & the manual with the set (described below), carry the name and address of the maker. Inside the manual, and on its cover, are photos of the sets, and their layouts have been changed somewhat from the MCS/NZ ones. The Set Contents has a blank column headed Nr.4 but whether this was a set that had come & gone, or whether it was one that it was hoped to introduce, isn't known. There is no mention of a set with a Motor but one is shown in *EZ*, Tafel 66: the Motor looks like the one in the BUR No.7, see 12/325, but the parts that can be seen don't entirely correspond to the contents of the BUR outfit.



The III/4 is packed in a dark green box, white inside with red partitions. The label is in full colour except that the coloured parts in the system are all shown grey. The actual colours are mostly similar to those in the BUR sets described in 12/324 & 18/507. Thus most parts are dark grey, with nickel Bush Wheel & Sprockets, and brown plastic Gears, though they look a medium shade rather than the dark BUR colour. The main difference is the green Flanged Plates in SCHEFFLERS.

A SCH No.3 Set in a red box is shown in *EZ*, and the parts are housed in recesses in a yellow plastic tray. This was no doubt a later SCH packaging because the same type was used in the M-B sets to be described.

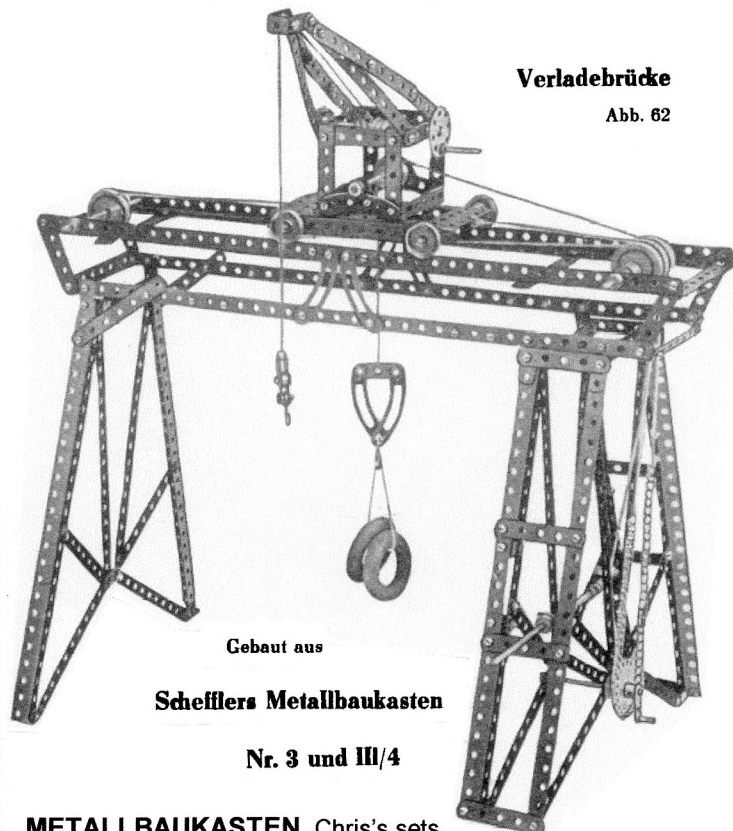
SUMMARY OF MANUAL •Name: Schefflers METALLBAUKASTEN
 •Details of maker: ARTHUR SCHEFFLER, BURGSTÄDTER IN SACHSEN
 •Dates &/or Ref Nos: PR: VEB DBH, Werk II Frankenberg III-10-6 K 889-66 12,5T •Page size: 210*147mm deep. •No. of pages: 64+covers.
 •Language: German. •Printing: B&W ½-tones with blue band on cover.
 •Page Nos. of Parts List & highest PN: 59-62,56. •Page Nos. of Set Contents & highest PN: 63-64,57. •Sets covered: 1,2,3,3+III/4. •No. of models for each set: 11,5,5,14. •Name, Model No., Page No. of first & last model of each set: 1: TISCH,1,6; HAMMERWERK,11,13.

2: ARMBRUST,12,14;
 Dampfmaschine,16,18.
 3: Bogenbrücke,18,20;
 GESCHÜTZ,29,27. 3+III/4:
 BRIEFWAAGE,50,37;
 SCHIFFSCHAUKEL,72,56

•Other notes: • The Model Nos. above are Figure Nos. (Abb.) & the 'missing' ones show details from the models. • Abb.

33-49 (pp30-36) are standard constructions & pulley/gear drives.

The manual is much more comprehensive than the BUR one of OSN 12. A number of 3+III/4 models are included but none are very large since the 2 sets boast only 160 Bolts between them. Some of the better models are a skeletal Helicopter (with a Cord drive to the tail rotor), a Big Wheel, a Windmill Pump, & the Gantry Crane below.



Verladebrücke

Abb. 62

Gebaut aus

Schefflers Metallbaukasten

Nr. 3 und III/4

METALLBAUKASTEN Chris's sets

are a Nr.1 & a Nr.2, and each has the same manual. They are packed in red boxes but the whole of the top of the lid is printed in colour with a similar picture to the SCH label opposite. The only text is METALL-BAUKASTEN Nr.1 (or 2) in black in place of the red *Scheffler's* METALL-BAUKASTEN. The manual is very similar to the SCH one, and the cover is shown in the SCHEFFLERS entry of MCS/FB. (Taken I suspect from an M-B manual.) On it 'Bauanleitung für' (building instructions for) replaces 'Schefflers', & the photos of the sets have been updated. Inside there is no longer any reference to Scheffler and on the inside cover is the new maker, 'VEB METALLSPIELWAREN 9112 BURGSTÄDT'. The PR is 'III-8-9 KI 654 73 1502'. In the Set Contents the blank No.4 column is replaced by one for a Motor set (Elektro-mech Mbk), with the same parts as the BUR No.7.

The rest of the Set Contents are as for SCH, but as already mentioned the layout of the parts in the boxes is different and they fit into yellow plastic trays. The M-B parts look identical to SCH except that treaded Tyres replace the Rubber Rings and the Flanged Plates are blue. The 5h Ø Flanged Disc Pulleys are a darkish red, as in the *EZ* SCH No.3. The Curved Strips look to be dark grey.

A No.3 M-B set is shown on p124 of *EZ* (called wrongly I think, a THALE STAHLBAU TECHNIK set) and its tray is white or light grey. Also the Flanged Disc Wheels in it are plastic and a lighter red. (The outer ring of 16 face holes in

the metal ones has every other one slotted radially - in the plastic variety only every 4th hole is so slotted.) So this set is probably later and the parts in it look to correspond exactly with the BUR ones in OSN 12 & 18.

Other references to M-B are:

- The MCS/FB entry already mentioned. The PR of the manual used is 'III-8-9 KI 61/74 2476' and the sets listed in the set contents are 1,2,3,1/2,II/3,III/4, & the Elektro-Mechanischer Metallbaukasten. 1 to III/4 have the same contents as the SCH sets, and the Elek-Mech the same as the BUR No.7.
- The set/manual described in 16/458 which at the time seemed to be SCH, but now seems likely to be an M-B outfit. All details of the parts & sets are as above.

BURGSTÄTER The 1-6 range of BUR sets have the same contents as the SCH/M-B sets 1-III/4, & the No.7 as the Elek-Mech, as already stated. Sets 6 & 7 were described in OSN 18 & 12, and the lid design and the layout of the parts had again been changed compared to M-B. The No.7 lid is shown below. The only known change to the parts was that the parallel Windmill Blade (left) used in SCH & M-B was replaced by the tapered pattern shown in OSN 12. I believe the BUR part was plastic but I don't know the material of the SCH or M-B Blades, or the colour of any of them. The ones in Chris's M-B No.2 were missing.



Most of the models in the BUR manual (see 12/325) are in the SCH one but a few have been changed slightly, some are driven by the Motor, and treaded Tyres are shown instead of Rubber Rings.



HISTORY SCH is said to have started around 1955 and it seems likely that when the original company was nationalised the name of the sets was changed to the plain, unimaginative, M-B. Then later on, perhaps BURGSTÄTER was added to liven up the name a little. Of course one can't be sure that the different names were not produced in parallel for a period. Very few changes to the parts and sets occurred though the packaging was revised several times.

No firm dates are known and none can be deduced for sure from the manual PRs. However speculation is possible and the known PRs are listed below with the possible year underlined.

SCH (Set III/4, Freeman)	III-10-6 K 889- <u>66</u> 12.5T
M-B (Sets 1 & 2, Freeman)	III-8-9 KI 654 <u>73</u> 1502
M-B (MCS)	III-8-9 KI 61/ <u>74</u> 2476
M-B (Bartlett, OSN 16/458)	KE 51 <u>76</u> III-8-9 690
BUR (Set 6, Hobson, 18/507)	III-8-9 Ke 86/ <u>81</u>
BUR (Set 7, Weston, 12/324)	III-8-9 Ke 44 <u>84</u> 4079

If correct SCH continued well beyond the 'around 1960' advent of VEB mentioned in OSN 12. Also unless there was an overlap between M-B & BUR, the latter was introduced much later than previously thought.

More ERECTION David Hobson kindly lent me a large selection of ERECTOR-type (see 16/434) ERECTION parts that had turned up in a mixed lot. They appear to include most of the main parts from a No.4, and possibly some from another set as well. That's because some of the parts are in 2 colours, with nearly all the OSN 16 No.2 parts in the same colours, though the shades vary, and all those, except the Strips A, plus most of the parts not in the No.2, in completely different colours.

Some notes on the parts follow, with differences from the OSN 16, or the equivalent ERECTOR parts, noted. Except as indicated these parts match those in the No.2, and of the latter, the only ones not found are the small Flanged Plate (MC), the Axles, the N&B, and the Tools.

- **Differences from the OSN 16 parts:** • the o.d. of most bosses is 7.5mm Ø, and all bores are about 4.2mm. • the 27mm Pulley has a wider vee (5.2 v. 4.3), and from what remains of it, the finish is a brass coloured lacquer. • the A/B is nickel plated.

- **New parts are:** • a large radius Curved Girder, E, again with the thicker bracing; • a 21h A/G - not an ERECTOR length, and other differences are that it has slightly rounded corners, 16mm wide arms instead of 13mm, and 6.4mm long slotted holes against 7.1mm; • a Bush Wheel (BT), again lacquered, and the 8 face holes are only 4.1mm Ø (against 4.4mm). • a Motor Pulley (DB), brass like the ERECTOR part but 10mm Ø and bored right through. • a Coupling (P15), brass, 7.5mm Ø and tapped at 7½mm centre. • a 70mm lithographed steel Road Wheel (left), with a flat red centre and a double-sided, 9mm wide,



grey 'tyre', with 'ERECTION TIRE' in white on the outside wall. It is made from 2 formed discs, held by the 8mm Ø boss, with the outer one wrapped over the inner, near the top of the inside face.

- **Colours.** All the OSN 16 coloured parts are present, though with lighter shades of the grey, blue-green, & red.

The additions are 'B' & 'D' in green, 'E' in grey & blue, 'N' in blue, and the A/G & 'MF' in yellow.

- **Clarification.** It may not be clear in 16/434 that the strip that is bent to make the ERECTION DAS is the same width as that of the ERECTOR part, but is made of the thin metal used for the Girders, and the edges of its base are formed like those of the Girders.

SMALL ADS

MECAREP Parts Replica or special purpose machined parts for Meccano compatible systems can be made to order. Also wide range of items available including heavy duty parts, 'Micro' parts for use with 3/32" Rods, and kits of parts for simulated hydraulic rams. C4 SAE or 4IRC's for brochure from Mike Dennis, 102 Broadstairs Road, Broadstairs, Kent, CT10 2RU. Tel: 01843 864624.

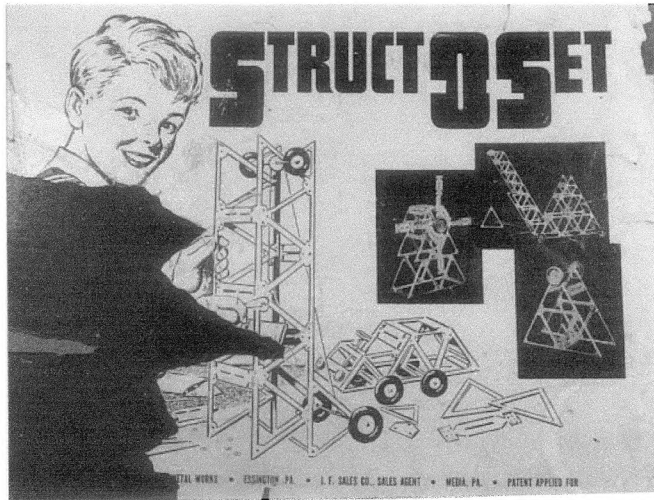
WETZEL Sets My latest sales list includes over 100 items, mostly ERECTOR, GILBERT, or MECCANO. Pre-WW2 ERECTOR prices range from \$85 (1924 #0) to \$10500 (a 1933 #10 Erector Set 'Climax of Erector Glory'); post-WW2 from \$25 (#33100 Gilbert/Gabriel Pocket Erector) to \$900 (a #10084 Amusement Park Set). MECCANO runs from \$85 (a 1956 No.2) to \$4500 (a 1930 oak/glass store display of all parts, 2*2*1ft. Unusual items include a 1918 Briktor (\$650), a 1919 Gilbert Aircraft (\$1650), a 1935 Little Jim (with Rivets, \$175), a 1922 #1 KLAX Clock Set (\$350), a 1905 #A Mechanics Made Easy in tin box (\$2750), and GILBERT MECCANO outfits #5 (red & green parts) & #115 (\$550, \$2300). Also various catalogues, manuals, ads, magazines, etc. Details from George Wetzel, 931 Louise Lane, Peotone, IL 60468, U.S.A.; tel: (708)258-0107; or visit: www.bldgtoys.com/gilberttoys.htm

MCS DATABASE A new edition will be available shortly. It has the same format as before (see 10/249), but has been updated and has 44 pages, with more space for changes/additions. From the Editor, price £7/£7.60/£8.30 (\$13) for UK/Europe or surface anywhere/elsewhere by air. **OSN 23/663**

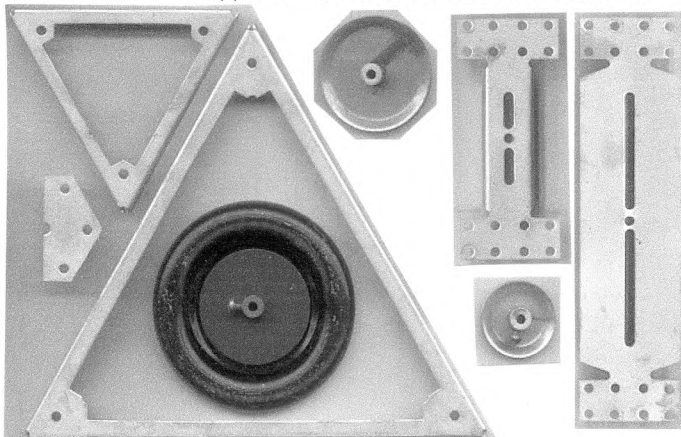
STRUCT-O-SET & TRIANGLE Some TRIANGLE models were shown in 17/488 but now a set has been found; also a STRUCT-O-SET outfit, hitherto an unknown system, which seems to have been an early version of TRIANGLE.

STRUCT-O-SET Richard Symonds kindly sent sample parts and details of his set. It is nearly complete, but without a manual. With it however was a Price List of Parts which also lists the number of each in the Set. At the bottom: 'Additional Small and Large STRUCT-O-SETS, also Motors, will be available in the near future.' Also given are the manufacturer: the Essington Metal Works, Essington, PA.; and the selling agents: J.F.Sales Co., of Media. Both these towns are near Philadelphia.

The box is blue and scales at 15*13". Nearly all the lid is covered by a (torn) white label (below), and as well as the Essington & Sales names at the bottom, is 'Patent Applied For'. Most of the parts are in 4 card trays that fill the bottom of the box, and on top of them is a box size card with a pattern of parts attached to it by 1" long split pins.



The 15 different parts are described below, and those starred are illustrated. All are steel, with a plated or treated finish, shiny once but most parts are now dull. • **Triangles** (called Angles). Large*, Medium & Small* equilateral, flanged triangular frames, sides (measured between hypothetical corners) of 6¼, 4½, 3⅞". On top there is a hole at each corner, and each flange has a hole at either end, plus 2 in between for the Medium size, and 4 for the Large. These holes are spaced to allow Triangles to be bolted together at 2 points, corner to corner. • **Plates** (called Flats), Large* & Small. They are 1⅞" wide with a length overall of 5¼" & 3⅞". The holes at the ends are at .35" pitch and this doesn't match any of the other holes, except the outer holes of the Gusset. The end of a Plate can only be attached to a Triangles by one Bolt. • **Formed Plates** (called Formed, Long & Short). These are the Plates with the centre side portions bent into flanges, sometimes at appreciably less than 90°. The Short* one is shown below. • **Gusset***. 1⅞" wide with, for no apparent reason, a 'half hole' on the bot-

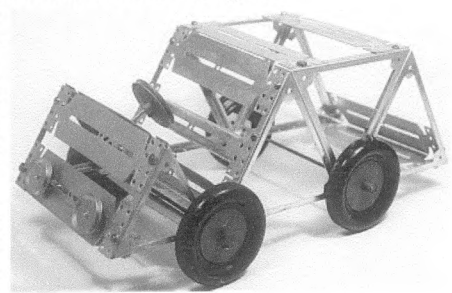


OSN 23/664

tom edge. • (Road) **Wheel***. This part is a black disc formed around the edge into a 'half tyre', with a central red disc held by the boss. It looks very similar to the ERECTOR part but is smaller at 2¾" Ø. • **Pulleys**. 1* & 1½"* o.d. and about .17" wide at the rim. • **Shaft**. 6½" long & .124" Ø, with sheared ends. • **N&B**. Plain steel with a 4-40 thread, the pressed hex Nuts are .242" A/F, and the roundheaded Bolts are .205" Ø with .19" u/h. • The **Span'driver** (see the TRIANGLE illustration) is 3¼" long. • **Bosses**. Steel, .28" Ø, single-tapped, with the standard Bolt as set screw, and a bore of .126". Peening is a small ring. • **Holes**. Most are .120"±.002" and so the Shafts won't go through them. Some are slightly larger, typically .127", notably the apex hole in the Gusset, the centre hole (& slots) in the Plates, and some of the holes in the tops of the Triangles.

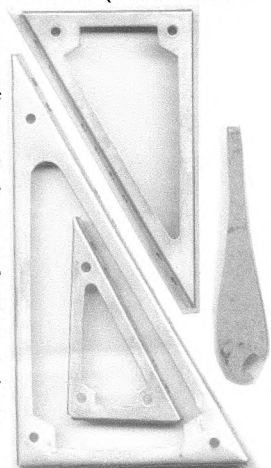
The main parts in the Set, from the Price List, are 52 Triangles, 16 Plates, 10 Formed Plates, 6 Gussets, 4 Wheels & Shafts, and 2 each of the Pulleys.

The model opposite is one that Richard made from the drawing of it on the lid.



TRIANGLE Kendrick Bisset has found a set, and kindly sent photos & notes. The box seems to be exactly the same as the STRUCT-O-SET (SOS from now on) one, and measures 15½*13½*3". The label on top of the lid is completely missing but one on its inside extols the virtues of TRIANGLE. There is no positive indication of this Set's number: the Model Sheet has models for Sets 1, 3, & 5 and the label mentions that Set No.3 has an electric motor. A motor was with the Set but as explained later it is not thought to have been part of it originally. The Model Sheet bears the name 'The TRIANGLE Co.', followed by 'Media/Penna' crossed through, and stamped underneath is 'ESSINGTON METAL WORKS, 209 SAUDE AVE., ESSINGTON, PENNA'. Also there is 'Copyright 1947'.

Many of the parts are identical to SOS though several of their names are different. The main changes are that the Formed Plates are no longer present, some extra 'Half Triangles' have been added, & the Plates are painted. In more detail: • **Triangles**. They are the same as the SOS ones. Kendrick noted that some of these parts have a small hole at the junction of the flanges at each apex, and that these have a shinier finish than the others. This is also true of the SOS parts. He also pointed out that the sizes of the 3 parts would have allowed the 'waste' from the inside of one to be used to make the next size down, but that in fact not all the parts were made from the same thickness metal. Again this is true of SOS. • **Half Triangles**. The name given to right angle Triangles, with 3 sizes, and right & lefthand versions of each. Each hypotenuse is the same length as the side of one of the Triangles, and the depth of the flanges match too. Below right, one of each size. • **Plates** (called Side Plates). Again the same as SOS except that the Large version is painted red and the Small yellow. Kendrick remarked that these parts look as if they were designed to be something else. • **Holes**. All in the Triangles are about .120", and all in the Plates are about .125". • **Shaft**. The diameter is .120", a little smaller than in SOS, and so they just enter the holes in the Triangles. • **Crank Handle**. This part is used in some models but has not been seen. • **Other parts**. The Gusset, Wheel, Pulleys, Span'driver (right), N&B are as SOS with very

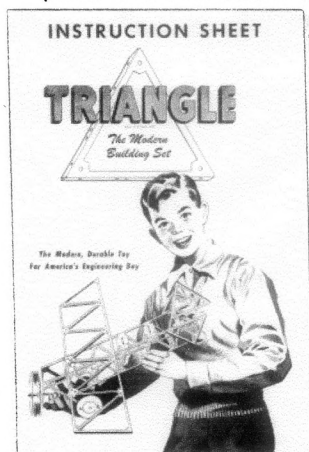


small changes in some dimensions - for example the Bolt heads are .212" Ø. On closer inspection of the model drawings it appears that the **Trunnion** mentioned in OSN 15 was a figment of my imagination.

The parts found in Kendrick's set were 36 Triangles, 12 Half Triangles, 20 Plates, 8 Gussets, and the same number of Wheels, Pulleys, and Shafts as SOS.

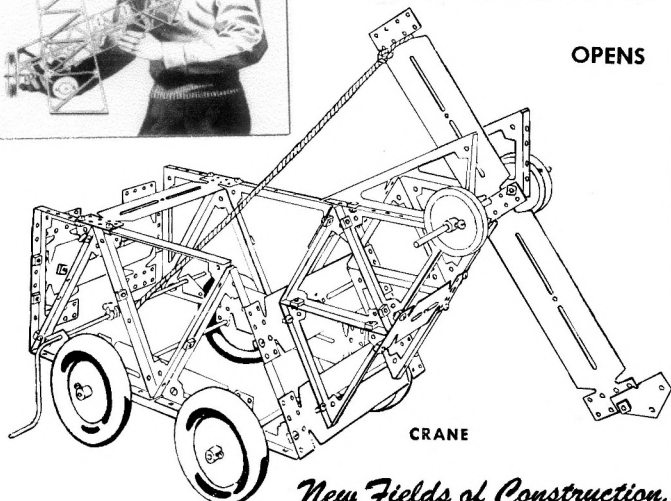
An illustration of a **Motor** (below) is shown on the label inside the lid and also in one of the models. The words along the top are 'TRIANGLE POWER HOUSE'. Actually in the Set was a red THE CONSTRUCTIONER Motor, with open gearbox, as shown in 9/206 & MCS, p3/4c. It was sitting in the bottom and the corner of the parts card had been cut away to accommodate it. However even on its side it is too big to allow the box to close properly, and the cutout in the card prevents the proper pattern of parts being attached to it.

The **Model Sheet** is 18½*25", folded 3 times to a size of about 9¼*6", and is printed on both sides in B&W. The front panel is shown below. 8, 4, & 4 models are illustrated for



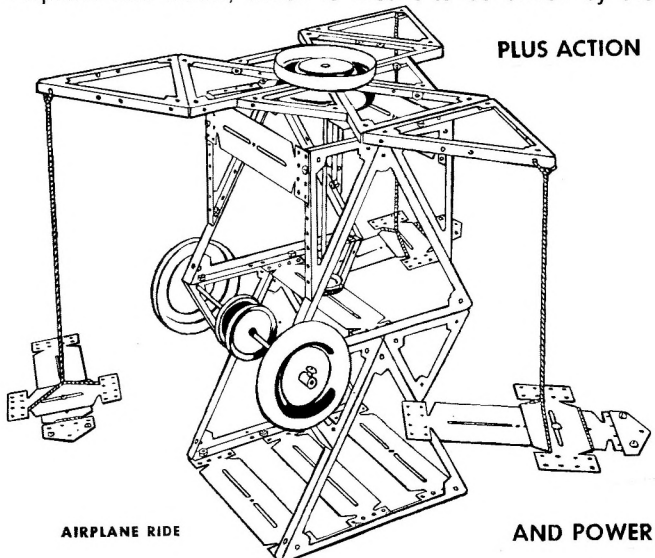
Sets 1, 3, & 5 respectively, all line drawings except that 2 for each set are photos on a black ground. Part of the Sheet showing the No.1 models is identical to the fragment that was used for the OSN 15 account. Other No.1 models include a Tank, a Pile Driver, & the 'Crane' below. The Crank Handle can be seen in it.

THE № 5 TRIANGLE SET



New Fields of Construction.

No new parts can be spotted in the No.3/5 models. The No.3 models include a Mixer, a Wind Tunnel Fan, and the Airplane ride below, which is meant to be driven by the



Motor. A Hay Wagon and a Boring Mill are among the No.5 models, plus a fair Bridge - the parts are quite well suited to such a model. By the look of it the Mixer & Boring Mill don't have any movement other than rotation of the main spindle.

None of the TRIANGLE models are exactly the same as those on the SOS label, but a couple are quite similar. All the rest of the SOS label models, except the large Crane, have a somewhat different TRIANGLE equivalent.

The KARL MARX ROCKET BUILDER Remember Mystery Parts No.29, now Kendrick Bisset has found the Set that they came from, and kindly sent some photos of it, and the following notes (with translation courtesy a friend).

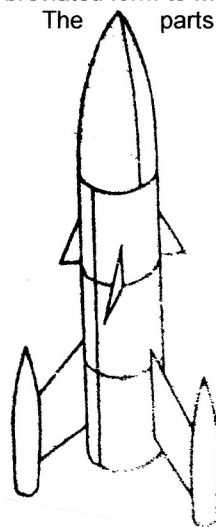
'It is a rocket builder construction set from the former Soviet Union, with no separate manual, but the 14 different parts, and 8 models are shown inside the box lid.



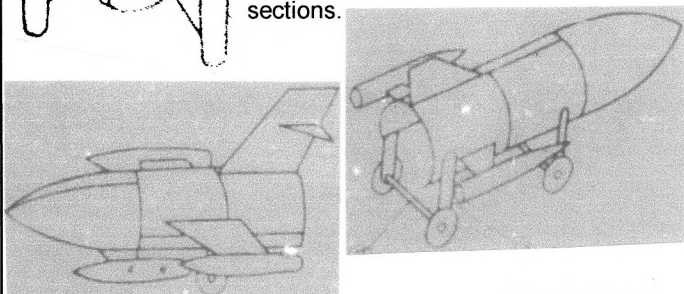
The box (above) is about 11*16*1½", and the top has the rocket in red & brown on light blue. The markings on the edges are the 'rocket builder' (ПАКЕТОСТРОИТЕЛЬ which transliterates to RAKETOSTROITEL') on the sides, & 'Constructor' on the ends, together with the 'KM' in a diamond logo, and details of the manufacturer. The latter translates as: 'Ministry of Machinery | for light [machinery], food processing & appliances [chemical] [textile] [machine] | Leningrad Machine Building Company | named after Karl Marx | addr. Leningrad, K-44, K. Marx Prospect [street], 66.' There follow some standards numbers, presumably under which the outfit was manufactured, and in small letters, the price of 4 roubles.

The 'K-44' is a post office box - my friend suggests that this might indicate some more secret activities of the factory. The words translated in brackets are combined in abbreviated form to make one long word in Russian.

The parts match the description in OSN 15 except that the Wheels in this case are white plastic. Bolts are 0.115", 50 tpi, probably M3 (3mm, 0.5 mm pitch), but the fit is very poor, and many of the Nuts & Bolts do not run together. No tools were found in the Outfit.'



The main parts in the Set can be seen in the 3 models shown here: 2 Nose Sections, 9 Curved Body Plates, 3 each Large & Small Fins (though there are 5 among Dave Taylor's parts), 6 Nacelle Halves, & 4 Wheels. The model on the box lid shows some artistic licence, with the parts incorrectly coloured, and tapered body sections.

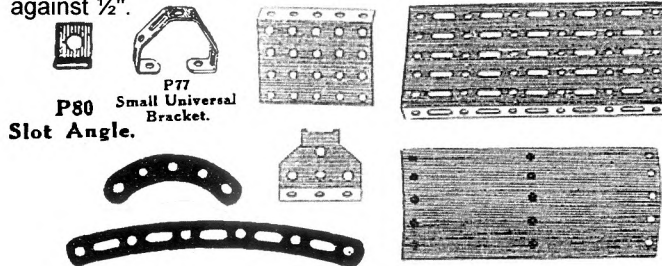


STEEL ENGINEERING The parts of this early 1920s U.S. system are shown in MCS - these notes were triggered by Josep Bernal kindly sending a photocopy of Instruction Book No.2.

First something of the history. STEEL ENGINEERING (S T) was sold by the Kelmet Corp., 200 5th Ave., New York, and accounts of its origins are given in the Jan. 1983 *S. Cal. N/L*, & in *Greenberg 1*, p28. They differ slightly but in essence the story goes that a group of toy salesmen decided to form a company to sell new products alongside their employers lines, and its name was made up from the initials of their surnames (except that a 'C' was changed to 'K', to avoid a possible 'cellmate' connotation). A.C.Gilbert was to make the new items at New Haven and probably controlled or owned the company, if not from the outset, certainly by 1923 or 1924. S E was patented in 1922 (though the patent hasn't yet been traced) and was on sale in that year. It is presumed that Gilbert was using S E to try out ideas for his New ERECTOR announced in 1924. No doubt S E died at that point, but the Kelmet Corp. was later used by Gilbert to market other products.

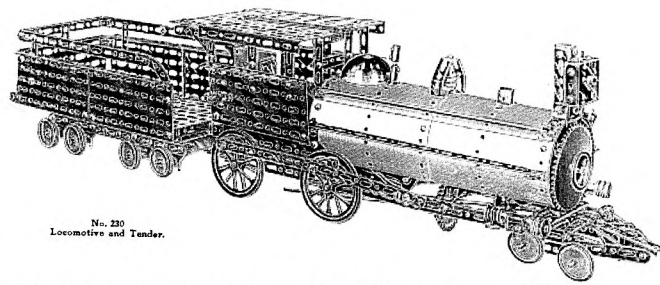
The Parts There were 40 in all and, with one or two exceptions, all the non-structural parts appear to be standard pre-1924 ERECTOR items. They included the 5 Axles, the 8 Gears, the 2 $\frac{7}{8}$ " \varnothing , 12-spoke, Grooved (Pulley) Wheel, and the N&B. Some retained their ERECTOR 'P' prefixed PN; others, including all the Gears, had the same PN prefixed by 'X', but what, if anything, this signified isn't clear. Of the exceptions the main one was the Pierced 24t Gear, with a ring of 8 face holes, which was listed as well as the standard (non-pierced) version. I believe that at the time the equivalent ERECTOR part had only 2 face holes and this was changed to 8 in 1924, when the non-pierced version was dropped. The other was the $\frac{1}{2}$ " Bolt which wasn't listed as an ERECTOR part until 1929 (and all the N&B PNs have the 'N' & 'S' prefixes that were only used post-1924).

12 of the 15 structural parts were new and all had 'P' PNs, which except for P79, were never used for ERECTOR parts. 3 or 4 of the new parts look just like later ERECTOR parts: the Car Truck (the Trunnion below) & Double Bracket, which were introduced in 1924 as P79 & M respectively; the Universal Bracket (below) which became #AC in 1927; and perhaps the P80, Slot Angle (below, left), which hasn't been seen but may be the Slotted Right Angle, CH, of 1924. If so it was quite similar to the pre-1924 Small Right Angle (also an S E part) except that it was $\frac{13}{32}$ " wide against $\frac{1}{2}$ ".



The parts that did not enter the ERECTOR system were • 2", 5", & 11" Girders (Strips with the length measured between the centres of the end holes); and the Large & Small Curved Girders (above). The end holes of the latter are slightly elongated. The straight Girders had the alternate hole/slot pattern of the Large Curved Girder, with the holes at 1" centres and the slots $\frac{1}{2}$ " long o/a. A hole over the centre of a slot could be obtained by bolting on a 3h (MECCANO-type) Strip. The 2 Girders to hand (courtesy David Hobson) are 1.6mm thick and vary in width from 12.5mm for an 11" to 13.1mm for a 5". Holes are 4.3mm \varnothing . Both parts seemed to have been rather roughly made, but perhaps they had had a hard life. • 2 Single Flanged Plates, and a Curved Plate (all above). In the Loco top right, the latter appears to be 5" long between hole centres.

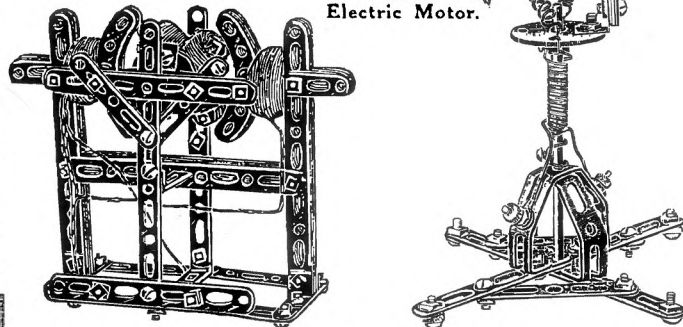
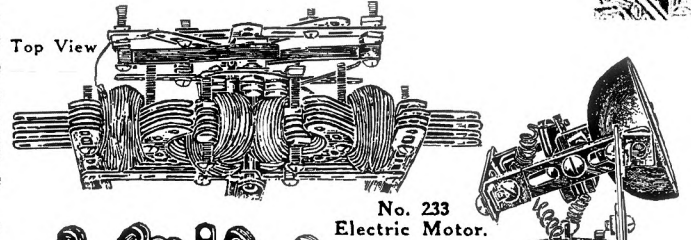
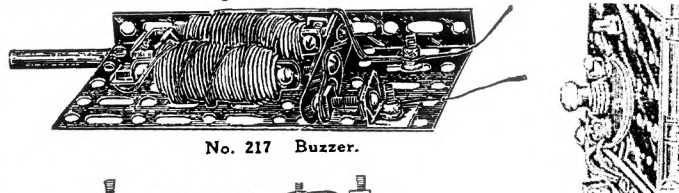
These parts were replaced in the New ERECTOR by the familiar braced Girders with formed edges (3 straight, 2 $\frac{1}{2}$ ",



5" & 10" long, plus 2 Curved); 2 Single Flanged Plates, as in the Shaper on the facing page; and a 1-piece Boiler.

All the S E parts were painted black except the Gears, Trunnion, & small Brackets, which were nicked.

There were also some electrical parts in an electrical accessory set (see below), and the following can be seen in the manual models below: Insulated Wire (no doubt cotton covered) in the Motor windings & the coils in the Buzzer (wound around Girders); a Bulb & Bulb Holder on the front of a Tram; a Reflector, a Knurled Nut, & probably an Insulating Washer in the Searchlight; and a Brush Strip in the Motor (towards the bottom of the Top View, bearing on the Bolt shanks forming the armature).



The Outfits There were constructional sets Nos.1,3,5, 10,25 & 35, plus an 'Electrification & Illumination Set', No.20. MCS/FB also mentions Sets I & II, but no details are given. What looks like 'No.2' at the top of p5 in MCS should read 'No.25'.

No Set Contents are known but Sets 1 - 10 are illustrated on a 1922 Sears Roebuck catalogue page (kindly sent by Richard Symonds). Their prices range from 89c for the No.1 to \$8.98 for the No.10, all a little below the Set No. In dollars. The main parts that can be seen in the No.1 are all the Strips except the Large Curved Girder, the Large Flanged Plate, 4 Pulleys ($\frac{1}{4}$ " \varnothing), & a Gear Wheel. Extra in the No.3 are the Large Curved Girders, 2 Small Flanged Plate (shown white as if it was a nickel part), Universal Brackets, 4 Spoked Wheels, and a 3", 50t Gear. There was a P58 Motor in the No.5, and the No.10 included a Reversing Base for it, and 4 Trunnions.

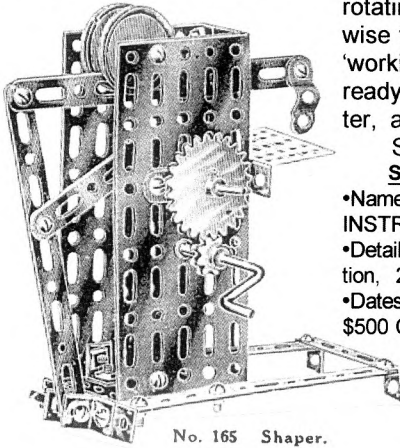
The sizes & shipping weights of the sets were; No.1, 8 $\frac{1}{4}$ "*12*1 $\frac{1}{4}$ ", 2lb; No.3, 10*18*1 $\frac{3}{8}$ ", 2 $\frac{3}{4}$ lb; No.5, 10*18*2 $\frac{1}{2}$ ", about 5lb; No.10, in a stained wood cabinet with hinged cover, 17*10*3", 10 $\frac{1}{2}$ lb.

The Manuals Josep's is described later and has models for Sets 5 - 35. It is said on the cover that models for Sets 1 & 3 are in Instruction Book No.1. The models are generally of fair appearance with some much better than

average, particularly where good use has been made of the Curved Girders. Mechanical aspects do not usually extend beyond simple Cord, Chain, or Gear drives, and none of the Vehicles has any form of steering. Many of the larger models are Motor driven. It is hard to follow the construction of some of the models. As a simple example of this, in the rather nice Pile Driver shown below (full-size), the tupp is raised by the Worm on the f&a horizontal Shaft driving the Gear above it, and then falls when the Worm is disengaged to the position shown. But I can't see what supports the RH end of the Worm Shaft, or how it is moved. The same method of Gear engagement is used in the Ship Crane below, and was used in a number of ERECTOR models. In the Crane current for the Motor passes through a Brush Strip at the top of the tower. In the Loco (left), the steam dome is the Reflector & the main wheels are driven by gear plus chain drives from a Motor inside the front of the boiler.

As might be expected many of the models were re-worked and included in New ERECTOR manuals. One of the more interesting of the smaller S E models, a Shaper, is shown below (left) together with its ERECTOR equivalent. In the latter the ERECTOR Girders look out of place as mechanical parts but the Strips (1 1/2" wide with holes at 1/4" pitch) are very neat & very useful. Other large S E models which were later transformed into well known New ERECTOR models included the Crane below; a Ferris Wheel, with 4 gondolas hung from a 2' Ø circle of Large Curved Girders; and a Coal Conveyor.

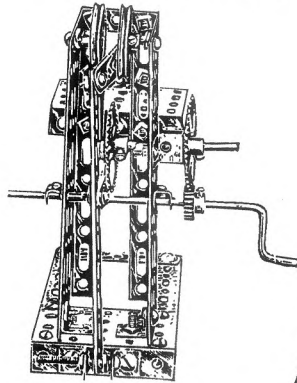
The Set 20 electrical parts are mostly used to light up the larger models and in some cases to lead current into rotating assemblies. Otherwise there are, as well as the 'working' electrical models already mentioned, a Volt Meter, a Telegraph Key, and a Sounder for it.



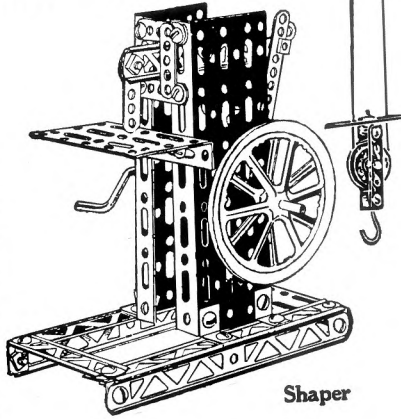
No. 165 Shaper.

SUMMARY OF MANUAL

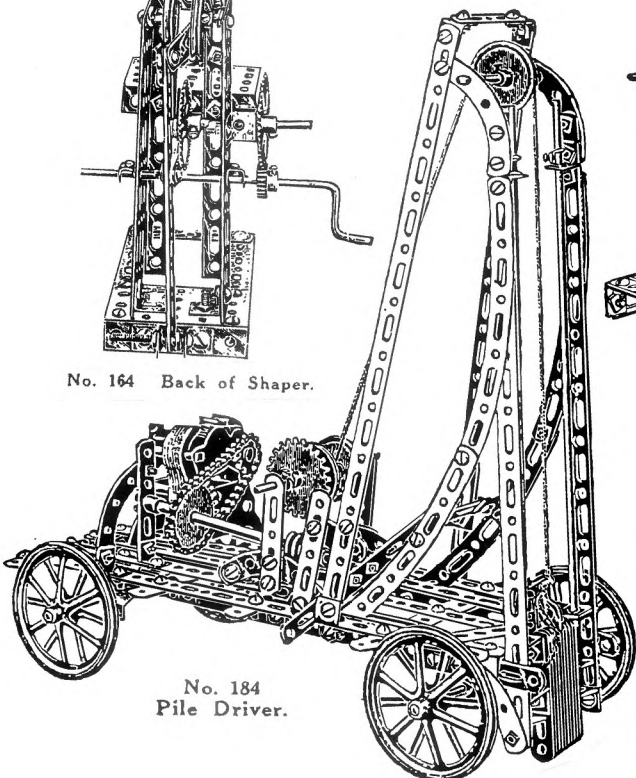
•Name: STEEL ENGINEERING INSTRUCTION BOOK No.2.
 •Details of maker: Kelmet Corporation, 200 Fifth Ave., New York.
 •Dates &/or Ref Nos: 1922-23 \$500 Competition ad on BC for entries from 1/2/23 to 1/3/23; M922 on FC. •Page size: approx. 250*173mm. •No.



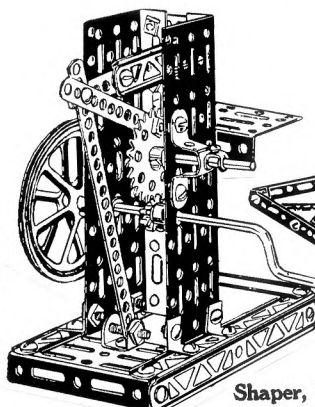
No. 164 Back of Shaper.



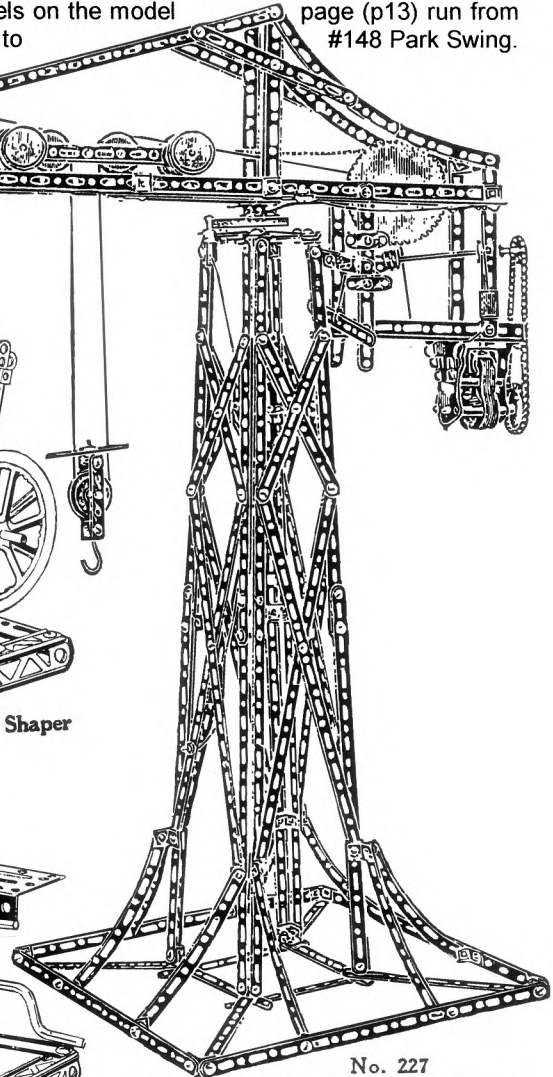
Shaper



No. 184 Pile Driver.



Shaper, Back View



No. 227 Revolving Ship Crane.

of pages: 32 inc covers. •Language: English. •Printing: line drawings. •No Set Contents / Parts List. •Sets covered: 5,10,25,35, & 20 with Std Sets. •No. of models for each set: 21,12,17,6,18. •Name, Model No., Page No. of first & last model of each set: 5: Universal Milling Machine,159,2; Trolley Repairer,181,4. 10: Small Factory Truck,182,5; Gang Plank,193,7. 25: Park Swing,194,8; Lathe,210,13. 35: Merry Go Round,211,14; Electric Windmill,216,19. 20+: Buzzer,217,20; Electric Sign and Flasher,234, 31. •Other notes: •Details from photocopy. •Models 164 & 179 are back views of Model 165 & 180.

STEEL ENGINEERING

INSTRUCTION BOOK No. 2.

This book contains suggestions for models to be built with Steel Engineering Sets No. 5, 10, 25 and 35. Suggested models to be built with sets number 1 and 3 as well as illustrations of separate parts will be found in Instruction Book No. 1.

Kelmet Corporation 200 Fifth Ave., New York.

Two other manuals are known. The No.2 cover in MCS is broadly similar to the one above but has 'Patented Aug 22 1922' under the name; 'The Steel Construction Toy with the Curved Girder' instead of the notes about the models/sets; 'Build | Ferris Wheels | Steamboats | Bridges | Engines' to the left of the name; & 'Mechanical Toy Engineering For Boys' to the right. Also the double outer frame is thicker, and there is no 'M' PR, unless it has been lost in copying. This may be an earlier version of the No.2 but the 2 MCS model pages look identical to those in this manual.

The other is a No.1 and the cover & one page of Set 3 models are shown in the April 1985 S.Cal. N/L, p4. The cover has the patent date under the name, and an 'M' PR, with an unreadable number. Its RH half is filled by the Set 35 Ferris Wheel; the LH has 'INSTRUCTIONS No.1' under the name, together with some text which mentions the 'curved girder' but has nothing on which sets are covered. The 9 models on the model page (p13) run from #140 Sulky to #148 Park Swing.

Notes on STOKYS 1946 - 1981 Apart from the years 1942-44, for which no information is to hand, this account is about the period before the company changed hands at the beginning of 1982. Some of the subsequent changes were recorded in 7/166, 13/335 & 16/453.

For anyone new to STOKYS, it is a quite large system with ½" hole spacing, 4mm Axles, and (during this period) 5/32" BSW thread. It is the only major system in which the structural parts are aluminium. Some of the other parts are aluminium too but Gears and small fittings are usually brass; very few are steel. There are a wide range of Plates (but only one size of Flexible Plate), Brackets, Girders of different sections, Gears, & Sprockets (with both Ladder & Roller Chain); and a fair range of brassware & fittings. The largest circular parts - a Pulley, Gear, Sprocket, & Face Plate - are all about 115mm diameter.

The Strips are unusual for a ½" system in being only 10mm wide, and they are cut to length (with chamfered corners) from an extruded shallow U-section, with rectangular edges 2mm by 1.5mm deep, joined by a thin web. Thus they are light but adequately rigid, and structures light in both weight and appearance can be made from them. The A/Gs too are smaller than is usual, and are bent up from 24mm wide material compared with 27mm for MECCANO. The narrower Strips mean that there is an appreciable gap between them when they are bolted side by side, and this also occurs between say, two adjacent Plates, because the edges of most parts are cut back to line up with a Strip bolted along an edge. This can be unsightly but in practice can often be avoided, or disguised, given the range of parts available. (Aluminium parts are also ideal for 'mutilators'.)

Since a good many changes occurred over the years, the first item below (after some details of the covers & labels for reference) is a summary of the history of the system. Then notes on the sets & their packaging, the parts, and finally the manuals & models. Discussion of the how certain items were dated, and Summaries of the manuals, are appended.

The details in all this have come from various Manuals, Leaflets & Price Lists; 3 immediately postwar sets and two later ones that David Hobson kindly lent me; a No.1 Set believed to be from about 1949; a selection of parts bought in 1973, and a few of later date.

Throughout 'starred' parts are illustrated.

LID LABELS & MANUAL COVERS The 6 types known are shown at the top of the page opposite, and for ease of reference they will be given names. In some cases, and perhaps in others as yet unknown, they were used as both labels & covers, with only the wording changed. From top left down, then top right down:

- The '**Log Saw**' cover & label, with the Log Saw in B&W in a large coloured panel, and 5 models to the right, also in B&W. The panel is yellow for Sets 0-2, blue for 3-4, & red for the Gear Sets G1/G2.
- The '**7 Model**' cover & label, with 7 models set against a yellow road, green fields, and blue river & sky.
- The '**Crane**' label, 6 panels alternately yellow & green, with the Crane on the left and STOKYS top right in red.
- The '**Digger**' cover & label, with the model against a brown background, and a bottom panel colour coded as for the 'Log Saw', plus green for the K1 Bridge Set.
- The '**2 Model + Boy**' label, yellow with STOKYS in red and the boy in a green jumper.
- The '**2 Model**' cover, in B&W on pale yellow in the only examples known.

SUMMARY OF HISTORY

c1945 Sets 0-4, 0a-3a, Gears Accessory Sets G1 & G2. 'Log Saw' lid labels & manual covers. 76 parts to #106.

1946 Electric Motors M1, M2, & Transformers TF20, TSM20 added. 109 parts to #142, including Channel Girders, Tyres, a Ball Bearing, & more Gears.

c1947 Sets 00, 00a (probably), & Spring Motor F2 added. A few parts added to Sets 0, 2-4.

c1949 Set contents increased. '7 Model' labels/covers. The Transformers replaced by 1 new one, still called TF20.

1950 K1 Bridge Accessory Set & F1 Motor added. 146 parts to #154, including 115mm Ø parts, Braced Girders, and more Gears including Helicals.

By 1964 First manual to hand with 'Digger' cover. Transformer TR30 had replaced TF20. 176 parts to #159 including more Brackets, Plates, Fittings, & Gears. #108, the wooden Chimney, no longer listed. The Flexible Plate now plastic, red, green, or clear.

By 1966 Very small change to Set 4 contents. F2 Motor dropped.

1967 F0 Motor introduced. Sets 0-4 have 'Crane' label (possibly as early as 1964). The '2 Model' cover in use for the 00 Manual.

By 1970 M10 Motor introduced.

By 1972 Parts in Sets 0-3 packed in formed plastic trays. 0aP & 1aP Sets added. Sets 00,G1,G2 have 'Digger' label, and K1 the 'Crane' label. 206 parts to #164,300,646, 648, including a 5*16h Flanged Plate, Z-Girders, more Gears & Fittings, and a kit of parts to make a Differential.

1973 1aP dropped. No other changes.

By 1979 No.400 Track Set added. No.4 has top layer in plastic tray and '2 Model + Boy' label. 0aP Set & F0 Motor dropped. 5 Special Model Leaflets listed, with sets of parts to make them available. 217 parts to #216,300,405,410, 646,648, including 38 & 76t Gears, a 76mm rubber-tyred Road Wheel, the Track Link, Dredger Bucket, & special parts for the 'Stokysgraph' & Potter's Wheel.

1980 New 5 figure PNs starting with '2' used in one UK dealer's List, in this year only. No other changes.

1981 A PK 'Professional' Set reported, with parts to make the 5 Special Models. 1 new part, #420, Track Wheel, to make 218 in total. No other changes.

SETS By 1945 Sets 0 - 4, linking Sets 0a - 3a, and the Gears Accessory Sets G1 & G2 were available. The 00 Outfit, was added in 1947 (also a 00a at some stage, and probably then), and by 1950 the K1 Bridge Accessory Set. By 1979, & through 1981, a small No.400 Accessory Set containing Track Links & Dredger Buckets was listed. The only other known change was that by 1972 Sets 0aP & 1aP were available, and in 1973 only the 0aP. The 'P' indicated that the sets were packed in plastic bags. In detail:

Set 00 No changes were ever made to this Outfit.

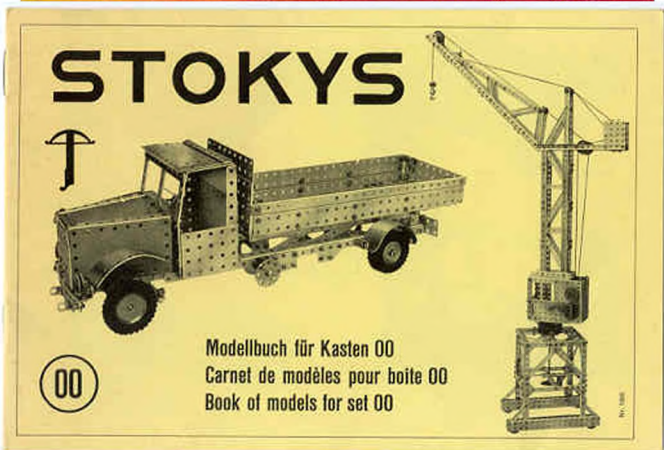
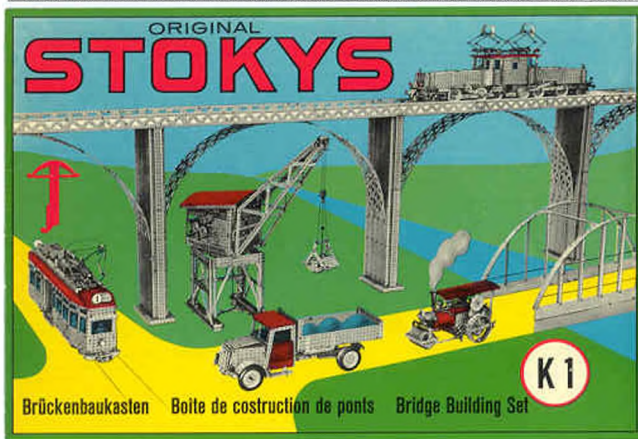
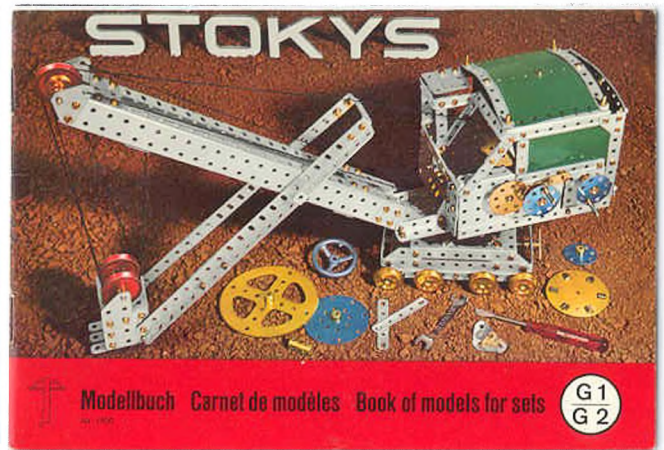
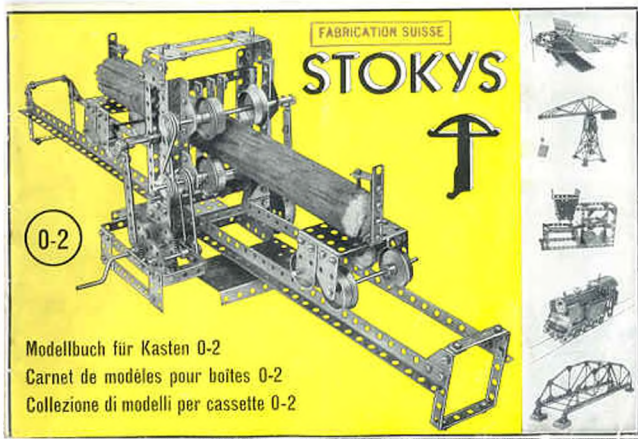
Sets 0-4 More parts were added to these outfits between 1946 and 1950, notably Tyres in Sets 0-4, and N&B in Sets 2-4. Other additions included some extra A/Gs, and, for the first time, a few Spring Clips & Washers. Otherwise only a few very minor changes were made, mainly in the mid-1960s. No new types of parts were added after 1946, and of the eventual 218 parts in the system, only 94 were ever in the sets (including 17 parts that were only in the G or K Sets. The final contents of the No.4 included 22 A/Gs, 8 Gears, & 350 N&B.

Gears Sets 12 extra parts, to make 190, had been added to the G2 Set by 1946 and it then included 6 A/Gs, 10 Gears, 4 Sprockets, & 103 NBW. The G1 had 106 parts including 7 Gears & 3 Sprockets, but with only 50 NBW and fewer 'interesting' parts.

Bridge Set Included in it were 6 A/Gs, 16 Channel Girders, 4 each of long 4h wide Plates & Braced Girders, and 68 N&B. Many of the parts were 24 or 32h long.

PK Set It is said to have been packed in a wooden cabinet with 3 removable trays containing 2143 parts, including enough to make any of the Special Models.

Packaging Most of the boxes seen have been red outside, but the two K1 sets known are green. At first parts were loose within partitions or attached to backing cards; later formed plastic trays were used.



1945 All the parts in Nos.0, G1 & G2 were attached to a box-size backing card, many by N&B, while in the other sets the parts were within partitions, with some bolted, or otherwise attached, to smaller cards. The backing cards for the G1 & G2 had an area clear of parts with STOKYS & the Set No. ('STOKYS #' henceforth) printed on it in large black letters, and these cards were used throughout the period.

The actual 1946 Sets The 2 & 2a are in boxes, 27*48½*2½ & 24*45½*2½cm respectively, red outside and blue inside. The box for the G1 is missing but the backing card is 20*40cm, and is red (as is a small one in the 2a) with the large black 'STOKYS G1'. The 'Log Saw' labels on the lids are 16*22½cm, and the coloured panel on the No.2 is yellow, and on the 2a, blue.

1947 The parts in Nos.0 & 1 were attached to single cards, and they, and the 00 card, had 'STOKYS #' printed in a clear space on them, probably in red. The style can be seen in the illustration of a more recent No.4 Set shown later.

The actual 1949 Set This No.1 was mentioned in 8/197. The box, 14¼*18*1", is red, with the inside of the bottom plain, and the inside of the lid blue. The lid has a white label on it saying 'New increased contents' in French & German.

The parts are on a red card, with 'STOKYS #' in red on 1 of 5 buff panels, and are laid out somewhat differently to the 1947 No.1.

About the Mid-1960s to 1971 By perhaps 1964 (at latest 1967) some changes had been made. The layout of the parts in the 00 looks just as it did in 1947, and the No.1 is very similar to the 1949 Set, but the others had been significantly rearranged, and there were fewer partitions in Sets 2-4. (The No.4 shown top left overleaf is from this period, and, judging by later photos, there should be a card of Corner Brackets where the Axles etc are shown in one corner of the top layer.) The 'STOKYS #' on Sets 00-4 is in red on a yellow panel.

1972 & 1973 The 00 & No.4 layouts remained unchanged but Nos.0-3 had been rearranged and were packed in formed plastic trays.

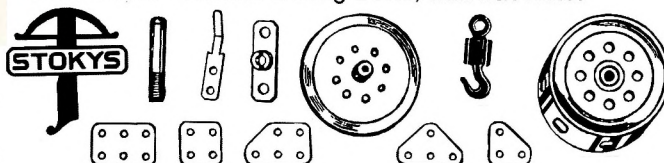
Mid-1970s A Leaflet probably from this time shows the trays as in 1972-73, and coloured yellow. The top layer of the No.4 is now in a plastic tray, while the bottom has the earlier partitioning but is in a matching yellow, rather than the earlier blue.

1979-81 No changes had been made except that at some



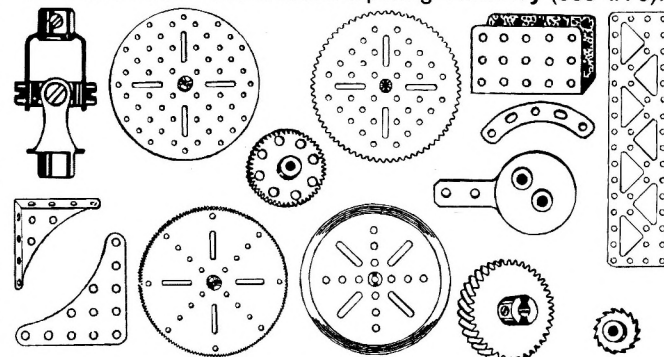
logo (below). The ends of some brass Pinions, Couplings, etc are sometimes stamped 'STOKYS SWISS' around the bore. Tyres too (but not the smaller ones, nor Rubber Rings) are so marked on one side.

1945 The main parts comprised: • **Strips** from 2 to 32h long. The 5h Strip has slotted end holes. • **Double Strips** (flat plates, 23½mm wide) & **A/Gs** from 8 to 32h • **6 DAS**, & **6 Brackets** shaped like M11,11a,12,12a,45,125. The A/B has slotted holes in both arms, but all the holes in the Reversed A/B are round. Also 5 useful small **Joint Plates*** & **Corner Brackets***, 2*2h & 2*3h. • **3*3, 5*4 & 5*8h Flanged Plates**. 5*4 & 5*8h **Perforated Plates**. A 5*5h **Sector Plate**. A 5*8h **Flexible Plate** made of fibre. • 20,35,60*mm **Pulleys**, a 12mm Loose Pulley. A **Flanged Wheel** (described later). • A 34mm Ø **Bush Wheel** & a 60mm Ø **Face Plate**. • **Gears**. A 19t Pinion, 57t Gear, Worm, & a 30mm, 44t Contrate. 2 Sprockets, with 6mm pitch Ladder & Roller Chain. • A 9mm Ø **Collar**. A 10mm Ø **Coupling**, with cross bores like M63. A **Pawl*** to use with the Gears. A **Threaded Pin*** with no shoulder. A **Loaded Hook***. A 10cm **Screwed Rod** with 15mm unthreaded at one end. A **Double Arm Crank***. A **Double Bearing Bracket** (see later). A **Ball Bearing** with 30x 4mm Balls running loose in the grooved faces of 2 identical 60mm Ø Flanged Discs*. This Disc is chemically blackened steel with 8 slotted holes in the flange. • 5 **Axles**, 3 to 15cm long, a **Crank Handle**, & a **Crankshaft**. • Normal & Long **Bolts**, with hex **Nuts**.



A very fair selection of parts on the whole, though with one or two surprises. The number of parts with an even number of holes for example, with the long parts having 16, 24 & 32 holes, and numerous parts with 4 & 8h, and even a 10h Strip. There is a 2h Strip but no Flat Bracket, and the lack of A/Gs shorter than 8h would be noticeable.

1946 & 1947 New parts included: • 8 & 16h long 1*2*1h **Channel Girders**. • 7*8h & 4*24h **Perforated Plates**. 2h wide **Channel Bearings**, 5* & 7h long. • **Bevels**, 26t, & 64t with 4 face holes; & a 40t **Gear**. • A **Big End** (see later) to use with the Crankshaft. • A **Universal*** (with the **Fork Piece** & 12mm Ø **Yoke** available separately). • A 4-segment **Dog Clutch**. • An 80mm long length of **Spring Cord** with hooked ends. • A **Tension Spring**. • A **Spring Clip**. • **Rubber Rings** for the 20 & 35mm Pulleys, & **Tyres** for both those & the 60mm (though at this stage they look like fat rubber ring in some illustrations). • A 20cm **Screwed Rod**. • The wooden tapering **Chimney** (see 4/70).



1950 New parts: • A **Curved Strip*** without raised edges; • Additional lengths of **Channel Girder** & **4h wide Plate** from 8 to 32h long. • **Corner Gussets**, Flat*, Single- & Double-Flanged*. • A 12mm **Pulley** with Boss. • 2 new **Flanged Wheels**, one to replace the previous type, a Tyre for it, and a 20mm Ø version (see later). • A **Face Plate***, **Sprocket***, **170t Gear***, & **Pulley***, all of about 115mm Ø (a 1973 Sprocket has additional holes outside the slotted holes, & the outer holes on the 45° radii). • **Gears**. A 19t

time after 1978 the No.4 has yellow plastic trays top & bottom; the top layout is as in the mid-1970s, the bottom has a few changes.

Linking Sets. Apart from the 1946 No.2a, nothing is known of these until the whole range is shown in the mid-1970s Leaflet. In it No.00a has the parts attached to a red card with 'STOKYS #' in black on it (like the G cards), and in all the others they are in yellow formed plastic trays.

The **K1 Outfit** hasn't been mentioned. The earliest known illustration is from 1972 and shows two layers of parts, each with the parts bolted to a card, and 'STOKYS #' in a clear space on the top one, in the style of the No.4. This packaging remained unchanged through 1981, and in the mid-1970s colour Leaflet, the backing cards are yellow.

Lid Labels In 1945-47 the 'Log Saw' label was used. By 1949 (probably when the set contents were revised) a change was made to the '7-Model' design. By 1967, and perhaps from around the mid-1960s, the 00 & G2 Sets still had this label but Sets 0-4 had the 'Crane' label. **1972 & 1973** Lists show the 'Crane' label on Sets 0-4, and also on the K1 Outfit. The 00, G1 & G2 have the 'Digger' label. These labels are shown again in Lists for **1979-81** except for the '2 Model + Boy' label on the No.4. A Bridge Set from after 1979 with a 'Crane' label is known, and also one, no doubt earlier, with a 'Digger' label. It isn't obvious where the latter fits in chronologically, and one wonders if this label was ever used on any of the 0-4 Outfits.

PARTS A summary of when the parts were introduced will be given, followed by some notes on actual parts and changes in design, etc.

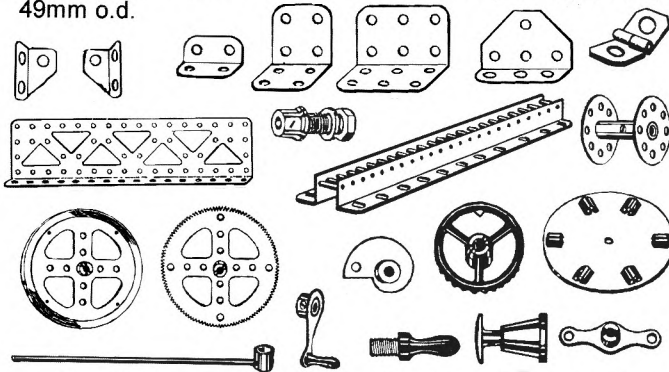
As already mentioned most parts are aluminium but Gears, Sprockets, Flanged Wheels, bosses & small Fittings are usually brass: the few exceptions will be noted. Also cases among the 1946, 1949 & 1973 parts where aluminium was used instead of brass, or vice-versa. Other examples of such changes will certainly exist.

Circular parts, where size permits, usually have rings of 8 holes on 1" & 2" pcd. Slotted holes are comparatively rare in STOKYS and will be mentioned when they occur. Most parts are illustrated in MCS but some variants, and unusual or interesting ones, are shown here.

Most brass parts of any size, and aluminium parts other than Strips & Brackets, are stamped with the Stokys 'Bow'

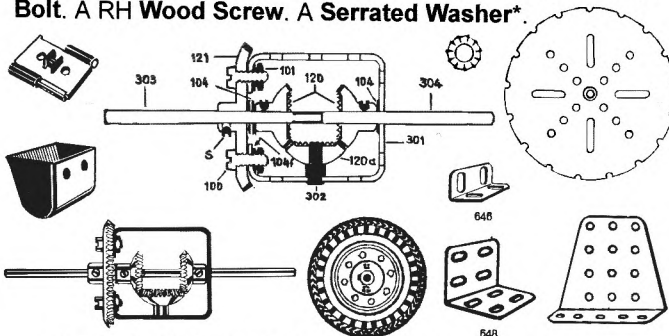
Pinion with a 17mm long face, a 26t Pinion; 50* & 64t Gears; 13 & 36t* Helicals; a Ratchet Wheel* (shown with 15 teeth but a 1973 one has 11). • An **Eccentric*** with strokes of about 16 & 9mm. • 30 & 50mm **Axles**. • 4h wide **Braced Girders**, 8,16*,24,32h long.

1964 New parts by this time were: • The **Flanged Corner Brackets**, 25a*,b*; the **Girder Brackets**, 26a*,b*, 27b*; • A (7h type) **Trunnion***. • **Flanged** (on one edge) **Braced Girders**, 8,16*,24,32h long. • An 11t **Pinion**. A 136t **Gear***. A **Rack Strip*** to be used with the Sprockets. • A 90mm **Pulley***. An 18/26/35mm solid brass **Cone Pulley**. • A 50mm **Flanged Wheel** (see later). • A 58mm Ø **Roller Plate***. • A 39mm **Circular Saw** & 40mm **Emery Wheel**, with a **Threaded Arbour*** to mount them on. • A **Winch Drum***. A **Handle Crank***. A shaped **Double Arm Crank*** spanning 4 holes (the only way to get a centre hole across the 4h wide parts). A **Cam***. A **Handrail Support**. A **Buffer*** (with a tapped mounting hole). A **Hinge***. A formed **Handle***. A 12mm Ø **3-Hole Collar**. A **Nut Holder***. A ribbed plastic handled **Screwdriver**, as well as the normal smooth handled one. A **Hand Wheel*** in plain cast zinc, 49mm o.d.



The **Chimney** was no longer listed. The 5*8h **Flexible Plate** was by then plastic & available in red, green, & clear.

1972 (& 1973) New parts: • 1*2*1 **Z-section Girders** (8,11,16,24,32h long). 5 & 7h lengths of **Double Strip & A/G**. • 7*11 & 7*16h **Perf. Plates**. **Sector Plates**, 5 & 7h long, Flat & Flanged* at the 5h end. **Girder Brackets***, #646 & 648, with all holes slotted. • A 64t **Contrate**. A **LH Worm**. A 44t **Sprocket** (perforated like the 136t Gear. • 3 & 5h nylon **Bearing Strips**, 3mm thick (very necessary with aluminium parts but most useful in any system); • A **Single Arm Crank**; • A kit of 16 parts to make up into a **Differential***, with special male/female ended Half Shafts, and a bent-up Strip cage bolted to a 64t Bevel. The Bevels are standard parts except that the lower small one has no boss. • 30,45,60cm **Rubber Driving Bands**, 4mm Ø. • A **Short Bolt**. A **RH Wood Screw**. A **Serrated Washer***.

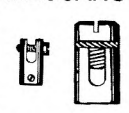
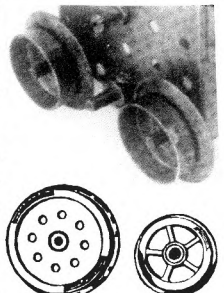


1979, 1980 & 1981 The additions were • A 1*2*1h **DAS**; • a 76mm **Road Wheel*** complete with tyre (replacing the Tyre for the 60mm Pulley). • The red plastic **Track Link***, & 34mm wide, yellow plastic **Dredger Bucket*** which could be bolted to it, plus (in 1981 only) a 112mm Ø **Track Wheel***. • **38 & 76t Gear Wheels**. By 1980, & perhaps earlier, the 50 & 64t Gears had been changed to 52 & 66t. • A 15*15cm **Design Table & Sheets of Paper** for it. • A **Potter's Wheel** (90mm Ø brass disc with a boss soldered to it), & **Clay** (1kg) to use with it.

The smooth handled **Screwdriver** was dropped.

Actual 1946, 1949, 1973, & Later Parts

• At about .030", the web of the 1946 **Strips** is between the values given in 8/197 (.021 & .036" for '49 & '73). • The 1946 **A/Gs** have round holes in both flanges and are made from the Double Strips. Both have corners which are not fully radiused. Later A/Gs have 7mm slotted holes in one flange. • The **A/B, Double Bracket, & Reversed A/B** are made of flat strip, and are not anodised in '46. All the other 'strip' Brackets, and the DAS, are made from the standard Strip material with raised edges. • The slotted holes in the **Angle Bracket** are 5.3mm long in '46, but 6.6mm by 1973. • The **Double Bent Strip** was 18mm high in 1948 but 15mm in 1973 - the slotted end holes allow both to span 3 holes. • The 5 flat **Joint Plates & Corner Brackets** (#25-29) are shiny aluminium in '46/'49, not the more matt anodised finish of most STOKYS parts. • The 1946 fibre **Flexible Plates** in the No.2 Set are grey, those in the 2a, dull blue, and those in 1949, dull green. • In 1946 the 20, 35 & 60mm **Pulleys** (actually 19, 33 & 58mm o.d.) are plain aluminium with brass bosses (aluminium on the 20mm). In 1949 the 20 & 35mm are all brass (the 60mm isn't in the No.1 Set). Later ones are aluminium. • The **Cone Pulley** is similar to the MECCANO pattern but sized 35/26/18mm o.d. & with a normal diameter boss. One from after 1973 has a deep recess in the boss face. • One 1946 **Bush Wheel** is aluminium, and one, like the 1949 example, is brass. Later ones are aluminium. • **Colour anodising**. From the mid-1960s, or before, 35 & 60mm Pulleys have been anodised red, & the Bush Wheel, Face Plate, & the discs of the Winding Drum, blue. It isn't known if any other parts were ever coloured. • The original **Flanged Wheel*** (right in the photo), was made from 2 plain aluminium pieces, with one of the 33mm Ø Pulley discs held by the boss to a 'bowl', 24½mm Ø & 7mm deep. By 1950 this part had been replaced by a boss riveted to a single brass pressing with 5 impressed 'spokes'*. The o.d. is 28mm & the tread 24½mm. The other Flanged Wheels are similar but without the spokes, and have treads of 20 & 50mm* Ø. • **Bosses** are brass, 9.0mm Ø, double-tapped, with recessed peening. (Very occasionally aluminium ones are found.) Originally they were a snug fit on the Axles but from sometime in the later-1970s the bore of some, if not all, Gears, and perhaps other parts, was made slightly larger to (just) fit MECCANO Axles. • In 1980 the design of the **Big End** was changed & both types are shown right, though the drawings don't match the known parts. Both have a longitudinal bore for the con rod at the lower end. In the first type the crank passes under the cross Bolt, & below this Bolt, & parallel to it, are a smooth & a tapped cross bore, the latter as shown, but normal to it. In the second the crank is under the special, longitudinal M6 Screw, and there are tapped cross bores, parallel to one another, top & bottom (the base is deeper than shown). As in the first version the top tapped bore allows the part to be used as a Strip Coupling. • The **Handrail Support** was also modified at this time to have both cross bores smooth & a vertical tapped bore through the top. • **Gears**. The 26t Pinion, and the 38 & 40t Gears have riveted bosses. The face widths of the 25, 40, 38t (& 76t) are 4, 3, 2mm respectively, & the 40t has a shallow recess in its outside face. The 38t Gear is stamped 201, & the 76t, 202. The 40t, normally brass, was aluminium with a brass boss in 1973. • The **Roller Chain** works well but tends to run off the Sprockets unless they are precisely adjusted. To change its length involves removing a pin, by filing or grinding, & riveting (hammering) over one of the new ones provided with each length of Chain. • Unlike latter examples, the 1946 **Axles, Crank Handle, & Crankshaft** are not nicked, & their sheared ends are not rounded at all. All are 4mm Ø. The **Threaded**



Pin is steel, & in 1946 it too was not plated, & at 25mm o/a is 3mm longer than some, but not all, later ones.



• The **Double Bearing Bracket** is plain cast zinc. One found with the 1946 Sets corresponds to illustrations* through 1950, but by 1965 a more versatile version* is shown with an extra boss in the sides. The earlier one has 3*2 holes in the base, & 3 holes in each side - their pitch is roughly 5% more than the 1/2 & 1" that would be expected. Possibly this is due to metal deterioration, evinced by some cracking & distortion. • The **Ball Bearing Flanged Disc** is chemically blackened steel; its boss aluminium in 1946, but brass in 1973. • As late as 1950 illustrations of the Double Arm Crank show what appears to be raised edges on the strip part; however those in the 1946 Sets have the normal flat brass strip. • The **Buffer**, usually brass, was aluminium in 1973. • The 1973 **Hinge** is nicked. • The **Loaded Hook** is plain cast lead. • **Bolt** heads are 5.5mm Ø, with cheeseheads in '46/'49 & tapered cheeseheads in 1973. The standard Bolt is 7.0-7.3mm u/h, & the Short one 6mm in 1973. Long Bolts are 15mm u/h in '46, but 18mm by 1949. All these parts are brass except that in the 1946 No.2 some of the Long Bolts, & a few Nuts, were plain steel. The hex **Nut** is 7.0mm A/F, & 2.5mm thick; the **Washer** is aluminium, 10mm Ø & 1mm thick. A wire **Screwdriver** was in the 1946 No.2 but this type is not in any of the literature. • Nicked steel Pawls are known, likewise the strip part of Cranks. Both are probably from after 1973.

Motors 3 versions of both an Electric and a Spring Motors were available at different times. The former were 20v, 20 watt with one stage of reduction gearing included between the (aluminium) sideplates, and an external, round reversing switch. The 2 main types are shown below and are the same apart from the flanged sideplates of the M1 & the flat ones used in the M2. In some illustrations, and in actual Motors seen, the armature shaft doesn't extend beyond the end of the bearing, but in any case it is of sub-standard diameter. The third, the M10 was the same as the M1 but with a 1.2m remote control cable (#550). The M1 & M2 were introduced in 1947, the M10 about 1970. The 43mm o.d. gear on the output shaft of a Motor to hand is white plastic with fine pitch teeth & 8 face holes. The output shaft bearings in this Motor are brass but those for the armature are nylon within a brass outer casing. Felt sleeves for the armature bearings are referred to in a leaflet for an earlier Motor.

In 1947 there were 20 watt Transformers TF20 (with



8, 12 & 20v output sockets), & TSM20 (with a stud rheostat). By 1949 only the TF20 was shown, and its shape was different with the output sockets on top. By 1967 the 30 watt TR 30, with a 3-spoke hand wheel on top to vary the output, had replaced it.

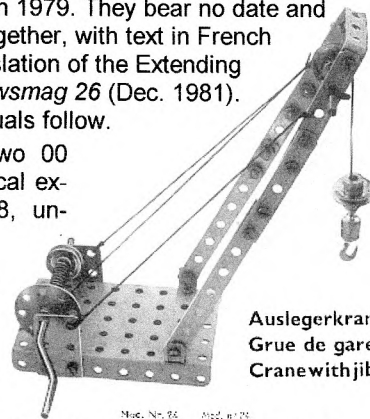
Also introduced in 1947 was the F2 Spring Motor (between the M1 & M2), and by 1950 the F1 Motor had been added. In 1967-71 the F0 & F1, but not the F2, were listed, and by 1979 only the F1. The (nicked steel) sideplates varied slightly in detail one to another, but all were about the same size, 3 1/2*4 3/4", and probably the same basic innards were used in each version. The 3 levers on the F2 are for reversing, changing speed between the 2 output shafts, & stop/start. The F1 was single speed, without the top shaft & speed change lever, while the F0 had no reverse, and only the stop/start lever. My F1 is beautifully made and the drive train gears are of standard DP, but at 1", it is wider than the MECCANO No.2, and the spring doesn't store as much energy.

MANUALS & MODELS 5 separate manuals were issued, for Sets 00; 0-2; 3-4; G1/G2; & K1, and details of all known versions are given in App.2. All are 224*154mm deep. Most have an Edition (Auflage) No. on the IFC, and in the later ones it is usually followed by a date. The 1946 manuals are known with the text in German/French/Italian & English/Spanish/Swedish, but most later ones are German/French/English. The page numbering starts at '73' in the 'Log Saw' Gear manuals, and '101' in all the 3-4 ones. Model Nos. start at 1,51,101,201,301,401 for Sets 00-4; K1 in the Bridge manuals; & 800 for the Gear models. Typically there are 20 to 25 models for each of the standard sets, but 40 or more for Set 1. All models are shown as B&W half-tones, with a list of the parts needed (except for the 00 models), & sometimes some brief explanatory notes. The photos are often rather dark and don't convey well the 'light' appearance of the actual models, particularly in some of the manuals which are printed on poorer quality paper.

The 5 Leaflets for the **Special Models**, Nr.2201-5, were not listed in 1973 but were in 1979. They bear no date and are on A4 sheets stapled together, with text in French & German. An English translation of the Extending Tower Crane is given in *Newsmag* 26 (Dec. 1981).

More details of the manuals follow.

00 Manuals Only two 00 manuals to hand are identical except that one is Edition 8, undated, & the other Ed.9 of 9.68. They are on light yellow paper and their '2 Model' cover has not been seen on any other manual. Models are based on the 5*8h Flanged Plate,



Auslegerkran
Grue de gare
Crane with jib

using Strips, the 4x 20mm Pulleys (no Tyres), & a Bush Wheel. Some are simple Hand Trucks & Barrows; others include a Trip Hammer, Railway Signals, & the Crane above.

0-2 Manuals The 'Log Saw' (6th Ed. 1946), '7 Model' (11th Ed. '49), & 'Digger' (25th, 26th, 27th Ed., '66, '70, '74) all differ from one another, with 20% more models in the '7 Model', and then in the 'Digger', 25% of the '7 Model' models were replaced by new ones, and another 50% were modified to a greater or lesser extent, all in round figures of course.

The 1946 manual contains a wide range of models, with many simple mechanical items, a number of Machine Tools & Cranes, and some railway equipment including Signals, several Bridges, a Level Crossing & various Wagons. Not many road vehicles feature, and the 20mm wheels of those shown look too small, even when in later years they had Tyres fitted. Of the rest, two simple Fairground Rides, Weighing Scales, a Biplane, a Conveyor, a Waterwheel driving a pump, and a few domestic items catch the eye.

The main mechanical features are a Pawl, or simple brake, fitted to most of the Cranes; the Crankshaft used to give reciprocating motion in some models; and centre pivot steering in several of the vehicles.

One noticeable thing, true of all STOKYS models, is that bending parts is only necessary in a very few cases, and then only to a degree which would be easily achievable with aluminium parts. In a few models card has to be used for roofs, etc.

Attractive among the new models in 1949 are a small Tramcar, an Excavator, a Tower Crane, and a Jeep.

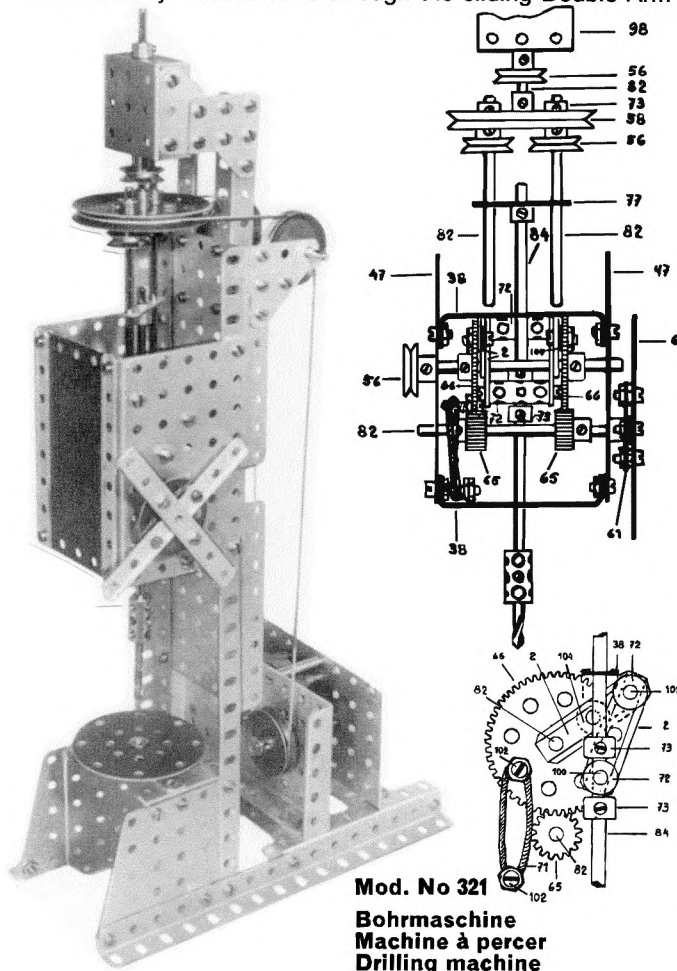
By 1966 the changes made had improved many of the models, often considerably, and new ones of note are a Lorry with 'proper' steering (though with negative Ackermann geometry), a Car Hoist, and a Rocket Launcher which elevates, and fires a made-up rocket thanks to 3x 80mm lengths of Spring Cord.

3-4 Manuals Here again there were changes between the 'Log Saw' (3rd Ed. 1946), the '7 Model' (8th Ed. 1949), the 'Digger' (14th Ed. 1965), & the next 'Digger' (15th Ed. 1969). There were 25% new models in the 8th Ed., but only a handful thereafter, though a lot were modified, to give changes in 50% of the 1949 models by the 14th Ed., and another 25% by the 15th. A 1978, 16th Ed. 'Log Saw' manual has the same models as the 15th.

No.3 Models In 1946 these include 6 braced, girder Bridges, quite nice but all about 2ft long and rather similar; and some attractive railway items: a Tank Wagon, a twin bogie Timber Wagon, and 2 Snow Ploughs. Other good models are an open-sided Tramcar, a Trolley Bus, a Fire Engine with extending ladder, and a splendidly complicated looking Concrete Mixing Plant.

By 1949 two of the Bridges are gone, and the new models include an attractive fully enclosed Tramcar, a fairly standard small, treadle Sewing Machine, and another nice Crane (but none of the Cranes so far luff or have a crab, although several, like this one, have a slewing drive).

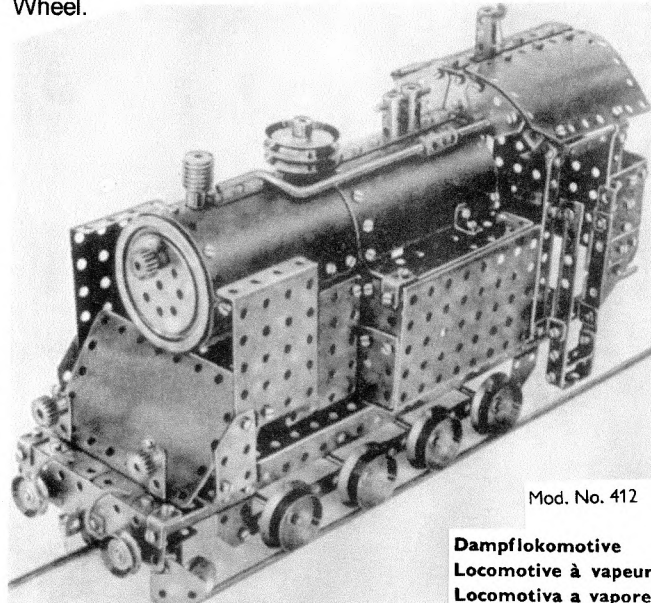
Later models include the Boring Machine below, the first powered model, and one of the more complicated ones mechanically - the drive is through the sliding Double Arm



Mod. No 321
Bohrmaschine
Machine à percer
Drilling machine

Crank, 77, with a Spring Cord return, 71, on the up & down movement. Others models are a Radar Dish, and a good size Breakdown Lorry with 35mm Pulleys with Tyres for wheels, a luffing jib (and correct Ackermann geometry).

No.4 Set Models Again a wide range, and in 1946 they include a Steam Roller, 5 more (longer) girder Bridges, a larger Excavator, a Tipping Lorry, a good Travelling Gantry Crane, the Loco below, various Towers, a Gantry Crane with a crane which travels along the gantry, and a Big Wheel.



Mod. No. 412

Dampflokomotive
Locomotive à vapeur
Locomotiva a vapore

By 1949 four of the Bridges have gone, and also the Loco (possibly because the Flanged Wheels, already on the small side, had by that time been redesigned and made even smaller). New models include a Fire Engine with extending ladder, a Pile Driver, a Coaling Plant, and a twin unit articulated Streamlined Train, in which the sides & roof are mostly open frameworks where the original was glazed, and it doesn't look the part, not on paper anyway. The Tipping Lorry has been reworked, and looks much better.

1965 sees a much improved version of the earlier Chair-O-Planes, and the Gantry with Crane has been redesigned too, but has lost its luffing motion, formerly by a Screwed Rod through a tapped hole in a Coupling. The Big Wheel has been improved too and fitted with the M1 Motor. (This & the No.3 Boring Machine were the only motorised models, and no manual model driven by a Spring Motor has been seen.) The only completely new model in this Edition is a Trolley Bus with steering linked to the trolley arms.

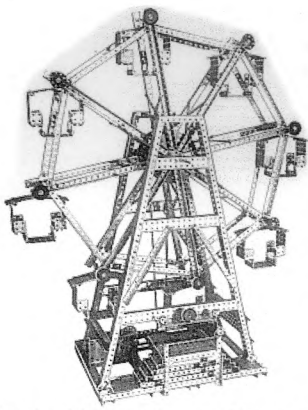
In the next 1969 Edition, the Tipping Lorry has been given a more modern bonnet, and the Steam Roller greatly improved with built-up, larger rear wheels (though the rim had to be rolled from Double Strips). The 2 new models are Platform Scales, & an attractive Railway Breakdown Crane.

Special Models The models that could be made from Set 4 were constrained by its limited size, and the relatively small range of parts it contained. The Special Models though not spectacularly large, used parts from the whole system, as needed. The Crane & Lorry are shown on the back cover of this Issue.

The **Extending Tower Crane**, Nr.2201, has a 16" section of the tower sliding within the 12" high base, hauled up by cords from winches on either side of the base. All movements, including luffing & slewing are manually operated through simple gearing.

Nr.2203 is the **Designing Machine**, and looks to be typical of the genre, although the frame made largely of Channel Girders looks both rigid and neat. It can be operated manually or fitted with an M1 or M2 Motor. The patterns are 14cm Ø and 8 are shown, together with a table of the Gears needed to achieve them.

Nr.2204, a **Potter's Wheel**, is just a special disc driven from the M1 Motor with a suitable reduction. The instruc-



tions tell how to make articles using the Clay (PN 216, 1kg). Sounds rather fun, and a first for Stokys as far as I know.

Nr.2202 (left), the **Big Wheel**, stands some 3ft high & the 'A' frames are made of Channel Girders. Over 500 N&B are used, and it is driven by the M1 Motor with a chain drive to the centre shaft.

The final model is the nice looking, 18" long **Skip Lorry**, Nr.2205. The skip frame is swung by rods which are operated by an M1 Motor mounted behind the cab. At the same time a linkage from each side of the bottom of the frame, lowers supporting jacks while the skip is outboard. The jacks are Rods with 20mm Pulleys at the end and can just be seen in the photo. Those are the only mechanical feature apart from the steering, and the hinged doors (which don't seem to have handles to keep them closed).

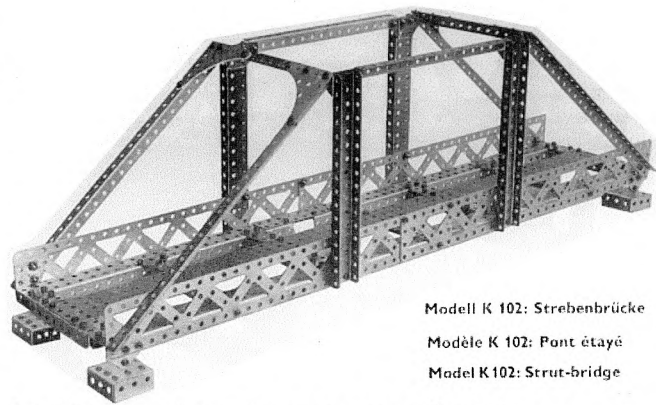
To show what could ultimately be achieved, Felix Stockmann, head of Stokys, wrote some notes, with photos, in *Newsmag 24* (Aug. 1981) on a model **Escalator** he had built (he had once worked for the Otis Elevator Co.). It is 1.8m long. .9m high, has 29 steps, and contained 1860 parts plus 4280 N&B.

G1-G2 Manuals The 1964, 11th Ed. 'Digger' has identical models to the 1946, 3rd Ed. 'Log Saw', with 13 for G1 & 3 for G2. All these are in the 12th Ed. 'Digger' (undated), together with an extra 7 G2 models. In this manual all the models are numbered consecutively from No.801; in the earlier ones the G1 models start from 801 & the G2 are Nos.901, 950, & 990. A 13th Ed. 'Digger', again undated, is identical to the 12th.

All the G1 models need parts from Set 0, & include the usual range of small mechanisms - reversing, automatic reversing, 2-speed Gearbox, Differential, etc - plus a Speed Indicator, 3 experiments with levers & pulleys, and (right) a Mixing Machine mechanism. The larger sets are needed for the G2 models & the 3 in the earlier manuals are a 3-Speed Gearbox with a separate reversing stage, a Loco Valve Gear demonstration model, and a horizontal twin-cylinder Marine Engine with variable valve gear. The additional models in the 12th Edition include a Ratchet Feed, a Maltese Cross mechanism; a Band Brake; a double-acting Shoe Brake; and a Coupling with 2 Face Plates connected by 4x 2h Strips in the plane of the discs, in effect an Oldham coupling, with provision to demonstrate the action by displacing one shaft while keeping it parallel to the other.

K1 Manuals The '7 Model' 3rd Ed. (1972) has one more model than the 9 in an earlier, unreferenced '7 Model' one; a 4th Ed. 'Digger' (1979) has the same models as the 3rd.

The first 4 models are static bridges of various designs, maximum length 33" and wide enough 'for one 0-gauge line or for 2 or 3 lines for gauge 00 and WESA'. The one atop the next column is the nicest, and in some of the others the Braced Girders look a little ungainly, perhaps because of



Modell K 102: Strebenbrücke
Modèle K 102: Pont étayé
Madel K 102: Strut-bridge

the thickness of the diagonals. The 3rd Ed. has more detailed instructions for these 4 models, with different photos and minor changes, mainly to make them more rigid torsionally. They are followed by a Beam Bridge and a Lifting Bridge, both rather plain designs, and the beam is moved by a gear drive to its pivot axle. The extra model in the later edition is a quite attractive Railway Footbridge. The final 2 models are an Engine Shed & a Railway Station, both quite skeletal but with nice lines.

Thank You to David Hobson, and all who contributed material, including Josep Bernal, Toby Haffter, Peter Kessler, Ernst Leuthold, Harry Marien, Werner Sticht, & Richard Symonds,

Appendix 1. Dates. 1946. David's Sets are judged to be from about 1946, in the first instance because the 6 figure PRs of the 3 Manuals with the Sets, all start with '46'. Two supporting facts are (a) the Sets contain many undisguised brass parts and so ought to be post-WW2 (see 13/335); and (b) the illustrated parts in the manuals show fewer parts than those in Leaflet which has been dated independently as 'about 1947'.

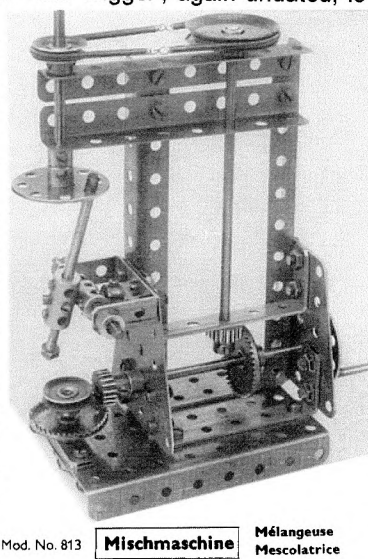
1945. A Leaflet was found with the 1946 Sets. It is in German, French & Italian, and is printed in orange & black on a sheet 25*47½cm, folded into 3. One side has an Introduction with photos of a selection of models, and on the back is a list of the sets available, with photos of all but the linking ones, and illustrations of some 75 parts. It is judged that this Leaflet was from before 1946 because fewer parts are shown in it than in the '1946' Manuals, and because it has been rubber stamped to say that the prices shown are no longer correct. The 1945 date is a guess and it is possible that it was printed earlier.

1947. The 'about 1947' Leaflet already mentioned is a photocopy, the same size as the 1945 one. The 'model' side of it is as before except that the languages are English, Spanish & Swedish, but new on the other side are the No.00 Set & about 10 more parts. The number of parts places it after the 1946 Manuals and before a Price List dated 1950, while the photo of the No.1 Set on it shows a slightly different layout to that of the actual '1949' No.1 (see below). So 1947 or 1948.

1949. The Illustrated Parts in the manuals with the No.1 Set show the same parts as the 1947 Leaflet but fewer than the 1950 List. Also the total number of parts in the Set, as given in the Manuals, is slightly greater than that in the 1947 Leaflet, and corresponds to the 1950 List. So the Set is after 1947 but equally could be after 1950, with the Manual not having 'kept up'. But there is a 'New larger contents' sticker on the box lid, and it has been assumed that this would mean a date within a year or two of the change of content. So 1949 seems a fair guess.

1950 and Beyond. All dates used are from dated manuals or Lists, except that some 'possible' dates have been inferred from the number of parts in the sets, which varied very slightly over the years, and is usually given on the dated Price Lists.

Appendix 2. The Manuals. Details which remain the



Mod. No. 813 Mischmaschine Mélangeuse Mescolatrice

same from one Summary to another are not repeated. English names are given where English was one of the languages used.

SUMMARY OF '2 Model' 00 MANUAL •Name: STOKYS 00. •Details of maker: Gebr. Stockmann AG, Luzern. •Dates &/or Ref Nos: Nr.1000 on FC; 9.Auflage - 9.68 on BC. •Page size: 225*155mm deep. •No. of pages: 8+covers. •Language: German/French/English. •Printing: B&W photos on yellow paper, inc cover. •No Parts List or Set Contents. •Sets covered: 00. •No. of models: 24. •Name, Model No., Page No. of first & last model: 4-Wheel Trolley (not named),1,IFC; Crane with jib, 24,8. •Other notes: •3 models from Sets 0-2 are on IBC, & 10 larger ones on BC. •The first 7 models on the IFC & p1 are unnamed. •Another manual is identical but has 8.Auflage on IFC, with no date.

SUMMARY OF 'Log Saw' 0-2 MANUAL •Name: STOKYS 0-2. •Dates &/or Ref Nos: none. •No. of pages: 48+ covers. •Language: English/Spanish/Swedish. •Printing: B&W photos, inc model on yellow cover panel. •Page No. of Ill. Parts & highest PN: 47,142. •Page Nos. of Set Contents & highest PN: 48-IBC,110 (1008 for manuals). •Sets covered: 0,1,2. •No. of models for each set: 25,40,20. •Name, Model No., Page No. of first & last model of each set: 0: Three-armed signpost,51,5; Hose-wagon,75,13. 1: Drilling machine,101,14; Dieselmotor,140,29. 2: Electric railway bell signal,201,30; Electric railway tractor,220,42. •Other notes: •Gear ratios & std. constructions on pp2-4; pp43,44,46 have 2 No.3, a No.4, & 2 G1 models; 11 others are on the BC. •An ad for electric motors & transfos is on p44. •An identical manual in German/French/Italian has 6.Auflage on IFC, & 461059 on BC.

SUMMARY OF 'Log Saw' 3-4 MANUAL •Name: STOKYS 3-4. •Dates &/or Ref Nos: none. •No. of pages: 42 (pp101-142)+covers. •Printing: B&W photos, inc model on blue cover panel. •Page No. of Ill.Parts & highest PN: 117,142. •Page Nos. of Set Contents & highest PN: 142-IBC,110 (1008 for manuals). •Sets covered: 3,4. •No. of models for each set: 19,24. •Name, Model No., Page No. of first & last model of each set: 3: Gangway,301,102; Small crane,319,116. 4: Steam roller, 401,118; Building crane.421,140-141. •Other notes: •Some models are out of order; No.424, High metal bridge, is on p137. •11 models are on the BC. •An identical manual in German/French/Italian has 3.Auflage on IFC, & 461059 on BC.

SUMMARY OF '7 Model' 0-2 MANUAL •Name: STOKYS 0-2. •Dates &/or Ref Nos: 11.Auflage on IFC. •No. of pages: 58+covers. •Language: German/French/Italian. •Printing: B&W photos of Models, colour cover. •Page No. of Ill. Parts & highest PN: 57,142. •Page Nos. of Set Contents & highest PN: 58-IBC,110 (1008 for manuals). •Sets covered: 0,1,2. •No. of models for each set: 31,47,25. •Name, Model No., Page No. of first & last model of each set: 0: Dreiarmliger Weg+weiser,51,5; Flugzeug,81,16. 1: Lastwagenanhänger,141,16; Planiermaschine,147,36. 2: Streckenläutwerk,201,37; Jeep mit Anhänger, 226,53. •Other notes: •No.141 is out of order; No.101 (Bohrmaschine) is on p17. There is no No.217. •Gear ratios & std. constructions on pp2-4; pp54,56 have 2 No.3, & 2 G1 models; 11 others are on the BC. •An ad for electric motors & transfos is on p55.

SUMMARY OF '7 Model' 3-4 MANUAL •Name: STOKYS 3-4. •Dates &/or Ref Nos: Nr.1034 on FC; 8.Auflage on IFC. •No. of pages: 46 (101-146)+covers. •Language: German/French/English. •Page No. of Ill. Parts & highest PN: 119,142. •Page Nos. of Set Contents & highest PN: 146-IBC,110 (1008 for manuals). •Sets covered: 3,4. •No. of models for each set: 21,21. •Name, Model No., Page No. of first & last model of each set: 3: Gangway,301,102; Sewing machine,321,118. 4: Steam roller,401,120; Pile driving machine,421,145. •Other notes: •11 models on the BC.

SUMMARY OF 'Digger' 0-2 MANUAL •Name: STOKYS 0-2. •Dates &/or Ref Nos: Nr.1002 on FC; 25.Auflage 9.66 on IFC. •No. of pages: 60+covers. •Printing: B&W photos of Models, colour cover with yellow bottom panel. •Page Nos. of Ill. Parts & highest PN: 58-59,157. •Page Nos. of Set Contents & highest PN: 60-IBC,110 (1100 for manuals). •Sets covered: 0,1,2. •No. of models for each set: 82,43,25. •Name, Model No., Page No. of first & last model of each set: 0: Elevator,51,5; Aeroplane,82,16. 1: Drilling machine,101,17; Levelling machine,147,36. 2: Electric railway bell signal,201,37; Launching platform,227,54. •Other notes: •There are no Nos.110,111,119,130,141,206,217, & 2 of 136. •Gear ratios & std. constructions on pp2-4; pp55,57 have 2 No.3, & 2 G1 models. •An ad for electric motors & transfos is on p55. •Editions, Nr.1002, 26. 7.70, & 27. 8.74 are identical to this manual.

SUMMARY OF 'Digger' 3-4 MANUAL, 14.Auflage •Name: STOKYS 3-4. •Dates &/or Ref Nos: Nr.1034 on FC; 14.Auflage 9.65 on IFC.

•No. of pages: 48 (101-148)+covers. •Printing: B&W photos of Models, colour cover with blue bottom panel. •Page Nos. of Ill. Parts & highest PN: 120-121,157. •Page Nos. of Set Contents & highest PN: 148-IBC,110 (1024 for manuals). •Sets covered: 3,4. •No. of models for each set: 22,21. •Name, Model No., Page No. of first & last model of each set: 3: Gangway,301,102; Break-down Truck,322,119. 4: Steam roller,401,122; Pile driving machine,421,147. •Other notes: •No.313 is labelled 113.

SUMMARY OF 'Digger' 3-4 MANUAL, 15.Auflage •Name: STOKYS 3-4. •Dates &/or Ref Nos: 15.Auflage 10.69 on IFC. •No. of pages: 56 (101-156)+covers. •Page Nos. of Ill. Parts & highest PN: 124-125,157. •Page Nos. of Set Contents & highest PN: 156-IBC,110 (1100 for manuals). •Sets covered: 3,4. •No. of models for each set: 24,19. •Name, Model No., Page No. of first & last model of each set: 3: Gangway,301,105; Tank wagon,324,126. 4: Platform car,401,127; Platform scale,419,153-5. •Other notes: •Gear ratios & std. constructions on pp102-4. •Edition 16. 9.78 is identical to this manual.

SUMMARY OF 'Log Saw' Gear MANUAL •Name: STOKYS Gear and Experimental Box. •Dates &/or Ref Nos: none. •No. of pages: 20 (73-92)+covers. •Language: English/Spanish/Swedish. •Printing: B&W photos, inc model on red cover panel. •Page No. of Ill. Parts & highest PN: IBC,142. •No Set Contents. •Sets covered: G1,G2. •No. of models for each set: 13,3. •Name, Model No., Page No. of first & last model of each set: G1: Inversion gear,801,76; Mixing machine,813,85. G2: Three-speed gear with forward and backward running, 901,87; Model of a marine steam engine,990,91. •Other notes: •The G1 models need Set 0 parts, & the G2, Set 2,3 or 4. •2 other G2 mechanisms are on p86. •Gear ratios & std. constructions on pp73-75; an ad for electric motors & transfos on p92; BC has 11 other models. •An identical manual in German/French/Italian has 3.Auflage on IFC, & 461059 on BC.

SUMMARY OF 'Digger' G1/G2 MANUAL, 11.Auflage •Name: STOKYS G1/G2. •Dates &/or Ref Nos: Nr.1100 on FC; 11.Auflage 10.64 on IFC. •No. of pages: 22+covers. •Language: German/French/Italian but the outside of the covers are in German/French/English. •Printing: B&W model photos; colour cover with red bottom panel. •Page Nos. of Ill. Parts & highest PN: 22-IBC,157. •No Set Contents. •Sets covered: G1,G2. •No. of models for each set: 13,3. •Name, Model No., Page No. of first & last model of each set: G1: Umschaltgeriebe,801,4; Mischmaschine,813,13. G2: Dreigang-Getriebe mit Vor- und Rückwärtsgang,901,15; Modell einer Schiffs-Dampfmaschine,990,18-19. •Other notes: •The G1 models need Set 0 parts, & the G2, Set 2,3 or 4. •2 other G2 mechanisms are on p14. •Gear ratios & std. constructions on pp1-3. •An ad for electric motors & transfos is on p20, and for the K1 Set on p21. •The G1 & G2 models are as in the '7 Model' manual above.

SUMMARY OF 'Digger' G1/G2 MANUAL, 12.Auflage •Name: STOKYS G1/G2. •Dates &/or Ref Nos: Nr.1100 on FC; 12.Auflage on IFC. •No. of pages: 28+covers. •Language: German/French/English. •Page Nos. of Ill. Parts & highest PN: 28-IBC,157. •No Set Contents. •Sets covered: G1,G2. •No. of models for each set: 13,10. •Name, Model No., Page No. of first & last model of each set: G1: Inversion gear,801,4; Mixing machine,813,13. G2: Feeding device,814,14; Model of a marine steam engine,823,24-25. •Other notes: •The G1 models need Set 0 parts, & the G2, Set 2,3 or 4. •2 other G2 mechanisms are on p20. •Gear ratios & std. constructions on pp1-3. •An ad for electric motors & transfos is on p26, and for the K1 Set on p27. •The G1 models are as in the 11.Auflage manual above. •Edition 13 (undated) is identical to this manual.

SUMMARY OF '7 Model' K1 MANUAL •Name: STOKYS K1. •Dates &/or Ref Nos: none. •No. of pages: 8+covers. •Printing: B&W photos of models; colour cover. •No Parts List. •Page No. of Set Contents & highest PN: BC,154. •Sets covered: K1. •No. of models: 9. •Name, Model No., Page No. of first & last model: Low-bridge,K101,IFC; Railway Station,K132,IBC. •Other notes: •Model Nos. are 101-107, & 131-132.

SUMMARY OF '7 Model' K1 MANUAL, 3.Auflage •Dates &/or Ref Nos: 3.Auflage 5.72 on IFC. •No. of pages: 12+covers. •No. of models: 10. •Name, Model No., Page No. of first & last model: Low-bridge, K101,1; Railway Station,K132,IBC. •Other notes: •Model Nos. are 101-107, 130-132. •Slightly enlarged version of the manual above, with minor changes to some models, & Nos.103/104 interchanged. •The Set Contents on the BC has an extra '2x #22' parts squeezed in. •Edition 4. 7.79 is identical to this manual except that it has a 'Digger' cover (with green panel), & the '2x #22' parts are in their proper place on the BC.

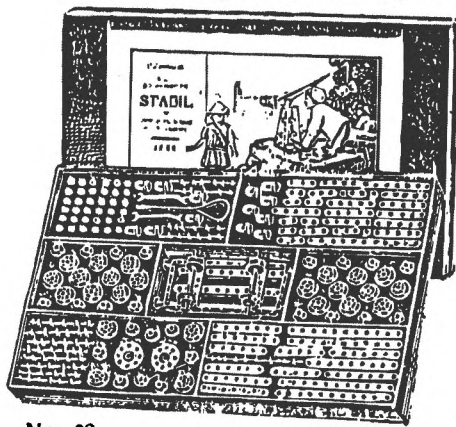
RAILWAY OUTFITS

STABIL Serie: Spezialbaukasten für Eisenbahnwagenbau Despite the fact that the Hornby's 1901 patent showed railway track and a crane on rails, there was never any particular emphasis on railway models in MME & MECCANO manuals. Rather surprising perhaps, given that by repute, every young boy's dream at the time was to become an engine driver. Walther on the other hand introduced a series of sets well before WW1, that allowed various goods wagons to be made. What follows is mainly based on a photocopy of a manual, courtesy Ansgar Henze, kindly sent, with some notes on the parts, by Werner Sticht.

The earliest known mention of the Railway sets is in the c1911 catalogue described in 22/650, and it contains an illustration (left) of one model. It isn't among those in the manual and it doesn't have the buffers that are fitted to the Manual models. The wheels are 1 hole lower

in relation to the main chassis too.

A 1914 catalogue lists 5 sets (Nos.59-63, see 13/348), plus linking sets 59a-62a. 6 models are shown and all are exactly as in the Manual. Sets 59 - 62 are illustrated and the No.62 is shown left. All the sets have one chassis already made up and the No.62 contained enough parts to make 7 Wagons at the same time.



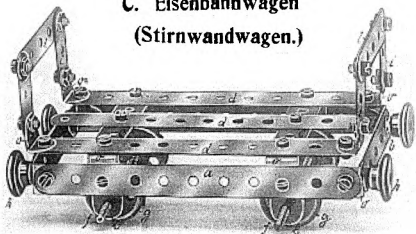
No. 62

The Manual has 16 pages (241*170mm deep), plus covers, and 3 extra pages (showing Models W & X, small illustrations of some non-railway models, and a Price List) have been glued in at the back. The cover is the type at the top of 13/350, with Vorlageheft zu No.59 stamped on in purple ink at the top, and the name 'Serie: Spezialbaukasten für Eisenbahnwagenbau' under 'STABIL'. Despite the '59' stamp, the models include those for the larger sets as well, and go from A. Eisenbahnwagen (Plattenwagen), p2, to H. Eisenbahnwagen. (Planwagen), p9; then J. Eisenbahnwagen (Gitterwagen), p10, to L. Eisenbahnwagen. (Vierachsenwagen mit Drehgestellen.), pp12-13; then R. Förderkorb für Drahtseilbahnen, p14, to U und V. Förderkörbe für Seilbahnen, p16; then W und X. Förderkörbe oder Förderwagen für Seilbahnen on the extra page. There is a large photo of each model, apart from W & X which are line drawings, plus lists of the parts needed, and a few drawings of details, all in the usual STABIL style.

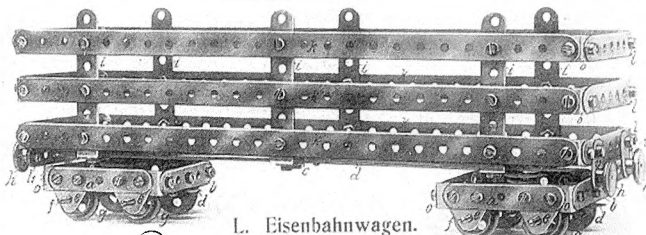
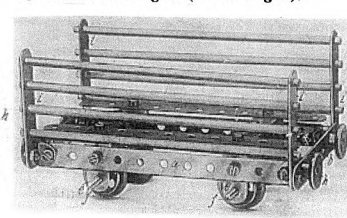
Models A - L are various types of Wagon, all running on 4 Wheels, except G. on 6, and L. on two 4-Wheel bogies. Most are simple frameworks made from Strips & A/Bs, but one has a tarpaulin cover, to be made from paper, one has wooden dowel side members, and one has a crane on the chassis (see OSN 13). The Bogie Wagon needs 26 A/Bs and 102 N&B - it and 2 other Wagons are shown at the top of the next column. To minimise friction the Flanged Wheels run loose between lock nuts on the Screwed Rods used as axles. The models were of ample width to run on 1-gauge track, and it was suggested that the wheel position should be set to suit the track being used.

The parts were standard STABIL except: • The 25mm Ø, turned brass Flanged Wheel, see 19/548. • Special lengths of Screwed Rod - 85mm for the axles, & 125mm

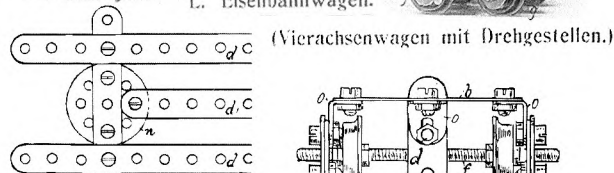
C. Eisenbahnwagen (Stirnwandwagen.)



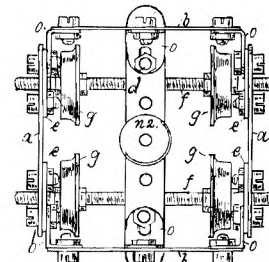
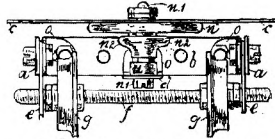
J. Eisenbahnwagen (Gitterwagen),



L. Eisenbahnwagen.

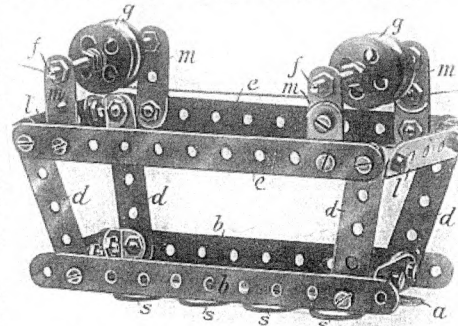


(Vierachsenwagen mit Drehgestellen.)



used in the Tip Wagon. • The Buffer, a Cheek Piece (PN9, see 13/352) but with a tapped bore. • The Coupling Hook. One only is called up for each model, and none are shown in the photos. It is thought to look like the sketch right. • The small Triangular Plate used in the bogies. This later became PN45 (see 19/355), and later still was renumbered 145. • The Wooden Rod mentioned above, 145mm long and about 4mm Ø.

The remaining seven models are simple cable railway cars, and the largest is shown right. Parts 'g' are Flanged Wheels of course, and 's' are Buffers.



A few points remain mysteries:

- The date of the Manual. One estimate is 1915 but the basic version without the extra pages was probably earlier, perhaps 1912. The same style of manual continued until 1921.
- A manual for the standard sets from 1913 contains an ad for the Railway Sets with an illustration of a Wagon with the floor made from a 5*11h Flanged Plate. No such Plates can be seen in the sets in the 1914 catalogue but perhaps old printing blocks were being used.
- The Manual has a Model J but no Model I; in the extra manual pages, a list of which models could be made with the different sets mentions Model I but not Model J.
- Sets 63a & 64 are included in a list of sets in the extra pages, both marked 'in preparation'. The No.64 was to have built 13 models, but it isn't known if these sets were ever produced.

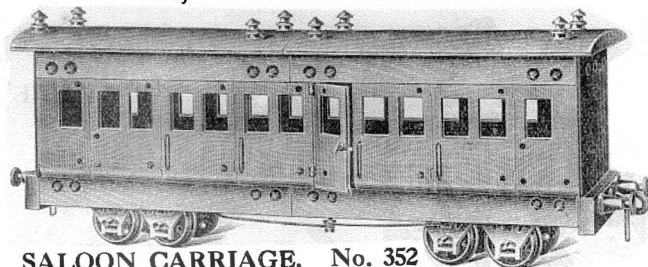
PRIMUS ENGINEERING 1913 saw Butchers launch their PRIMUS outfits - they did not include any sets solely to make railway models but a significant number of the 80+ parts in the system were specifically intended to allow construction of realistic railway stations & 1-gauge rolling stock. In his book on PRIMUS, David Hobson has pointed out that in the first manual, 25 of the 35 models have a railway connection. This aspect was often not referred to di-

rectly in publicity material but railway models were usually shown, and no doubt it was felt that this was enough to attract 'railway' enthusiasts, while not detracting from the systems universal modelling appeal.

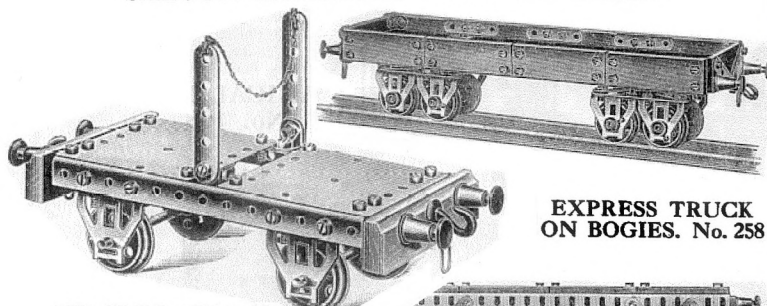
In fact many of the 'railway' parts can be employed quite widely, at least in some classes of models, but it is difficult to find additional uses for some of the wooden parts. The restriction of the number of holes to those needed to assemble the model is one factor in this, but perhaps such a criticism is a little unfair because Butchers took a benign view of modifications to their parts, and a saw and a drill would have solved many problems.

One or two Locomotives were included in the manuals but none were powered and the only flanged wheels in the system were too small to be realistic. 1923 saw the 1-gauge Clockwork Locomotive Outfit (see 5/100) but the same small Flanged Wheels were used, and didn't marry harmoniously with the purpose made boiler & cab. It would be interesting to know whether this Loco could be used effectively with PRIMUS rolling stock. The individual special Loco parts are not illustrated in MCS so an Extra Page will show them.

Since all the PRIMUS parts are shown in MCS and a full account of all aspects of PRIMUS is available from David's book, I'll not go into details, but simply give a flavour of the PRIMUS railway world with the illustrations below.

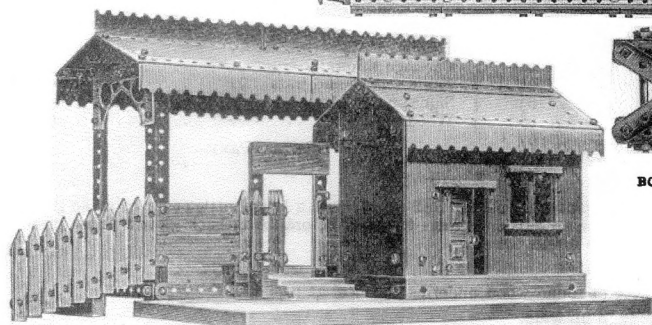
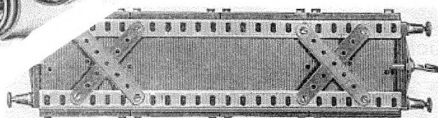


SALOON CARRIAGE. No. 352

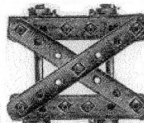


EXPRESS TRUCK ON BOGIES. No. 258

TIMBER TRUCK No. 123.



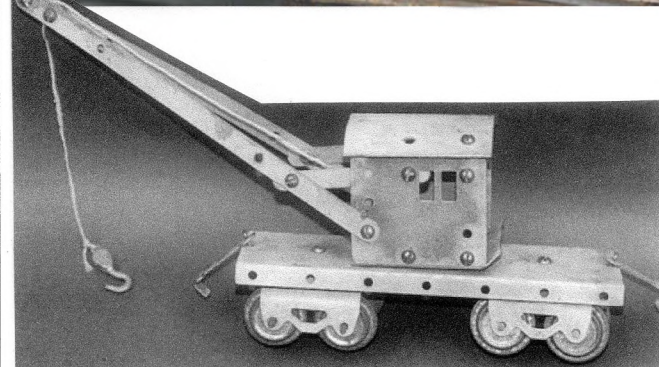
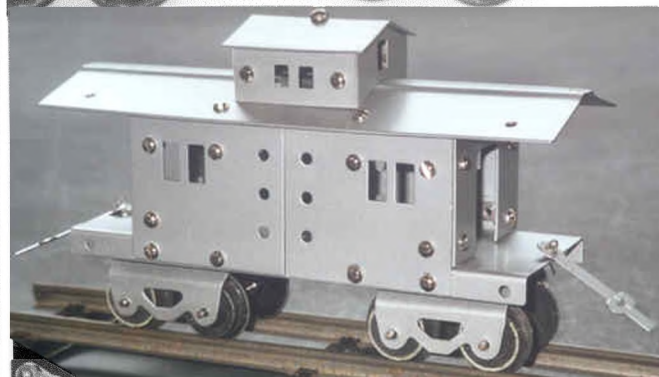
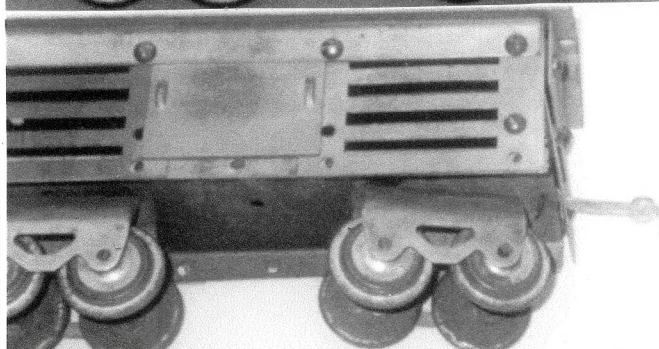
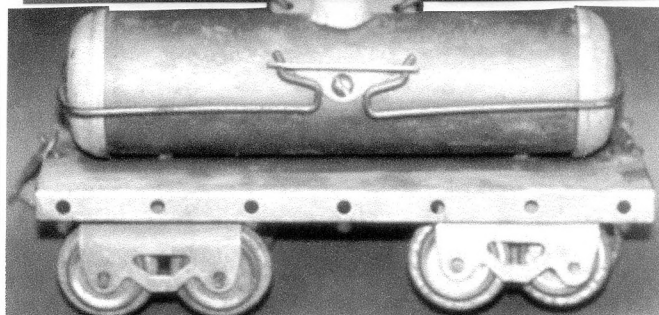
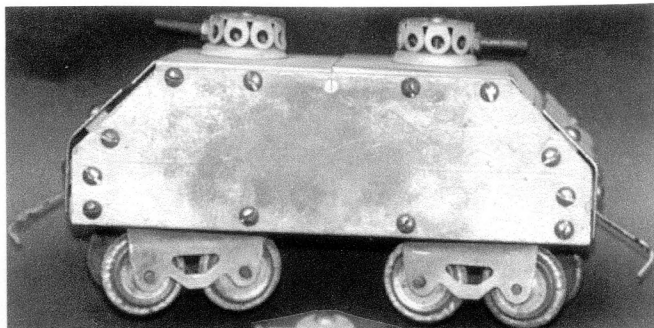
STATION AND STATION HOUSE No. 306



BOGIE FRAME.

METALCRAFT Better known for their Spirit of St. Louis aero sets, the Metalcraft Corp. of St. Louis also produced 3 sets for 0-gauge railway goods wagons. Dates are not known exactly but a patent for the design of the bogie was filed in July 1929, and David Hobson has found a news item about the railway outfits (and other METALCRAFT products) in the May 30, 1930 *Games & Toys*. MCS gives an end date of 1940.

G&T gave a few details of the sets. The smallest had

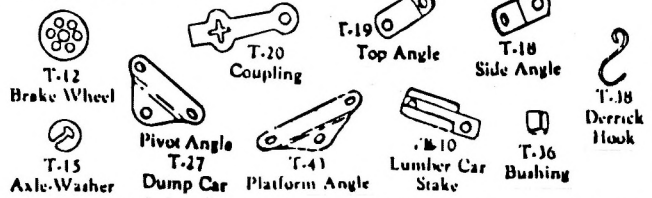


more than 70 parts, and 5 different wagons (called railroad cars) could be made; the larger sets allowed construction of 8 and 12 models. It was claimed that the cars could run on any gauge, but their size would make them unsuitable for track narrower than 0-gauge, and it doesn't seem possible to space the wheels for wider gauges. MCS shows 3 cars plus tiny drawings of 8 more; the 12th was the Breakdown Truck above. Also in MCS, the Set Nos: 980, 981, 982, and the contents of the largest outfit, which had enough parts to 'build 4 complete cars at one time'.

Of the models shown above, 4 are courtesy Chris Freeman, and the Caboose is mine - the cupola on top of it

is a home made replica, and the Wheels are not original. Some fittings from the ends may be missing too, and I'd be grateful for a copy of the instructions for it if anyone has them. The other models are a Box Car and some more ordinary flat & goods wagons - the Coal Car for instance has the body of the Armored Car turned upside down.

All run on 2 bogies and the Bogie Frame is shown left. The Wheels are the toy train type made from 2 tinplate pressings, with deep flanges - the o.d. is 1.13", & the tread diameter .87". The Axles are at 1 1/4" centres, and are steel with a coppery look, 2" long, & .120" Ø; each Wheel is retained by a flat Clip (T-15 below, .41" Ø) which pushes over a groove in the Axle, inside the Wheel.



The parts are made of steel, thick enough to be entirely rigid, with some sort of surface finish which was probably bright originally, but now has a dull, patchy grey metallic appearance. (The Caboose parts looked so miserable that I sprayed them silver.) The holes are 3.9mm Ø and most are spaced at multiples of 1/2". All the Cars use the same Chassis, a plate 6.6*2.2" with flanges on the long sides (called a Bottom), and the bogies are lock-nutted to it at each end. In all there are 49 different parts and a good many of them are only used in one of the models, including for example the Tank, its Ends, the wire Handrails which retain them, and the parts for the cupola of the Caboose. The Turret on the Armored Car is the Engine Crankcase from an Aero set, but I think this is the only 'borrowed' item, apart from the N&B. The latter are 6-32 thread with RH Bolts & hex Nuts. The Coupling (above) is pivoted to the Chassis with a small Split Pin (the ends of the Coupling are bent down at 90° to engage in the cross slot of the next Car - those on the Caboose are straight, as found, and appear never to have been bent.) The other small parts are also shown above - I'm not sure where the Bushing is used.

The models are of very simple construction - in the Caboose for instance the sides are bolted to the Chassis flanges, and the ends and roof are held with A/Bs. A Long Bolt through the roof holds the cupola.

The UK agent for METALCRAFT in 1930 was Messrs H. A. Moore & Co. Ltd., Premier House, 150 Southampton Row, London WC 1. The patent mentioned earlier was American, No.1849877, granted to Garvey E. Lyons & Bert J. Anderson, assignors to The Metalcraft Corporation, in March 1932. It showed the bogie, pivoted as in the models, but with threaded ends to the axles, and for each wheel, locknuts inboard, and outside the frame.

KÖSTER This German system is mentioned in *Baukästen* (p272) but with no details except that three 0-gauge electric railway sets were shown in the 1948 Frankfurt Fair by Gustav Köster G.m.b.H., of Meinerzhagen (east of Düsseldorf), a firm that made office supplies, educational material, & metal ware of all kinds. It was founded in 1919 and may have ceased trading in 1948, or soon after, but that is uncertain. The sets were distributed by INA Vertriebsgesellschaft m.b.H. Möws & Co., Duisburg-Ruhrort, Tausendfensterhaus. A customer response postcard from the Nr.80 Set described below has a PR of '7500. 11. 48 A'.

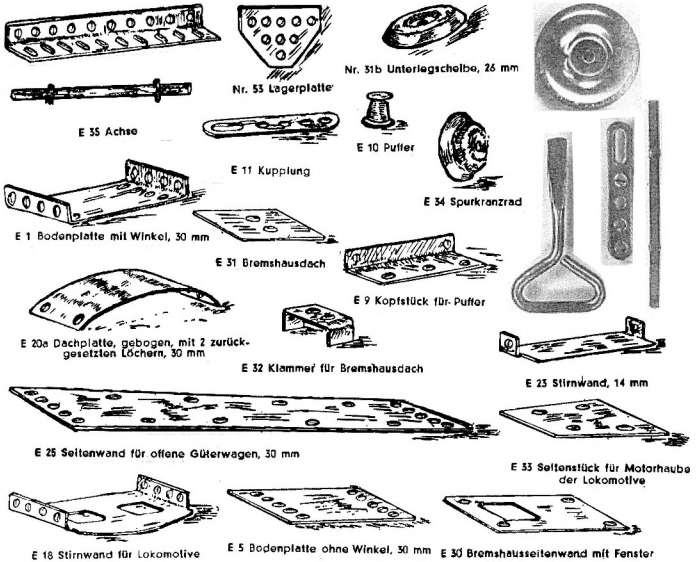
KÖSTER sets are very rare and Thomas Morzinck has kindly sent a copy of the manual from a Nr.80 Set which belonged to the late Dr Griebel, and some details of the parts. On the manual's back cover it says that the Nr.80 is the first Köster set and that others for the building of a

complete railway system will follow. Bridges, signals, stations & cranes are mentioned, also the introduction of an electric motor. As a foretaste the Signal opposite is shown.

Thomas mentioned that the idea for this type of set may have come from a book, *Die elektrische Modelleisenbahn*, by Rudolf Wollman, which was first published in 1945, and gave detailed instructions on building a complete model railway. The Köster sets may not have been successful because H0-gauge was more popular than 0-gauge, and by 1948 Märklin & other companies had resumed production of model railway items. OLYMPIA, the East German system (see 15/417), appeared in 1949, a year later than KÖSTER, and although at 7mm, the hole spacing of the parts was a little greater than KÖSTER, railway related models were scaled to H0 size. It lasted until 1955.

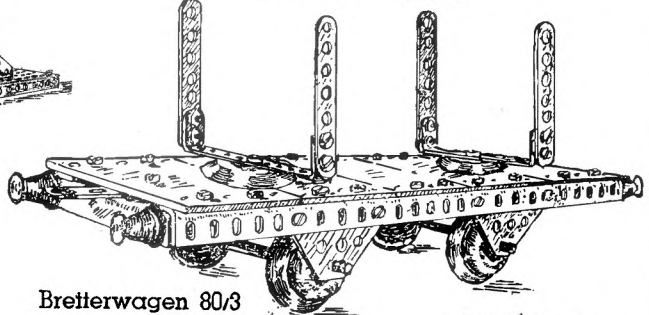
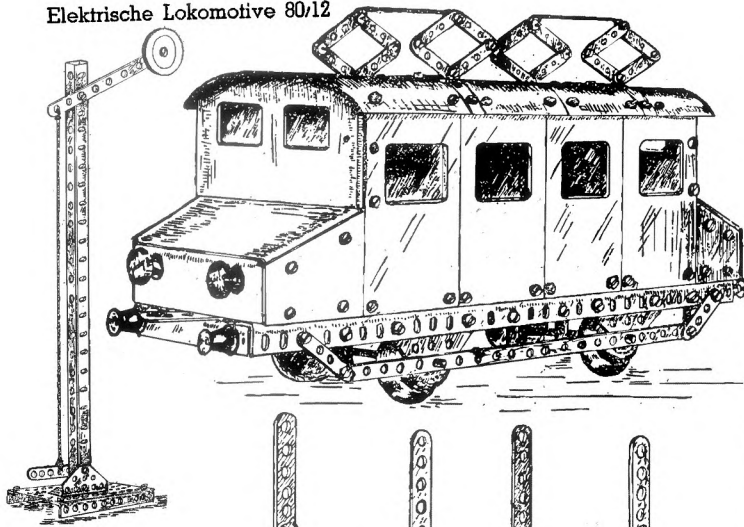
There are 52 different parts in the system, 31 of which have a particular purpose and have PNs prefaced by 'E'. Strips are aluminium and Plates are steel, painted green, red or grey. The holes take 2.5mm Bolts and are at 6mm pitch, or multiples thereof in the 'E' parts.

The 'standard' parts comprise: • Strips about 6mm wide, with 3,4,7,15,22h, and semi-radiused ends. • DAS, 1*5*1 & 2*9*2h, and a 1*2h A/B. • A/Gs (as below), 3,12, 13,15,17,25 holes long with square corners. • A Flat Trunion (Nr.53 below). • 5 & 10mm CH Bolts, & hex Nuts. A 7mm Washer, and a formed one, 26mm Ø (Nr.31b below).

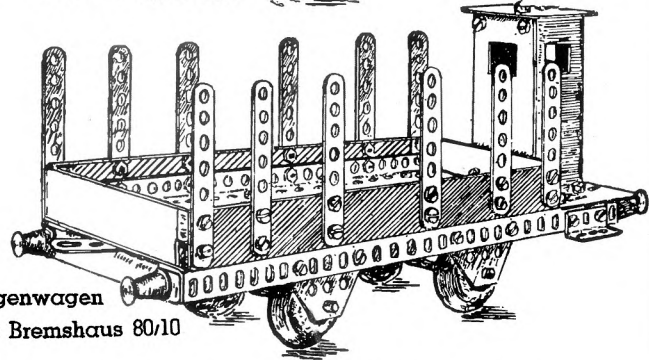


Apart from the Coupling, Buffer, Wheels & Axles (shown above), the E parts are Plates to make the floors, sides & roofs of the models. The small selection above includes most types, and most others are identical except for one or more extra holes, and in width. The Plates are of quite heavy metal, and have a tendency to go rusty. On the right above are some photocopies of parts: the o.d. of the Flanged Wheel is 27mm; and the lengths o/a of the Axle, Screwdriver, & Coupling strip are 55, 46, & 36mm. There are numerous gaps in the PNs of the parts in the Nr.80, which perhaps speaks of more in the other sets, or planned. One may be a 25h Strip which was among the photocopied parts that Thomas sent.





Bretterwagen 80/3



Rungenwagen mit Bremshaus 80/10

Gebaut mit Köster-Konstruktions-Kasten Nr. 80

The box lid label of the Nr.80 Outfit, at the bottom of the last column, is blue & brown, 26*17cm. The Loco looks like the one in the Manual (see above) but the Carriages immediately behind it cannot be made with the parts in the Nr.80. Included in the Set are 24 each of Wheels & Buffers, and suitable quantities of other parts, to allow 6 different models to be made up at the same time. Other parts include 48 Strips, 19 A/Gs, and about 400 N&B.

The manual, described below, contains line drawings, parts lists, and building instructions for 12 models, including the models above, plus 9 other goods vehicles. All are open wagons with sides of different heights, and some have 7h Strips as uprights to contain loads. 2 have a brakeman's cabin (as above) at one end on an extension of the basic 25h (15cm) long chassis. The latter is made from A/Gs spaced apart by Flat Plates, or Flanged Plates if Side Panels are to be used. All the models run on 4 Wheels but the chassis size is very similar to the METALCRAFT one.

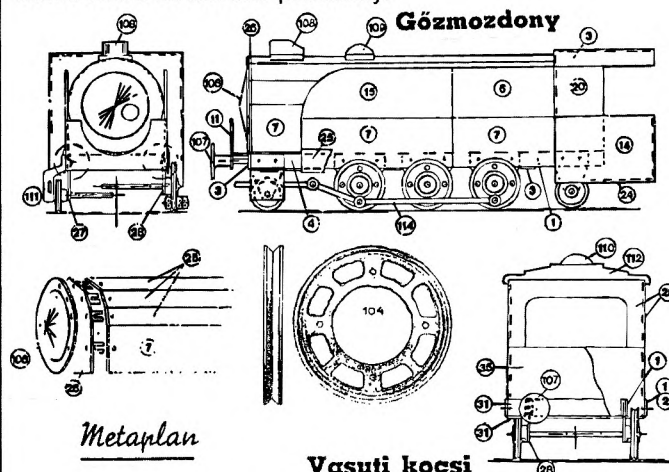
The Loco isn't fitted with a motor but among Dr Griebel's collection is a complete made up KÖSTER goods train which looks to be made up of Nr.80 models, and its Loco is fitted with a ready assembled motor. It has a contact underneath to pick up current, and looks as if it would run on commercial 0-gauge track. Thomas wrote that in the flesh the models 'look very nice and by no means poor'. He also remarked that the 'standard' parts could have been developed into an interesting normal MCS.

SUMMARY OF MANUAL •Name: Köster Konstruktions-Kasten Nr.80. •Details of maker:



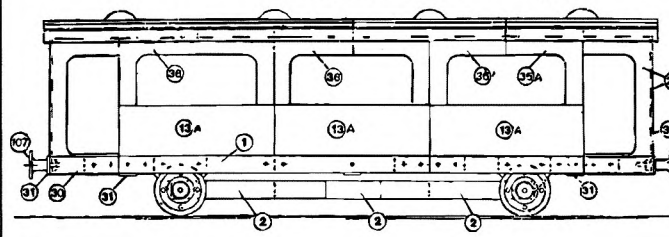
Gustav Koster G.m.b.H., Meinerzhagen/Westf. •Dates &/or Ref Nos: none. •Page size: 145*215mm deep. •No. of pages: 24 inc covers. •Language: German. •Printing: B&W inc cover, with line drgs of models. •Page Nos. of Ill. Parts List & highest PN: 3-5,E34,57. •Page Nos. of Set Contents & highest PN: 6,E34,57,W1. •Sets covered: Nr.80. •No. of models: 12. •Name, Model No., Page No. of first & last model: Plattformwagen,80/1,7-9; Elektrische Lokomotive, 80/12,19-22. •Other notes. •The distributor is given on the front cover: INA Vertriebs-gesellschaft m.b.H. Möws & Co., Duisburg-Ruhrort, Tausendfenster-haus. •Details from photocopy.

METAPLAN This Hungarian system is shown in MCS with illustrations of all the parts. They are probably aluminium and most are intended to allow realistic rolling stock to be made. They can also be used for architectural and other models. No new information is available but for readers without MCS the 2 models below will give an idea of the system. Most of the holes are not shown in these views but generally the Strips such as #2 & #25, are fully perforated, while the Plates usually have only edge holes, and often only every other one. The wheels used are Pulleys and the larger size is given as 45mm Ø. Scaling then gives the hole pitch as 15mm, which is the same as the other Hungarian systems, see 20/582. The wheels scale at about 10cm spacing; the Loco is some 39cm long overall, and the Carriage 56cm. So, quite large models but how robust I wonder. I don't suppose they were meant to run along on track, and there's no mention of a motor. As well as the 2 sizes of Pulley on the Loco, a 90mm one (centre below) is shown in the Parts List, and probably the 45mm would fit in its centre, attached by Flat Brackets. MCS suggests that METAPLAN may date from as early as the 1930s, but the 1950s would be another possibility.



Metaplan

Vasuti kocsi



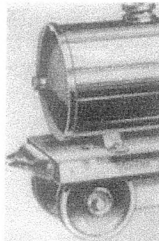
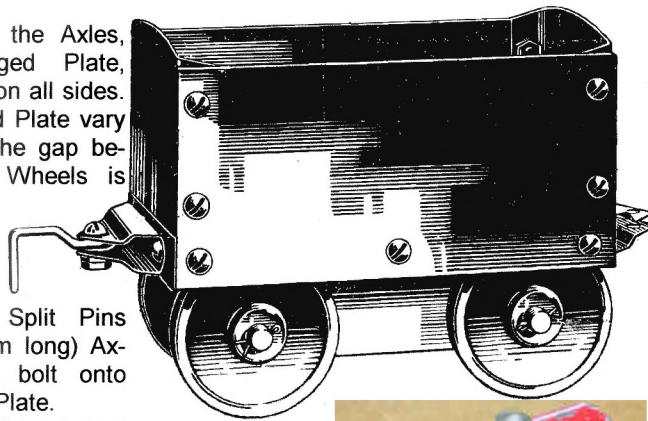
PRINCE WILLIAM At the top of the Instruction Sheet for a PRINCE WILLIAM (P R henceforth) model is 'One of the King William Series', and 'Prefabricated Toys'. At the bottom is: Johnson & Powell Ltd., 16, Upper Highgate Street, Birmingham, 12. The 4 known P R models were all sold as separate kits and are all railway items - an open Truck, a Tanker, and a Loco & Tender. The Loco is only known through an entry in an auction catalogue, with no details. The Truck and a photo of a Tanker are shown overleaf, with a portion of the illustration on the model's box to show the Tank End.

All 3 models have the same base, a 1 3/4" wide U-section

Channel with holes for the Axles, bolted under a Flanged Plate, $4\frac{3}{4} \times 2\frac{5}{8}$ " with $\frac{1}{2}$ " flanges on all sides. The holes in the Flanged Plate vary from model to model. The gap between the (flangeless) Wheels is 46mm, and they are identical to the $1\frac{3}{4}$ " BILT-E-ZE ones described in 22/628. Again they are retained by Split Pins through the $\frac{1}{4}$ " \varnothing (72mm long) Axles. Coupling Brackets bolt onto each end of the Flanged Plate.

The Truck has Side Plates bolted to the sides of the Flanged Plate, with flanged End Plates bolted to the Sides. From a photo the Tender seems identical except that one End Plate is omitted and the free corner of the Side Plate is radiused. The Tanker has 2 formed Supports bolted across the Flanged Plate and the Tank is bolted to them. The Tank Ends seem to be held by a Screwed Rod with Knurled Nuts at each end. On top of the Tank a turned brass Dome sits on a Saddle, with a bolt through both.

The Channel and small parts are chemically blackened; the Wheels & Tank are red; the Sides & Ends green; and



the Flanged Plate is red in the Truck & green in the Tanker.

N&B are 4BA. The Bolts are black (the brass ones in the Tanker are substitutes), $\frac{1}{4}$ " & $\frac{1}{2}$ " u/h, with round heads, $\frac{1}{4}$ " \varnothing . The Nuts are the thin commercial pressed variety, and two types have been seen: square nickelled, and brass hexagonal - in both cases $\frac{5}{16}$ " A/F.

These kits are said to have been on sale in the early 1950s and some known ones are packed in plain brown cardboard boxes; one can be seen to have the photo of the Tanker, already mentioned, on its top, but with no wording. One wonders what market these sets were aimed at. The models have a certain charm but would seem to be the metal equivalent of wooden push along toys, but the children who play with those would not be old enough to assemble the P R models. But they are robust enough

to be played with and perhaps it was thought that dads might find a metal constructional toy more interesting than a ready made wooden one.

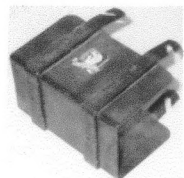
My thanks to Chris Freeman and Geoff Wright who lent material for these notes.

The KNIGHTS HEAD Gantry Crane

Dave Taylor kindly lent me the Instruction Sheet for this model, and also his only part from it, the Pulley Block. Said Crane was a toy that was to be built from a kit of parts, rather like the GEOBRA model in 19/552. It isn't known if any of the pieces were ever used in other models, and it isn't even sure that there were other outfits, but there were other toys from the same firm because the Knights Head logo above, which appears on the Model Sheet, is also on the part to the left, which I found in my junk box. The sturdy, U-shaped body measures $3 \times 1\frac{1}{4} \times 1\frac{1}{2}$ ", and the logo is B&W on a black & green ground. The finish is the same as that of the Pulley Block,

black metallic, and on the Sheet the parts are said to be of blued steel.

The single-sided Model Sheet is $19\frac{1}{2} \times 29\frac{1}{2}$ " and the main illustration is an exploded view of the Crane, about full-size judging from the Pulley Block. In that case it would be about 12" high with an overall length of some 18". There's also a much smaller view of the finished model,



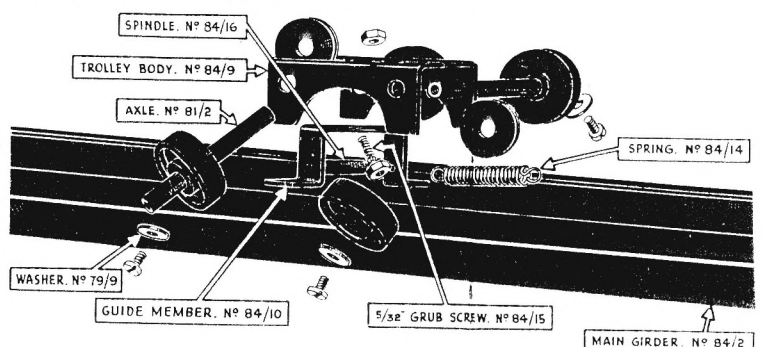
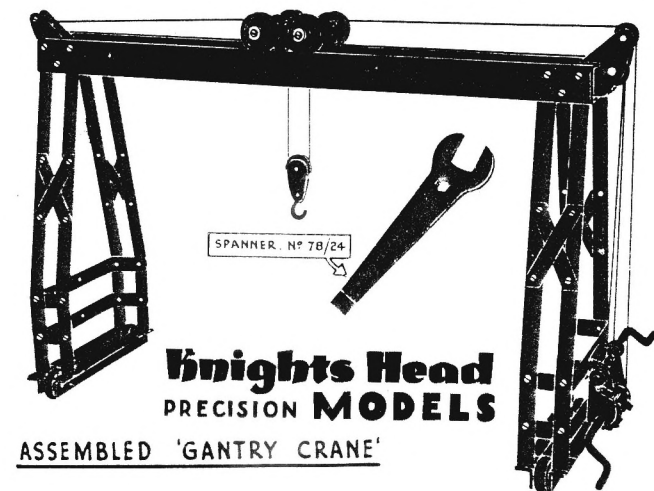
shown below left at 64% of the original size.

31 different types of parts are employed; they are assembled with 70 $\frac{5}{32}$ " Bolts, most of which screw into tapped holes, and only 6 Nuts are used. The single tool is the Span'driver shown under the Crane; it is 72mm long on the Sheet and the small hexagonal hole probably fits the 6 BA Nut used on the Bolt holding the Pawl (described below).

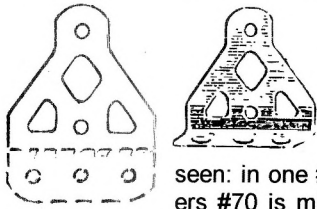
The vertical Strip members at each end are joined at the bottom by DAS & A/Gs, with (non-driven) Wheels between the latter. At each end at the top, the Strips are bolted to the base of Channel Members by their angled ends, with the Main (Angle) Girders bolted to the sides of the Channels. The crab is shown below and the operating cords run on Pulleys held in the U-Brackets at each end, and down to the 2 Crank Handles which are journaled in a Channel Bearing. The hoist one carries a Winding Drum with a ratchet end, and a Pawl (a cranked strip) pivots on the 6BA Bolt in the side of the Channel.

All the parts are shown in Extra MCS Sheets. They look as if they are they are good quality and some must have been quite expensive to produce. The Axles for instance either have internally tapped ends, or they are turned down and threaded.

The Kit was made By True-To-Type Products Ltd., Hereford, and Tin Toys says that the company was originally called Barronia Metals Ltd., and was taken over by Chad Valley in 1946 to 'reproduce precision toys'. The name R.D.White appears on the Model Sheet.



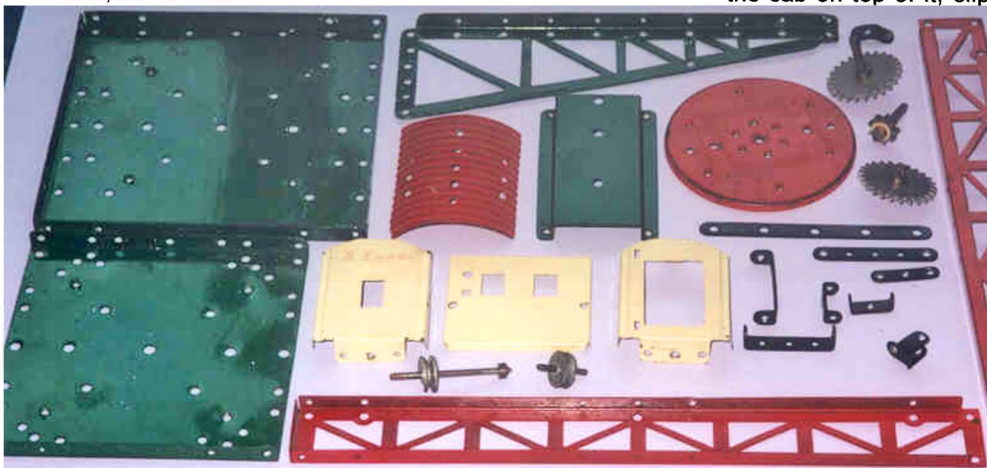
MYSTERY PART No.26 Don Redmond has now identified this Trunnion (see 13/363, 20/567) as a Canadian STRUCTOMODE part. It is shown in a manual Parts List as '70 Trunions 5c', and the illustration is reproduced on the left with, far left, a tracing from an actual part, 50% full-size. The part isn't listed in the 3 manuals I've seen: in one #69 is the last part; in the others #70 is missing between #69 & #71,72. Has anyone a complete manual in which the part appears?



MYSTERY PARTS No.29 These SUPERSONIC type parts are Russian - the full story is on page 645.

MYSTERY PARTS No.49 My thanks to Josep Bernal for these parts, which seem intended to make a Crane. One of each, apart from the Screws, are in the photo below.

The main parts found are: • 1 Large Flanged Plate, 110mm square with 7mm flanges on all sides, and 1 Small Flanged Plate, 93mm square, with 7mm flanges on 2 sides. Both are green. • 8 red Braced Girders, 211mm long by 23mm wide, with 6mm flanges on both sides & one end. 2 RH & 2 LH green Triangular Braced Girders, 160mm long & 50mm deep, with a 7mm flange on one side. • 1 red Circular Plate, 66mm Ø, with a 2½mm flange around the rim, & a square centre hole. • 1 green, top-hat section Gear Plate, 67*42mm. • Deep cream Cab parts: 1 each of the Ends, and 1 side (another is missing). A red corrugated Roof, 55*42mm.



The red & green are medium shades; the latter is lighter softer than in the colour version of the photo on the Web.

Other parts: • A 9t Pinion & 2x 25t Gears, all nicked brass, and pressed onto 2.55mm square shafts. • 2 zinc, 12mm Ø Pulleys on 2.15mm Ø shafts. One is fast on an 18mm shaft; the other was found loose on a 39mm shaft with threaded ends (2.88mm o.d., pitch about .6mm) - a small brass threaded Collar was on one end. • 3 Strips; a DAS; a Double, and 2 other Brackets, all chemically blackened. These parts vary in width from 5½ to 7½mm and most can be clearly seen in the photo. The Mounting Bracket under the Double Bracket is a narrow double bracket with the base extended at one end, and a tab at the other; the Clip above the top Gear (it looks to be growing from the shaft in the photo) is a formed strip with a hole at one end.

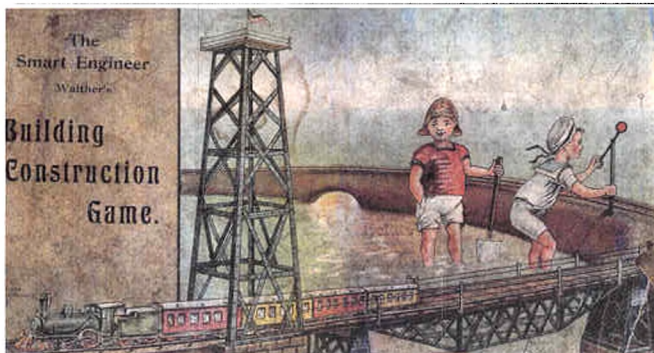
The holes in the 3 & 5h Strips are at 8.5mm pitch, and most others are at multiples of this value. Some holes have a threaded upstand to take the Screws; the others vary in diameter from 2.7 to 3.2 mm in the different parts.

The Screws are brass with raised cheeseheads, 5.0mm Ø. Most are 3mm u/h, with a few (nickled) at 4½mm. The thread hasn't been identified but is 2.48mm o.d., with a pitch, as measured, of .68mm.

No nuts were found and so perhaps all the Screws go into the threaded holes. This ought to make it easier to work out how the parts fit together. In fact it is obvious that the Gear Plate goes under the Small Flanged Plate with the 3 Gears (for slewing) between; then the Circular Plate, with the cab on top of it, slips down onto the long square Gear shaft, and the Clips (when screwed to the Flanged Plate) prevent it from tipping. After that it looks as if the Braced Girders ought to form a tower, and the triangular ones a jib, but just how they, and the various black parts, fit together has so far defeated Britain's (and Spain's) finest. One thing is clear though, a good many holes in the parts don't seem to be needed in this model.

The only marking on the parts is '3 Tons' in red on the back of the cab. An imperial measure despite the metric dimensions of the parts.

THE SMART ENGINEER As mentioned in 22/651 George Wetzel kindly sent (from the U.S.) copies of the lid label, and the Set Contents on the inside of the lid, from a No.8 Outfit. The label is shown below and the original is



in colour; the name is at top left but may not be clear so is also shown below. At bottom left most of 'Printed in Germany' can be seen on the original. Readers will recognise the picture as that used by Walther's on their ARTS ET MÉTIERS Série 3, &

The Smart Engineer

Walther's

early STABIL sets (see 22/634). A&M3 was of course WALTHER'S INGENIEUR in disguise (see 13/351), and the Set Contents for THE SMART ENGINEER make it clear that again this is W I under another name.

The Parts List/Set Contents is in French & English, and has the number of the Set ('size No. 8') on it but no name. Since the label is in English alone, no doubt a different one was used on sets destined for French speaking markets. All the different parts listed (15 metal, 11 wooden, & 5 Tools) were in the W I No.11 Set (see 7/165) except the 3 below. They were mentioned in 17/469 as being in the A&M3 No.81. In this instance, using the names in OSN 17, the 'Chaise' (at the top) & 'Pointe en fer' (bottom) are the only parts not named, with the straight lines where the names might have been.



1 manivelle

1 handle

George wrote that there weren't many parts left in the Set, and none of the Clips that were used to hold the parts together.

OSN 23/681

ITEMS FROM LETTERS

1. On **STEELBUILDER** (20/562) David Lawrence has recently acquired a No.1 Set and wrote 'What I hadn't realized, because the manual doesn't mention it, is that the Strip's doubled edge has a pip on the inside at one end, so that you have to press it to snap it in.'

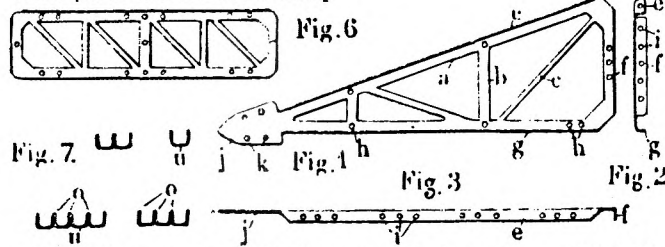
2. From Kendrick Bisset on the **Flanged Sector Plates in U.S. MECCANO** outfits, 'From what I have been able to gather the single row of holes version was used through at least 1927. I have seen two 1928 outfits with the three row variety, and they are shown clearly in contemporary illustrations. BUT later outfits reverted to the single row version. They are in my 1929 #20 & #30 outfits, and in the subsequent New Haven GILBERT-MECCANO outfits. [The history of the sets was given in 12/317.] Is it possible that Elizabeth was making the single row type, and had the tooling? Then when the new version came out [in the UK in 1927] perhaps they were made in England and shipped over until new tooling could be put in place - but this plan was interrupted when Gilbert bought U.S. Meccano?'

3. D. Courdoux wrote that production of **TEMSI** stopped for good in May 1999, and that in future no **MÄRKLIN** spares will be sold, only one or two 'theme' sets. Also that there is a question mark over **STOKYS** because letters to them remain unanswered.

4. Thomas Morzinck wrote that there was a good picture of a **STABA** set on the German ebay site. That's the STABA with the 'outline' Strips, see 8/194. The Set was a No.00 and the contents seem to correspond to those in MCS. The box is red and has 'STABA Constructor' on the lid; the manual doesn't seem to have a proper cover - the front page has just 'STABA' at the top, with '00' in the top right corner, and text underneath. The parts look like those described in OSN 8 except that the 21mm Pulleys are red instead of nickel.

On the **Korbuly patents** (see 22/623), the date of the Austrian one (with gearwheels, connecting rods, etc.) was 1st Nov. 1901 [thus predating Hornby's patent by nearly a month], & the German patent was granted on 14th Jan. '02.

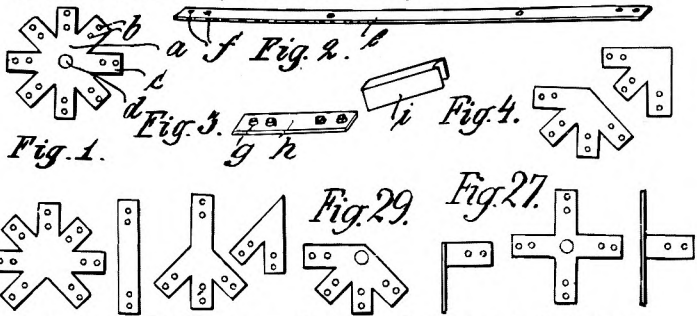
5. From Jeannot Buteux. • The French **CHARPENTO** patent (see 21/617) was No.589377 and a Roger Marie-Joseph Biard applied for it on 2 Feb. 1924. It was acquired by CIJ, who also produced a set for Citroën, and it bore the CITROËN name. Standard CHARPENTO parts were used but painted red & green, and various Garages could be made from the Set. It is extremely rare. [The Patent shows Trusses similar to CHARPENTO but an additional one with a spade end (Figs.1-3) is included, and the Beams have a different pattern of bracing (Fig.6). Various Wire Staples (Fig.7) were also proposed as an alternative to N&B. All these parts are shown below.]



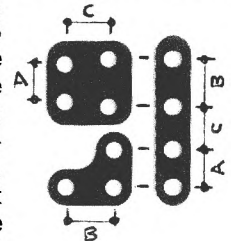
• **EIFFEL** parts (see 19/491) are red & green. • **CLIFFIX** (see 21/596) was patented in France in 1945. • On **STANDARD L.R.** (21/590), the French patent was not quite the same as the UK one. And the order in which the different coloured parts appeared still isn't known. • The name **PETIT GÉANT** (Little Giant, see 21/603) was used for a French system in the 1950s, but it had parts to make a variety of spring & electric motors. • On **MÉCANIC** (21/603), in each large set was a Plate in the bottom of the box, painted matt black, which could be used as a base for various models. It has now been established that its predecessor, **ÉCÉPÉ** (see 12/314) was marketed from 1913.

• The **Black Country Miniature** parts (21/619) really are small, a MECCA-MINI Strip will pass through a hole in a MECCANO Strip, and a BCM Strip will pass through a MECCA-MINI hole. • The contents of **Graham's patents** 125890 & 138824 (see 14/372) are all in one French patent, No. 520081, which was applied for in July, 1920.

Jeannot also sent a copy of a **Danish Richter Patent** Nr.20642, dated 1915. The original German version was from 1913. 28 parts are illustrated in the Danish one, including Figs.1-4, 27 & 29 below. The unlabeled 6 parts below are examples of the other 22 parts - they are like Fig.1 but without the centre hole and with various combinations of from 2 to 7 arms. I can't see how the parts hold together but the idea of hubs with strips attached is similar in principle to **IMPERATOR/ANCHOR ENGINEER** (see 17/486). As far as I know these parts were never produced.



6. From David Hobson. • Snooks's Toy Shop in Bath has a new stock of **CONSTRUCTION** sets: Nos 15, 20, 65, 67, & 77 (at £45,25,7,7,40). Nos.15 & 65 seem to be as described in 14/383 & 22/622 respectively. The others are: No.20 with 365 parts to make space models; No.67 with 214 parts for small space ships; and No.77 (460 parts) for various solar-powered models, and marked as 'new'. Another item is a Parts Pack '**C113 Adapterplatte**', price £3.99. It contains 8 each of the 3 parts right (50% full-size), and they are meant to allow 1/2" pitch parts to be used with those having the 10mm CONSTRUCTION spacing. The dimensions A, B, C are respectively 10, 12.7, & 11.5mm. The latter would be about half the width of 2 Strips, one 1/2" wide & one 10mm. On p151 of *Baukästen* it



is said that these parts were introduced in 1998 'to put more pressure on the MECCANO system in the marketplace' [My free translation]. • On the 'Matchbox' set **CLOU** (see 6/130, 13/345), Werner Sticht kindly provided a translation of a note about it in a March 1932 German toy magazine. It was made by Gebr. Schmid and had recently been introduced. The Discs which push on the wooden Rods were made from pressed sawdust; and the Set sold for 25 Pfennigs.

7. From Tony Press: • A copy of the front cover of a **MONTEX** model leaflet in Dutch, PR 7/632/12(IP), which Alex de Jong had put on the Spanner network. A Spanish system called MONTEX was described in 11/296, but in this case it is one of the names that was used for **BRITISH MODEL BUILDER**. The MONTEX cover of this type in MCS has the same layout as the Dutch one, with the 2 boys & Derrick Crane at the top, but it is in Spanish. MONTEX was no doubt a name that could be used in many different markets, and so perhaps leaflets in other languages were produced. Incidentally it may not be clear in all copies of MCS, but the MONTEX Leaflet there has a PR of 13/1035/2, and its price is in 'Argentina pts.'

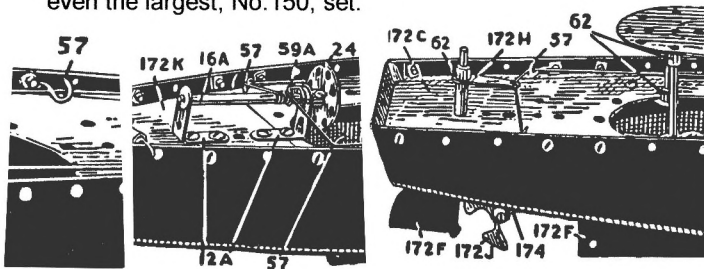
• News of a 'new' system called **BIG-JOY**. It was a pre-war Australian made copy of **TRIX**. The parts seen seem to be nickel or chrome plated, but are rather inaccurately punched and have a somewhat ragged finish.

• 2 photos, courtesy Jack Little, of a made-up **GEOBRA** model (see 19/552, 22/631), and the set's box. The parts look to be as already described and are the same colours. The box is shown at the top of the next column, and is red with: *Geobra* in a circle top right; some parts in the panel



under it; and to the left a full colour picture of the Crane behind a railway line, with another Crane in the background.

8. On the **Gilbert Ship patent** (22/643), Jacques Pitrat wrote that the steering linkage is in fact used in two of the Ship Outfit models, the Open Motor Boat and the Motor Boat with Canopy Top. The cuts below taken from these models show the 'ends' of the system; Wire Hooks (#57) act as guides for the cords that run along the sides of the hull, although their ends would need to be suitably bent over to do so. Jacques also pointed out that 10 Cranks (#62) are needed in the Canopy model, 2 more than were in even the largest, No.150, set.



9. From Don Redmond. • On the **1930 Gilbert MECCANO parts** (12/317), although the Liverpool Bevels remained in the Parts List, there was also the ERECTOR Mitre Gear, as #30D, and as far as is known the former were never included in Gilbert sets. The Bolts in my #110 Gilbert set are not the common roundhead ERECTOR pattern, though they have the same 8-32 thread, are 1/4" u/h, and are nickel plated steel. The difference is their small, 5.5mm Ø, button heads. There is limited evidence that some ERECTOR Bolts may have had this head. [This button head is not the shape shown in 20/585 but is nearer the

Colour Pictures Some of the illustrations from OSN 2-8 and 20-23 can now be downloaded from the OSN web site www.OSNL.freeserve.co.uk

It is hoped to add pictures from other Issues later. The site also now has lists of contents for OSN 1-10.

dome head described there.] • 2 'Canadian' Type III (Gabriel) **ERECTOR** sets are known. One has a lid with 'GILBERT ERECTOR SET 2' on it, plus various models & a boy building a Windmill; the flap has, A.C.Gilbert of Canada Limited, Burlington, Ontario.' The box also has the set number 10352. 1 of the 3 Leaflets in the Set has the address: A.C.Gilbert of Canada Limited, 2380 Industrial Street, Burlington, Ontario, Canada, & 'Printed in Canada'. The second one, called GILBERT REMOTE CONTROL POWERLINE ERECTOR SET, has a large helicopter on the top of the lid, and 'No.39106 Manufactured by Irwin Toy Limited 43 Hanna Ave. Toronto 150 Ont. under license from Gilbert Division, Gabriel Industries Inc. ©1970' on a side flap. From the information about U.S. sets in *McKusick* the likely dates for these are 1966 & 1969 respectively. [More details on these sets are given in an article by Don in the June 2000 *Canadian MeccaNotes*, together with an account of a third set. This is an 'Engineer's Set', packed in a 'milk carton' box, with Type II (1924-62) parts. It is identical to the 1962 one in *Greenberg 2* except that it bears the name; A.C.Gilbert Co., of Canada, Burlington, Ontario. Don has also found the address 'A.C.Gilbert of Canada Ltd., 2422 Fairview Ave, Burlington, Ontario' on an Instruction Sheet and its likely date is 1963-64. A.C.Gilbert of Canada Ltd. were listed in the Burlington city directory at Fairview Street in 1964 & 1965, and at Industrial Street in 1967. Don ends by pointing out that though boxes & printed matter may have been Canadian products, it is highly unlikely that the parts were ever made in Canada.]

• The **MECCANO X leaflet** (22/650) is indeed the Canadian edition, and is identical to one with an earlier PR of 13/1036/5.

• On the **Gilbert MECCANO Ship Parts** (22/642), it is more likely that they were never used in ERECTOR outfits because of Gilbert's need to drastically change the range of sets to meet the economic conditions of the 1930s, and in the larger sets, to use up existing stocks of parts.

EXTRA MCS SHEETS Each Sheet costs 15p + postage if the whole batch as listed in each Issue of OSN is ordered at the same time. That makes £5.80, £6.20, £7.10 for the 36 below, including postage to UK/Europe or surface anywhere/rest of world by air. For all other purchases each Sheet costs 20p + postage if copied double-sided like the originals, but 7½p per side + postage if copied single-sided. All back Sheets can be supplied.

ARMATURE: X1.1,5 [1 Sheet]

CIGEA: X1.6c-6h [3 Sheets]

D.V.s INGENIØR: X1.1,2,3/4/5/6,3a/4a/5a/6a,5b [3 Sheets]

FAI MECCANICA: X1.1,2,3/4/6,3a/4a/5/6a [2 Sheets]

HASSIA: X1.1,2/3/5/6,7 [2 Sheets]

KARL MARX ROCKET BUILDER: X1.1,4/5,5a [2 Sheets]

KNIGHTS HEAD: X1.1,3/5/6,5a,5b [2 Sheets]

KÖSTER: X1.1,2/5,3/4,3a/4a/6,5a,7 [3 Sheets]

MONTIX: X1.1,2,3/4/6,5/7 [2 Sheets]

PERFECTOR: X1.1,2,3/5/6,4 [2 Sheets]

PRINCE WILLIAM: X1.1,2/5 [1 Sheet]

RUR: X1.1,2,3/5/6,7 [2 Sheets]

STABIL Erfinderbaukasten: X1.1,2,4,4a,5,5a,5b/6,6a/7 [4 Sheets]

STRUCT-O-SET: X1.1,2/5,3/6,4 [2 Sheets]

THE SMART ENGINEER: X1.1,2,3/4/6 [2 Sheets]

TRIANGLE: X2.1,2,4,5,5a [3 Sheets]

ACCOUNTS Dear Subscriber,

Your remittance of _____ received with thanks.

Your credit balance after deduction for this Issue and

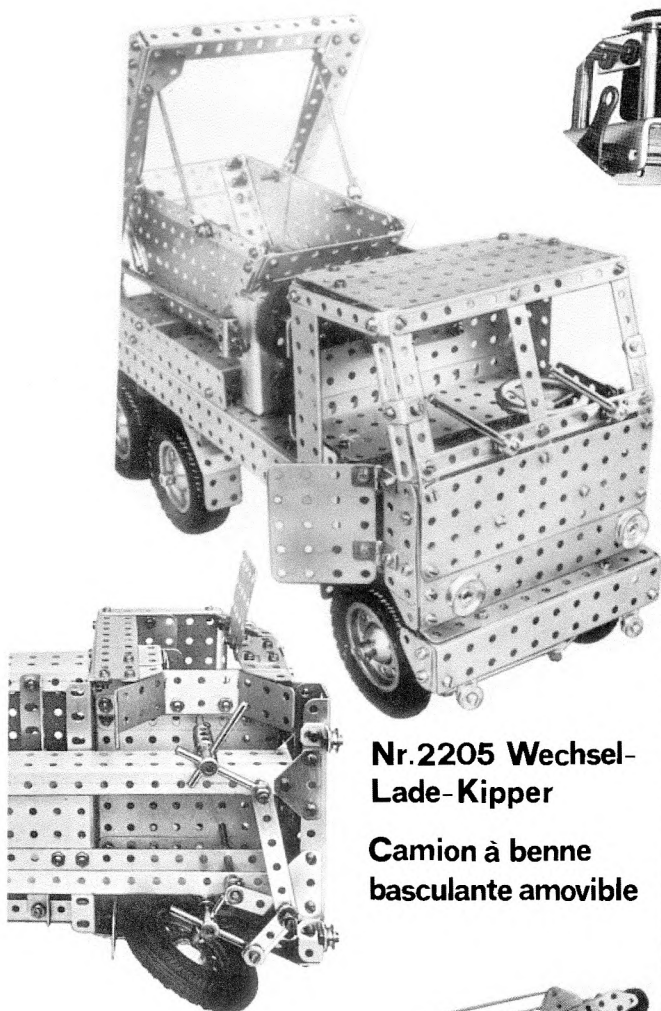
is _____

Please renew your subscription if you wish to receive the next Issue.

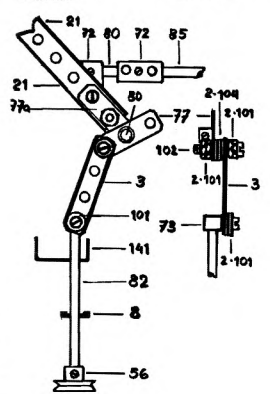
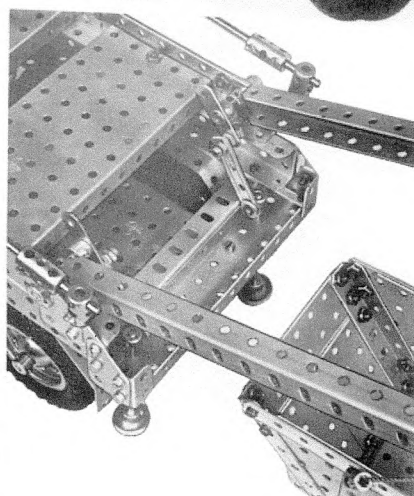
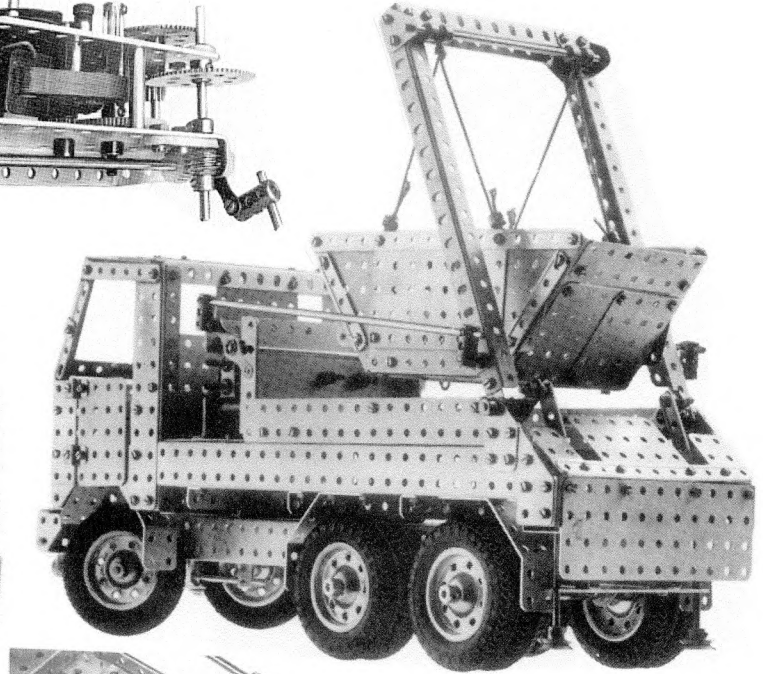
SUBSCRIPTION RATES For 2001 (OSN 24 and 25), including postage, at Printed Paper Rate where appropriate: UK £6; airmail to Europe and surface mail anywhere, £7; airmail outside Europe, £8. **BACK NUMBERS** For the zones above: OSN 1: £1/£1.30/£1.50; OSN 2,3: £2.30/£2.70/£2.90 each; OSN 4 onwards: £3.60/£4.10/£4.50 each.

SMALL ADS Up to about 150 words free for each subscriber in each Issue. Insertion guaranteed in OSN 24 if ads reach the Editor by the end of JANUARY 2001.

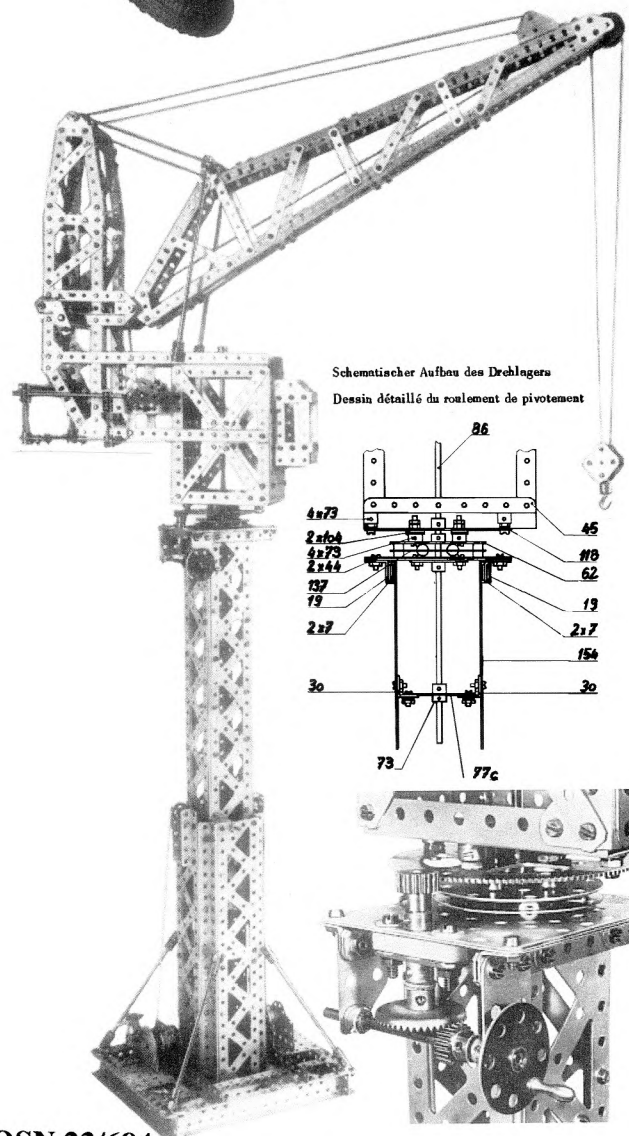
PAYMENT Please make cheques etc payable to P.A.Knowles. Remittances in other than Pounds Sterling will be cashed locally and the resulting Sterling credited, but bank charges are usually prohibitive. However U.S. Dollar bills are acceptable at an exchange rate of £1=\$1.60. Overseas subscribers need not send sums of less than £5 for Back Numbers, purchases from the Editor, etc, until it is time for subscription renewal.



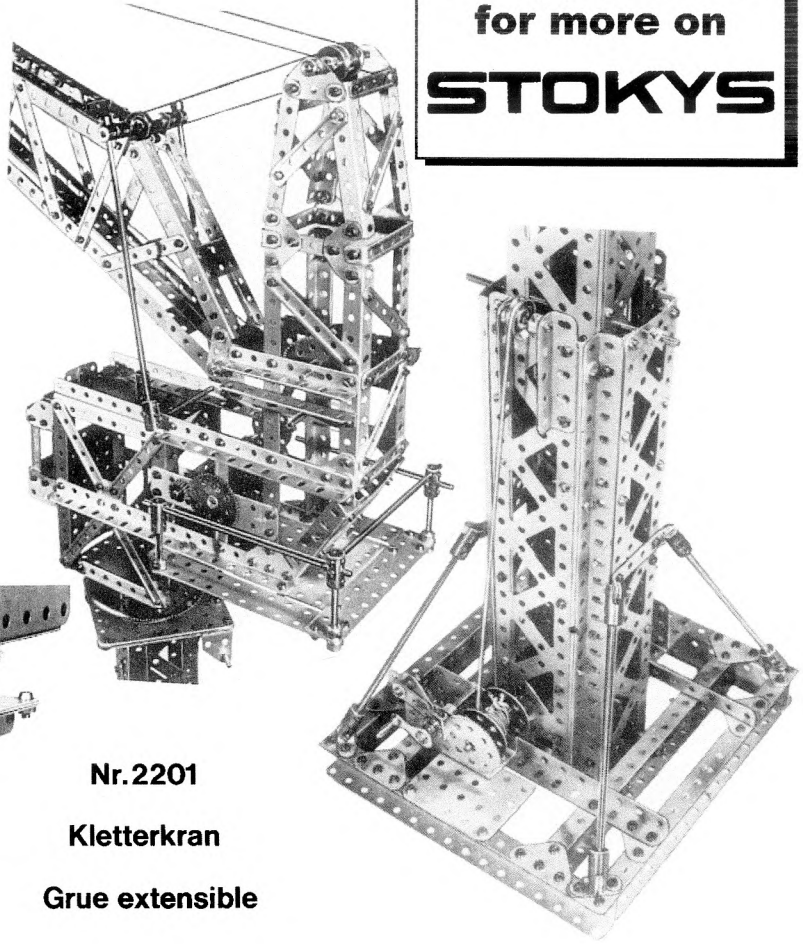
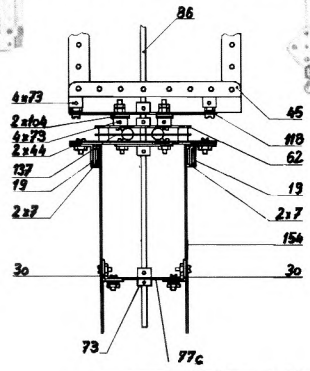
Nr.2205 Wechsel-Lade-Kipper
Camion à benne basculante amovible



**See pp668-675
 for more on
 STOKYS**



Schematischer Aufbau des Drehlagers
 Dessin détaillé du roulement de pivotement



Nr.2201
Kletterkran
Grue extensible