

Editor **Tony Knowles**
7 Potters Way
Laverstock
Salisbury
SP1 1PY
England

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Email: tony@osnl.co.uk

EDITORIAL Some years ago I wrote a short, outline history of metal constructional systems from the early days up to about the end of WW1. At the time it was for my own benefit but rereading it recently it occurred to me that an updated version might interest newcomers to the 'Other System' scene. I hope therefore to put it on the OSN web site in due course and if it proves useful I could perhaps gradually extend it to cover the later years. Comments on it and suggestions for improvements would be welcome.

Shorter NOTES, with thanks to all contributors.

1. Werner Sticht wrote that he made some major additions to his **STABIL website** (www.stabilbaukasten.de.vu) last November. These include: • A detailed description of Flat Strips & the Money Box (Sparbüchse). • More on brochures & ads since 1927. • Full details of Walther's INGENIEUR BAU-SPIEL (the first Walther metal system); STABILA (the metal sets for girls); STABIL from 1930-31 (Franz Walther's death), from 1932-43 (the period of the small sets), & from 1950-70 (from the restart after WW2 to the end). • More on the history, & the Knirps Motor. There are still some areas to be completed: ads, notes on some of the parts, more on the period 1911-19, the box sizes, and a new list of the manuals, etc.

Werner also wrote that he would like to get more information for his web site about a STABIL Nr.60 Eisenbahnwagen Baukasten which 'allsystems21' bought on Ebay last year. So if allsystems21 reads this and is willing to help please contact Werner at werner.sticht@gmx.de. Equally if anyone else knows allsystems21 please pass this request on to him.

STABIL: S4

[36/1068]

2. **Snippet. 'New' System: STAHL-BAUKASTEN** Below the manual cover from this East German outfit. The line below the title has the makers name, VEB Kranbau Köthen. Köthen is



a town about halfway between Leipzig & Magdeburg and the company, founded in 1934, made, witness the man at the drawing board, cranes, and still does so. All that is known of the set itself can be seen in the model Crane the boys are making.

STAHL-BAUKASTEN: S1

[36/1068]

3. Don Redmond has deciphered more of the words on the **MASTER MECHANIC** model page in 34/1034. The bottom lines read 'This is Gilbert's last effort to out-rival John in the construction of aeroplanes. Note super-structure on which is mounted a rapid-fire' (line not finished).

MASTER MECHANIC: S2

[36/1068]

4. **Snippet: An Early TECHNICAL TRAINER Set** In 19/528 Kendrick Bisset noted that the photo of the set in the Tucker manual was in some ways unlike his set and might be an early or preproduction example. Its lid had no lip and the Wheels & internal fittings looked wooden. Since then two of these early sets have been seen on Ebay and one is shown



below. Its box is 11*13³/₄", slightly larger than later. The Wheels don't have the tread of the later red & blue painted plastic ones and look more like painted wood than metal. The black marking inside the lid is the Tucker logo upside down; the top of the lid wasn't shown. Two model pages from the manual described in OSN 19 were shown with the Set. The second set is similar to the first but the Wheels are arranged exactly as the manual set, see OSN 19, and its lid seems not to be hinged. A manual cover identical to the OSN 19 one is shown over the centre of the lid and would hide the logo if there were one.

TECHNICAL TRAINER: S2

[OSN 36/1068]

5. **Snippet. An Early Canadian ERECTOR Set** The Ebay photos were of an open wooden box with 2 layers of pre-1924 type parts loose on light green backing cards, a manual cover, and the label overleaf which reads 'This Canadian NUMBER

THIS NEWSLETTER IS SUPPLIED ON THE UNDERSTANDING THAT IT IS
FOR THE PERSONAL USE OF THE RECIPIENT FOR RESEARCH PURPOSES ONLY



FOUR ?? same price and contents of present United States made set catalogued and advertised in the States as Number Six. / The A. C. GILBERT MENZIES CO., Limited / Manufacturers of Erector and Gilbert Toys / TORONTO, CANADA'.

From Greenberg: (a) Menzies & Co., Ltd. became the official Canadian representative of the A. C. Gilbert company in 1917; (b) the manual cover in the lot (Part 1, pale green with the man/2 boys/Bridge design, ERECTOR in a red panel, & about 10¾" wide) was the U.S. design in 1916. So this may give an indication of the Set's date, but the parts do include two of the first flanged Gear Box Side Plate which, from Al Sternagle's Erector Parts, appeared in about 1919 as #541. This could though be a red herring as it was said that some parts may have been added to the Set.

ERECTOR [2b]: S3 [36/1069]

6. **Snippet. 'New' System: STRAUSS** Below the German Ebay photo. The obvious parts are the green 5h Strips, the 4



Wheels, & the rather rough looking 5*9h Flanged Plate. There are some other darker parts at the bottom of the main compartment, dark red or brown Strips & DAS perhaps. And in the small tray, a cast Loaded Hook & roundheaded Bolts. The manual is for Sets 1 & 2, with respectively 145 & 213 parts.

STRAUSS: S1 [36/1069]

7. **A SUNNY TOY Set** SUNNY TOY was mentioned in 19/542 as a small set with BUZ parts, shrink-wrapped onto a backing board. The set in the next column is properly boxed with the parts in a moulded plastic tray, and it is actually larger than the standard BUZ No.1 outfit. No maker's name can be seen but the Trunnions & Hook are characteristically BUZ, and some of the models shown in the Ebay photos of the manual are in the No.1 BUZ manual. The 5h Strips at centre top in the box look rather out-of-place but other rusty looking Strips,



including a 5h Curved Strip (2 are used in a Crane model), can be seen in another photo under the red 5*11h Flanged Plate. One anomaly is the red Trunnion top right and the nickel one top left. The 4x 2½" Axles at bottom left are also suspect; 2 each of 2½ & 3½" would be more likely, as in the No.1.

Of the 25 models claimed on the lid, 10 were shown on Ebay, and 5 of them are in the No.1 BUZ manual. The others make use of the Flexible Plates & the 5*11h Flanged Plate, neither of which are in the BUZ No.1. (There were very few Flexible Plates in the smaller BUZ sets, with none in the No.1 and only 3 in the No.4. A 5*11h Flanged Plate wasn't included until the No.8 - the smaller sets had 1 or more of the 5*5h size. So the SUNNY set moved back towards the well-tried MECCANO formula).

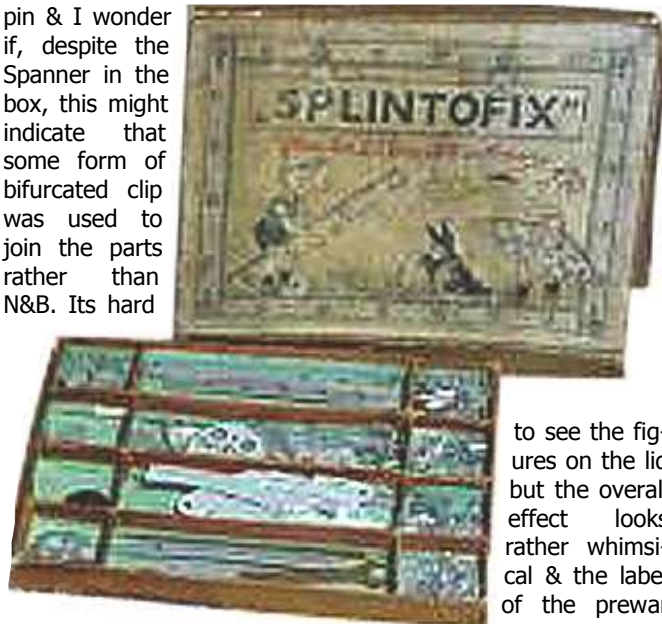
SUNNY TOY: S1 [36/1069]

4. **Snippet. 'New' System: SPLINTOFIX** The set shown in the next column was listed on German Ebay as SPLINTOFIX Metallbaukasten, and the photo also included a number of loose parts which looked to be a mix of 3 East German systems, MKA/MFC, THALE, & PIONIER. Not much can be seen of the parts in the box but those in the top centre bay look as if their holes might be widely spaced, & if so match the Strips used to form the frame on the box lid label. On the name SPLINTOFIX, one meaning of Splint in German is split

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OSN – Your Credit Balance:
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 Please send at least £ if you wish to receive the next Issue.

pin & I wonder if, despite the Spanner in the box, this might indicate that some form of bifurcated clip was used to join the parts rather than N&B. Its hard



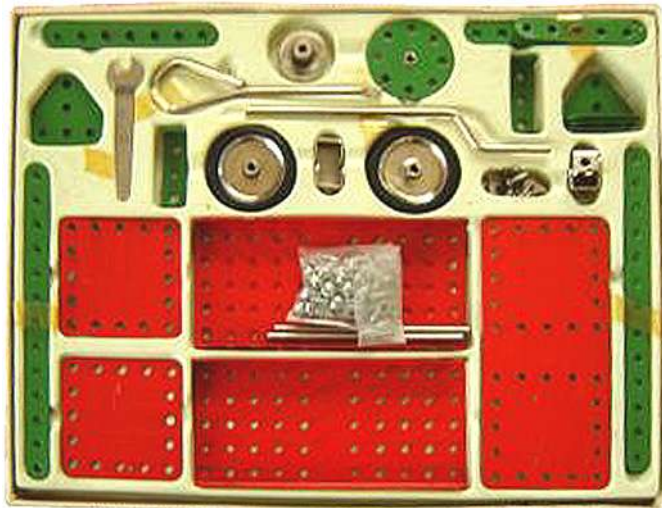
to see the figures on the lid but the overall effect looks rather whimsical & the label of the prewar ELECTRIC set

comes to mind (see 26/750).

SPLINTOFIX: S1

[36/1070]

4. **Snippet. 'New' System: MECA** The Ebay write up said that this set was made in Mexico by a company called Disa, and that the manual has 9 pages. As can be seen from the lid right the MECA·NO 2 could easily be read



as MECA·NO 2, and the 4 models shown above look to be taken directly from MECCANO manuals. The latest, the Milk Delivery Wagon, bottom left, was a No.2 model which first

appeared in 1954. Not all the parts that can be seen in the box match MECCANO exactly: the Trunnions have no cutouts; the 5*11h Flanged Plate at bottom centre has no end flanges, and no holes in the centre '5 hole' row; the Plate above it looks similar but 2 such in a small set would be unusual; the 5*11h (Flexible?) Plate to the right has a 5h square of holes at each end; and the green Strips at either side look to be 13h long.

MECA: S1

[36/1070]

4. **Snippet: LITTLE GIANT MODEL MAKER** The Tool from this American DIY system was shown in 21/603 and last year the set below was sold on Ebay. The words under 'Boys' on the lid are 'MAKE YOUR OWN CONSTRUCTION SETS', and the panels at the bottom are no doubt parts of a deep lid apron. The Tool is red and is mounted on a wooden base. The rod at right angles to the Tool's handle looks quite substantial and is perhaps a gauge bar rather than constructional material. I'm



not sure what the blue part between the Pulleys is.

LITTLE GIANT: S1

[36/1070]

6. **Snippet. 'New' System: METALL-BAUKASTEN** Below the lid, and in the Ebay photo it was surrounded by a large number of various parts. Most were shiny and probably MFA/MFC. Also several dull grey parts, probably TRIX. Finally a few rusty, ordinary looking parts, from the Set perhaps: 5, 7 & 11h Strips, 1*5*1h DAS, & two 2h Ø Fast Pulleys. Scaling from the Strips, the box would be a little longer than the 11h.



METALL-BAUKASTEN [5]: S1

[36/1070]

6. **Snippet. CORUS** The Window panel right (upside down) was in an Ebay lot of loose CORUS parts. It is a type of window not seen before as an actual part but it was used in the manual model House shown in 32/946. The parts were said to be the remains of a No.00 outfit, but the Window panel and some of the other pieces were probably from a larger set.



CORUS: S3

[36/1070]

TECHNICO, via TECHNIKUS, via SIMPLICO

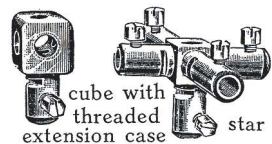
Paul Perry has kindly sent some details of a set he bought on Ebay from Germany, & a photocopy of its manual. It's something of a mystery and most probably dates from 1914, or the early 1920s at the latest. Photos of the various labels that were on the box lid, and the 3 layers of parts in the Set are shown right. The original label on the box was SIMPLICO (see 6/115, 24/686) with the small print on it in English: 'English Patent | 1913/28926 | Made in Bavaria'. A smaller, No.5, SIMPLICO set with a similar label is shown in Baukästen, p213. The TECHNIKUS label had been pasted over it (upside down) but had largely peeled off. Then there was a loose TECHNICO name label that had most probably once been over the TECHNIKUS name. Pasted inside the lid is a TECHNICO Illustrated Parts in German but the Manual, again TECHNICO, is in English. So the likelihood is that the Manual belonged to the Set even with the difference in languages, and from their uniform griminess when found, all the items in the lot had been together for a long time.

Both the SIMPLICO & the TECHNIKUS labels occupy about 30% of the area of the lid. The large parts cards in the box are 50*37cm and the area of the small card is less than a quarter of it (the BK set also has a small card).

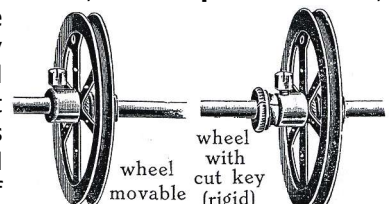
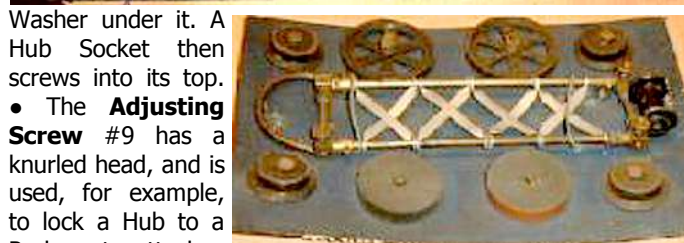
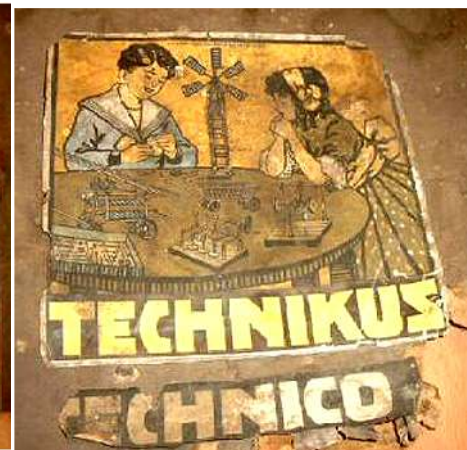
Sets 1-10 are advertised in the manual plus linking sets 1a-9a. There is nothing to positively identify the size of the present set but judging from the parts needed for the manual models it would be a No.9.

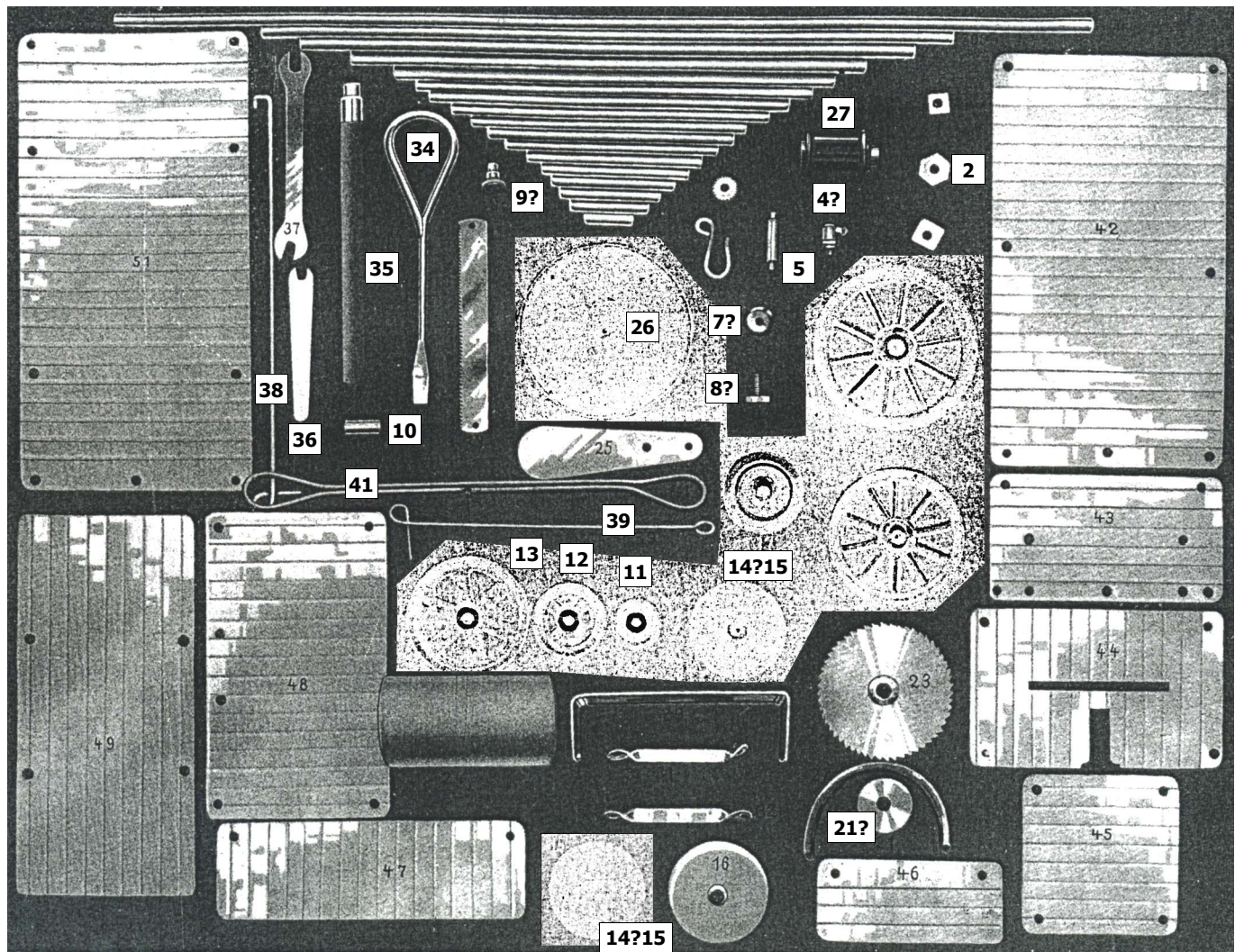
The Parts The Parts List & Illustrated Parts in the manual are shown on the facing page. Many of the parts can be seen clearly in the Illustrated Parts or in the Set itself, but some of the dark circular ones in the former are hard to distinguish and have been improved a little by changing them into negatives. The notes that follow may also help in some cases, as may the PNs that have been added to the Illustrated Parts. • The **Hubs** #1-3 are Figs 1, 2 & 19 in OSN 24, and are made of brass. One or more of the **Hub Socket** #4, again brass, screw into the Hubs & a Rod (4mm Ø) can be held in each by a Set Screw (the o.d. of the thread is 3.36mm).

This is the method shown in the extension to the patent, see Fig.2 in OSN 24. Left are two 6-way Hubs #1 carrying 1 & 5 Hub Sockets. The **Hexagon Hub** #2 allows Rods to be set at an angle, see Model 106 overleaf, or can be a hub for 3 or 6 spokes. The **Ring Hub** #3 provides a bearing for Rods used as shafts and is called up for many of the Manual models. It is never shown in them though, instead shafts are shown passing through the Square Hub, and some of the Square Hubs in the Set do have 2 plain & 4 tapped holes, instead of 6 tapped holes. No doubt the Ring Hub was introduced after the Manual was finished. • The **Hub Connector** #5 is a short bar with its ends turned down and threaded. It is used to connect 2 nearby Hubs instead of 2 Hub Sockets & a short Rod. • The **Collar** #6 has an inner spring to grip the Rod. • #7, 8, & 21 are the parts in a **Base Socket** used to hold a Rod vertically in a Baseboard. For #7 & 16 see #15 & 16 in OSN 24, and 4 sets of the assembly can be seen outside each of the larger Spoked Wheels in the Set. There was no **Baseboard** in the Outfit and it isn't listed anywhere, but one is needed, & shown (very faintly), in a number of the models. It is probably like the STRUCTATOR part, a thick wooden board with parallel lengthways slots of an inverted 'T' section. #8 is a Bolt with a square head that fits into a slot and the #7 screws down onto it with a



Washer under it. A Hub Socket then screws into its top. • The **Adjusting Screw** #9 has a knurled head, and is used, for example, to lock a Hub to a Rod, or to attach a Plate to a Hub, see Model 93. • The #10 **Distance Piece** slides over the Rod and is mainly used to space the Staves #31, 32. • The **Pulleys** #11-13, & the **Spoked Wheels**, have tapped bosses. In the Manual it is said that they can be locked to the Rod 'by means of the small cut key and spanner', as shown right. That is all that is said anywhere of





- | | | | | | |
|-------|---------------------------------|--------|----------------------------|--------|---------------------|
| No. 1 | universal threaded six way cube | No. 24 | wooden cylinder | No. 48 | plate 3X5 in. |
| " 2 | eight way hexagons | " 25 | propeller blade | " 49 | " 3X6 1/8 in. |
| " 3 | four threaded rings | " 26 | band saw disc | " 51 | " 3 3/4 X 7 1/4 in. |
| " 4 | extension case with small screw | " 27 | crane pulley | " 20 | stick 3/4 in. long |
| " 5 | " plug double | " 28 | " hook | " 30 | " 1 1/8 " " |
| " 6 | shaft collar | " 29 | steering frame | " 40 | " 1 1/2 " " |
| " 7 | fixing standard | " 31 | cross stave | " 50 | " 2 " " |
| " 8 | set screw with square nut | " 32 | straight " | " 60 | " 2 3/8 " " |
| " 9 | adjusting screw | " 33 | saw blade | " 70 | " 2 3/4 " " |
| " 10 | distance piece | " 34 | key | " 80 | " 3 1/4 " " |
| " 11 | driving wheel 3/4 in. | " 35 | spanner with wooden handle | " 90 | " 3 1/2 " " |
| " 12 | " " 1 1/8 " | " 36 | small key | " 100 | " 4 " " |
| " 13 | " " 2 " | " 37 | large " | " 120 | " 4 3/4 " " |
| " 14 | emery disc | " 38 | long signal wire | " 140 | " 5 1/2 " " |
| " 15 | polishing disc | " 39 | short " " | " 160 | " 6 1/4 " " |
| " 16 | grinding " | " 41 | spiral spring | " 180 | " 7 1/4 " " |
| " 17 | railway wheel | " 42 | plate 3 3/4 X 6 1/2 in. | " 200 | " 8 " " |
| " 18 | small cart wheel | " 43 | " 2 1/8 X 3 3/4 " | " 250 | " 10 " " |
| " 19 | large " " | " 44 | " 2 1/2 X 4 1/8 " | " 300 | " 12 " " |
| " 21 | washer | " 45 | " 2 1/2 X 2 1/2 " | " 400 | " 15 3/4 " " |
| " 22 | bent stick | " 46 | " 1 3/8 X 3 " | | |
| " 23 | circular saw | " 47 | " 1 3/8 X 5 " | | |

such a Key and perhaps it was an earlier method, though the bosses in the illustration are clearly fitted with a Set Screw. The 2" Pulley has 6 spokes, and the 1 1/8", 4. • The **Crane Pulley** #27 looks like a Winding Drum & can be seen on the right side of the small card. • The **Plates** are believed to be aluminium. • **Spanner** #35 has a socket end. • #41 is a loop of **Spring Cord**. • 2 **Wooden Discs**, much smaller than #26, are needed for one No.1 model and are not mentioned anywhere else.

The **Manual** is about 30*19cm, and has 56 pages plus covers (only pp3-54 are numbered). The covers are blank except for the front, right. pp1-2 have an Intro and brief notes on how to use the parts; the unnumbered pages have the Illustrated Parts and lists of the parts & sets. The 120 models are numbered as



follows for the various sets. •Set 1, on pp3-7: 1. Sawing Trestle to 18. Small Turning-lathe. •2, on pp8-11: 19. Signal-mast to 30. Stretcher. •3, on pp12-15: 31. Parallel Bar to 42. Two wheeled hand cart. •4, on pp16-19: 43. Child's Bedstead to 54. Baby-chair. •5, on pp20-24: 55. Well to 66. Crane. •6, on pp25-29: 67. Crane (rigid) to 78. Portable Crane. •7, on pp30-34: 79. Roundabout to 88. Workshop. •8, on pp35-39: 89. Garden Roller to 98. Planing Machine. •9, on pp35-44: 99. Large Lathe to 108. Rolling Mill. •10, on pp45-54: 109. Swing with Motor attachment to 120. Windmill.

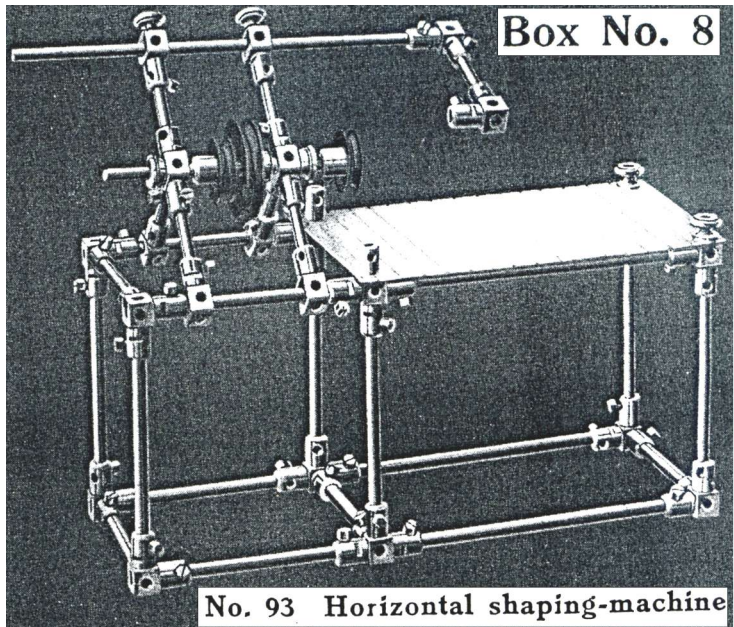
There is one photo for each model and a list of the parts needed, but with no PNs. A good range of models is provided with Machine Tools the most common, and Carts, Wagons & Barrows next in popularity, or Furniture for the smaller outfits. The rest include a number of Cranes, 2 each Aeroplanes & Signal Gantries, a Fire Escape Ladder, and Windmills, large & small. All are simple mechanically with a few Spring Cord drives and a couple of oscillating motions with a Rod pivoting about one of the holes in a 2" Pulley spoke to give the eccentricity, as in Model 91. Some representative models are shown right & on the next page. Nos.91,93,106 are full-size, the others 75-85%.

History It's always tempting to try to find plausible explanations for OS puzzles, but what follows should not be taken as anything other than the product of your editor's overheated imagination. However, have you any better ideas?

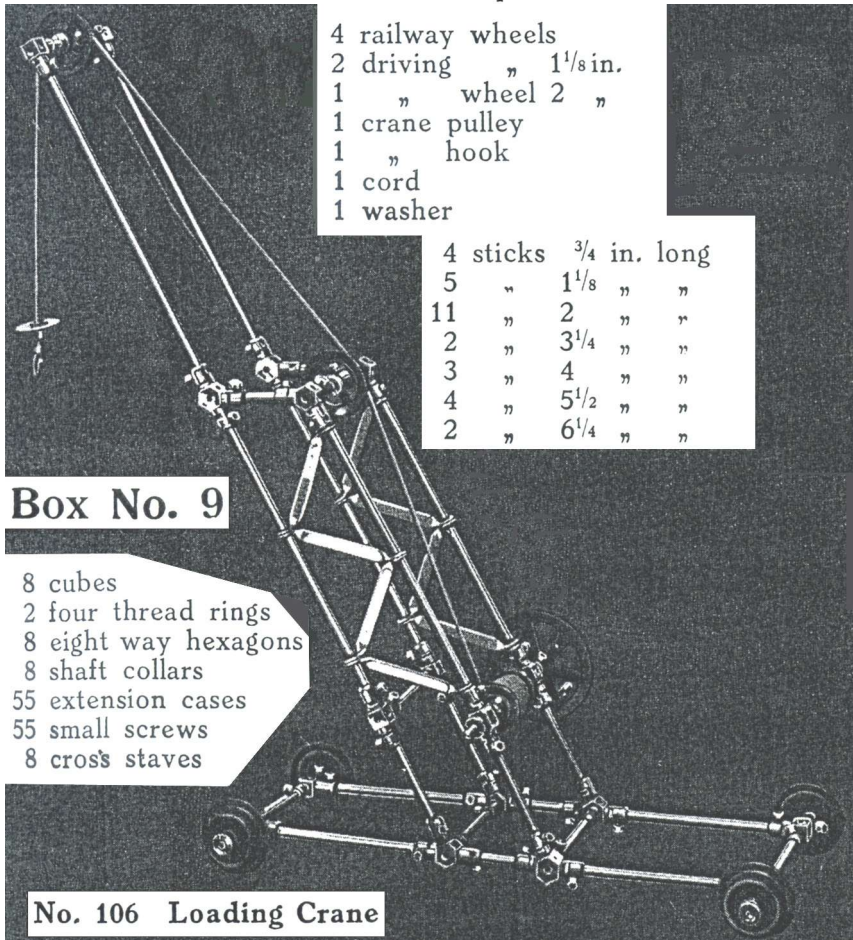
According to Eisenzeit (p181) TECHNIKUS was made by Menki Zimmer of Fürth & no doubt he supplied the SIMPLICO sets that the wholesaler Moses Kohnstan exported to the UK just before WW1. (Nothing is known of any SIMPLICO material in German, only in English, though the sample isn't large). But let us suppose that TECHNIKUS was sold in Germany and that SIMPLICO sets were the same in content but not intended for the German market. When the war started it is quite possible that there were SIMPLICO sets in Germany which could not be sent to Britain, and they could have been relabelled TECHNIKUS for sale in Germany. The SIMPLICO manual was in English of course but the name on the front could easily be changed and a translation of the text provided. Possibly though not many such sets were sold, either because manuals in English, even with a translation, were not well received, or perhaps Zimmer joined the army and his firm closed down.

So far so good but why the change of name to TECHNICO (BK & EZ speak of TECHNICO/TECHNIKO & perhaps the latter was the name for the German market). The explanation may be that the change was made when the parts were improved. Looking at the SIMPLICO set in BK it is possible that the method of attaching the Rods to the Hubs was the type shown in the original patent. New parts would have meant a new manual and the TECHNICO manual seems to be different to the original SIMPLICO edition - in the OSN 6 ad it is said that the two sets make 16 & 28 models whereas the TECHNICO manual has 18 models for Set 1 & 30 for Sets 1+2. Also I have a small photo of what I believe to be the BK manual opened & it shows 6 models, but only 5 of them look similar to models in the TECHNICO edition, and 3 of those are differently arranged on one page. Presumably there would have been a German version of the manual for TECHNIKO but no TECHNIKO material is yet known. But how did this English manual end up with a German (witness the Illustrated Parts in German inside the lid) set?

It is said that Huck made TECHNICO/TECHNIKO in 1919-21 and the only explanation that occurs to me is that it was hoped to export sets to Britain. There were still the relabelled boxes from early in the war and all that needed to be done was to add the TECHNICO name over the TECHNIKUS label and replace the obsolete parts by the new ones. But then it was found that German goods were distinctly unpopular here in the years after the war and Huck was left with sets on his hands. No problem, the 'C' instead of 'K' wasn't too serious and the German label added inside the lid helped to create the right



- | | |
|--------------------------|---------------------------|
| 14 cubes | 7 sticks 1 1/8 in. long |
| 8 four thread rings | 6 " 2 " " |
| 2 shaft collars | 4 " 2 3/8 " " |
| 4 adjusting screws | 6 " 2 3/4 " " |
| 58 extension cases | 1 stick 3 1/4 " " |
| 58 small screws | 4 sticks 4 " " |
| 2 driving wheels 3/4 in. | 1 stick 5 1/2 " " |
| 1 " wheel 1 1/8 " | 1 plate 2 3/4 x 4 3/4 in. |



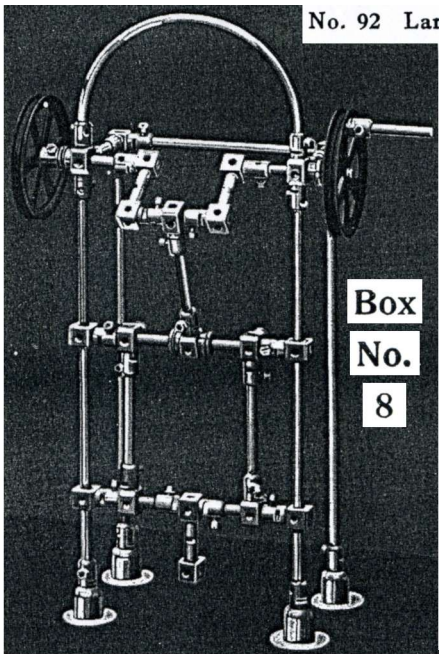
- | | |
|-----------------------|--|
| 4 railway wheels | |
| 2 driving " 1 1/8 in. | |
| 1 " wheel 2 " | |
| 1 crane pulley | |
| 1 " hook | |
| 1 cord | |
| 1 washer | |
- | |
|-----------------------|
| 4 sticks 3/4 in. long |
| 5 " 1 1/8 " " |
| 11 " 2 " " |
| 2 " 3 1/4 " " |
| 3 " 4 " " |
| 4 " 5 1/2 " " |
| 2 " 6 1/4 " " |

Box No. 9

- | |
|----------------------|
| 8 cubes |
| 2 four thread rings |
| 8 eight way hexagons |
| 8 shaft collars |
| 55 extension cases |
| 55 small screws |
| 8 cross staves |

No. 106 Loading Crane

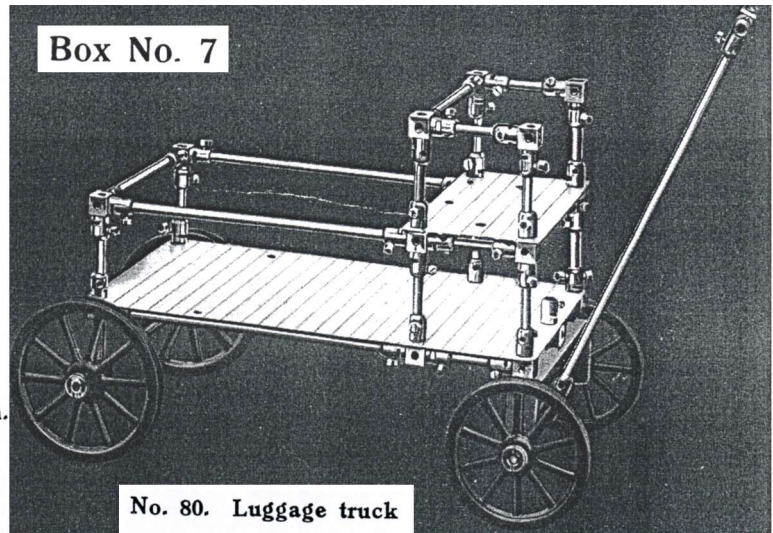
impression, even if a translation of the manual was still needed. No doubt it was lost from Paul's set at some point over the years. Q.E.D!



No. 92 Large Forge Hammer

- 2 set screws with square nuts
- 4 fixing standards
- 4 washers
- 8 cubes
- 12 four thread rings
- 4 shaft collars
- 4 adjusting screws
- 33 extension cases
- 33 small screws
- 3 extension plugs double
- 2 driving wheels 2 in.
- 1 stick $\frac{3}{4}$ in. long
- 3 sticks $1\frac{1}{8}$ " "
- 3 " $1\frac{1}{2}$ " "
- 2 " 2 " "
- 3 " $2\frac{3}{4}$ " "
- 4 " $6\frac{1}{4}$ " "
- 1 bent stick $6\frac{1}{4}$ in.

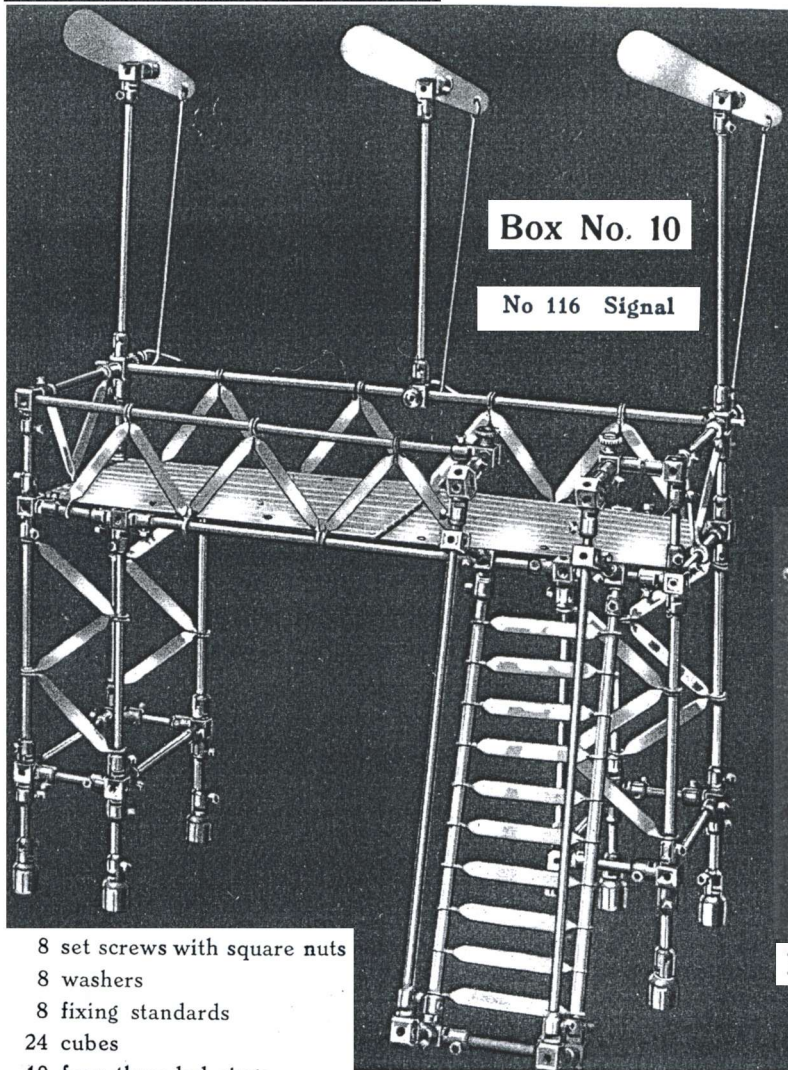
**Box
No.
8**



Box No. 7

No. 80. Luggage truck

- | | |
|--------------------------|--|
| 16 cubes | 2 cart wheels $2\frac{3}{8}$ in. |
| 5 four thread rings | 2 " " $2\frac{1}{2}$ " |
| 8 shaft collars | 16 sticks $1\frac{1}{8}$ in long |
| 2 adjusting screws | 6 " $2\frac{3}{4}$ " " |
| 57 extension cases | 6 " $4\frac{3}{4}$ " " |
| 57 small screws | 1 stick $6\frac{1}{4}$ " " |
| 2 extension plugs double | 1 plate $2 \times 3\frac{3}{4}$ in. |
| 1 steering frame | 1 " $3\frac{3}{4} \times 7\frac{1}{4}$ in. |



Box No. 10

No 116 Signal

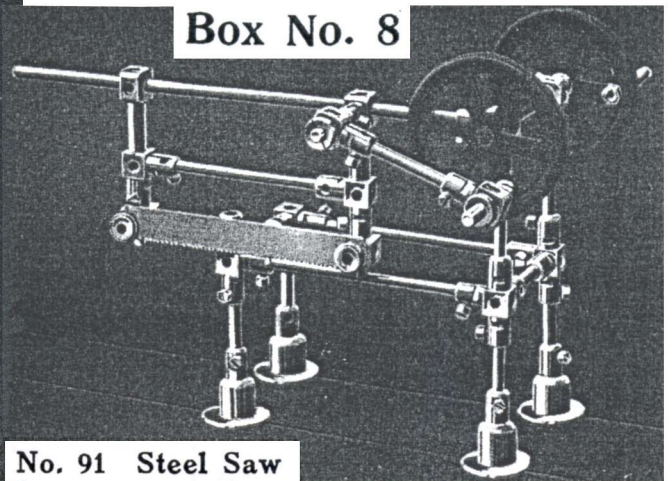
- 8 set screws with square nuts
- 8 washers
- 8 fixing standards
- 24 cubes
- 10 four threaded rings
- 2 eight way hexagons
- 3 shaft collars
- 5 adjusting screws
- 115 extension cases
- 115 small screws
- 2 extension plugs double
- 3 propeller blades
- 3 short signal wires
- 10 sticks $2\frac{3}{4}$ " "
- 8 " 4 " "
- 3 " $4\frac{3}{4}$ " "
- 2 " $6\frac{1}{4}$ " "
- 4 " $7\frac{1}{4}$ " "
- 1 stick 8 " "
- 1 " 12 " "
- 10 straight staves
- 30 cross " "
- 20 distance pieces
- 2 plates $3 \times 6\frac{1}{8}$ in.
- 8 sticks $\frac{3}{4}$ in. long
- 24 " $1\frac{1}{8}$ " "
- 1 stick $1\frac{1}{2}$ " "

"TECHNICO" Metal Model Constructor.

Instructive!

Entertaining!

Separate parts for "Technico" can be obtained everywhere.



Box No. 8

No. 91 Steel Saw

- | | |
|-------------------------------|---------------------------------|
| 4 set screws with square nuts | 2 extension plugs double |
| 4 washers | 2 driving wheels 2 in. |
| 4 fixing standards | 1 Saw |
| 6 cubes | 2 sticks $\frac{3}{4}$ in. long |
| 8 four thread rings | 9 " $1\frac{1}{8}$ " " |
| 2 shaft collars | 3 " $1\frac{1}{2}$ " " |
| 2 adjusting screws | 2 " $2\frac{3}{4}$ " " |
| 31 extension cases | 2 " $3\frac{1}{4}$ " " |
| 31 small screws | 1 stick $6\frac{1}{4}$ " " |

A CONSTRUCTO Set This is not the MECCANO lookalike CONSTRUCTO (see 32/941) but another, more unusual, early post-WW2 English system, with 3.9mm holes at 27.0mm pitch. Its only mention in OSN to date was the possibility of there being an electrical set in 8/202. Since then only a few parts have been seen on Ebay until the present near complete set appeared. It has no set number and though the lid label (right) has 'ELECTRIFIED MODEL BUILDER' on it, the only electrical parts in the set are 2 Bulb Holders and a Switch. CONSTRUCTO was made by T.A.Butler & Co., Southbourne, Bournemouth, and was a **Pleasure Beach** Production'.

The box, 34*19¼*2cm, has a pale yellow lid with a 192*128mm label, and 4 card trays subdivide the inside, as below. The A/Gs & Wheels are individually clipped to thin white cards, and the small parts are in the blue & white box.



Some of the parts are shown above and all are listed below, with quantities (from the manual) & some notes about them. They are accurately made and the small amount of burr on the edges of a few of the Strips isn't sharp. The paint comes off rather easily though, especially from the aluminium pieces. All holes are round & all corners fully radiused. Except as stated the parts are aluminium. Only one Strip & the Flanged Plate have the gold CONSTRUCTO transfer on them.

- 10x 7h Strips, 16½mm wide & 1.0mm thick.
- 4x 1*3*1h DAS.
- 4x 7h A/G.
- 6x A/B.
- A 4*3h Flanged Plate.
- 4x 3*3h Perforated Plates, steel.
- 6x 2h side Triangular Plates with 1 hole 6.2mm Ø for the Axle {6}.
- 2 Axles & a Crank Handle, steel, 5.56mm Ø. The Axle is 12.9mm long, with a 2mm cross hole for a Split Pin 7mm in from each end; the Crank Handle is 14.1cm long o/a with cross holes 9 & 49mm from the shaft end.
- 4 Wheels, Bakelite, 51mm Ø which run on the Axles.
- A brass Loose Pulley, 4.0mm bore, 9.1mm o.d. & 6.3mm thick.
- An Axle for the Pulley, missing from the Set, but said in the manual to be 2" long. It would need to be slightly smaller than 5/32"/4mm Ø to fit the 3.9mm holes and is shown with Split Pins through its ends.
- A Hook, made from a hook & an eye (both of 1.7mm nicked wire)



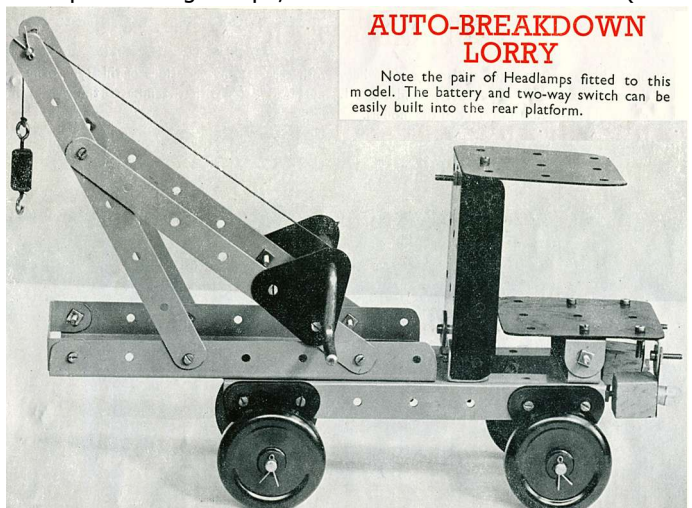
screwed into the ends of a wooden dowel, 6.5mm Ø & 21mm long. • A flat steel **Spanner**, 52mm long, 1.2mm thick, with stepped jaws 4.8, 5.4 & 6.5mm wide. • A 3.2mm Ø wire **Screwdriver**, 133mm long o/a. • 2 **Bulb Holders**. This part consists of a piece of tinplate pierced for a bulb to screw into it, and fastened to a wooden block (18*16*20mm high) by 4 tacks. The block is bored to accept the threaded part of the bulb and this bore is continued as a small diameter hole through to the opposite face for a 6 BA brass N&B. The

Bolt (4.9mm Ø RH, ¾" u/h) has a short spring under its head inside the block, and a hex Nut (4.7mm A/F) secures it on the outside. From the manual bulbs & a battery are not included in the Set. • A **Switch** (under the Small Parts Box in the photo) is a ¼" paxolin board, 50*40mm, with a mounting hole at the top, one for the contact arm pivot in the centre, and 2 for contact screws at the bottom. The contact arm is aluminium with a steel handle and is pivoted on a steel 3/32" BSW N&B (½" RH bolt & square nut, ¼" A/F) with a steel washer next to the plate on each side. • 2 **Battery Clips** (the bright 'strip' under the Spanner in the parts photo). It is thin steel, 2" long o/a, and would have to be doubled over the battery tag and tightened with a N&B through the holes. • A hank of thin green **Cord**. • A hank of stiff white **Cable** to connect the electrics. • 32 **N&B** (but '60 each' in an otherwise identical PL in another manual, and more than 32 would be needed for one of the manual models). These were missing from the Set but ¼" BSW, 5/8" long N&B are specified in the Manual. Small, square Nuts & CH Bolts are shown in the models, many of the latter long but others of normal length. • 8 **Split Pins**. Again missing. In the Manual it is said that because of shortages brass split rings may be supplied instead.

The manual has 12 unnumbered landscape pages, 227*150mm, including covers. The front is shown below, and despite the 'Britain's Finest Constructional Outfits', plural, along the bottom, no other sets are mentioned. p2 has an Intro in which more parts are promised shortly, p10 has a diagram showing how to wire the lights to the Switch &



battery, p11 offers help over any difficulties in making the models and gives the Morse alphabet for use if the parts are used to make a Morse Key, and p12 lists the parts and their quantities. The 6 models shown are, in order, a (very simple) Transporter Bridge on p3, the Mobile Crane on the cover (with



its slewing jib, probably the best model), a Cattle Lorry, the Auto-Breakdown Lorry in the previous column (60% f-s), a Pull-along Truck, and a Railway Bridge with signal lights (really a Signal Gantry) on p9. Each has a page to itself with a good photo (2 of each for the Mobile Crane) and very brief constructional notes.

Other Parts, etc. In one lot to hand the parts include a 4h A/G, a 3h & a 4h Strip which look original, and 2x 2h Strips which have probably been cut from longer parts. Also the metal of the main parts is different with steel Strips, A/Gs, & Flanged Plate, and aluminium Perforated Plates. Other differences are the blue parts in a lighter shade than those in the present set, and the holes in a few of the parts are only 3.5mm Ø. The Flanged Plate has a **Pleasure Beach** transfer on it (left), and it was this transfer that caused the system to originally have been called **Pleasure Beach** in MCS.



But so far there is no evidence of any sets with that name.

Valerie Young's set (see 8/202) was similar to the present one except that all the main parts were aluminium. The Bolts were steel with 4.5mm Ø round heads and the Nuts brass, & hexagonal (5.3mm A/F).

A lot on Ebay included 4h A/Gs, and the A/Gs, Strips, DAS, & Triangular Plates looked green. The other Plates were the usual red.

The manual with the '60 each' N&B is otherwise identical to the present one except that the name on the cover is red rather than white on red. Another Ebay lot contained one manual with such a '60 each' cover and also the one right. The model on its cover is more elaborate than any in the present manual, another pointer to the existence of other sets.



CONSTRUCTO [4]: S2

OSN 36/1076



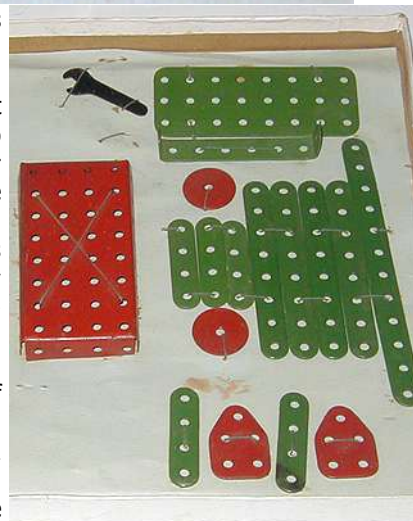
top) are 1*6*1h and not the ARWILL 2*4*2h (clearly shown in one of the ARWILL manual models). The models on the lid are often inaccurately drawn but a 1*6*1h DAS looks to be needed in the top left model and in others A/Bs or a 2*4*2h DAS would be necessary. Excluding the Spanner there are 33 parts in the Set as found, against the 35 major parts claimed on the lid - at a guess the two missing parts are A/Bs.

Like the ARWILL parts all the present ones are slightly dished, and except for the ARWILL A/B, all holes are 3.9mm. The differences between the parts are as follows. At 13.1-13.3mm the BELMONT Strip parts are up to .3mm wider; the ARWILL 4h Strips are painted red; the BELMONT Spanner is black and a different shape - it is 47¾mm long o/a with hexagonal jaws 6.4mm A/F (the ARWILL part does not have an angled head

'New' System: BELMONT One set with the Mystery Parts 34 (see 17/475 & 18/507) was ARWILL, described in 29/856, but now David Hobson has found another set, near complete, called BELMONT, with very similar parts, and he kindly lent it to me for these notes. The contents of the two sets are also similar but the models (on the box lid label above for BELMONT, there was no manual with the Set) are quite different.

The box is white, 10½*12½*1", and most of the lid is covered by the label, 8¾*11½". The parts are individually strung by green cord to a thin pale green card, see right - those on the left side match the parts to the right of the Flanged Plate & Spanner. A packet of N&B may have been stapled under the Flanged Plate, and above it an empty loop of cord indicates that there was originally at least one more part.

Apart from the N&B all the parts listed in the ARWILL manual are present except the Screwdriver & the 4x 2*2h A/Bs. However the BELMONT DAS (under the 8h Strips at the



and has square jaws 8.0mm wide). Judging from the Spanner the BELMONT Nuts are probably ¼" A/F. The ARWILL DAS was blue and in passing a matching blue 3*8h Plate has since been found.

None of the models on the lid are at all similar to any of those in the ARWILL manual. And I can't work out what part is used for the centre of the hub for the sails on the Windmill.

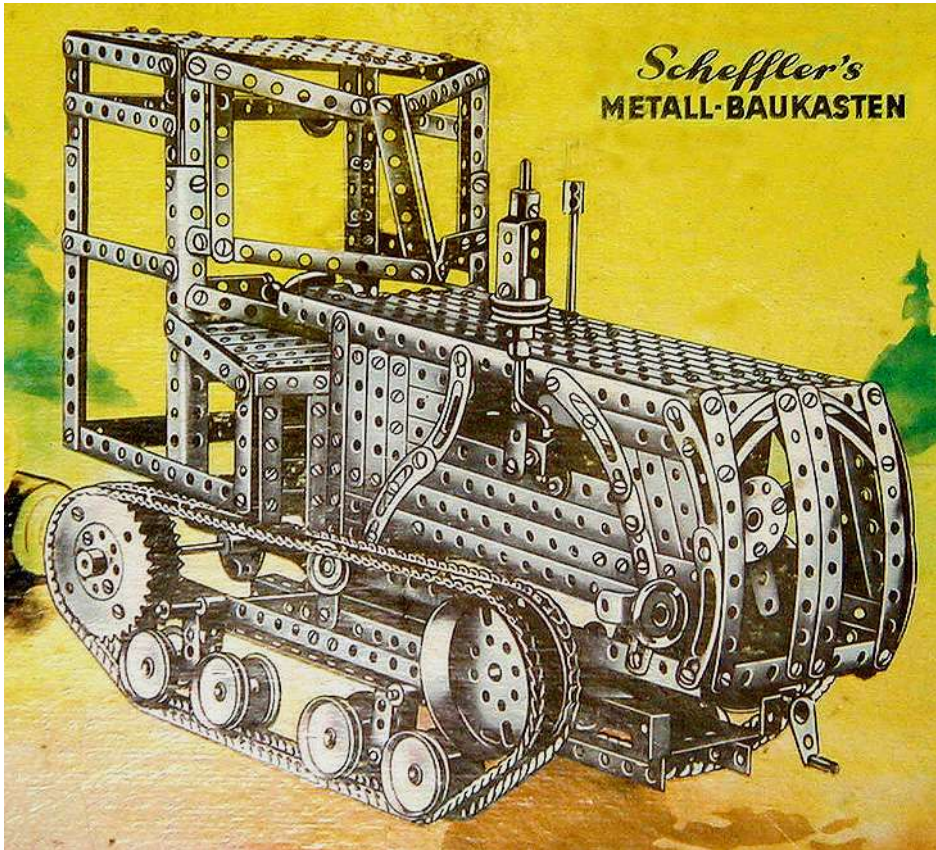
BELMONT: S1

OSN 36/1076

The SCHEFFLERS Traktor As explained in 23/622 this is the model shown on the lids of later SCHEFFLERS sets, and also their METALLBAUKASTEN successors. The model can't be made with any of the outfits and no instructions are given for it in the manuals. Nor had I seen a PL for it until Richard Gilbert kindly showed me his set with said list inside the lid. The PR under it is III 27 41 Ke G 225/67, so probably from 1967. None of the other two SCHEFFLERS, & several METALLBAUKASTEN lids to hand have either the PL or a PR.

The photo of the model on the lid is shown right and the parts in it follow, using 'Meccano' names.

• 4,4,8x #0a,b,c; 25,19,11h A/Gs. • 2, 20,23,40,68,36,8x #2,3,4,5,6,7,8; 19, 11,9,7,5,3,2h Strips. • 3x #9a; Double Bent Strip. • 10x #10; 3h high Double Bracket. • 6x #11; Reversed A/B. • 12x #12; Double Bracket. 9x #13; 1* 5*1h DAS. • 12x #14; Curved Strip. • 8,1,1,2,4x #18,19,21,22a,22c; 30, 50,110,130,180mm Axles. • 1x #23; Crank Handle. • 6x #26; 14mm Pulley. • 14x #27; 14mm Loose Pulley. • 6x #28; Bush Wheel. • 6x #29; 64mm Flanged Disc Pulley, (similar to MÄRKLIN #67). • 8x #30; 22½mm Pulley. • 16x #31; 29mm Pulley. • 1x #32; Screwdriver. • 1x #33; Spanner. • 433x #34; Bolt. • 59x #35; A/B. • 27x #36; Collar. • 3x #37; Coupling. • 436x #38; Nut. • 60x #39; Grub Screw. • 8x #42; 3*7h Perf. Plate. • 2x #44; 3*3h Perf. Plate. • 6x #45; Triangular Plate (M#77). • 4x



#47; Right Angle Rod & Strip Connector (M#212a but with a 2h long arm). • 1x #48; Handle Crank (like MÄRKLIN #44, the model's starting handle). • 4x #49; 35t Sprocket. • 8x #51; Sprocket Chain (not seen; the pitch of STOKYS Ladder Chain is very slightly too small). • 1,4x #55a,b; Thread-ended Rods, 75,37mm.

OSN 36/1077

SCHEFFLERS: S1

Snippet: GESCHA The name of this small German system was mentioned in 17/477 & Baukästen, p304, says that it was made in 1959 by Gebr. Schmid of Stein, near Nürnberg. Also that the parts were zinc plated metal plus coloured wooden Rods, and plastic Discs. The Ebay item consisted of 8 identical No.1 sets in boxes like the one right. In each a plastic bag with the parts loose inside it, and also a sheet with all the parts shown on it, and no doubt some models as well. Far right the top of one of the sheets at 'A'; a complete bag upside down in the base of the box at 'B'; and parts of two more bags at 'C' & 'D' to show the various parts. From all the sets the following parts have been identified. Strips with TRIX pattern holes but without every other hole in the outer rows. There are 2 each with 7 & 9 holes (along the centre row), 4 most probably, with 5 holes, and 4 with 3 holes. 2 DAS. 2, perhaps 4 of 8h Wheel Discs, and 1 Large Washer (see 'D') but perhaps 2. About 12 of the yellow Rods, and 24 red 'Washers' on the circular ring. No doubt they are a push fit on the Rods so that the latter could be used as both axles and structural members.

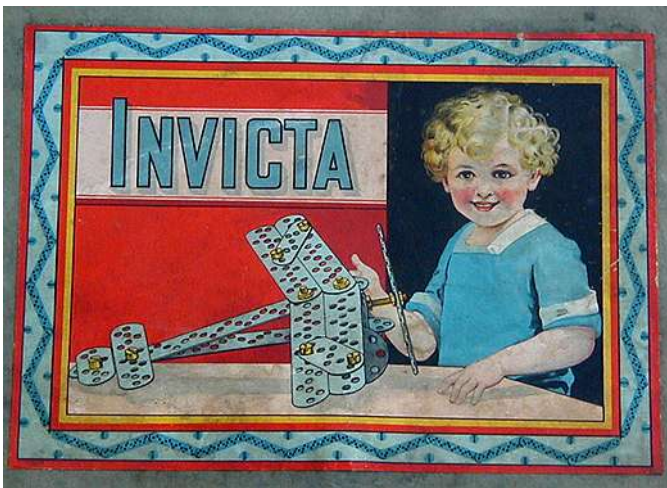


Brass looking N&B, probably 12 of each. 1 Span'driver (in 'D'), but possibly 2. No A/Bs were seen.

Assuming that it does have 4 Discs, the Set is broadly equivalent to the basic TRIX outfit. The main difference is of course the use of the Rods & Washers instead of 3 Screwed Rods and some 12 extra Nuts for them. Clearly a way of cutting costs, and to some extent adding a little extra versatility.

OSN 36/1077

GESCHA: S1



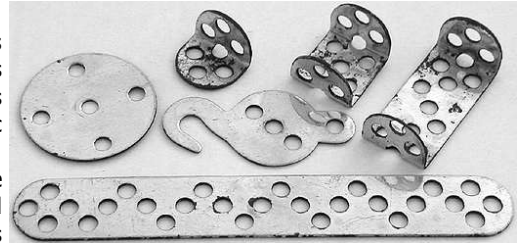
Another INVICTA Set This example of the pre-WW2 Spanish, TRIX-style system is bigger than the set described in 9/222; it seems to be complete except that there are no threaded parts, small Discs, or Tools. When found the parts were still attached to their backing card with clips that had never been opened, and as the box isn't deep enough for a second layer of parts, those missing were probably in a packet. The set's number isn't certain: the Model Leaflet with the outfit has INVICTA 1 on it but there is no number on the box, and there are not quite enough parts to make the largest model shown, the Crane in 20/569. So although the set is most likely a No.1 (the largest in the range) it's just possible it is a No.0A.

The box is 25½*19½*2cm and above the lid label, 211*150mm. It is the same basic design, but more elaborate and brighter than the OSN 9 example. The backing board is same grey as the box and has the following parts on it: 1 Hook, and 4 each of 5,9,13,17h Strips, DAS, A/B, D/B, & Wheel Disc.

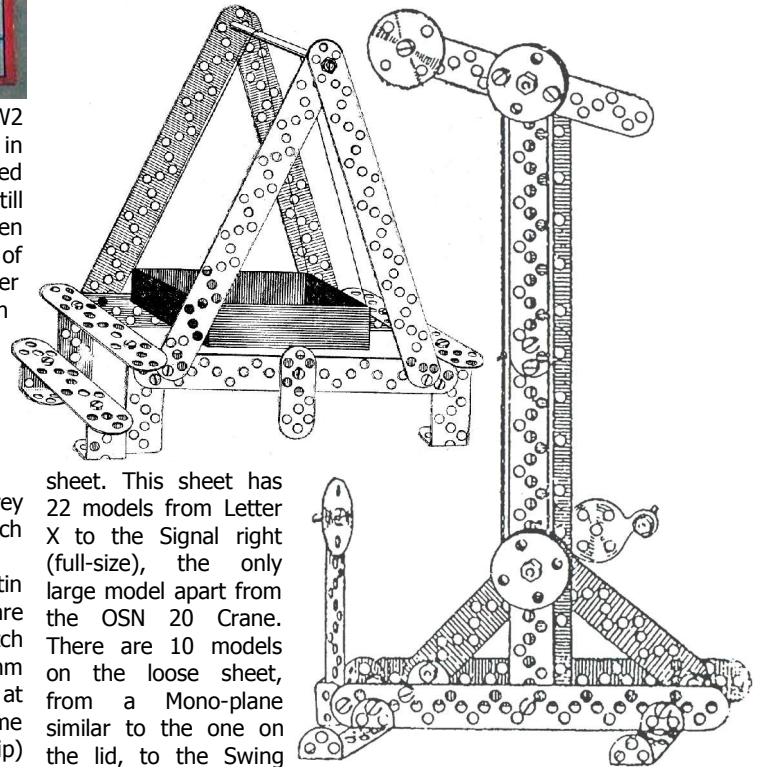
The parts differ from those in OSN 9 in several ways. All are tin plated, bright & shining except for some patches of grey. They are dimensionally different too with 3.7mm Ø holes at 7.8mm pitch (so quite similar to TRIX - the OSN 9 parts were typically 3.9mm Ø at 8.1mm pitch). The Wheel Disc is 29mm Ø with holes at 10.5mm pitch (26½ & 9mm before). The strip parts are the same thickness (.75mm) but 15.0mm wide (15.5 for the 17h Strip) against 14.0mm.

Also none of the parts have the 'diamond' hole pattern of the previous 13h Strip, all the Strips have the 'V' pattern, with an extra hole at each end, as in the Strips in the Letter 'L' in 20/569,

& the 13h Strip below. Of the other parts the A/B & D/B are made from fully perforated 3 & 5h 'strips'; there are 2 extra holes in the 7h strip for the DAS; & the Hook has only 3 holes in its ball. These parts and a Wheel Disc are shown right.



The models are on a sheet folded to make 4 sides 219*156mm deep, and on both sides of a single loose sheet of the same size. None are named and the only words anywhere are the INVICTA 1 already mentioned, on the front page of the doubled



sheet. This sheet has 22 models from Letter X to the Signal right (full-size), the only large model apart from the OSN 20 Crane. There are 10 models on the loose sheet, from a Mono-plane similar to the one on the lid, to the Swing above (80% f-s). Only a few of all the models show the extra hole at the end of the Strips.

Apart from a couple of Letters, all the No.0 models in MCS, and all the No.00 in the OSN 20 Leaflet, are included.

INVICTA: S1

OSN 36/1078

Snippet. New Argentinian System: MEKNEX Several

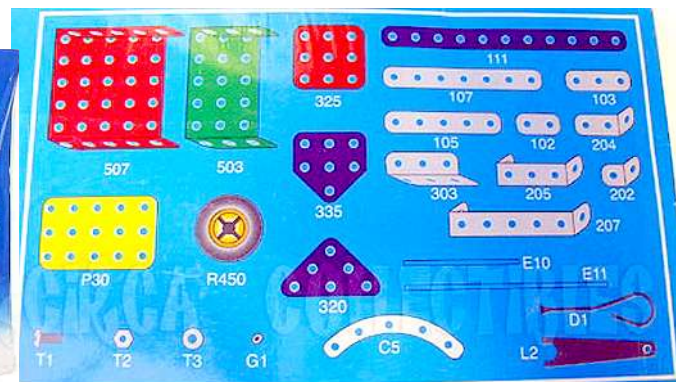
examples of the MEKNEX outfit right have been offered on Ebay from time to time since mid-2005. It has sometimes been called MEKANEX but the name on its lid is MEKNEX, and that is the name used on Argentine toy shop web sites.

According to the lid the Set has 127 parts, and 3 models are mentioned at bottom right. The Moto on the lid, a Buggy called Auto, mentary Lorry (Camión), are



and a very rudimentary Lorry (Camión), are shown on the back of the box. Each has a reasonable picture and a list of the parts needed, so perhaps there is no model leaflet in the Set. Also on the back, the panel top right showing the range of 26 parts. E10 & E11, above the wire Screwdriver, are Axles, & G1, to the left of the Curved Strip, is probably a plastic Axle Stop.

The toy shops mentioned above do not show this Set but instead have small blurry pictures of 7 models. They include the Moto



but not the Auto or Camión. The other 6 models are a Crane (Grúa), a Helicopter (Helicóptero), a small twin-boom Monoplane (Avioneta), a Racing Car (Formula 1), a Mechanical Shovel (Pala), & a Crane Lorry (Camión Grúa). The last 2 are perhaps the most interesting looking & are shown right. It isn't clear if the 7 are made from individual sets or from one large one.



MEKNEX: S1

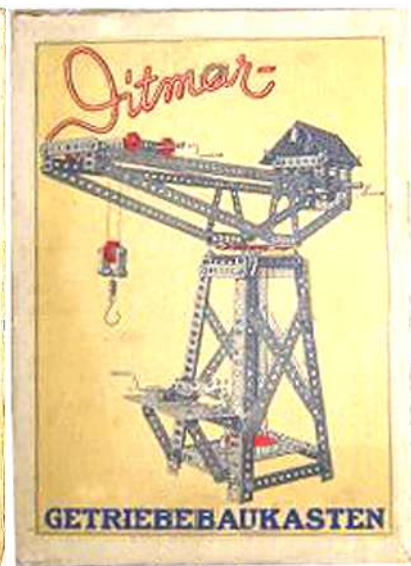
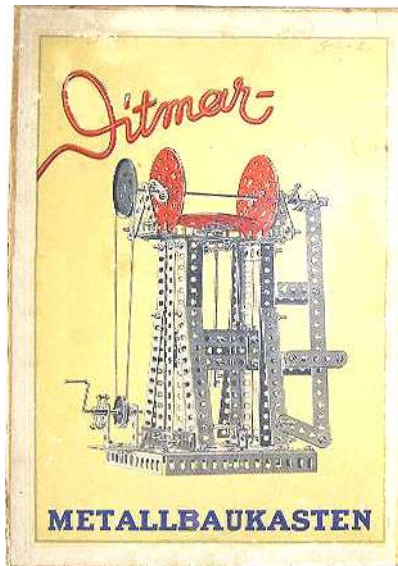
OSN 36/1078

DITMAR This system, said to be from the late 1940s, is listed in MCS as German but is in fact Austrian. A brief note on it appeared in 15/413 and Baukästen gives the maker as a Viennese company called 'Ditmar-Brunner-Austria Email' (Email means enamel). There seem to have been two basic sets plus an add-on Gears outfit. The present account is mainly based on the near complete parts from the larger basic set, a manual for it from a separate source, and various Ebay photos. The parts are a little unusual in having Strips about 1/2" wide but with holes at only 8.5mm pitch.

The PARTS On the facing page, from the Manual, a compressed version of the Illustrated Parts, and a Parts List/Inventory. Some details of the parts are given in the latter, and in the notes that follow. • **Material/Finish.** The Plate #31 is plain aluminium, all other parts are steel. Axles, threaded parts, & the Spring are plain steel; Pulleys and the 28 & 64mm Discs are red (in different shades from a bright/lightish, to dull red-brown); and all the other parts are painted a semi-matt black. • **Holes** are mostly 3.6-3.7mm Ø but are 3.8mm in the Plate. Slotted holes are 7mm long except in the Slotted D/B #30. • The **thread** is M3.5. • **Strips** & Brackets are 12.5-12.7mm wide. The 2h Strip #12 is a Flat Bracket with one end hole slotted; all the other Strips have both end holes slotted. • The **A/G** is about 13½*13½mm o/a in section. The **A/B** #24 is about 14*14mm o/a and unlike the A/G, has radiused corners. • The **D/Bs** #25-29 are 5 to 1h deep respectively. The 1h is 13mm wide o/a; the others are 18½mm. The **Slotted D/B** #30 is 15mm wide, 14mm deep, and has an 8¾mm slot in one arm. • In one Ebay set the **64mm Disc** #33 matches the Plate in colour and could also be aluminium. • **Axles** & the **Crank Handle** #32 are 3.55mm Ø and have square ends. The latter is 26mm long o/a with a 20mm offset. • The **Collar** & **Coupling** are 8mm Ø, 6 & 13mm long, double-tapped, with a 3.7mm bore. They have a grey metallic finish. • The **Pulleys** have bosses similar to the Collar, again in steel, but are painted & single-tapped. The ring of peening has 4 impressed points. • **N&B.** The **Bolts** have 6.0mm Ø tapered cheeseheads and are 8 & 18mm u/h. The pressed, hexagon **Nut** is 7.0mm A/F, & 2.1mm thick. The **Grub Screw** #56 is 3mm long. • The **Spanner** is 106mm long. • The **Spring** #54 is 3mm Ø & 22mm long. It is intended to tension cord drives but is very stiff. • **Parts not seen.** The **Cord.** The **Hook.** The **Screw-driver**, but from Ebay photos it scales at 149mm long. • **Gear Set Parts.** The only obvious Gear parts that can be seen in the Ebay pictures to hand are 2 MÄRKLIN type **Gear Rings** that probably fit over the 2 Pulleys. Other possible parts seen more than once in various sets are a Crank Handle with an offset about 1½ times that of #32, and a 1*5*1 DAS. But these items may not be DITMAR as the Ebay sets in question also contain some obvious 'foreigners'. • **A Motor?** Included in one Ebay lot, the motor & transformer left. Most of the considerable number of parts in the lot were clearly DITMAR but included a little TRIX.



The SETS The set in BK (p218) is the larger basic one and is probably the one referred to in the Gear manual (see later) as Größe 1 (Size 1). Its box is 26½*36½*31½cm. An example of the smaller set seen on Ebay was in a box 22*30cm and was called 'Größe 2'. Both have partitioned boxes with lids similar to the Size 2 one top left. This box is the only one seen which has an indication of size - it has 'GRÖSSE II' in tiny letters in the top righthand corner of the lid. The Set Contents



opposite are for Size 1. The Size 2 Ebay ad shows the equivalent manual page and though the individual letters can't be deciphered, the shapes of the words show that the following parts are not in the Set: 3 A/Gs; 1 D/B, probably the 5h; & 2 Axles. Also the Slotted D/B line looks as if it has been blocked out. The lid of the Gear Set is shown above and looks to be about the same size as the No.2. Apart from the Gear Rings, the parts in the one set seen on Ebay all look to be from the basic range.

The MANUALS The one for the **Size 1** Set has 48 un-numbered pages, 212*146mm, plus covers. The covers are blank except for the front, right. The manual is basically in German but the names of the models & a few other headings are given in English, French, Spanish & German. No mention of set size is made in it and so it could date from a time when there was only the one basic set. p1 has the Inventory, p2 is blank, pp3-8 have notes on 8 Basic Constructions shown on pp11-12, & building instructions for the larger models, quite extensive for some of them. The Illustrated Parts are on pp9-10. 48 models are shown in the remaining pages, from Nr.1 Chair on p13 to Nr.48 Inclined lift on pp47-48. There is a line drawing for each, with a list of parts needed and a few scrap views for the larger models. The drawings for some of the larger models are too small to see all the details clearly but no doubt the building instructions would explain all.

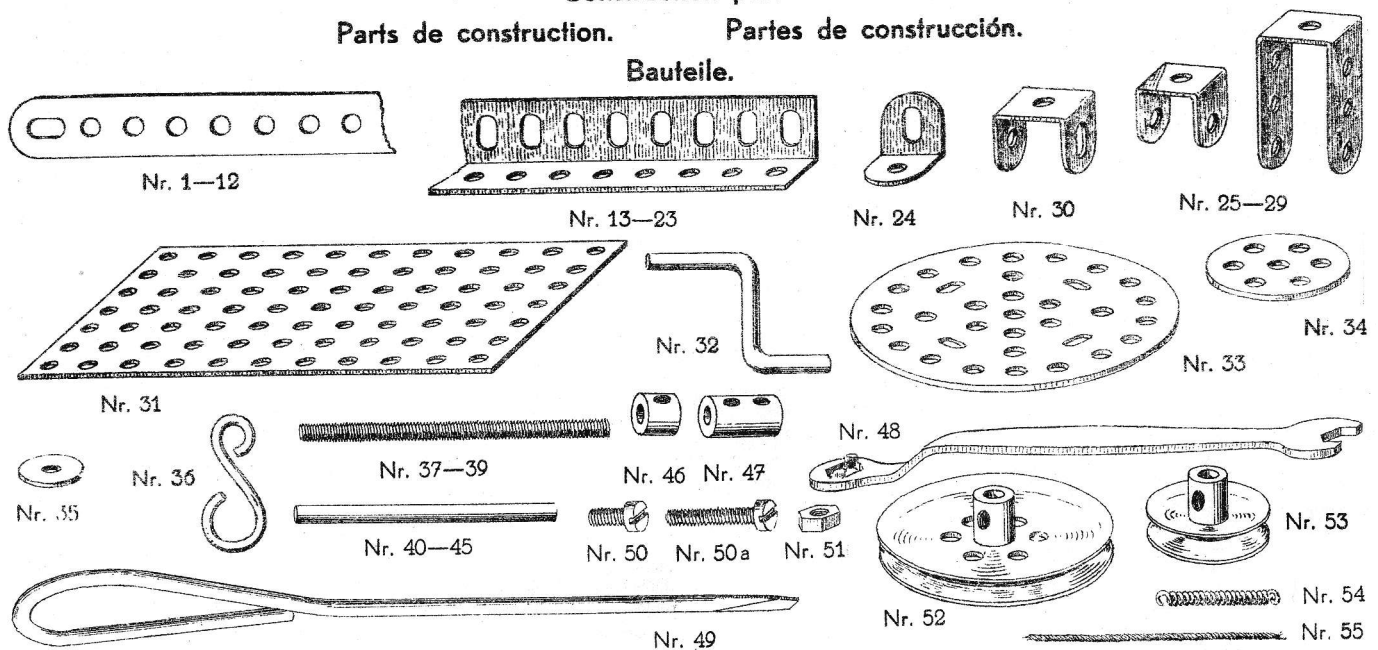


The models range from simple domestic items to 18 or so larger ones, with a typical selection from the 'strip & rigid plate' era, though there is only one (small) Crane, & only 3 vehicles, a Tram, a Lorry, & a Tipping Trailer. Mechanical features are generally limited to cord drives and a few linkages. The Trailer is shown right, full-size, and it has one novel feature, the tipping mechanism. In it a contrate engages a rack strip, with N&B used for all the teeth (in a 28mm Disc & a formed Strip). Two more models are shown on p1081, again full-size. The top spindle in the Press is a Screwed Rod running through the double-tapping in a Collar which is clamped between 2 Strips. The building instructions for the Funicular Railway have not been included but it seems that the cars are joined by Cord which runs around the built-up pulleys at 48c & d, but no means of driving them is provided. There is though a brake with a cord attached to the operating lever 6 (a 9h Strip) which passes around the smaller groove of pulley 48d & is then bolted to the frame (at the arrow in 48a). Another model was shown in OSN 15.

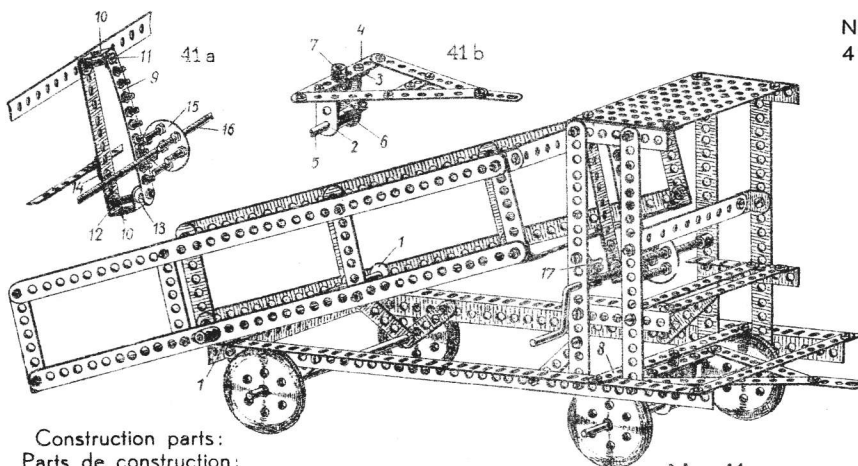
The **Size 2** manual has the same cover & page size as the

Construction parts.
Parts de construction. Partes de construcción.

Bauteile.



Stück	Nr.	Gegenstand	Bezeichnung	Stück	Nr.	Gegenstand	Bezeichnung
6	1	Flacheisen 35 Loch	F 35	1	30	Distanzbügel	D
2	2	" 31 "	F 31	4	31	Platte 7 x 11 Loch	Pl
3	3	" 27 "	F 27	2	32	Handkurbel	Hk
4	4	" 23 "	F 23	4	33	Scheibe 64 mm Ø	Sch 3
8	5	" 19 "	F 19	4	34	" 28 mm Ø	Sch 2
8	6	" 15 "	F 15	7	35	" 12,5 mm Ø	Sch 1
8	7	" 11 "	F 11	1	36	Lasthaken	H
8	8	" 9 "	F 9	1	37	Gewindeachse 11 cm	G 11
8	9	" 7 "	F 7	2	38	" 6 "	G 6
12	10	" 5 "	F 5	4	39	" 3 "	G 3
8	11	" 3 "	F 3	1	40	Achse rund 20	A 20
4	12	" 2 "	F 2	1	41	" " 15 "	A 15
4	13	Winkelisen 35	W 35	2	42	" " 12 "	A 12
2	14	" 31 "	W 31	2	43	" " 9 "	A 9
2	15	" 27 "	W 27	2	44	" " 7 "	A 7
2	16	" 23 "	W 23	1	45	" " 3 "	A 3
2	17	" 19 "	W 19	10	46	Stelling	St
4	18	" 15 "	W 15	6	47	Verbindungshülse	V
8	19	" 11 "	W 11	1	48	Schraubenschlüssel	SS
6	20	" 9 "	W 9	1	49	Schraubenzieher	Schz
8	21	" 7 "	W 7	104	50	Schrauben 3,5 Ø, 8 mm lg.	S 1
6	22	" 5 "	W 5	10	50 a	" 3,5 Ø, 18 mm lg.	S 2
2	23	" 3 "	W 3	106	51	Mutter	M
18	24	" 1 "	W 1	4	52	Schnurrad 2	SR 2
2	25	U-Eisen 5	U 5	4	53	" 1	SR 1
3	26	" 4 "	U 4	2	54	Spiralfeder	Sp
2	27	" 3 "	U 3	1	55	Rebschnur ca. 2 m lg.	R
2	28	" 2 "	U 2	20	56	Madenschraube	MS
3	29	" 1 "	U 1				



Construction parts:
Parts de construction:
Partes de construcción:
Bauteile:

4 — F 35	1 — Sch 2	7 — F 5	1 — Hk
4 — F 19	1 — G 11	2 — W 35	2 — V
7 — F 15	1 — G 3	1 — W 15	5 — St
7 — F 11	1 — A 15	4 — W 7	4 — SR 2
2 — F 9	1 — A 12	18 — W 1	88 — S 1
8 — F 7	1 — A 9	1 — U 3	8 — S 2
		2 — U 2	98 — M
		1 — Pl	9 — MS

Nr. 41

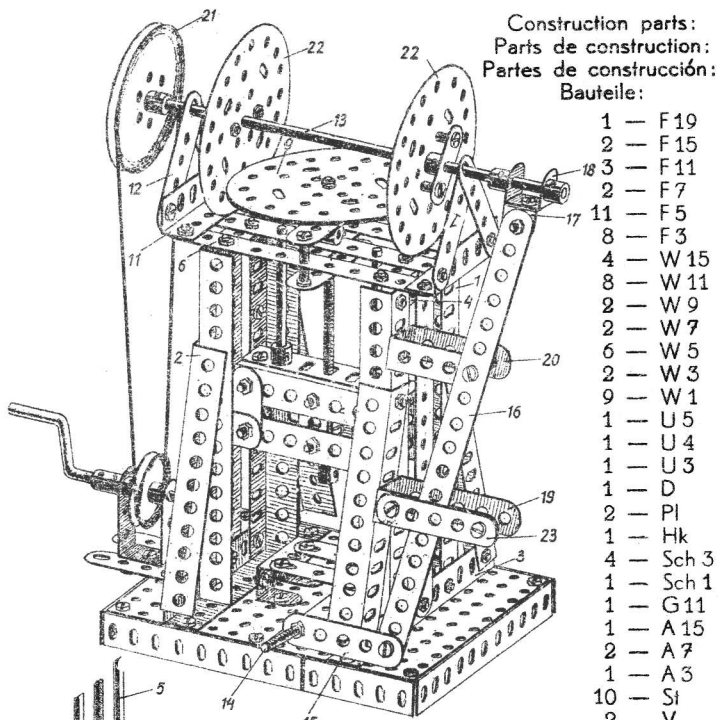
Trailer

Remorque bousculante

Remolque basculante

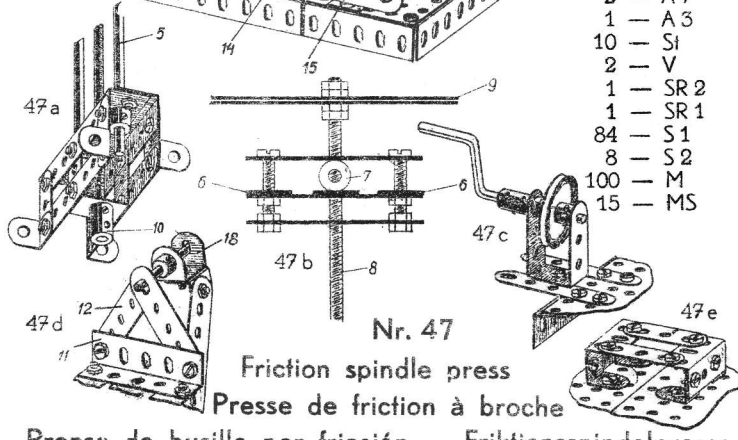
Anhängekipwagen

Nr. 41 **Anhängekipwagen.** Begonnen wird mit dem Bau des Wagenrahmens, der seitlich aus 2 Winkelisen W 35, vorne aus einem Flacheisen F 15 und hinten aus einem Winkelisen W 15 gebildet ist. Auf die Enden dieses Winkelisens wird je ein Winkel 1 (W 1) angeschraubt, um später die Achse für den Kipp-laderaum anbringen zu können. Hierauf wird das Drehgestell für die Vorderräder nach Detailzeichnung Fig. 41 a angefertigt. Das U-Eisen 2 (U 3) wird mittelst zweier Winkel 3 (W 1) mit dem Flacheisen 4 (F 9) verbunden. Nachdem die Achse 5 (A 9) durch das Verbindungsstück 6 (V) im U-Eisen 2 gelagert ist und die beiden Räder angebracht sind, wird das ganze Drehgestell mit einer Schraube S 2 unter Befügung eines Stellingringes (St) an das Flacheisen 8 (F 15) lose angeschraubt. Es folgt nun der Anbau der Hinterräder und des Sitzes mit dem Dach. Der Bau des Kipp-laderaumes bietet keine Schwierigkeiten. Dieser besteht nur aus Flacheisen und Winkel u. zw. aus 4 F 35, 5 F 15, 8 F 7 und 10 W 1. Gemäß Fig. 41 b wird die Zahnstange 9 zusammengesetzt und unter Zuhilfenahme von 2 U-Eisen 10 (U 1), einer Schraube 11 (S 2), einer Gewindeachse 12 (G 3) und eines Stellingringes 13 (St) sowie eines Winkels 14 (W 1) an den Laderaum angeschraubt, welcher sodann um eine in den Winkeln 1 gelagerten Achse A 15 kippbar angeordnet wird. Das Triebrad 15 besteht aus 6 auf einer Scheibe Sch 2 befestigten Schrauben S 2 und ist auf der Gewindeachse 16 (G 11) mit Muttern so zu befestigen, daß seine Schrauben mit denen der Zahnstange in Eingriff kommen. Zum Schluß wird noch eine Sperrung 17 ähnlich Grundform Nr. 5 eingebaut.



Construction parts:
 Parts de construction:
 Partes de construcción:
 Bauteile:

- 1 — F19
- 2 — F15
- 3 — F11
- 2 — F7
- 11 — F5
- 8 — F3
- 4 — W15
- 8 — W11
- 2 — W9
- 2 — W7
- 6 — W5
- 2 — W3
- 9 — W1
- 1 — U5
- 1 — U4
- 1 — U3
- 1 — D
- 2 — PI
- 1 — Hk
- 4 — Sch 3
- 1 — Sch 1
- 1 — G11
- 1 — A15
- 2 — A7
- 1 — A3
- 10 — St
- 2 — V
- 1 — SR 2
- 1 — SR 1
- 84 — S1
- 8 — S2
- 100 — M
- 15 — MS

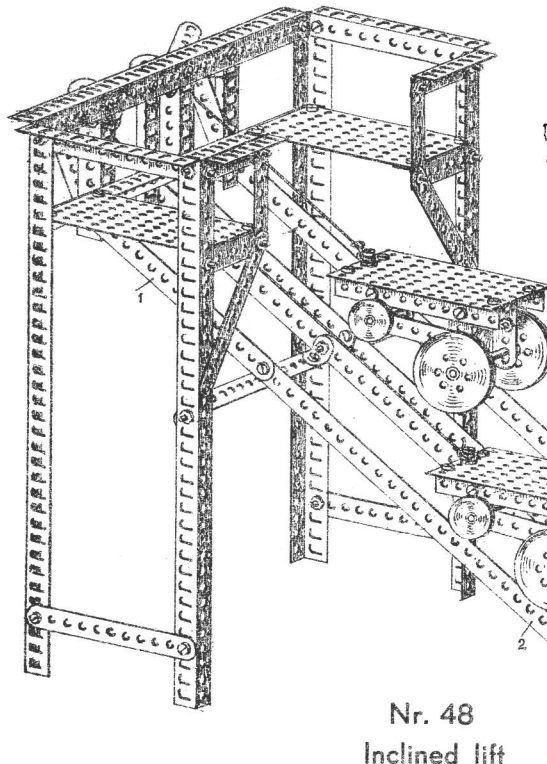


Nr. 47

Friction spindle press
 Presse de friction à broche

Prensa de husillo por fricción Friktionsspindelpresse

Friktionsspindelpresse. Auf die Grundplatte, welche aus einem aus Winkeleisen gebildeten Rahmen, der mit 2 Platten (PI) abgedeckt ist, besteht, wird das Ständergerüst aufgebaut. Die beiden Säulen bestehen aus je 2 Winkeleisen 1 (W 15), welche durch je 2 Winkeleisen 2 (W 11) versteift sind. Die Winkeleisen 1 dienen zur Führung für den Stößel und müssen, um den dazu notwendigen Raum schaffen zu können, wie aus der Zeichnung ersichtlich ist, so angeordnet werden, daß die Langlöcher seitlich zu liegen kommen. Unten werden die Winkeleisen 1 mit Winkeleisen 3 (W 11), oben mit Winkeleisen 4 (W 5) zusammengehalten. Bevor jedoch letztere angeschraubt werden, ist der Stößel samt den Führungsstangen 5 (A 7) nach Fig. 47 a zusammenzustellen und zwischen die beiden Säulen einzuschoben. Oben werden nun die beiden Säulen mit 3 Flacheisen 6 (F 11) verbunden, worauf der Einbau des als Spindelmutter dienenden Stellringes 7 gemäß dem Seitenriß Fig. 47 b erfolgt. Wenn an der Spindel 8 (G 11) das aus 2 Scheiben Sch 3 bestehende Schwungrad 9 befestigt ist, wird die Spindel in die Spindelmutter 7 eingedreht, der Stößel eingehängt und durch Anbringen des Verbindungsstückes 10 (V) am Herabgleiten gehindert. Jetzt wird der Tisch nach Fig. 47 c auf der Grundplatte montiert, ebenso das Ständergerüst. Es folgt der Aufbau der Lager, welche aus je 1 Winkeleisen 11 (W 5) und 2 Flacheisen 12 (F 5) bestehen. Diese dienen zur Aufnahme der Welle 13 (A 15). Der Anbau der sogenannten Umsteuerung, bestehend aus dem Handgriff 14 (S 2), dem Arm 15 (F 5), der Stange 16 (F 19) und dem mit ihr durch einen Winkel 17 (W 1) verbundenen Bügel 18 (D), an die beiden U-Eisen 19 (U 5) und 20 (U 4) bietet keine Schwierigkeit. Es ist nur darauf zu achten, daß das Langloch des Bügels 18, wie Fig. 47 d zeigt, nach außen zu liegen kommt. Nun werden das Antriebsrad 21 (SR 2), die 2 nach Grundform 6 gebildeten Friktionräder 22 und der Bügel 18 auf die Welle 13 geschoben und befestigt. Beim Bügel 18 geschieht dies mittels zweier Stellringe. Die Umsteuerung hat den Zweck, das Schwungrad 9 einmal an die linke und einmal an die rechte Friktionsscheibe 22 zu legen, um dadurch den Umdrehungssinn der Spindel 8 zu ändern und um damit zu erreichen, daß sich der Stößel entweder senkt oder hebt. Die Zeichnung zeigt den Antrieb des Schwungrades mit der linken Friktionsscheibe. Die Klemmleiste 23 (F 5) hält die Umsteuerung in jeder Lage fest. Zum Schluß erfolgt noch der Anbau des Antriebes nach Fig. 47 e, an welcher Stelle man sich den Antriebsmotor denken muß. Diese Pressen dienen zum Pressen, Prägen und Biegen von Metallteilen.



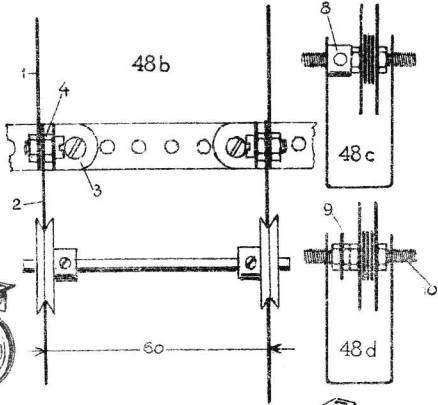
Nr. 48

Inclined lift

Ascenseur sur plan incliné

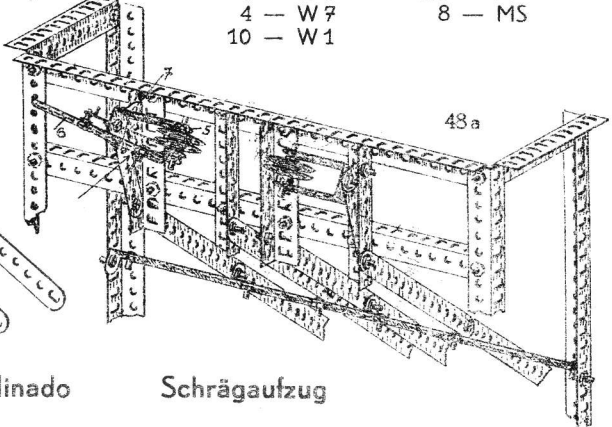
Ascensor por plano inclinado

Schrägaufzug



Construction parts:
 Parts de construction:
 Partes de construcción:
 Bauteile:

- 4 — F35
- 1 — F31
- 5 — F15
- 4 — F11
- 1 — F9
- 8 — F7
- 8 — F5
- 6 — F3
- 4 — W 35
- 2 — W 31
- 6 — W 11
- 4 — W 9
- 4 — W 7
- 10 — W 1
- 2 — U 4
- 4 — PI
- 4 — Sch 2
- 7 — Sch 1
- 1 — St
- 8 — SR 2
- 4 — SR 1
- 2 — G3
- 2 — G6
- 2 — A7
- 94 — S1
- 106 — M
- 8 — MS



Size 1 but nothing else is known of it, apart from the Inventory page already mentioned. The Gear set manual seen on Ebay looks to be the same size & has the same cover except that

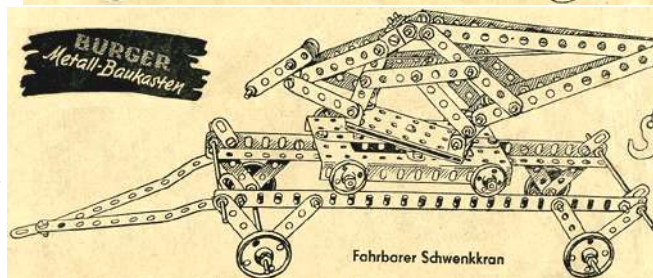
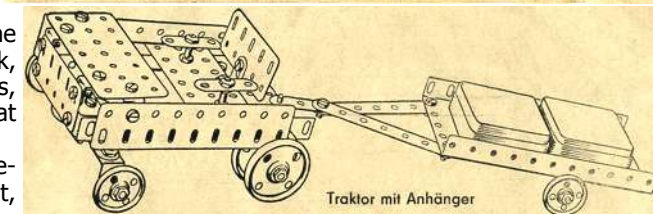
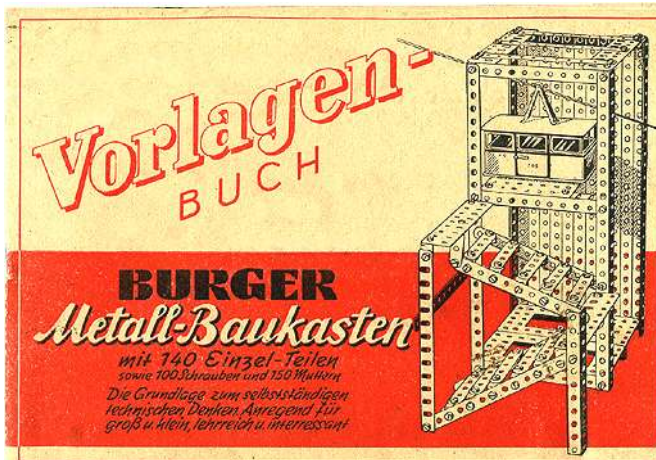
the blue word across the bottom is GETRIEBBAUKASTEN. Its Intro mentions using the Set with the Size 1 outfit, & the other page shown has a photo of the model on the lid with parts list.

BURGER With 28 different parts BURGER is another of those smallish German systems from, most probably, just after WW2. It was mentioned, with a few details, in 15/412 & 17/466, and now a set is to hand. It is well used but complete, and thought to be the only size ever produced. Nothing is known of the manufacturer or any exact dates. Some of the parts look similar to STABIL, and other similarities are the hole pitch & the use of Screwed Rods as axles. But there are differences, 14h long parts for instance, and Flat Girders, not often seen in small systems.

The **box** measures 34½*19¾*3cm and the lid is shown above. The small print is as on the manual below, and translates as 'With 140 parts as well as 100 bolts & 150 nuts. The basis for independent technical thinking. Stimulating for young & old, instructive and interesting.' Stapled into the base are 3 trays, one along the top, and one, about the size of the Flanged Plate, at each end. The N&B are in 2 light brown, moulded cardboard boxes, 5*5*1¾cm. The 140 parts include 57 Strips, 12 A/Gs, 6 Flat Girders, 2 each of Flanged & Perf. Plates, 32x 2h Brackets, 8 Pulleys, and 2 Wheel Discs.

Representative parts are shown across the bottom of the page. The **holes** are at 12.5mm pitch; most are 4.2mm Ø, with a few 4.1, and the round hole in the A/B is 4.0mm. The **thread** is M4. The **ends** of Brackets & 3-7h Strips are near fully-rounded, while those of longer Strips are large-radiused. All the **corners** of the other parts have small radii, very small for the Plates. **Strips** are .8mm thick, rather too thin for the long ones, while the **Plates** are twice that thickness.

Finish The parts are accurately made but some burr is present, particularly in the holes & ends of the Strips. The paint finish is average but has survived quite well. The red & green parts are all the same shade but the others vary a little, witness the Plates & Flat Girder in the photo. The Strips are in 3 shades of blue depending on length: as in the photo, slightly lighter, and nearer to royal blue.

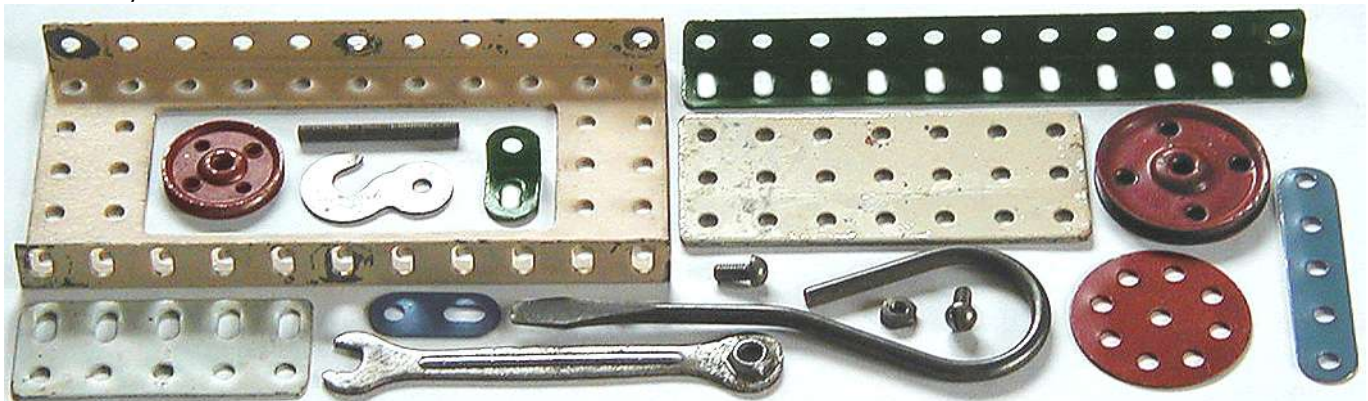


Notes on the individual parts follow with quantities in curly brackets. **Strips**, 3,5,7, 11,14,25h, 12.6-12.7mm wide {4,16,9,8,8,12}. **A/Gs**, 11,14, 25h, 13½*14mm section with 8½mm slots in the longer arm {4,4,4}. **Flat Girders**, 5,9, 11h, 26½mm wide {2,2,2}. **Flat Bracket**, 28mm long o/a with 8½mm slot {8}. **A/B**, 12½*17mm, made from the Flat Bracket {24}. 5*11h **Flanged Plate** with round

holes in one flange and 8½mm slots in the other - this feature can be seen in the manual models {2}. 3*7h **Perf. Plate** - those in the Set were very slightly too big to fit into the cutout in the Flanged Plates {2}. 26, 37mm Ø **Pulleys**, 4, 5mm wide with 3.1, 3.8mm Ø face holes, the latter at standard pitch but not quite large enough to take a Bolt or Screwed Rod {4,4}. 37½mm Ø **Wheel Disc** {2}. 3½,5,9cm plain steel **Screwed Rods** {2,4,8 - the Inventory in the manual has 4 each of 9 & 13cm}. The nicked, flat **Hook** is 32½mm long o/a. The **N&B**

are plain steel with 6.9mm Ø RH Bolts, 8mm u/h, and pressed hex Nuts, 7.2mm A/F & 2.8mm thick {150,100}. The **Spanner**, again plain steel, is 95mm long {2}. The **Screw-driver**, 112mm long, is made of 4.4mm Ø dark grey wire {1}.

The **manual** has 12 un-numbered pages, including covers, 208*148mm, and its front is shown left. p2 has an Intro and included in it is 'No linking or add-on sets are needed'. p12 has the Set Contents. The other pages show 10 models from Hand+wagen on p3 to Seilbahn+station (the model on the cover & box lid) on p11. There is one line drawing for each, and most are rather disappointing, with simple Bridges, Cranes, etc which, apart from a Rail Bridge, don't use anything like the number of parts in the Set, and in the main don't look very attractive. Even the best model, the Seilbahnstation, is a bit odd in that the headroom on the stairs at the first landing is very limited. The 2 models shown left (at about 50% of the original size) are typical of the 'better' ones. The boxes on the Trailer are like those for the N&B.

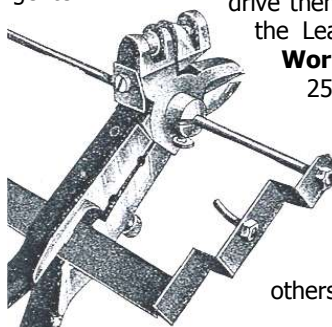
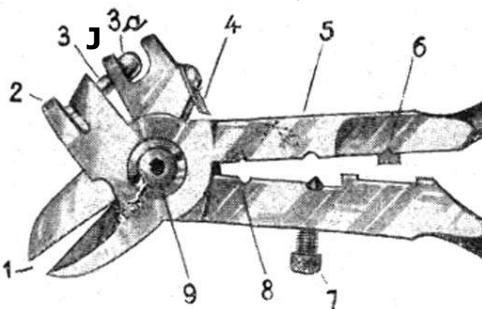
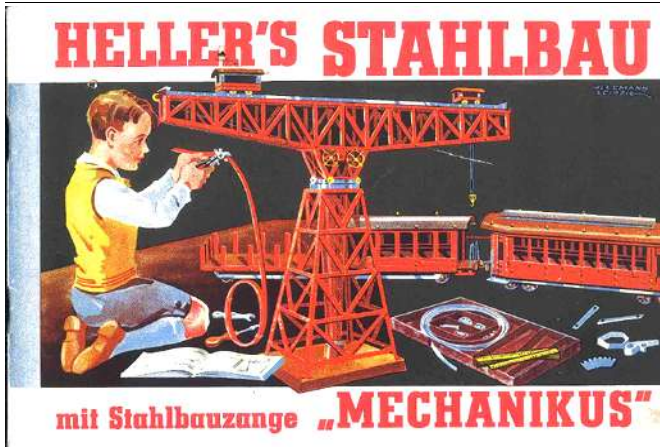


On HELLER'S STAHLBAU and MECHANICUS

Thanks to Jürgen Kahlfeldt, Thomas Morzinck and Werner Sticht, I now have photocopies of a HELLER'S STAHLBAU Nr.20 manual and a MECHANICUS leaflet, both believed to be pre-WW2. Also to hand, a number of Ebay photos of various Heller items, and a small MECHANICUS set, apparently unused, from, most probably, well after WW2. According to Baukästen Heller STAHLBAU sets were made pre-WW2 by Gebr. Heller of Schmalkalden, a town some 30km to the south of Eisenach, in what was to become East Germany. One of the firm's specialities was pliers-type tools. Presumably production resumed after the war & around 1950 the company became VEB Ankerwerk. An end date of 1956 is possible.

Brief notes on HELLER sets appeared in 12/321 & 15/415, and a MECHANICUS manual, identical to the one with the Set above, was described in 18/518. With the exception of the said MECHANICUS set, all the names of sets & manuals seen (about a dozen on Ebay) are like the present Manual at the top of the page, with a reference to the 'Mechanicus' Tool. However the name STAHLBAU only appears on the front of the Leaflet (right) with MECHANICUS more prominent, and all the sets & parts in it are listed under the name MECHANICUS. It will be recalled that the name of the French sets in MCS is HELLER-MÉCANICUS, and the Tool is called Mécanicus.

The PARTS Right, from the Manual, a close-up of the head of the Tool, #1333. Using my names, 1 are the shearing blades. 2 is the die plate for the punching die, 3 - it is like a rivet with head 3a. 4 is a stop which limits the opening of the Tool. It is held by a screw and if removed the Tool can be opened enough to remove the die by passing its shank upwards through a slot in the jaw 'J'. It is explained in the Manual that this is only necessary if the die is to be reground or replaced. 5 is the Flachzangenteil (?flat part of the Tool). 6 is a vee section die which pushes down into a corresponding recess to bend Strip, and 7 is an adjustable screw stop which controls how far 6 travels, and hence the degree of bend - it is 90° if the stop is fully unscrewed. This stop can also be used to limit how far the blades 1 will cut, said to be useful when shearing A/Gs for instance. The semi-circular slots 8 grip a Rod and it can then be bent by hand. The claim in OSN 12 that Rod can be sheared was incorrect. 9 is a bore in which a 3mm rod carrying the Z-shaped gauge length Stop (right) is held by a



collet. The different parts of the 'Z' provide stops for the different operations, and the curved bolt through the centre segment can engage with the last hole punched to allow the next to be at the correct pitch.

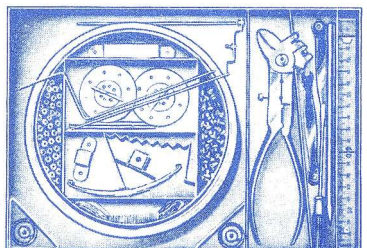
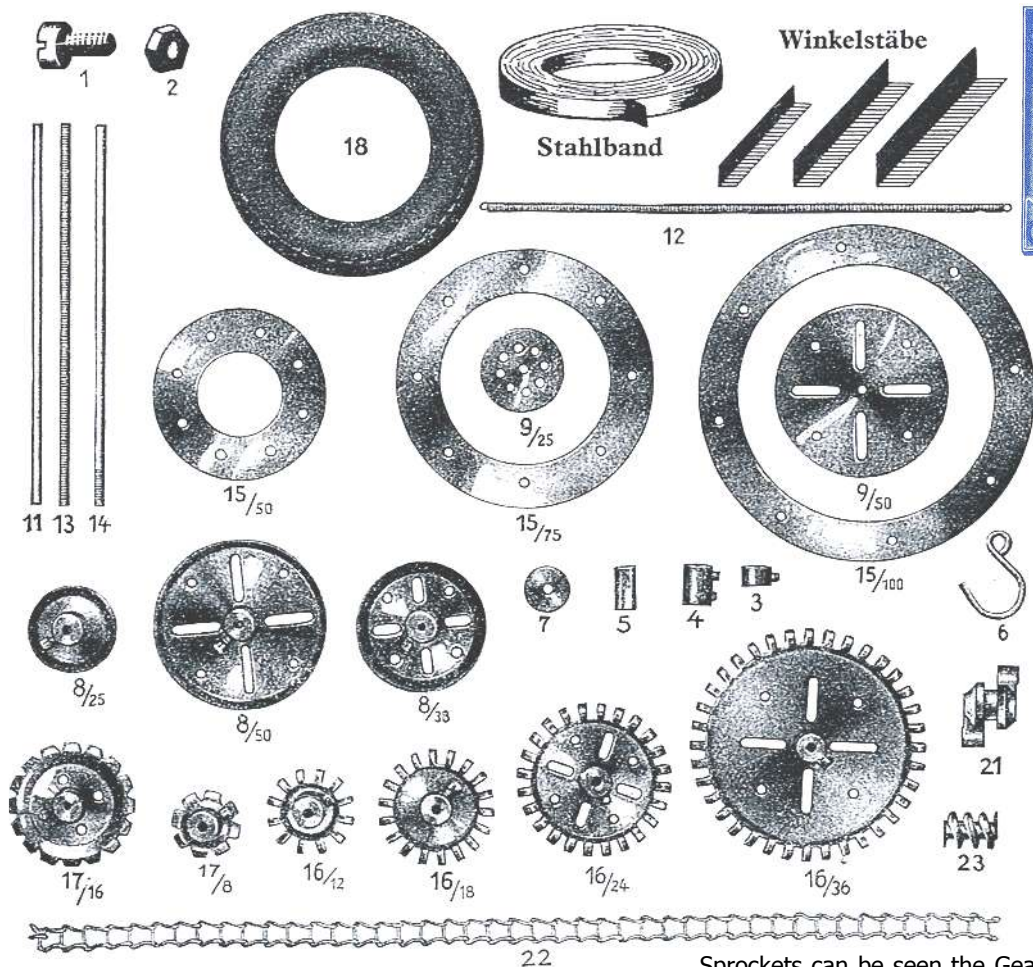
The other parts are shown, from the Manual, on the next page. Those in the Leaflet & MCS are mostly identical but differences will be noted. The shape of the Gear teeth can best be seen in MCS or OSN 12. An '/xx' after a PN is the diameter in mm, or for Gears etc, the number of teeth. As in the #1942 set below, and in all other Ebay photos, parts #3-8 are brass coloured, and most other metal parts are silver looking. The steel **Strip**, 12mm wide



& .5mm thick is nicked or painted red. **A/Gs** are red. A 50cm length is listed in the Leaflet, but 1m also in MCS & the Manual. The 3mm Ø **N&B** are brass and in packs of 50 Bolts & 60 Nuts, plus, in the Leaflet, 1000 of each at RM 14 (against RM .75 for the small pack). **#3** is a **Collar**; **#4** a **Coupling**; **#5** a hexagonal **Threaded Coupling**; & **#6** a **Hook**. Standard Bolts are used as set screws in #3 & 4. **#7** & **#8** are **Fast & Loose Pulleys**. **#9** are **Discs** and include a 38mm not shown. **#10** is a **Crank Handle** but is not illustrated. It can be seen in the #1942 set above and in other Ebay sets; it is also in some of the illustrations of sets in the Leaflet. **#11, 13 & 14** are **Axes, Screwed Rods & Screw-Ended Rods**, each in lengths of 25, 50,75,100,150mm. **#12** is a short length of **Spring Cord**, used in cord drives, sometimes with two linked together. **#15** are **Circular Strips**. **#16** are **Gears** & **#17 Sprockets**. **#18** is a black rubber **Tyre** to fit the 50mm Pulley. **#21** is a **Drive Coupling** with tapped bores. It is only used in the Model 104 (shown on p1086) and as far as I can see the Bolts screwed into the outer bores engage with Bolts in the bosses of Pulleys, etc, to drive them. The **Sprocket Chain #22** is listed in the Leaflet as brass in 1m lengths. **#23** is a **Worm**. **#24** is a white **Rubber Ring** for the 25mm Pulley and is not mentioned in the Manual.

Not listed but shown in the Manual as parts for models are **Rubber Rings #19 & #20** to fit the 50mm & 25mm Pulleys respectively.

As well as the basic Tool, various others are listed, as follows: #3215/5 **Pliers**;



Tyres. If the dimensions in the Table are right the parts must be tightly packed in the box. In the only photo to hand of a #1943 the box is red and the (remaining) Tools & parts are on 3 sides of the coil of Strip.

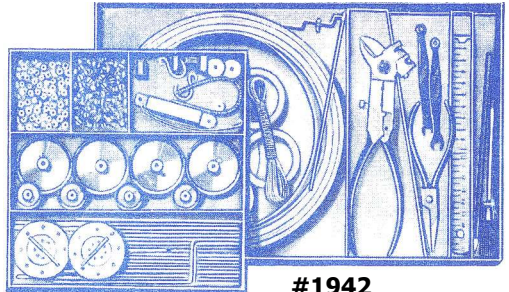
The parts in #1941, and in #1942 below, include 50mm Pulleys & what seem to be Tyres for them, or more likely Rubber Rings, possibly the part #19 mentioned earlier. An incomplete #1943 Ebay set contains 6 black Tyres, and one smaller set has one white Rubber Ring that would fit over a 50mm Pulley.

All sizes of Gears and



Sprockets can be seen the Gear set right, plus a Worm and what may be a Drive Coupling to its right.

All the main outfits except #1943 have cardboard boxes, black mottled with grey on the outside and yellow inside (as the #1942 shown earlier and the lid below).



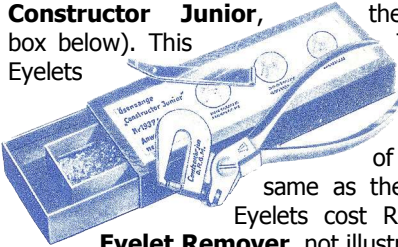
#1942

The N&B etc were packed in small, lidded, red & white metal boxes about 7cm long, with 'Heller Stahlbaukasten' on the lid. An example can just be seen in the left side of the tray in the #1942 photo.

Two types of lid label have been seen, one is almost the same as the Manual cover, and the other, below, and perhaps earlier, features the same boy but different models. The design is signed by 'Schumann'. The name on the other label looks



#09/80mm **Screwdriver**; #3471 **Spanner**; #3440 **Ruler**. Also, only in the Leaflet, is #1937½ **Eyelet Pliers** (called **Constructor Junior**, the German name, as on the box below). This Tool, complete with 300 Eyelets and a tool to push the Eyelet home before clenching it (it is on top of the box) cost RM 4, the same as the basic Tool. 1000 spare Eyelets cost RM 1.50, and #1968, an **Eyelet Remover**, not illustrated, RM 1.20.



The SETS The Leaflet has some details of the sets, and drawings of the layout of the parts in all except #1943. The Table below gives the main details, and the illustrations of 3 of

Set Ref. \ Name	No. of Tools	Strip length	No. of Parts	Box Size cm	Price RM	
1940½	0	2	5m	64	24*20*2½	5
1940	1	6	5m	77	30*22*3	8
1941	2	7	10m	150	35*22*3	12
1942	3	7	20m	215	35*22*5	15
1943	4	7	20m	219	39*29*2	20
1946	Add-on	0	10m	120	22*22*3	4.50
1948	Gears	0	none	22	30*20*2½	5

the sets (#1940, 1948, & 1942) are in the next column. All the sets except the Gears outfit have a coil of Strip with parts inside it. Alongside the coil (except for #1946) are the Tool & (except for #1940½) more parts.

A few formed strip pieces which are not listed as parts can be seen in several of the sets. In the #1940 for example a Double Bent Strip at bottom left in the centre square, and the Leaf Spring below it.

#1942 has an extra tray of parts. #1943 has a metal box and the same contents as #1942 but with the addition of four

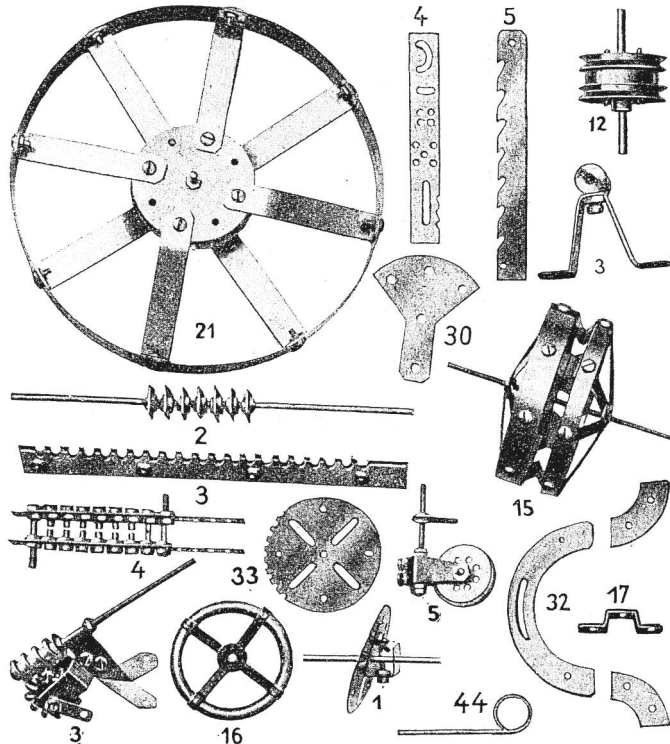
like 'Ullemann Leipzig' though the first letters may be wrong.

Some of the Ebay sets have a label inside the lid showing the layout of the parts in the set, & some, like the Airship one, have the Set No. stamped on the bottom border of the label.

The French sets in MCS are identical in content to those in the Leaflet, and also in the layout of the parts, except for minor differences in the smallest 1940½ set.

The MANUAL The Manual is in German and has 80 pages, plus covers, 241*162mm. It is referred to as Nr.20 on p1 and was included in all but the smallest set. The front cover was shown earlier and the others are blank.

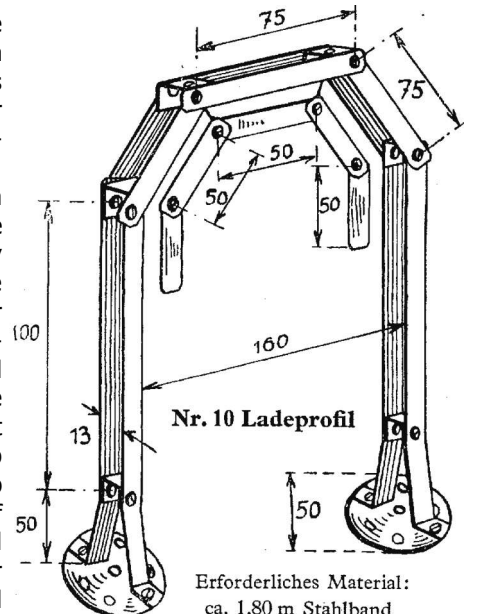
The first 8 pages are about how to use the Tool, and pp9-11 give details of the parts. pp12 & 13 show methods of joining the parts and some useful basic parts made from the Strip & circular parts. There are 48 in all and they include various brackets, parts with slotted holes, & toothed parts. Next are 9 pages of basic constructions, 109 in all, including bearing brackets, leaf springs, a double-throw crankshaft, rack strips, & numerous built-up wheels. A few of these 157 items were in OSN 18 and some more are shown below.



The remaining pages show 91 models, from Nr.2 Stehleiter (Pair of Steps) on p23 to Nr.180 Ketten-Förderanlage (Chain Conveyer) on p80. There is a Parts List for each model, plus a few words of explanation for some, and one, occasionally two, illustrations. The latter are dimensioned line drawings for the first 8 models, thereafter half-tones. The models are small & simple at first with barrows, domestic items, railway accessories, etc, including the 2 shown in the next column. Then a number of fairly straightforward machine tools & a few fairly simple models using Gears - the rather nice Mangle on the facing page reminded me of my Grandmother's. Also opposite the model that uses the Drive Coupling. Next some more elaborate machine tools and larger models including a 2-Cylinder Vertical Engine, Railway Wagons, 2 Back Axles with Differentials, a Car Chassis, a Lorry, a Fire Engine, a Potato Harvester, a Big Wheel, a Threshing Machine, the Gantry Crane in OSN 15, & a Multi-Jib Grabbing Crane. All are attractive models though basically fairly simple mechanically. Strips are sometimes used as infill plating, but otherwise card or any other suitable material was to be used. The Chassis & one of the Diffs are on the next page, & the Grabbing Crane on the page after. It has an interesting luffing system & is said

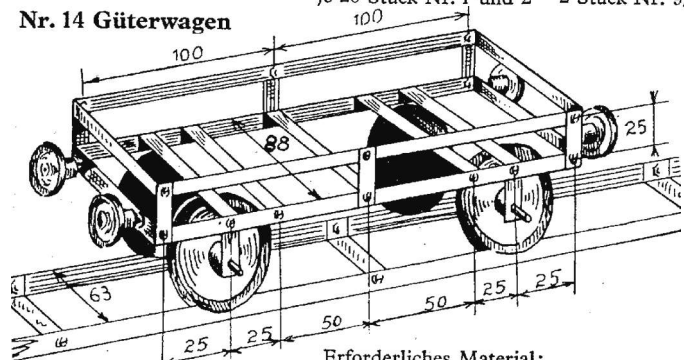
to be based on one made by Zobel, Neubert & Co, a firm in Schmalkalden. It is shown full size, the other models have been reduced to about 90%.

The model photos are a good size but not all the mechanical detail is clearly shown. Also with just the dimensions overall and for a few key elements, considerable planning would be needed to make some of the models with about the total length of Strip specified for them. Help though in the form of sheets of constructional details, was available for many of the medium and



Nr. 10 Ladeprofil
Erforderliches Material:
ca. 1,80 m Stahlband
je 20 Stück Nr. 1 und 2 2 Stück Nr. 9/50 mm

Nr. 14 Güterwagen



Nr. 14 Güterwagen
Erforderliches Material:
ca. 2 m Stahlband 4 Stück Nr. 8/25 und 50 mm
je 14 Stück Nr. 1 und 2 2 „ Nr. 11/100 mm
8 „ Nr. 2 4 „ Nr. 14/25 mm

large models. None have been seen but the Leaflet lists them for 21 models, & another 15 in the Manual are marked as having such Sheets. They include the Mangle, the Chassis, & the Grabbing Crane. 3 of the 21 models in the Leaflet are not in the Manual: Nr.184 (no name); 186, a Bridge; & 188, a Flying Model. Two of the latter, made of aluminium, were mentioned in 16/458. Some models needed more than one Sheet, 6 in one case, for the Big Wheel. The Sheets were 43*31cm in size & cost RM .20 per sheet, against RM 1 for the whole Manual.

Other Literature There was a lesser manual or model sheet with the smallest set, but nothing is known of it.

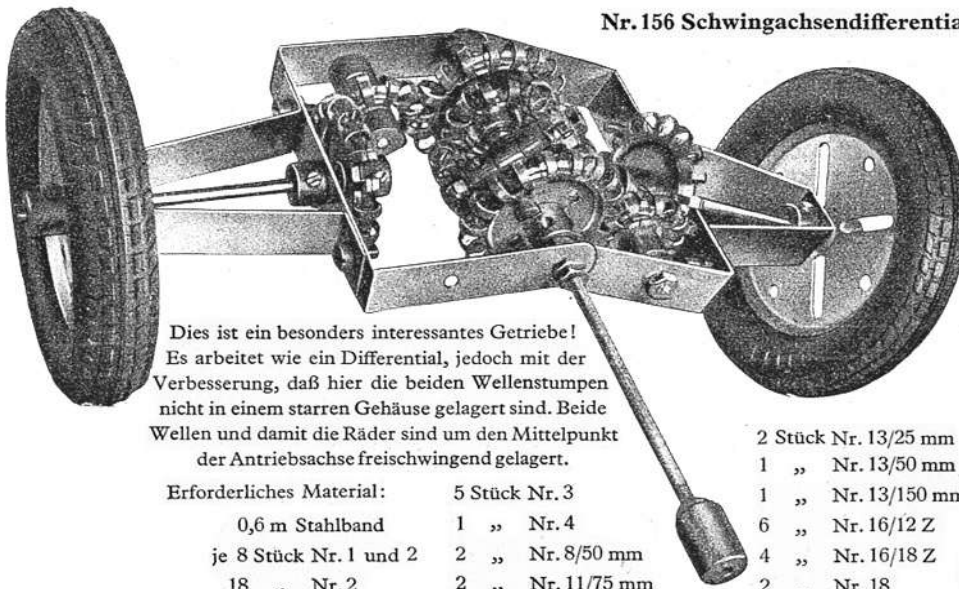
Most of the Ebay sets with the Airship label have a manual with the Crane cover but one has the Airship design - it is about the same page size but was said to have 47 pages.

Another Ebay item was what appears to be a 4 page folded leaflet with the Airship design on the front. It seems to be earlier than the Mechanicus one because a smaller range of sets & parts are shown, the prices, again in RM, are lower, and the manual listed in it is Nr.19 (or possibly Nr.15, but certainly not Nr.20). One inside page has an intro to the system and the other shows 4 sets which look very like #1940, 1941, 1942, & the Add-on outfit. They cost RM6,8,12,4 respectively. The parts are listed on the back cover and include the Tool at RM3.50. The other parts are just #1-13 and are as before except that there are 75 & 100mm Discs but no 38mm.

The manual with the MECHANICUS set, described in OSN 18, is of course but a pale shadow of the Nr.20.

[Before going to the next section I should have mentioned that the **Leaflet** is a sheet folded to give 12 faces about 95*135mm. As can be seen the front has 'Nr.168' at the bottom. The back face has a boy with a Sailplane model.]

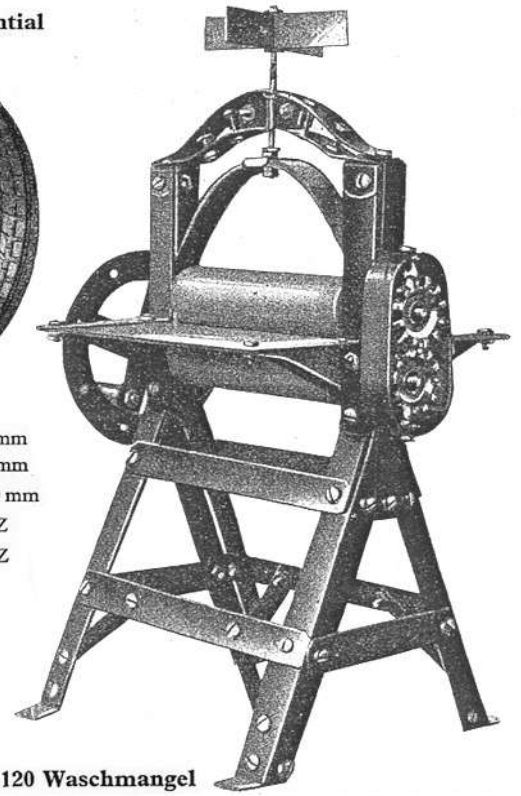
Nr. 156 Schwingachsendifferential



Dies ist ein besonders interessantes Getriebe! Es arbeitet wie ein Differential, jedoch mit der Verbesserung, daß hier die beiden Wellenstumpen nicht in einem starren Gehäuse gelagert sind. Beide Wellen und damit die Räder sind um den Mittelpunkt der Antriebsachse freischwiegend gelagert.

Erforderliches Material:

5 Stück Nr. 3	2 Stück Nr. 13/25 mm
0,6 m Stahlband	1 „ Nr. 13/50 mm
1 „ Nr. 4	1 „ Nr. 13/150 mm
je 8 Stück Nr. 1 und 2	6 „ Nr. 16/12 Z
2 „ Nr. 8/50 mm	4 „ Nr. 16/18 Z
2 „ Nr. 11/75 mm	2 „ Nr. 18



Nr. 120 Waschmangel

Erforderliches Material:

5,5 m Stahlband	Grundfläche 110 x 100 mm
je 60 Stück Nr. 1 und 2	Höhe der unteren Walze bis Mitte 125 mm
20 „ Nr. 2	Höhe der oberen Walze bis Mitte 145 mm
1 „ Nr. 15/50	Tischfläche 110 x 115 mm
2 „ Nr. 16/12 Z	Tischhöhe 140 mm
5 „ Nr. 13/25	Walzenbreite 84 mm
1 „ Nr. 13/50	Walzendurchmesser 22 mm
	Gesamte Gestellhöhe 220 mm

Das Interessante an der Waschmangel ist die verstellbar federnde Lagerung der oberen (auch unteren) Walze durch eine Elliptikblattfeder

Nr. 104 Kupplung

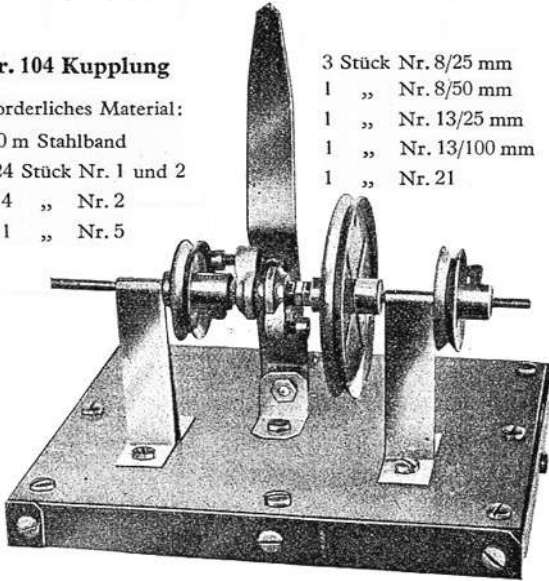
Erforderliches Material:

0,80 m Stahlband

je 24 Stück Nr. 1 und 2

4 „ Nr. 2

1 „ Nr. 5



3 Stück Nr. 8/25 mm

1 „ Nr. 8/50 mm

1 „ Nr. 13/25 mm

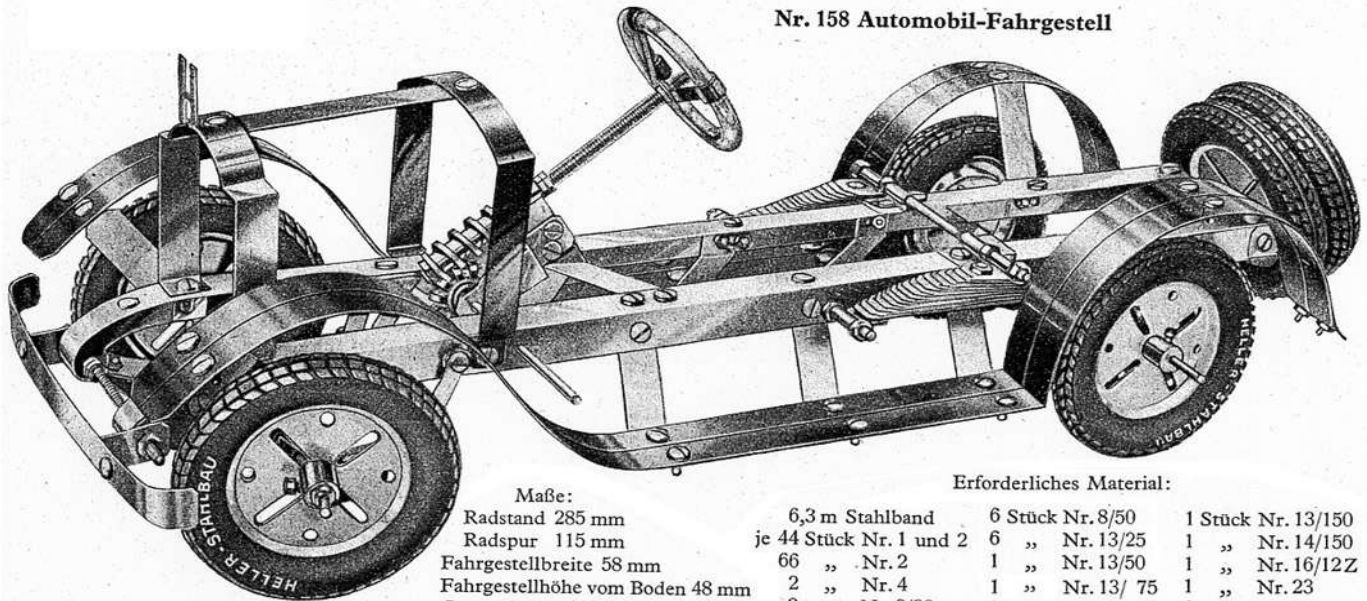
1 „ Nr. 13/100 mm

1 „ Nr. 21

Kupplung zwischen zwei lose auf der Welle sitzenden Scheiben, Zahnradern oder Kettenrädern. Die Kupplung selbst ist auf der Antriebswelle seitlich verschiebbar. Je nach Wunsch kann man die Mitnehmer des Kupplungsteiles verschieden gestalten. Die Art der Kupplung ist sehr vielseitig anwendbar.

Heller-Stahlbau

Nr. 158 Automobil-Fahrgestell



Maße:

Radstand 285 mm

Radspur 115 mm

Fahrgestellbreite 58 mm

Fahrgestellhöhe vom Boden 48 mm

Gesamtlänge 440 mm

Erforderliches Material:

6,3 m Stahlband	6 Stück Nr. 8/50	1 Stück Nr. 13/150
je 44 Stück Nr. 1 und 2	6 „ Nr. 13/25	1 „ Nr. 14/150
66 „ Nr. 2	1 „ Nr. 13/50	1 „ Nr. 16/12 Z
2 „ Nr. 4	1 „ Nr. 13/75	1 „ Nr. 23
2 „ Nr. 8/38	2 „ Nr. 13/100	6 „ Nr. 18

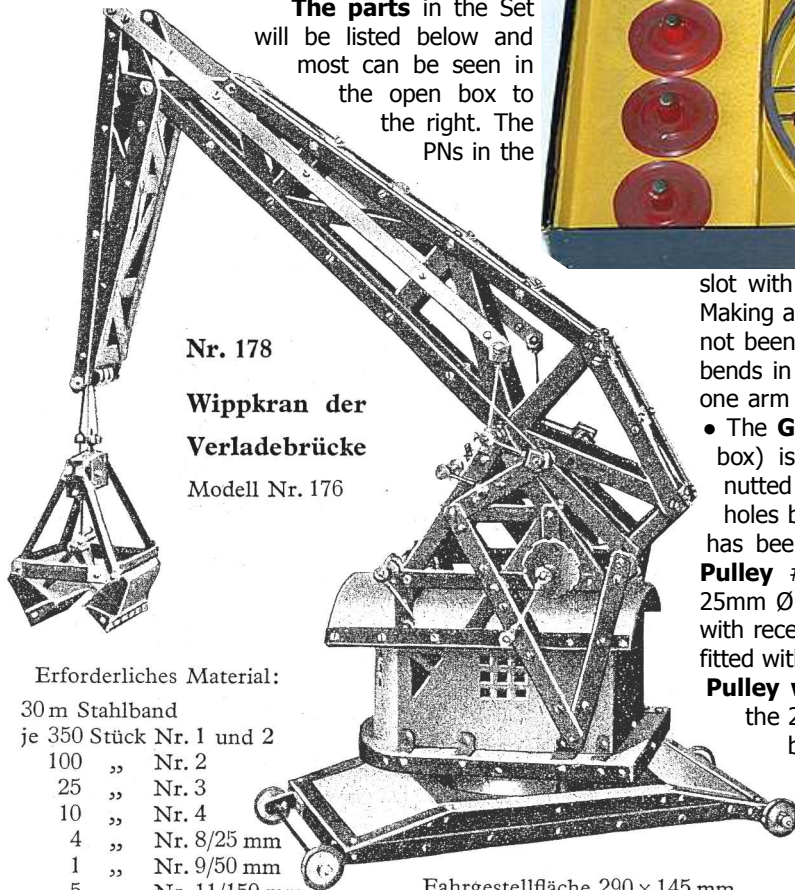
Auf dem Fahrgestell wird die entsprechende Karosserie aufgebaut. So kann man eine 2-Sitzer-Sport oder 6 sitzige Innen-Limousine auf das Fahrgestell aufsetzen. Die Auslegfederung läßt auf ein rassisges Sportfahrgestell schließen. Man kann auch statt hinten Auslegfedern Halbelliptikfederung wählen. Die Steuerung ist eine Schneckensteuerung. (Als Handrad kann man auch einen Schlüssel- oder Vorhangring nehmen.)

The **MECHANICUS SET** The box is 33½*20*3cm and the lid is shown below. It has the Heller bell logo on it but



otherwise the only mention of Heller anywhere is that the Strip & A/G are listed in the manual as Heller-Stahlband, -Winkelstäbe. Perhaps the set was produced after the company was 'VEB'd' but there is no firm evidence for this. Neither the set nor its manual give any indication of the maker but this is also true of the Nr.20 manual & the Mechanicus leaflet. The set appears unused & since it doesn't contain all the parts listed in the Manual there may be other, larger MECHANICUS sets. None have been seen on Ebay though and the present one is in fact the only I've ever noticed on Ebay.

The parts in the Set will be listed below and most can be seen in the open box to the right. The PNs in the



Nr. 178
Wippkran der
Verladebrücke
Modell Nr. 176

Erforderliches Material:

- 30 m Stahlband
- je 350 Stück Nr. 1 und 2
- 100 „ Nr. 2
- 25 „ Nr. 3
- 10 „ Nr. 4
- 4 „ Nr. 8/25 mm
- 1 „ Nr. 9/50 mm
- 5 „ Nr. 11/150 mm
- 2 „ Nr. 11/75 mm
- 8 „ Nr. 13/25 mm
- 5 „ Nr. 13/50 mm
- 2 „ Nr. 13/75 mm
- 2 „ Nr. 13/100 mm
- 2 „ Nr. 13/150 mm

- Fahrgestellfläche 290 × 145 mm
- Führerhausfläche 200 × 130 mm
- Führerhaushöhe 120 mm
- Untere Auslegearmlänge 440 mm
- Obere Auslegearmlänge 200 mm
- Auslegearmbreite 50 mm
- Schienenspur 130 mm

Diese neuere Konstruktion hat einen knickbaren Auslegerarm. Durch diesen wippbaren Ausleger wird beim Einholen der Last ein horizontaler Lastweg erreicht. Die Bewegung des Auslegerarmes ist mathematisch sehr interessant. Das Modell zeigt, wie naturgetreu und konstruktionsecht sich Bauten mit Heller-Stahlbau herstellen lassen. Hergestellt nach Orginalzeichnungen der Firma Zobel, Neubert & Co, Schmalkalden.

Manual will be used. • About 4m (but nominally 5m) of #1934, fairly soft **Steel Strip**. It is 12*.5mm in section, and is nicely nicked. It has appreciable curvature when uncoiled and though it is easy to straighten it roughly, it is difficult to get it perfectly flat by hand. • The **Tool** #1933 seems to be unchanged with MECHANICUS 1933 stamped on the outside of each handle & the Bell logo on the centre part. It had a small label strung to it with 'TRADE MARK | **Black Cross** | QUALITY GUARANTEED' on it. The punched hole is 3.1mm Ø. In the Manual it is said to be 3.2mm & that versions were also available to punch 2 & 4mm holes. The Tool is well made and in use it performed well although it's design did give rise to some problems. Curves were only possible as a series of shallow bends and finding the appropriate setting for the screw stop was a matter of experiment. Also there was no means of locking the stop or repeating a previous setting. And as the rod of the Gauge Stop has no length markings on it, spacing successive bends equally entailed using a ruler for each new setting. Slots were made by punching a series of intersecting holes but the 'nibbles' had to be very small if a Bolt was to pass along the slot. A slightly larger hole size would have been a great help. Usually it was necessary to tidy the edges of the

slot with a file & in any case this made a much neater job. Making a neat curved slot would be very difficult. The Rod has not been seen but unless it of soft metal I think that making bends in it would be difficult, and probably impossible unless one arm of the bend was long enough to give good leverage.

• The **Gauge Length Stop** (on the right of the Tool in the box) is new, and it's simply a 7*6mm angle, 6cm long, nipped to a 3mm Ø rod, with a bent over tip which spaces holes by fitting into the last one punched. This type of Stop has been seen in some of the STAHLBAU Ebay sets. • 4x **Pulley** #7, steel, 41mm Ø, 3.0mm bore, with the centre 25mm Ø of the discs belled. The 10mm Ø boss is also steel, with recessed peening, and is single-tapped M4 (not M3). It is fitted with a bright steel Grub Screw, 5½mm long. • 4x **Loose Pulley with Rubber Ring** #9. The Pulley is 21mm Ø, not the 25mm giving in the Manual, and its centre 10mm Ø is belled. The Ring is black, 29mm o.d. • 4 each of 50 & 100mm **Screw-ended Rods**. The basic rod is 2.6mm Ø, with 12mm of M3 thread at each end. • #1935 brass **N&B** in a clear plastic box. It was sealed and contained 43 Bolts & 54 Nuts against a nominal 50 & 60. The Bolt: 5.5mm Ø cheesehead & 6mm u/h. The Nut: hexagon, 6.0mm A/F & 2mm thick. • #1935 **Screwdriver**. It is made from bright 3mm wire and the handle is painted red. • #1928, clear plastic **Ruler** (at the top of the box) with graduations to 15cm on one edge & to 6" on the other.

The manual was described in OSN 18. The photos of how to use the Tool are different to those in the Nr.20 but the photos of the models are all identical, though they have different numbers.

CANADIAN STEEL INSTRUCTOR This is about new information that has come to light about this rare WW1-time system since the note in 14/391, mainly an article by Don Redmond & John Wapshott in Canadian MeccaNotes (#26, June 2002) about a model sheet that John had found, and some parts from Canada which are most likely CSI.

The Model Sheet is 18*25", printed on both sides. The front side has 25 models ranged around a centre panel with the Illustrated Parts & a Price List of Separate Parts in it. The Illustrated Parts is identical to the Phase 1 MODELIT in MCS except that a wire Screwdriver with a triangular handle replaces the wooden-handled one, & a single-ended Spanner the MODELIT double-ended type. The CSI versions of these parts are as in the CASTLE BUILDER Illustrated Parts in MCS. The names of the parts & PNs are also identical to MODELIT but the CSI list does not include the Instruction Books #65 & 66.

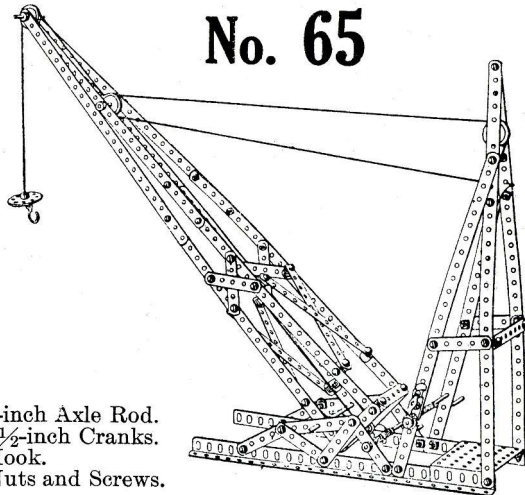
The models are numbered 1-25 but are not arranged in any particular order and they go from FIRE TRUCK No.25 in the top left corner to PAPER TRUCK No.3 at bottom right. There is a small photo for each, plus a list of the parts required. The outfit needed for these models isn't mentioned but it is no doubt Set 1 because Set 2 & 3 models are shown on the Sheet's reverse side. It is said in MeccaNotes that comparing the models with those in other systems at about the same time, 7 show a reasonable resemblance to MECCACO, 8 to AMERICAN MODEL BUILDER, and 5 to STRUCTOMODE.

The reverse side shows extra models which can be made with Sets 2 & 3: 12 for Set 2, Nos. 32, 33, 37-40, & 42-27, ending with No.37; and 12 more for Set 3, Nos. 60-71, ending with No.70. As before there is one illustration and a parts list for each model but all the No.3's are line drawings rather than photos. And again many of the models have a familiar look to them. One is shown below, at the original size, and is a straight copy of an AMB No.3 model. Hence, as in a number of the other models, a Flanged Plate is shown instead of the Perforated Plate with A/Gs which would actually be used.

PLATFORM DERRICK

No. 65

- | | |
|------------------------------|----------------------|
| 1 Small Plate. | |
| 1 Bush Wheel. | |
| 3 1-inch Pulleys. | |
| 1 1/2-inch Pinion. | |
| 1 Pawl. | |
| 7 Collars. | |
| 2 12 1/2-inch Angle Girders. | |
| 2 2 1/2-inch Angle Girders. | |
| 14 Angle Brackets. | |
| 12 12 1/2-inch Strips. | |
| 6 5 1/2-inch Strips. | 1 5-inch Axle Rod. |
| 3 3 1/2-inch Strips. | 2 5 1/2-inch Cranks. |
| 18 2 1/2-inch Strips. | 1 Hook. |
| 3 2-inch Axle Rods. | 60 Nuts and Screws. |

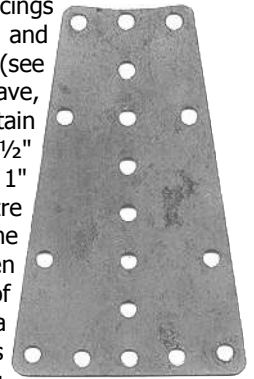


Based on the parts needed for the models the MeccaNotes article, and an earlier one (#7, Sept. 1997), give possible inventories for Sets 1-3. Broadly they look very similar to MODELIT, the most obvious difference being that the CSI No.3 does not contain a Pawl & 1/2" Pinion, but does have the 4 Flange Wheels which are not in MODELIT until the No.4. The question remains as to whether there were CSI sets larger than the No.3. Some 30 parts of the CSI range are not in the No.3 but since prices are given for them on the Sheet, presumably they were available. None have been found so far though, but CSI parts are not common and, as far as I know, no CSI Flange Wheels are known either.

The Parts They are those from a mixed lot which remained after taking out some AMB parts (including Flanged Plates), and some mystery tin plated, now dark grey, parts of a

quite different character. Of the remainder, the Strips & Brackets are judged to be CSI and not MODELIT because all are well over 1/2" wide, and it is assumed that the Plates are CSI because they were with the wide Strips. **The types of part** are: 5,7,11,25h Strips; 5,8,11h A/Gs; 5*7h, 5*11h Perforated Plates; Flat Segment Plate; 1" Pulley; Collar; A/B; Single & Double Bent Strips; Axle & Crank Handle; N&B. The quantities indicate more than one set, or a No.2 with extras perhaps. As explained in the notes on the parts below, there are two types of a few of the parts and some could be AMB.

- The width of the **Strips & Brackets**, 14.2mm, is as in OSN 14 and their thickness, .9-.95mm, is similar. • **Holes** too are similar, generally 4.3mm but 4.2mm in the Perforated Plates. • At .7mm the **Plates** are slightly thinner. The **Sector Plate** right (1/2 full-size) is as in the tracings that John sent of his OSN 14 parts, and exactly matches the MODELIT part (see 8/186). The 5h end is flat, the 3h concave, the end holes are on arcs that maintain the corner holes on each side at 3 1/2" pitch, and the centre edge holes are at 1" pitch from the corner holes. The 4 centre side holes are not shown in the Illustrated Parts but can be clearly seen in a photo elsewhere on the Sheet of how to bolt 8h A/Gs on to make a flanged sector plate. • The A/Gs correspond to those in John's drawing except that the bend point varies a little for the different lengths, giving arms typically 15 1/2 & 14 1/2mm. The slotted holes are 8 1/2mm long, as in the A/B. • The **Single Bent Strip** is 11.3mm wide o/a.



Now for the parts which might be AMB or CSI. • Two types of **1" Pulley** were found, both nicked including their 10.0mm Ø brass bosses, single-tapped 6-32. The differences between them are: rim width, 3 1/4/4mm; bore, 4.2/4.1mm;

boss depth, 6 1/2/5 1/2mm; peening section, semi-circular/rectangular with a raised inner ring; 4 1/2mm u/h nicked steel Set Screws with 1 1/2mm deep tapered cheeseheads 4.3/4.1 Ø. Neither type can be positively said to be CSI, but the one with the rectangular peening is perhaps more likely to be. This unusual peening matches the unplated boss of the MODELIT 1" Pulleys to hand, and although it also matches the nicked boss of a reputed AMB 1" Pulley, the latter has a 'belled' rather than a 'V' rim. And the 1" Pulleys in a largely complete AMB set have belled rims and semi-circular peening. • There were also two types of **Collar**, both brass, single-tapped 6-32, with a 4.1mm bore. The differences between them are: 10.0/9.5mm Ø; 6/4.7mm wide. It is more likely that the first type is CSI because its diameter is the same as the 1" Pulley bosses and

the second is identical to those in the AMB Set. • The only **Axle** in the parts is 4 1/2" long, 3.99mm Ø, and has square ends. • The **Crank Handle**, 3.98mm Ø and 5 1/2" o/a, has a small cross hole 1 1/2" from the inner bend, and matches the part in the AMB Set. John's part is the same shape but doesn't have the cross hole. • **N&B**. There were 2 types of both the Nut & the Bolt, with a dozen or two of each pattern. The **Nuts** are square pressed; plain steel/plain brass; 8.0/6.6 A/F; 3/2.2mm thick. The **Bolts** are plain steel, about 8mm u/h, with 7.5mm Ø round/6.5mm Ø fillister heads. All are threaded 8-32, though 5/32" BSW parts screw onto/into most of them. The N&B in the AMB Set are brass steel but otherwise the Nuts matches the smaller one in the Lot, and the Bolts have a similar round head but are only 6 1/2mm u/h.

Snippet: FERROX Various Ebay photos of this small, post-WW2 German System have been seen since the brief note about it in 15/413, and recently I found some excellent photos of what is probably an early set on Joachim Kleindienst's web site (www.baukastensammler.de - it has photos of many sets & some literature, click on Metallbaukasten and then on Baukasten or Werbung/Kataloge).

Three FERROX periods can be identified which I'll call Phases 1-3. The changes between them are to the packaging, to the parts, & to the sets. No positive dates are known but the order of the Phases is fairly self-evident.

PHASE 1 is represented only by Joachim's No.2 outfit, and Figs 1a-d are reproduced by his kind permission. The box is 31*22*4cm and the name along the bottom of the lid is the maker, Reinhart Drösler of Bamberg (50km north of Nürnberg). The Bergmann-Spielzeug along the top has not been seen on any other outfit.

The parts All those listed in OSN 15 can be seen in the Set but note that the 36 & 60mm Discs have a shallow flange (the 60mm was wrongly noted as 69mm in OSN 15), and that the 17mm is a Loose Pulley. There is also a larger Loose Pulley which scales at 24mm Ø. As mentioned in OSN 15 the ends of the Strips etc are chamfered (like VOGUE), and there is an extra hole in the Flanged Discs, though possibly it is slightly

smaller than the others. The 6*7h Flanged Plate sits on top of the 6*9h Perforated Plate. Other parts include 1*12*1h DAS; the L-shaped Spandriver; 3 lengths of Screwed Rods (they scale at 72/36/18mm but 80 & 40mm are listed for the OSN 15 model); and 2 hexagonal Threaded Rod Connectors (above the 17mm Pulleys in Fig 1c). The parts are stated to be nickel plated but by the look of them the Pulleys might be aluminium. The N&B are in the small box right and look to be brass plated cheese-headed Bolts and MÄRKLIN-sized hexagonal Nuts.



Fig 1d

There was no **manual** with the Set, instead a voucher of entitlement to one. Another pointer perhaps to the set being an early one.

PHASE 2 Below a typical No.2 set. It has the same content as the Phase 1 outfit except that it lacks a Spandriver. The box is square and the label now has the name suspended from a



Fig 1a



Fig 1b



Fig 1c



Fig 2

Crane. The three similar sets seen (all No.2's) have the same packaging except that some of the boxes have a pink label. Two other sets though have partitioned boxes. One is square with the label as above, the other has a rectangular box and a similar label but with the name in red. This last set may be the earliest of those seen in Phase 2 because it retains the 60mm Flanged Disc of Phase 1, as opposed to the modified type (see below) in the other sets.

The parts seem to be as in Phase 1 with the following exceptions. The larger Flanged Disc no longer has the 4 holes near the rim and is probably slightly smaller, 50-55mm Ø perhaps. The Screwed Rods may differ slightly in length. The Spandriver in the sets not shown here is as in Phase 1 in some cases but in others it has no cutouts, and is thus just a Screwdriver. An example can be seen in Fig 3, a Phase 3 set. None of the Phase 2 sets have the separate Spanner included in the Phase 3 outfits.

Manuals In design the covers of the manuals with the different sets are like the pink one in Fig 2 but are variously fawn or pale green in colour. And not all have the words under 'Metallbaukasten': 'Vorlagenbuch für Kasten Nr.1 und 2' (Manual for Sets No.1 & 2.).

PHASE 3 Boxes are now red (or possibly brown in some cases) with only one layer of parts and just the round logo label on the lid, as in Fig 3a. That lid is from the box in Fig 3b and very broadly the contents look comparable to those of the earlier No.2, plus some extra parts. An almost identical Ebay outfit is called Nr.103, and a simpler set in the same style, a Nr.101. A set of similar size to said 101 but, from the Plates in

it, probably a little earlier, is shown on p219 of Baukästen.

The parts. The new ones are the 1*9*1h DAS, the green Road Wheel of about 35mm Ø, the 5*11h Flanged Plate, the 7*9h Flanged Plate, and the 3*5h Perforated Plate from

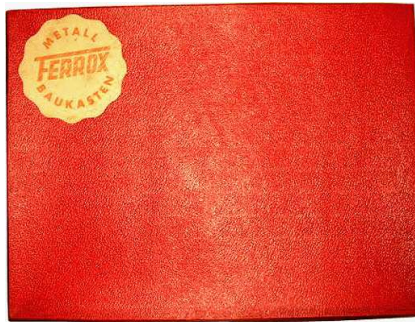


Fig 3b

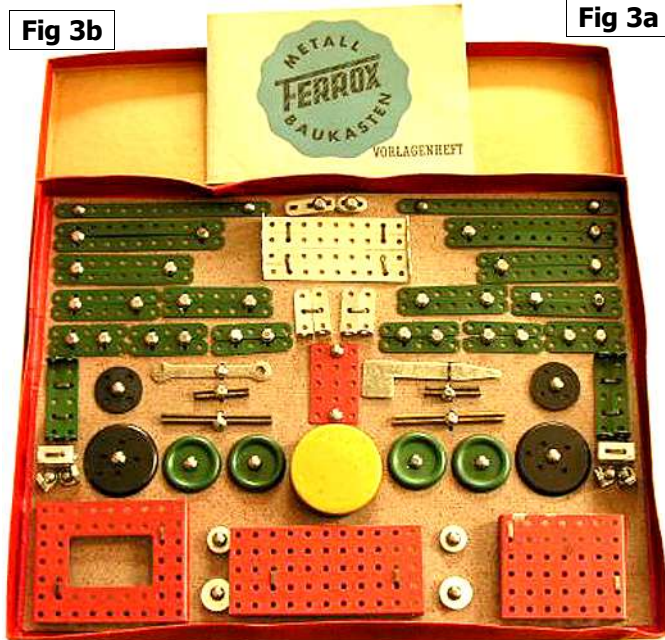


Fig 3a

its centre. Also the Spanner & Screwdriver mentioned earlier.

There are changes to a few parts. The 'extra' hole in the larger Flanged Disc is much nearer the rim (the part scales at 55mm Ø). The 3h Strip, top centre, may have slotted holes. The Screwed Rods scale at 74 & 37mm.

The parts no longer in the Set are the 1*3*1h & 1*12*1h DAS, and the 6*9h Perforated Plate. They could be in a larger set of course, if there was one.

Other sets. The 103 is exactly as the Fig 3 set except that its Screwdriver is a MECCANO wire type.

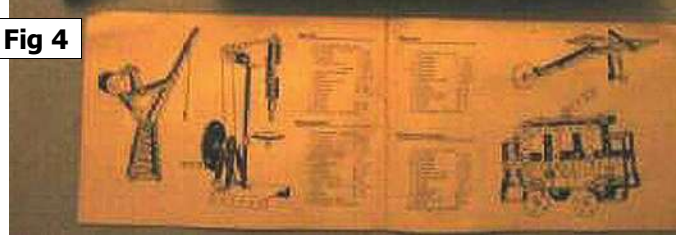
The 101 is similar to the set in Fig.4 except that it has a red

3*5h Plate in the centre between the pairs of Small Flanged Discs, a normal red 6*7h Flanged Plate below the right pair instead of the 2 Flanged Plates with slotted holes, a Large Flanged Disc below the 3*5h Plate, and a wire Screwdriver. The Baukästen set is identical except that it has the L-shaped Screwdriver. In both the space under the left pair of Small Flanged Discs is empty but perhaps held a small box for the N&B etc.

The unusual Plates in the outfit below have not been seen in any other FERROX set, so could be 'foreigners', but I don't recall seeing them in any other system. They are flanged on their 7h sides, and look to be the equivalent of about 6 holes wide. The black circular box bottom left is presumably for the small parts. The only other point of interest is the wooden-handled Screwdriver.



Fig 4



Manuals 3 of the Phase 3 sets seen have a manual cover shown with them, all like the one in Fig 3b, but no further details are available. There were though certainly several editions of the manual during the life of FERROX - a page from a Phase 2 manual has the Monoplane in Fig 4 together with a Lorry with Ladder, and a page from another manual has said Lorry plus a small Loco.

FERROX: S2

OSN 36/1090

Snippet: 'New' System: KA-KA-HA The lid label, below, of this rather oddly named set, presumably German, shows a number of interesting looking models, but little detail can be seen. I think the model in the foreground is a Lorry and the one beyond the Boat, a Mobile Crane. The parts in the box

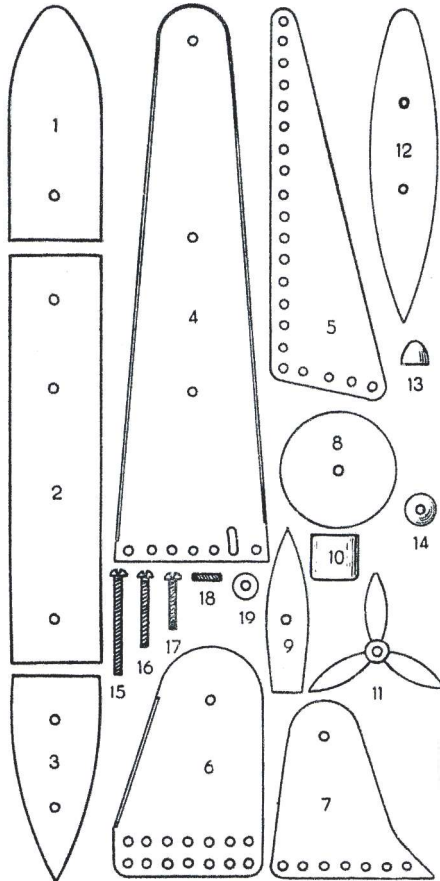
below don't help much with some that might well be TRIX, and others that could be 'foreigners'. That leaves as possible the numerous rubber-tyred Wheels, and the pair of bright Flanged Disc Pulleys which appear not to have bosses.



KA-KA-HA: S1

OSN 36/1090

A FALTERBOT Manual Following the notes on this Italian outfit in 34/1013, Chris Freeman kindly lent me the manual from his set. It is entirely in Italian and has 64 pages, 246*167mm, plus covers. The front is as in OSN 35 except that the background colour is off white, and all the models in OSN 35 have a colour cast too. The other covers are blank except for the printer on C4: INDUSTRIA GRAFICA "ALMIRO" s.r.l. - VIA VILLAR 31 - TELEFONO 290. 855 - TORINO. p1 has a short introduction, followed by photos of Sets 0-4 on pp2-3. Box sizes are 285*190, 310*285, 355*255, 380*280, & 465*315mm. Sets 3 & 4 are packed in wooden boxes and No.4

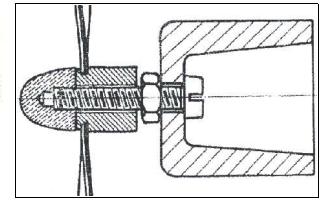


Costruzioni
F. A. L. T.

is shown with a layer of parts in the lid. The lid labels are as the No.0 in OSN 35. pp4-5 have the illustrated parts & set contents for Set 0-5 as in MCS, and p6 has the wooden & other special parts in the No.5, as above. Their quantities and (my) names are: 1 each of #1-3, Front, Centre, Rear Fuselage; 2x #4, Wing; 4x #5, Winglet; 2x #6, Horizontal Tail; 1# #7, Fin; 2x #8, Disc; 4 each #9-11, Nacelle; Cowling, Propeller; 2x #12, Small Fuselage/ Large Nacelle; 4x #13, Propeller Spinner; 1x #14, Lead Ball; 4 each #15-17, 55, 45, 30mm Bolts; 4x #18, Vite Prigioniera =? Screwed Rod. 8x #19, Washer. From the models it seems that the flat parts are metal and there is a shallow flange on the leading edge of the Tail and all around the Wing apart from the root.

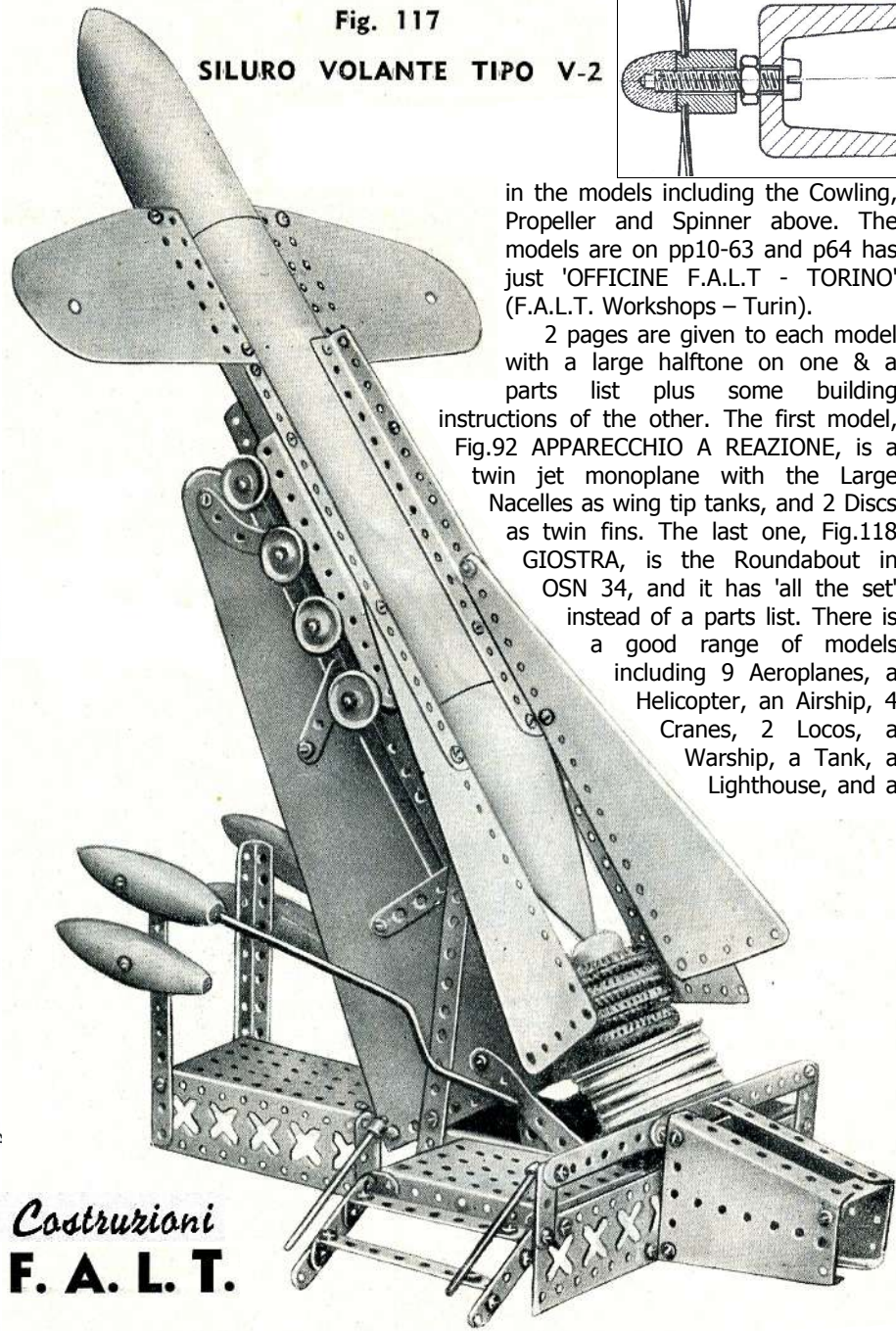
p7 has another brief introduction and p8 has a list of the 27 models in the manual. p9 has 5 assemblies used

Fig. 117
SILURO VOLANTE TIPO V-2



in the models including the Cowling, Propeller and Spinner above. The models are on pp10-63 and p64 has just 'OFFICINE F.A.L.T - TORINO' (F.A.L.T. Workshops - Turin).

2 pages are given to each model with a large half-tone on one & a parts list plus some building instructions of the other. The first model, Fig.92 APPARECCHIO A REAZIONE, is a twin jet monoplane with the Large Nacelles as wing tip tanks, and 2 Discs as twin fins. The last one, Fig.118 GIOSTRA, is the Roundabout in OSN 34, and it has 'all the set' instead of a parts list. There is a good range of models including 9 Aeroplanes, a Helicopter, an Airship, 4 Cranes, 2 Locos, a Warship, a Tank, a Lighthouse, and a



Pile Driver. Also the Rocket Launcher above (full-size). The models vary in realism, witness the 2 Aircraft below. They & the Crane are 40% f-s. In some of the models the standard & special parts work well together, in others, to my eyes at least, less so.

Fig. 113
CRU A CAVALLETTO PER TRAFFICO PORTUALE

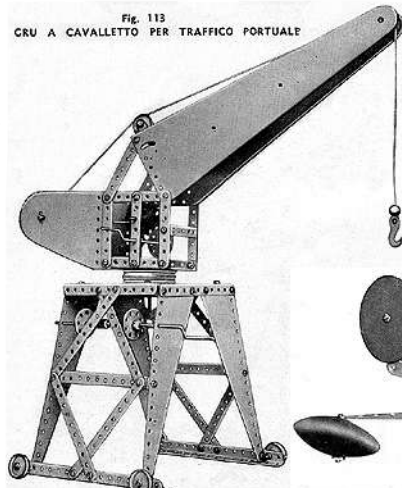


Fig. 96
QUADRIMOTORE TIPO BREDA Z. 308

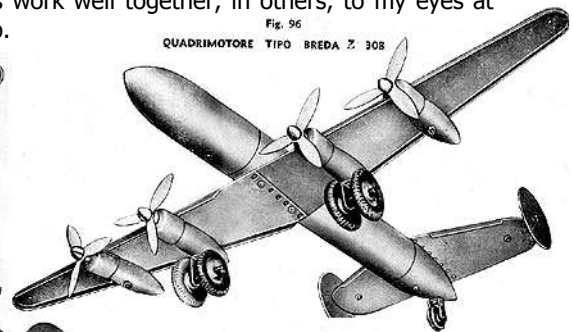


Fig. 95
CACCIA A REAZIONE TIPO «VAMPIRE»





'New' System: STRUCTEERO David Hobson obtained 3 unused No.0 sets of this small system recently and these notes are based on one of them that David kindly passed on to me. There is no mention of the country of origin anywhere, nor a maker, nor a date, but the sets were offered on the UK Ebay and from their very poor quality, they were most likely produced soon after WW2 in someone's backyard shed.

The **box** is plain cardboard and measures 20*15½*2½cm. The label, above, is 154*103mm.

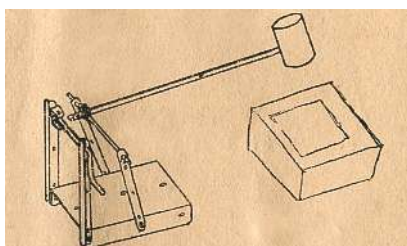
The **parts**, below, are all attached to the backing card,



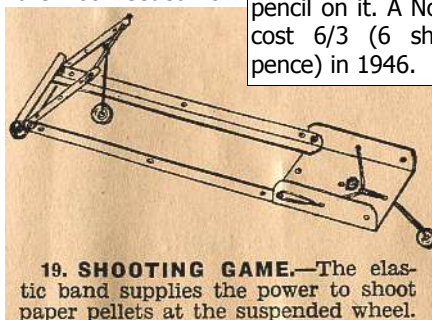
mostly by black cotton. The 6 Bolts were in the transparent packet, but one is shown in the bottom right corner (the Nuts were missing from this Set). **Holes** are generally 3.0mm Ø but 3.2mm in the Plate. Their **pitch** varies depending on the part, but for most 'pairs of holes' it is about ¾". The **thread** is 6BA. The **paint finish** is reasonable on the Plate but the red paint looks to have been splodged on with a brush in in a very dusty atmosphere. Some details of the parts follow.

The **A/Gs** are about ¼*¼" in section and are 3 & 6" long.

3 of the 4 have no holes in one flange but one of the 3" has two, one at the end & one 2" along - they are not needed for



22. MECHANICAL HAMMER.—For Set No. 0 the handle is supported by the flats and the hammer arm by the short angles. Two small angles are bolted to the handle and the whole arranged so that these angles hit the end of the hammer arm when the handle is turned. The hammer head may consist of a thread bobbin.

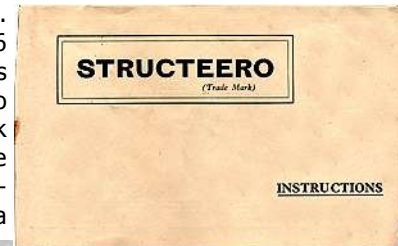


19. SHOOTING GAME.—The elastic band supplies the power to shoot paper pellets at the suspended wheel.

any of the manual models. The end holes in the 3" are at 5/16" pitch. The **Strip** is 2½" long & ¼" wide. The **Brackets** are also ¼" wide, but are made of tinplate. The **A/B** is about ¾*¾"; the **D/B** is 5/8" wide & 1" high, with just the base hole and one at the end of each arm. The **Flanged Plate** is 3" long & 2¼" wide, with ½" flanges. The holes are at 1¼" pitch. The **Disc** is ¾" Ø and made of aluminium, 1½mm thick. The **Pulley** (between the A/Bs) is wooden, ½" Ø, ¾" wide, with a narrow, square section groove. The **Axles** are 1" & 3" long, and 2.35mm Ø (13swg). The **Crank Handle** is 2.50mm Ø (12swg), 3¾" long o/a, & the last 9/16" of the shank is tapped 6BA. The **N&B** are commercial items, steel with a dull light grey finish. The **Bolt** has a 4.8mm Ø CH and is ¾" u/h. The **Nut** (one of David's) is hexagonal, 4.9mm A/F & 2.4mm thick. The **Screwdriver** is made from 2.50mm Ø wire and is 108mm long o/a. The **Cord** (below the bottom 1" Axle) is brown.

The **manual** has 8 pages including covers, 202*129mm. The front is shown right.

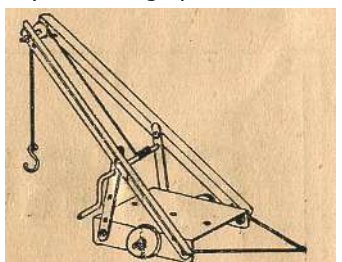
There is no Intro & pp 2-6 show 31 simple models from 1. BLACK-BOARD to 34. LETTER FILE. The back covers (pp7 & 8) are blank. There is a line drawing for each model and a



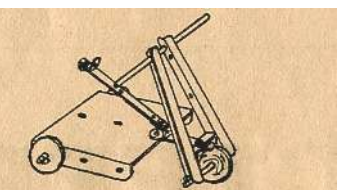
few words of explanation for most. Several of the models are similar to others but overall there is quite a good range including Scales, Railway Signals, Tables, a Chair, an Axe, a Puppet, & those shown full-size along the bottom of the page. Set 0 is referred to in the notes for some of the models but no other sets are mentioned, and all the models could be made with the parts in the Set (except that no Hook was included). How well some would work is open to question and, for instance, no mention is made of lock-nutting - if a part needs to turn its N&B is to be left loose. And it's not clear

how wheels are stopped from coming off Axles. A number of the models could be improved and made stronger with the parts in the Set if there had been a few more N&B. Improvements would be limited though by the strange pattern of holes in the parts. David made a larger model with his two sets and described STRUCTEERO as a strong contender for being the world's worst constructional toy.

PS The Set is British - I notice now that one lid apron has the prices '3/11 2/6' in pencil on it. A No.0 Meccano cost 6/3 (6 shillings & 3 pence) in 1946.



3. BREAK-DOWN TRAILER.



2. TRICYCLE.—Do not tighten the bolt at the fork to allow for steering. If thread is bound from one side of the handlebars to the other a stronger model will result.

JUGA The name of this French system was mentioned in 16/445, and now Jacques Pitrat has sent photos and details of his set. There was no manual with it but Jacques included scans of some pages from one which Jeannot Buteux lent him. Thank you to both Jacques & Jeannot.

The name of the system was registered in 1947 and the set is believed to have appeared at about that time, soon after WW2. The words at the top of the lid right translate as 'It's for all of us to help to rebuild a better world', and there is a reference in the manual to the use of a digger & a bulldozer to clear rubble in cities destroyed by the war. There is nothing on the box or in the manual to indicate that there was more than one size of set.

The Set The box is 43*28*3cm and Jacques explained that the words at the bottom of the lid, 'LES COMPAGNONS DU TOUR DE FRANCE', evoke the image of highly qualified & conscientious craftsmen ('les compagnons du tour de France' originated in the Middle Ages when guild apprentices had to travel extensively to learn their trade before being accepted as a compagnon).

Below, the top 'halves' of the two layers of parts in the Set - the bottom halves are a mirror image save there is no Span'driver. The parts were loose in the box but have been replaced on the original backing cards with the original clips. They are though almost certainly not as originally arranged and in some cases there is more than one of the same part in a stack. The N&B and some small parts are in the white card box, and examples, all to the same scale, are shown in the composite photo far right.

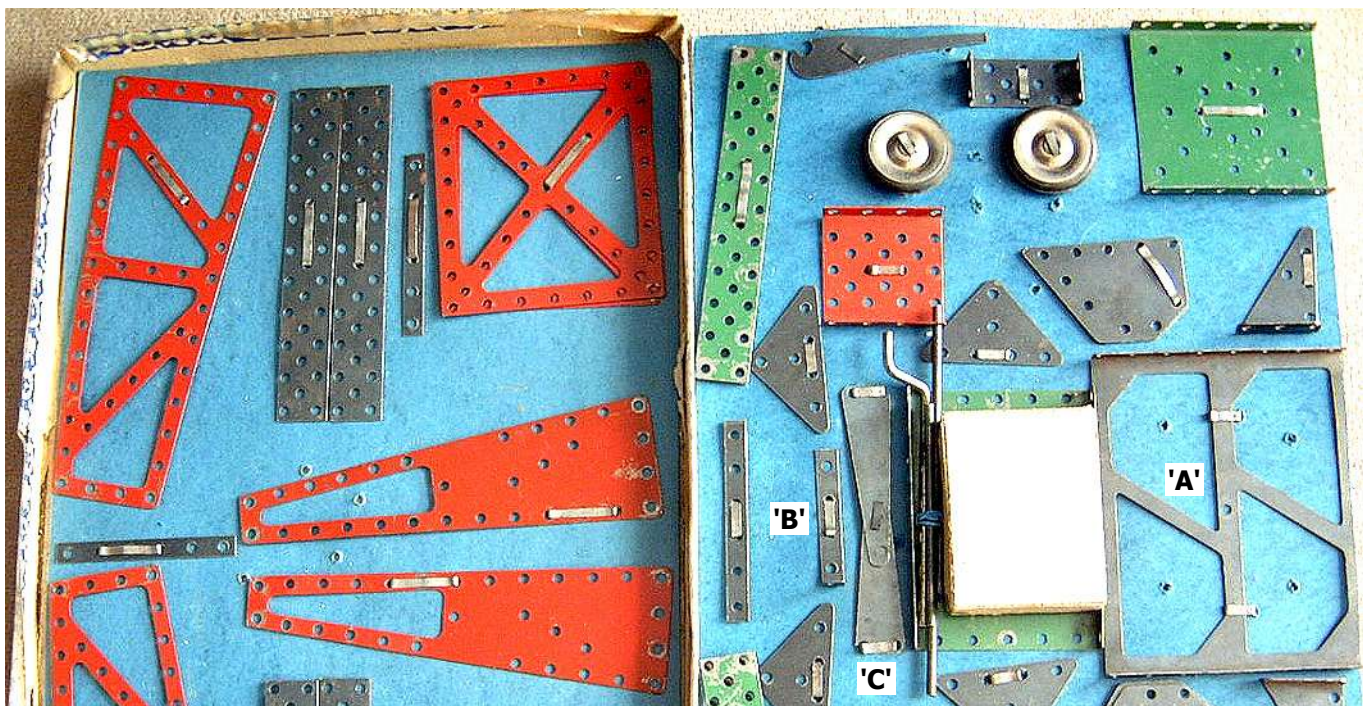
The Parts All the metal parts shown except some Nuts and a Collar are steel. Those that look grey in the photos are actually black. Holes are 4mm Ø at 14mm pitch, and that would make the jib about 40cm long. A list of the parts follows, with my names, and a few notes about them.

- 2 each red **Inner & Outer Jib Frames**, 19 & 17cm long.
- 4 red, 10.5cm **Square Frames**.
- **Flanged Plates**. • 1 black **13*10.5cm**, 'A', with 8 holes in each flange. • 2 green **7.5*7.5cm** with 6h flanges. • 1 green **10.5*7.5cm** with 8h flanges. It is under the white box and its holes are those of the 7.5cm² Plate in the centre, plus a 5 hole row along each 7.5cm edge. • 2 red **5*5cm** with 4h flanges.
- 2 black **4.7*2.2cm** with 2h flanges.



- 4 green & 4 black 11h long **Strips**, 15*2.2cm, with TRIX-pattern holes.
- 5 black 6h long **Narrow Strips**, 8*.9cm, and 1 black 1*4*1h **DAS**, 'B', 5.5*.9cm, with one lug broken off.
- 4 black, pentagonal **Bucket Sideplates**.
- Black **Triangular Plates**. • 2x **7.5*2cm**, 'C', (for the end of the jib). • 2x **6*3cm**. • 2x **6*3.5cm**. • 2x **Flanged** (with 3 holes in the flange).
- 4 **Wheels**, 38mm o.d. (rubber Tyres on 32mm Ø 'Pulleys'.)
- **Axes**: 1x 16cm; 1x 9cm; 4x 7cm; 1x 3.5cm.
- 1 **Crank Handle**, 13cm shank and 15.5cm long o/a.
- 1x 3.5cm **Screwed Rod**.
- 2 wooden **Pulleys**, 8.5mm o.d., and 3x similar **Knobs**, use unknown.

- 1 aluminium **Collar**.
- 11 **Spring Clips**.
- 4mm Ø **N&B**. 52 steel RH **Bolts** from 5 to 16mm u/h. 9 steel & 42 brass hexagonal **Nuts**.
- 1 black **Span'driver**, 8.5cm long.
- 1 wooden **Winding Drum** not shown in the photos but it can be seen in the models on the next page. It is a cylinder 40mm long & 23mm Ø which is a push fit on the Crank Handle, and has a small



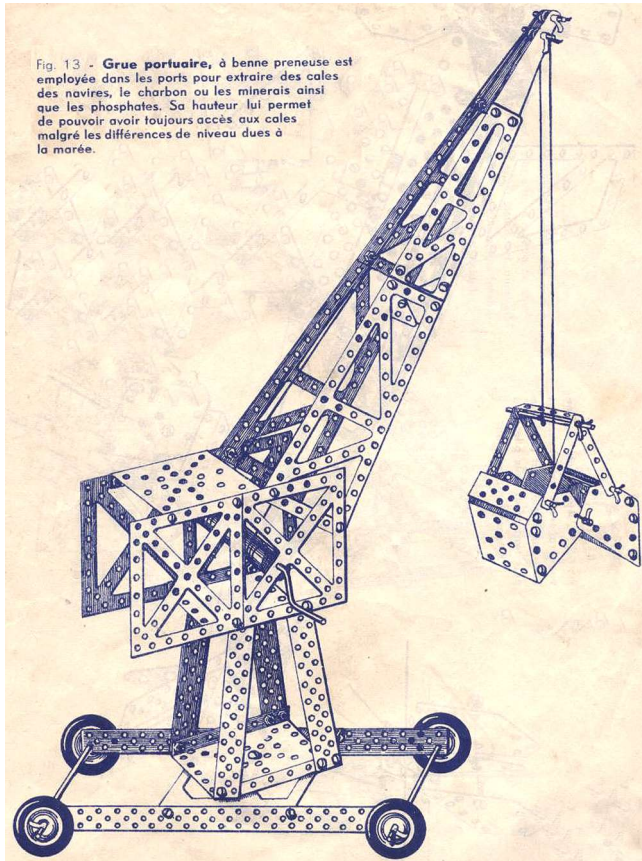


Fig. 13 - Grue portuaire, à benne preneuse est employée dans les ports pour extraire des cales des navires, le charbon ou les minerais ainsi que les phosphates. Sa hauteur lui permet de pouvoir avoir toujours accès aux cales malgré les différences de niveau dues à la marée.

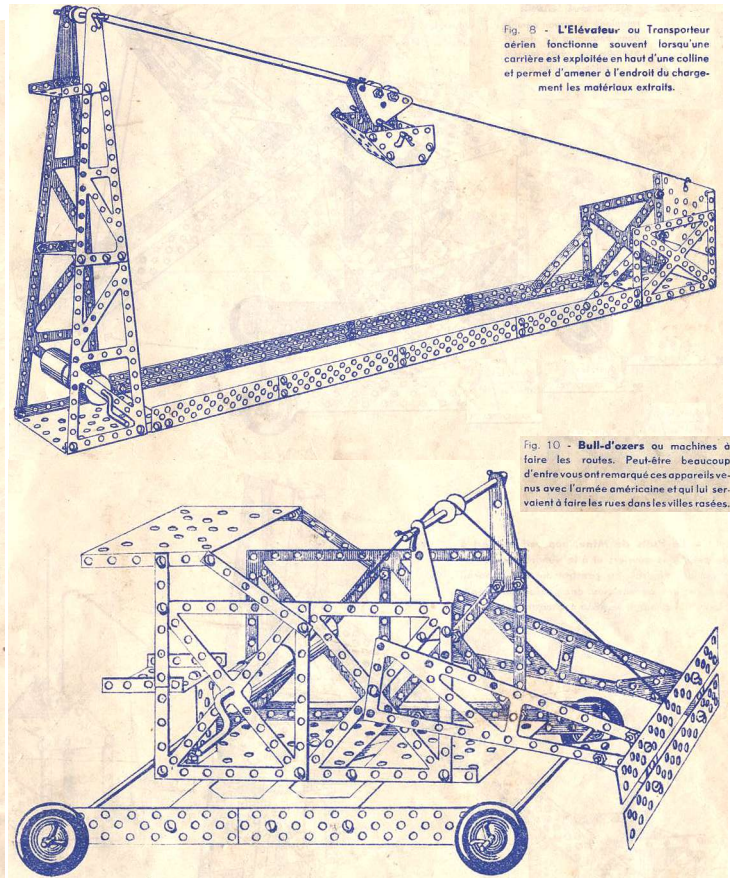


Fig. 8 - L'Élévateur ou Transporteur aérien fonctionne souvent lorsqu'une carrière est exploitée en haut d'une colline et permet d'amener à l'endroit du chargement les matériaux extraits.

Fig. 10 - Bull-d'ozers ou machines à faire les routes. Peut-être beaucoup d'entre vous ont remarqué ces appareils vus avec l'armée américaine et qui lui servaient à faire les rues dans les villes rasées.

hole through it for the Cord to be tied on.

The Manual It is 218*154mm deep and has 16 pages including the covers. The front is generally similar to the lid but with a yellow/fawn background. Also the 'better world' words are omitted, and the JUGA logo is at the top with Le Monteur (The Builder) above it, and 'Les Compagnons ...' underneath. There is no description of the parts inside, nor the set contents, and there are no building instructions or lists of the parts required for the models. It can be seen though from the 3 models shown above (25-35% of the original area, and the position of the text changed) that building them should be fairly straightforward. Apart from one 16cm Axle the main parts found in the Set would be sufficient to make any of the manual models but 2 extra Inner Jib Frames would be needed

for the tower of the model featured on the box lid & manual cover. Two of the actual parts differ from the way they are shown in the manual: the Outer Jib Frame does not have the 2 triangular cutouts at its narrow end, and the top of the 5*5cm Flanged Plate has 18 instead of 10 holes.

Postscript from Jeannot Buteux/Constructorama via Jacques. JUGA was made at the end of 1947 by Jules Gauvry of Saint-Romain le Puy, a small town near Saint-Etienne, and the name of the system comes from the first letters of its creator's name. Jacques added that he was living in Saint-Etienne at that time and though very interested in metal construction systems, doesn't remember ever seeing a JUGA set in a toy shop.

JUGA: S2

OSN 36/1094

Snippet: German MERKUR A box label from this system was shown in 27/794 and since then 3 sets have been seen on Ebay. All are in red boxes with the blue OSN 27 label, and all have the same pattern of partitioning. One of the boxes is shown right with its manual. As can be seen the Strips, Brackets, etc are black, the Flanged Plates yellow, and the circular parts red. The second set has the same colour scheme though the red parts look to be a distinctly lighter shade. They are also lighter in the third set and the Flanged Plates are blue. The Strips etc in this set look silver but that may well be a trick of the light.

Among the parts that can be seen in the three sets are 5,7,11,25h Strips; 3h Strip but with no centre hole; 2h Strip with concave sides that looks like a cycle chain part; Curved Slotted Strip about 4h long; 25h A/G; 1*7*1h DAS with the outer holes on the top slotted; 5*11h



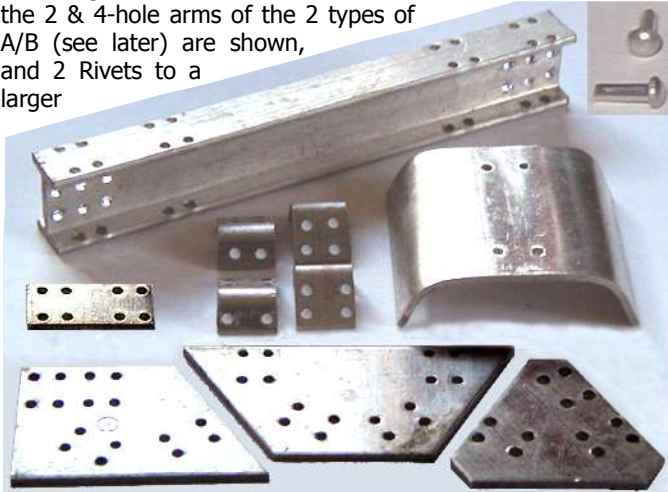
Flanged Plate with again the outer top holes slotted; A/B; Double Bent Strip; D/B; 2h deep D/B. The red parts have tapped bosses and the Axles look silver.

MERKUR [2]: S1

OSN 36/1094

INSTRUCT-O-SCALE This small American system is said to have appeared soon after WW2, and was made by The Fox Toy Company, Buffalo, New York. It claimed to make structures at a scale of 1/4" to the foot. These notes are based on an unused example of the only outfit known, No.101, though another, No.107, was promised on the back cover of the manual. Models are simple frameworks made from 3 1/2" long, 'I' section Beams, Gusset Plates, & A/Bs. The parts are aluminium and are joined using 1/16" Ø aluminium Rivets, clenched by the pliers-type Tool provided.

The parts in the system, 9 in all, are shown below - both the 2 & 4-hole arms of the 2 types of A/B (see later) are shown, and 2 Rivets to a larger



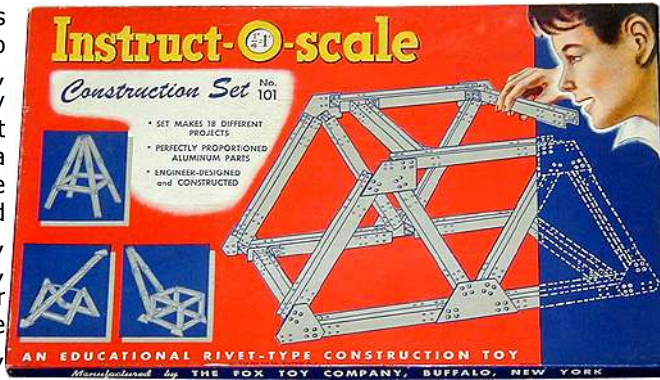
scale in the top right corner. Next notes on the parts, with quantities in curly brackets. • **Holes** are about 1.6mm Ø, just large enough to take the Rivets. • The **Beam** {18}, 5/16" x 1/2" in section, is a substantial extrusion. The holes in the web are at 5/32" pitch in both directions; each group of 4 in the flanges are at 5/32" lengthways but 7/32" across. Like the other parts, the Beam looks well made but some flange edges are a little distorted by the holes being punched so near them. • The groups of holes in the **Gussets** {6 Triangular, 4 Single-Angle, & 2 Double-Angle} and **Splice Plate** (Flat Bracket) {8} match those in the Beam's flanges. • The **'Narrow' & 'Wide' A/Bs** {8, 20} have the same overall dimensions, 7/32" x 13/32" by 1 1/32" wide, and both have 4 holes in one arm and 2 in the other. But the holes in the Narrow are 5/32" pitch across (to match those in the Beam web), while in the Wide they are 7/32" to match all the other holes. • The **Rivet** {320, enough to make 2 or 3 models} is 1.47mm (.058") Ø, & 3/16" under the 2.7mm Ø RH. • The **Tool**, steel of course, is 4 3/4" long o/a and can be seen in the box right. The left pair of



jaws above clench Rivets & each has a suitable hemispherical recess in it. The other pair remove Rivets - the lower jaw has a deep vertical cut inwards from the outer face to give an opening for the pin to pass into.

The Set The box is 10*16 3/4"

OSN 36/1095

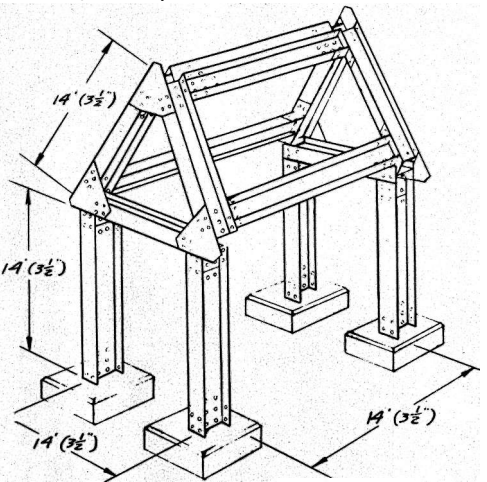


The Manual Including covers it has 12 unnumbered pages, 204*130mm. Apart from the colours, the front, below, is similar to the lid (in reality the grey parts are silver). Inside, p2 has a short (inadequate) Intro on using the parts, then 9 pages with one model on each. Finally, an ad for the Set 107 on the back cover - it promises Automobiles, Skyscrapers, & Moving Models; with Wheels, Larger Angles, & more 'I' Beams.

The first model, A-1 Railroad Bridge, & the last, A-9 Derrick & Crane, are both shown on the lid/manual cover. A Parts List and one line drawing, white on blue, is provide for each model, together with an identical view as an inset, but silver on white. So 9 models, but 18 are promised on the lid and there was a slip inside the manual explaining that a paper shortage prevented the other 9 being shown, and inviting an application for another booklet with them in it, when printed.

Most of the models are just frameworks and the House right (changed to B&W & 2/3 f/s), the Bridge, & the Derrick (the pyramid) on the lid/cover are typical. The other models there are a Crane without a winding mechanism, & a Teeter-Totter with the swinging beam loose on the cross bar.

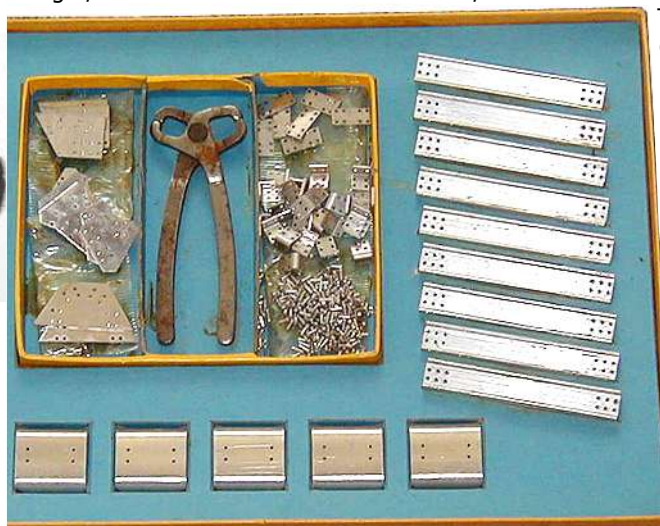
I made the House, but with the length doubled. Most parts fitted well though the Beams were slightly too long & some holes in the Splice Plates and Narrow A/Bs had to be elongated with a file.



PROJECT NO. A-6

BLOCK HOUSE

The Tool worked well in clenching the Rivets, although a fair squeeze was needed, and not all the Rivets could be reached unless care was taken in the order of assembling some of the parts. Two Rivets were removed easily but then the removal pin fell out. The finished model was quite rigid except that the 'legs' really needed an extra A/B or Gusset, and none of the standard parts would fit. The system's main drawbacks are that it is fiddly in use and there is little flexibility in the way the parts can be used.

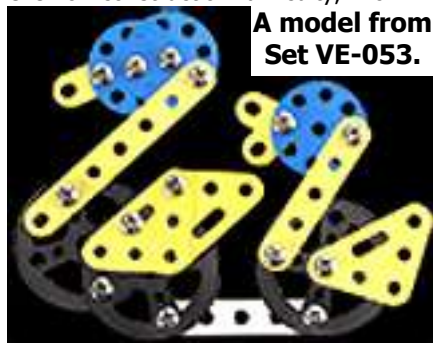


INSTRUCT-O-SCALE: S1

DELTA-X Mark 2 It may be recalled that years ago the Japanese DELTA-X had parts a little larger than MECCANO with holes at 14.0mm pitch (see 11/288, 29/845, 31/924). Now Paul Goodman has kindly sent details of a set that was bought in Japan last year, and although some of the parts look unchanged they are in fact much reduced in size, with holes of about 3mm at only 7mm pitch. The old parts were steel with some plastic, including thick Flexible Plates; in the new system nearly all the parts are available in both steel & plastic. One innovation is that plastic 'hinges' are built into some of the Strips, and a few other parts, so that for example, the ends of such a Strip can bent up to form a DAS, with the lugs at an angle if necessary.

Märklin of course started a fashion for miniature parts with its MINEX in 1939 and although it was not reintroduced after WW2, several other 'mini' systems appeared at that time, some of them with a good range of parts including Gears. MIGNON for example was one (see 10/262), and the Austrian METEOR another (see 12/302, 17/474, 19/534). Model building with such small pieces, and in particular with tiny N&B, was more difficult than with larger parts, and most of the mini systems had disappeared by the mid-1950s, though METEOR may have continued into the 1970s. So it will be interesting to see how successful the new DELTAX will be. The box of Paul's set, and the Instructions in it, are both copyright 2005, so the small parts may be a relatively new innovation. DELTA-X was, and is, sold by the Epoch Co. Ltd. of Japan but the new parts are made in China.

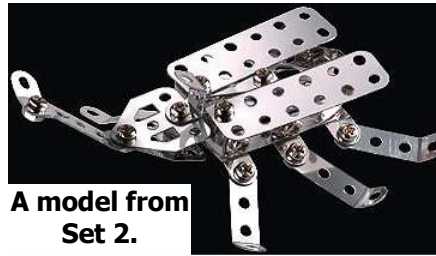
Before describing Paul's outfit, an account of the range of **new DELTA-X sets** that are available, as shown on the Epoch web site, www.epoch.co.jp. (The site is mostly in Japanese and therefore I don't absolutely guarantee what follows.) There are a total of 40 sets in 4 series, and they range in price from (before tax) ¥190 to ¥3980 (£1-£20). All the sets are basically to make one model but one or two smaller models are also shown for each, quite often just a 2-dimensional shape, like the Duck & Duckling below. A level of construction difficulty, from 1,



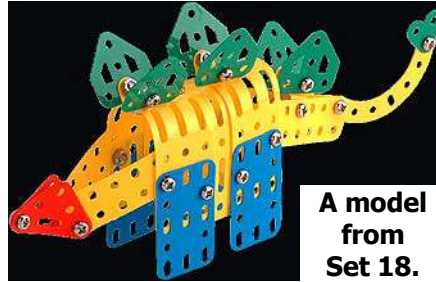
A model from Set VE-053.

the easiest, to 7, is given for each outfit.

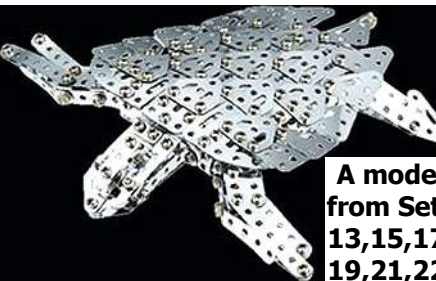
One series of 22 small sets, numbered 1-22, includes a Jet Fighter, 2 Helicopters, & a Motorcycle, but is mostly about various Insects & Dinosaurs. 20 of the 22 sets are pairs with one set for a model made of coloured parts and the second with all silver parts for the same model. All the sets cost ¥190 and are Level 1 or 2. Also mentioned are a Swallowtail Butterfly & a Tortoise, both Level 4, which can be made by combining the parts from 5 or 6 of the Sets. Only one model is powered, the Motorcycle, by a Spring Motor. Below one of the Insects, a Dinosaur, and the Tortoise. One point of interest, these sets may be available from a 'capsule



A model from Set 2.



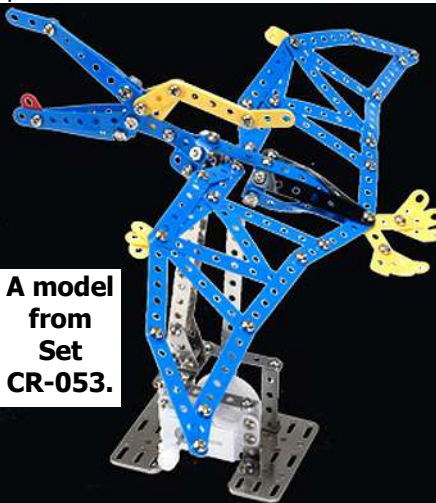
A model from Set 18.



A model from Sets 13, 15, 17, 19, 21, 22.

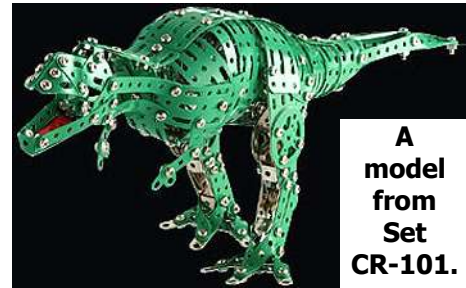
vending machine'.

The next series of 8 sets (CR-001,002, 051-4,101,102) comprises 3 for Insects & 5 for Dinosaurs, at Levels 1-5, with prices from ¥500-1980. Below the main



A model from Set CR-053.

A model from Set CR-002.



A model from Set CR-101.

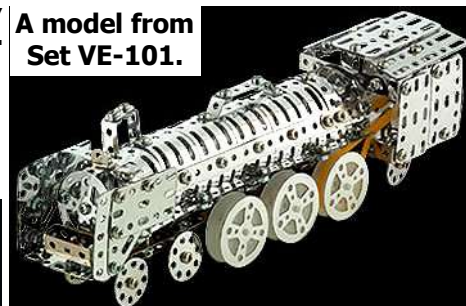
model from one of the sets, with two more above. The Pterodactyl, and an Insect not shown here, have Spring Motors.

The next series of 7 sets (VE-001,002,051-3,101,151) moves into the mechanical world with a small Helicopter, a Buggy, a Delivery Van (called a Classic Car), a Motorcycle, a Biplane (Paul's set), a Loco, & a Tandem Rotor Helicopter. Below three of the main models, plus the Jet right which is one of the extra

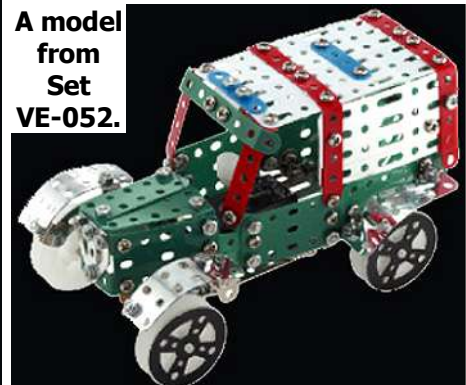
*** Models from Set VE-151.**



A model from Set VE-101.

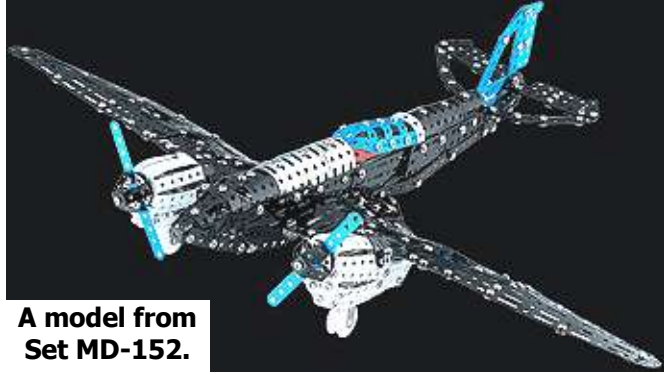


A model from Set VE-052.

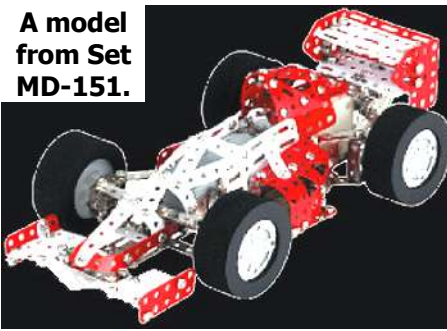


models for the VE-151 outfit. The Sets cost ¥500-3980 and are Level 1-6 of difficulty. All are powered, except possibly the Loco, although there seems to be a band around its rear large Wheel. Again a Spring Motor is specified in most cases though electricity is also mentioned for the large Helicopter.

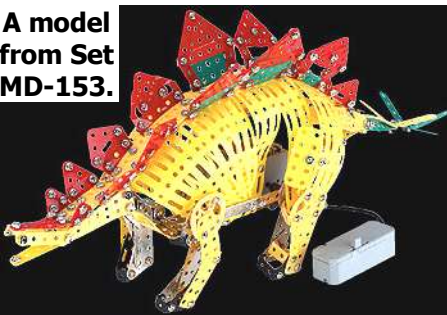
Finally 3 sets (MD-151-3), Level 6 or 7, cost: ¥3200-3980, for the Racing Car, DH 88 Comet, & Stegosaurus below. All



A model from Set MD-152.



A model from Set MD-151.



A model from Set MD-153.

have a Motor, type unspecified but there is a Battery Box by the Stegosaurus. I don't know of any particular Japanese connection with DH 88 and I wonder why Epoch decided to model it - perhaps just because it was thought to be one of the most elegant aircraft ever made.

There is one more DELTA-X item, a Set TL-001 with an Electric Screwdriver and enough parts to make a little Elephant.

The last item I found on the web site was an announcement of a rolling model building competition with monthly prizes. Entrants send in a 9*12cm colour photo, and age 15 is mentioned but perhaps only in connection with an adult authenticating entries for those under that age.

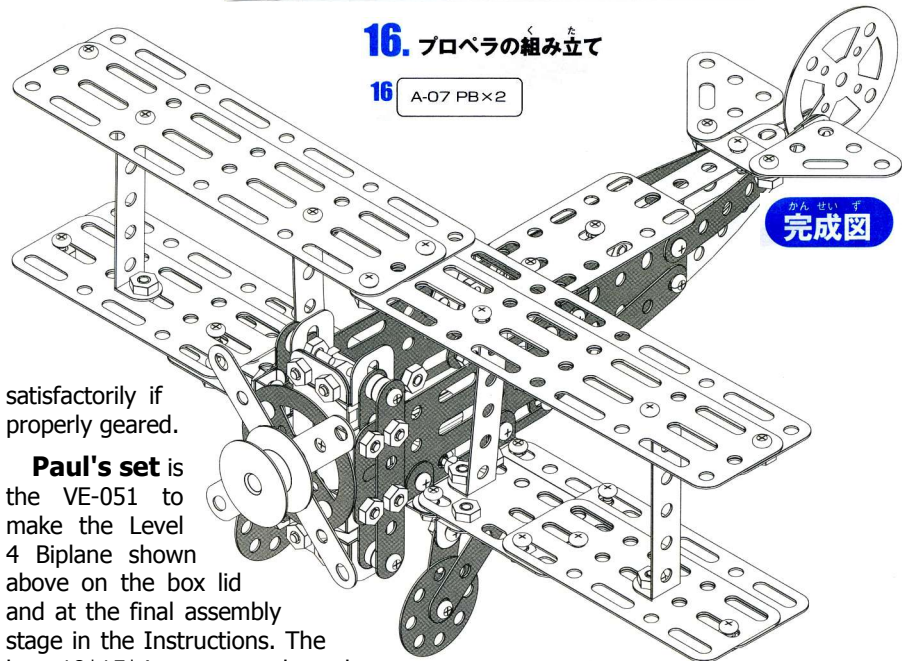
All in all the DELTA-X range seems refreshingly different to the small models from Polylong, with not a Crane, Bulldozer, Digger, or Tank in sight. I wonder

though about the play value of those Insects & Dinosaurs, attractive looking though many of them are. Additional notable absences in the range of larger DELTA-X models are Bridges, Fairground Rides, & Lorries. I wonder what the competition is in Japan. Do Polylong sell their sets at the bottom end of the market there? Nikko certainly sell MECCANO in Japan but nearly all their sets are appreciably more expensive than

in red, yellow, green, & blue; and the SS for, probably, steel, silver. The SS parts have a bright finish, nickel plate possibly. MS is used for shiny silver plastic parts which match the metal finish, but what the M indicates isn't obvious - Paul suggested Metallic Silver as at least a good descriptive meaning for the initials. The parts in the last 2 columns which don't have PNs are: a Road Wheel (but see later); a Pulley (used as the spinner



DELTA-X, at up to ¥16000. The use of spring motors in many of the larger Epoch models is also unusual today but they can work



satisfactorily if properly geared.

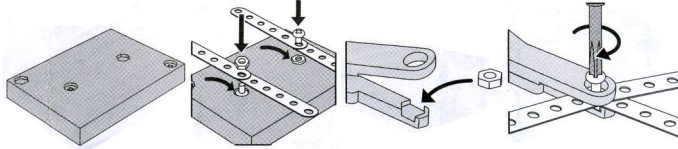
Paul's set is the VE-051 to make the Level 4 Biplane shown above on the box lid and at the final assembly stage in the Instructions. The box, 18*15*4cm, opens along the side, and its underside has the company name, web address, phone number (029-862-5789), and '© 2005, Epoch Co., Ltd. Made in China.'

The parts in the Set can be seen in the table on the facing page, taken from the Model Leaflet - the original also contained the names of the parts in Japanese. After the line drawing of the part is its letter code followed by the number of holes in it, and followed in turn by a material/colour code and the number of the parts in the Set. The letter codes, PR, PY, PG, & PB stand for plastic

on the Biplane - it is a push fit on the substandard diameter Motor shaft); the Spring Motor; 4 crosshead Bolts (about 2½mm Ø, 4,8,12,16mm u/h); the Nut (the N&B have the SS finish); a Screwdriver and 2 Spanners; a tubular Box Spanner (we are now at the top of the last column); 2 Tools (described later); 2 more Tools, unknown; a plastic Axle Stop; what might be a Driving Band; and an Axle (probably). Many of the parts in the Table are not in the Set and from the photos of the other models nearly all their parts are included in it. But not all,

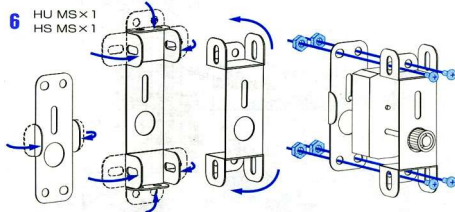
the Wheels of the Racing Car for instance, and the Battery Box by the Dinosaur (plus Electric Motor presumably). Also I'm not sure about the Road Wheel used in a number of the models. In the Van it looks like a round thick slab of plastic faced with a CR13 Disc but in other models it appears to be the Road Wheel in the Table, a Pulley faced with a CR09, and in yet others the same Pulley but faced with a CR13. But it would seem odd for a pulley shape to be used as a Road Wheel without any form of tyre.

All the Tools are plastic and Paul said that they were designed for small fingers. Also that although they were adequate to make the model the Screwdriver was losing its grip by the end. The two special Tools mentioned earlier are



shown above. One is a Block with 2 indentations, one Nut-shaped & one shaped to stop the head of a Bolt from turning. The other is a pair of Pliers with jaws which allow a Bolt to pass through the parts to be joined and screw into a Nut held in the lower jaw. I asked Paul if he had found these aids helpful and his one word answer was 'No!'.

Hinges in the MS Strips are shown by lines across their width, and their SS equivalents have no hinges of course. The SS version of BL is an A/B so it's likely that the SS versions of the BU parts are DAS. None of the 'hinged' parts in the Set are in coloured plastic and it isn't clear if any of the coloured parts have hinges. As can be seen below the

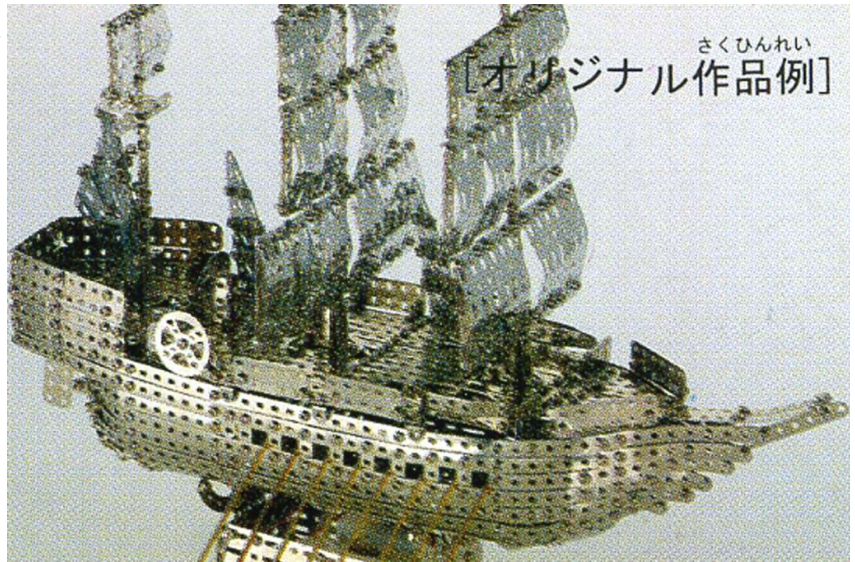


Motor Mounting Brackets HS & HU have hinged lugs - the Motor is clamped between them and then the assembly is bolted between the side Plates at the front of the fuselage.

The Instructions, virtually all in Japanese, are on an A3 sheet folded to A4, and printed in B&W with touches of blue. The front has the set

contents and shows how to use the Tools. The other sides have fairly clear line drawings for a small 2-D Car in 1 Step, and then the Biplane in 16 Steps, with a list of the new parts needed at each stage. The Motor mount drawing in the last column is from Step 6. At the bottom of the back side are the company details as on the box. The fuselage is mostly metal, the wings & tail plastic. The wingspan is 20cm. The Pulley used as the spinner is no doubt used in other models that require a belt drive from the Motor, but it does look out of place in the Biplane. Paul said that building the model was in the main reasonably straightforward but a little tricky at the junction of the fuselage and lower wings. The Motor creates quite a lot of noise but only turns the propeller at a slow tickover. It is hard to wind the Motor because the winding knob is inside the 2½cm wide fuselage, and it might be too hard for a youngster to manage as it becomes harder towards fully wound.

Finally the photo below of a rather nice Galleon taken from the back of the box, one of the competition models perhaps. To my mind it's splendid to be able to make such a model with all silver parts, and to have other models with touches of colour, or in full colour. But I could see no mention of parts sold separately on the Epoch web site and a lot of sets would be needed to give enough parts for just the sails on the Galleon. The majority of what I take to be competition models on the web site are rather a hotchpotch of silver & coloured parts.



	A	02	SS MS PR PY PG PB		A	05	SS MS PR PY PG PB		S2	10	SS MS PR PY PG PB		PG	07	SS MS PR PY PG PB			1		1
	BL	02	SS 6 MS 6		BU	05	SS 2 MS PR PY PG PB		S2	12	SS 2 MS PR PY PG PB		TR	06	SS MS PR PY PG PB 2 SS 2		1		1	
	A	03	SS 2 MS 1 PR PY PG PB		A	06	SS 6 MS PR PY PG PB		PC	07	SS MS PR PY PG PB		CR	09	SS MS PR PY PG PB		61			
	BU	03	SS MS PR PY PG PB		BU	06	SS MS PR PY PG PB		S3	13	SS 1 MS 4 PR PY PG PB		CR	13	SS 1 MS PR PY PG PB 1		4		8	
	A	04	SS 4 MS PR PY PG PB		A	07	SS 2 MS 4 PR PY PG PB 2		S3	15	SS 2 MS PR 4 PY PG PB		HS		SS MS 1 PR PY PG PB		76			
	BU	04	SS MS PR PY PG PB		BU	07	SS MS 4 PR PY PG PB		S3	27	SS MS 4 PR PY PG PB		HU		SS MS 1 PR PY PG PB		1			

ELEKTROMEKHANICHEN

KONSTRUKTOR 3.

Khelikopter

That is the transliteration of Електромеханичен конструктор 3. Хеликоптер, the name of the Bulgarian set to be described. It was made by фирма В. Петлешков (firma V. Petleshkov), the company from Bratsigovo which also produced MUSALA (a copy of MERKUR), RODOPI (TRIX inspired, see



26/751), & MLADOST (theme sets, see 25/720). Mladost means youth and it is on the present set's box, on a line before the company name, with Sofia after it - so perhaps it is the distributor, or an official agency (there is no clear indication of date but an official (OTKK) reference ends in '-86'). The 3 sets in the 'Elek Kon' series are listed on the box: the present No.3 for a Helicopter; No.1. Вятърна мелница (Windmill); & No.2. Самолет двуплощник (Biplane).

The parts were in a plastic bag inside an end-opening yellow box, 20½*11*4½cm. The printed details are on the sides & the top has just 2 photos, the Biplane below, & under it the Heli-



copter shown at the top of the page, about natural size. The Windmill is on the box's underside - its 4 blades are the Triangular Plates used in the Helicopter rotor, & its pitched roof is made from 5*5h Flanged Plates. All 3 models are driven by a Geared Motor Unit.

The Parts Top right the parts from the model leaflet, & each is listed below with comments & quantities. Except as stated plastic ('pl') parts are white, & other parts nicked steel. Holes are at 10.0mm pitch & are 4.1-4.4mm Ø in the various metal, & 4.4-4.8mm in the various plastic parts. The thread is M4.

•1 **Strips**. •2,8,10x 2,3,5h pl (#1001 has 2 round holes; 3 of the 3h are very thin). •2x 6h. •6x 10h (4x pl; 2x olive green, like RODOPI). •2x 15h olive green. •2x Curved. •1,1x

•1,2,1*4h A/B. •1x #1138 2h D/B with the side holes at 15mm pitch. •1x #1122 D/B, 21mm wide with (by mistake?) no holes in the arms. •3,1x 1*3*1, 1*4*1h DAS (both the same width, the holes in the 1*3*1h are at 11mm pitch). •Plates. •1,1x 3*15, 5*12h pale yellow clear pl. (The large hole in the 5*12h is 8½mm Ø, & those either side of it are 3mm.) •2x #1015, 30*50mm clear red pl with a slot in each top corner. •Triangular Plates (all with flat tops). •1,3x 3*3, 3*5h clear pl. 1x 3*5h Flanged. •1x 28mm Ø Bush

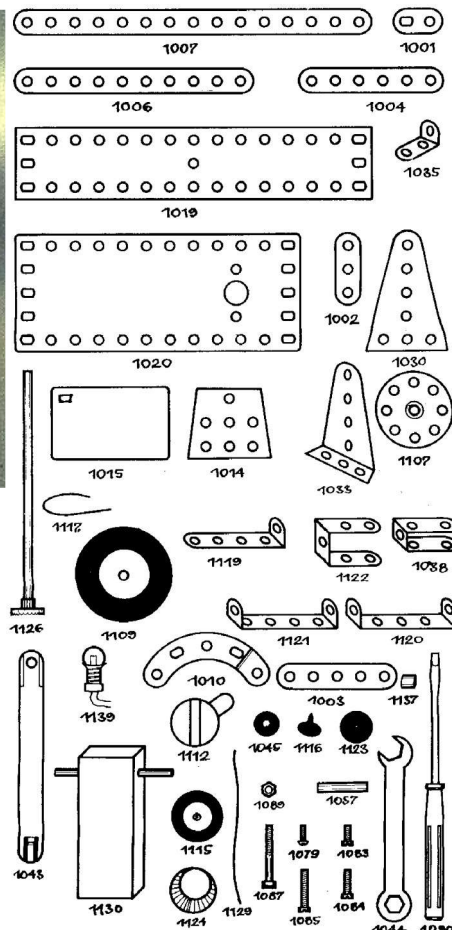
Wheel, with an 8mm Ø boss, s/t M3, & a RH Set Screw, 10mm u/h. •Wheels. 2,1x 45,23½mm Ø with black pl tyres on pl hubs. •N&B. •26,11,2,1x 6,8,10, 25mm u/h Bolts. The 25mm has a 7.8mm Ø c's'k head; the others are pan headed, 6.8mm Ø. The 10mm is dull plated. •43x hex Nuts, 6.9mm A/F. •Tools. •1 Spanner, 80mm o/a. •1 Screwdriver 110mm long o/a with light yellow pl handle. •1 Nut Holder, 111mm o/a. •1 Motor/Gearbox Unit. A 4.5v motor with 3 reduction stages in a brown pl 'box' 70*31*38mm deep with a black pl base. It does not have the output shaft shown. •1 Axle with Gear #1126. 4mm axle, 95mm long, with end turned down to 2.7mm to take push-fit pl contrate/pinion (this Axle has the rotor at the top, & the contrate at the bottom meshes with the final gear in the gearbox). •1 Axle #1057, 3.5mm Ø & 20mm long. •1 Bulb. Not as shown, it has a smooth base below a flange and no holder or leads. It should push into the large hole in the 5*12h Plate but is too big to do so. •1 Lamp Cover #1124. Clear blue pl dome, base 20mm Ø with 2x 3½mm Ø spigots which should pass through the holes on either side of the large hole in the 5*12h Plate but are too big to do so. This part is meant to hold the Bulb in place.

•1 Switch #1112. Black pl with a steel contact arm. A 4mm Ø spigot on the back goes through a hole in a Strip, say, to locate it, & it is held by 1 of 2 unlisted, push-fit, 6mm o.d., 7mm long, brown pl Sleeves. •1 Disc #1123. Black

pl 16mm disc with short 8mm boss; bore 3.5mm. Its use isn't clear. •Plastic Press Studs, with 6x #1116, 12mm Ø Male pieces with 3½mm Ø prong, & 9x 12mm Female discs #1045. •1 Wire #1129. 5mm Ø bare wire about 60mm long with a 3½mm loop at one end. •Connecting Wire #1117. Thin white pl covered: 1x 100mm; 1x 150mm. •2 Axle Stops. 7mm Ø, 3mm wide orange pl for 3.5mm Axle.

The Model Leaflet, all in Bulgarian, is 88*17½cm, folded to fit into the box. One side has the Illustrated Parts and a list of their names & quantities; the other has 8 building steps for the model with a very blurry colour photo, list of parts, & written instructions for each. There is an additional sheet, 19*19½cm, showing in more detail how to mount the modified Motor Unit actually in the Set.

The parts are of reasonable quality and making the basic model wasn't difficult. But after that there were two problems in addition to the wrong sizes of spigots etc already mentioned. First, the gearbox needed attention before it would run, and the method of retaining one of the axles in it had to be changed. Secondly, there seemed no means of attaching wires to the Bulb and Switch. Perhaps all would have been clear if I had been able to read the instructions but I had to resort to some soldering. The clear Triangular Plates used at the end of the rotor blades looked rather strange, and the Plates #1015 used for the cabin doors did not have the red cross etc on them.



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