

double-decker bus - it's made of short Strips and 3h Ø Wheel Discs, the latter probably nutted to Screwed Rods as axles.

DITMAR This system from the late 1940s has small parts with 3.7mm holes at 8.5mm pitch. The Manual has only the name and Metallbaukasten on its cover; inside the text is in English, French and Spanish as well as German. The model below includes Strips from 3 to 15 holes; A/Gs 19, 23 & 35 holes long; a 3*1*3 Double Bracket; a 7*11h Perforated Plate, and a Pulley of about 50mm Ø with 6 holes in its face near the centre. The Plate and A/Gs have square corners. Again Threaded Rods seem to be used as axles although the Pulley is shown with a tapped boss. A larger model is featured on the box lid in Pl.60 of EZ and some red Circular Plates or Pulleys of perhaps 70mm Ø can be seen. The other parts shown are black but some were in fact plain aluminium.

Ditmar

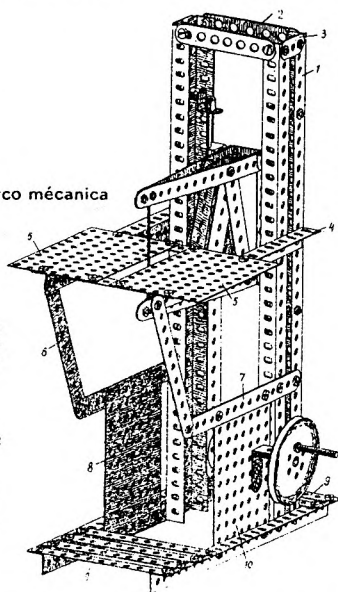
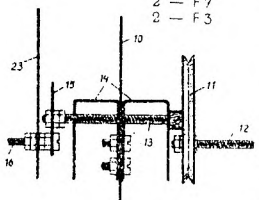
Nr. 44

Automatic bow saw

Scie en archet mécanique Sierra de arco mecánica
Mechanische Bogensäge

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

7 - F15	4 - W35
8 - F11	2 - W23
6 - F9	2 - W19
2 - F7	8 - W1
2 - F3	2 - U5
	2 - U3
	4 - Pl
	1 - Sch 2
	1 - G6
	3 - G3
	2 - A13
	8 - St
	1 - SR 2
	58 - S1
	2 - S2
	58 - M
	5 - M5



DÖCO EZ says that this system was made by Döhle & Co., Berlin-Stralau around 1920, but no details are given.

DORANDO An architectural set from 1926 made by Mosbacher & Schönfeld of Frankfurt am Main. A photo in EZ shows black metal strips and channels bolted together to form a framework, with stone blocks as infill. They are mostly fawn with some blue uprights, and the window blocks are black with white frames and green shutters. A red tiled hipped roof sits on top - it's made from thinnish material and though it looks to be in one piece, some joints would have been needed if it fitted into the box shown.

DUX AERO EZ says that this system came on the market in 1932, the probable date of the manual in 11/287.

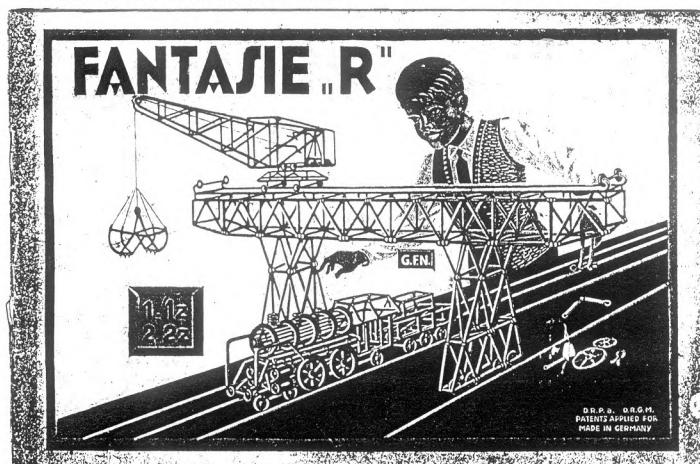
DUX-UNIVERSAL This rather unusual system is well covered in MCS and I hope to write some notes on it in a future issue. EZ mentions a February 1939 Patent No. 705732 but I'm not sure whether it was actually made before WW2. Production ceased around 1958.

EIFFEL EZ gives specific dates (see 10/247), with production between 1940 and 1948.

ELECTRIC There's an MCS entry for this system and a few further details were given in 8/183. The only mention in EZ is the dates (c1932-c1970), and the various makers after the one in MCS, as follows: from c1940, Böhmer & Helm, Meißen; in the DDR, Mewa Mesco-Werk VEB Meißen Sa.

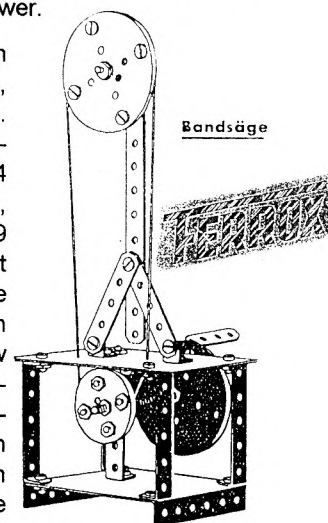
FANTASIE "R" This simple system was made by Gebr.

Fleischmann of Nürnberg, and was introduced in 1932. It was also sold under the name **ROBA**. It cost 50 Pfennig a pack and consisted of Tubes connected by (rubber?) Couplings. As can be seen, the Manual cover below boasts a quite large Crane and Loco, and has 1,1z,2 & 2z on it, presumably set numbers. EZ says there were only 29 different parts but that the Manual contained 168 models on the theme of the technical world.



F.D.K.K. Another small? system from the WW2-early '50s period. Two widths of Strips were used, 9mm and 12mm. Holes were 5mm Ø and the spacing 11.9mm. The parts were of steel with a black finish. A small photo of a box lid in EZ shows the top of a large Tower.

FERROX Another small system from the late 40s to early 50s, with 4.1mm holes at 12mm pitch. There were about 20 parts including Strips of 2,3,5,7,11 & 14 holes; 1*3*1 & 1*5*1 DAS; 1*1, 1*3, & 2*1*2 Brackets; 17,36 & 69 mm Discs; and 2 Plates, one flat and one flanged. The flanges are always shown with 6 holes in them, but otherwise only a few holes are indicated, and their position varies in the different models. Note the 'extra' hole that can be seen near the centre of both the large and small Discs in the Bandsaw opposite; also the ends of the Strips, Brackets, etc with angled corners, like **VOGUE**. Again Threaded Rods were used as axles. Some parts were aluminium and the others were red, green, or black.



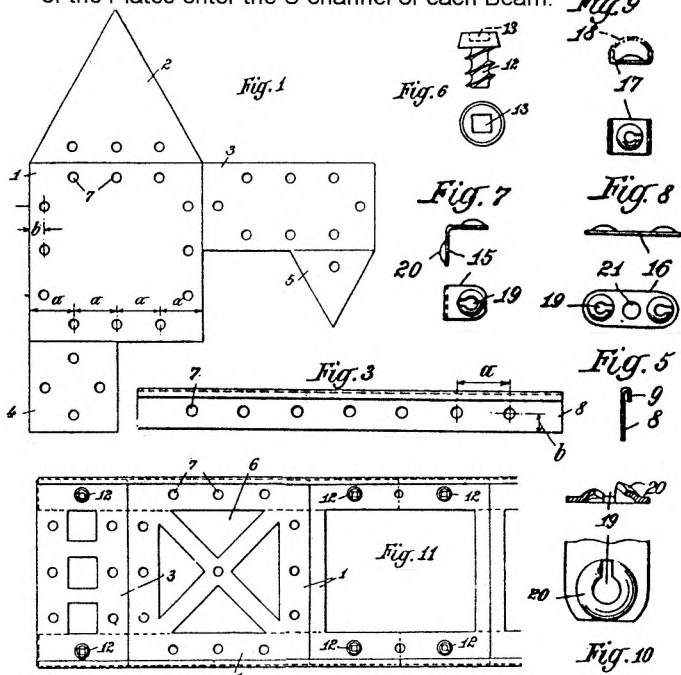
1 Grundplatte, gerade
1 Grundplatte, gebogen
1 Traverse 11 Loch
2 Traversen 5 Loch
1 Traverse 3 Loch
4 Winkeltraversen 1x5x1
2 Winkel 1x3
3 Winkel 1x1
2 Lagergabeln 2x1x2
3 Scheiben 60 mm
3 Scheiben 36 mm
1 Welle 80 mm, 1 Welle 40 mm
26 Schrauben, 36 Muttern

FIX Another little system, in this case made by MWK of Kitzingen/Main. A date of 1948 is known, and EZ gives production as around 1940. There were less than 30 parts but they were rather unusual. There were 2 types of Strips. One that I'll call a Linked Strip had 2,3 or 4 strips joined together with eyelets, so that the elements could rotate relative to one another. The elements were equivalent in length to strips 3,4,5 & 8 holes long but each had only the end and one centre holes. The ends of the strips are shown rounded. There were 12 different Linked Strips, as shown - they ranged from 2x3h strips to a 3+4+5 which can be seen forming the triangular frame at the lefthand end of the Signal in the next column.

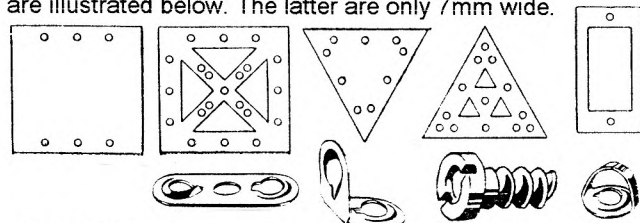
The 'ordinary' type of Strip again had only a centre hole plus rectangular end holes that extended out to the square

DUX-UNIVERSAL This unusual German system was conceived to allow realistic mechanical and architectural models to be easily made from a limited number of parts, 70 or so in all, but probably little more than half that number when the system was first produced. It is well covered in MCS but there are some details about it worth mentioning, and there were one or two significant changes made during its 15 to 20 year life. 3 stages can be recognised from the material to hand, that's to say a reasonable selection of early parts and 2 manuals from the same time, a later Booklet, a few later parts, notes on other parts, various photos, and other information.

First Period The German patent, Nr.705732, was applied for in Feb. 1939, and was granted in March 1941; it was in the name of the makers, Markes & Co., K.-G., of Lüdenscheid, and also named were Carl Markes, Rudolf Griessel, & Dr.-Ing. Gustav Boehme. The main elements shown in the patent are thin strips, called Beams (Fig.3 below), stiffened by one edge being formed over into a 'U' (Fig.5), and the 5 Plates (Fig.1). The dimensions were given, with holes of about 3mm Ø at 15mm pitch ('a'), but only 5mm from the edge ('b'), and the large Plate to be 60mm square. The Bolts are the blunt-ended self-tap type (Fig.6), called Quick-Connect, with winged 'spire' Hooped Nuts (Fig.9), but Flat & Angle Brackets (Figs.7,8) are often used to join the parts and they have formed holes (Fig.10) to take the Bolts. These parts allowed closed boxes to be made easily. Other constructional parts shown are various Slotted Strips, and Plates pierced in several ways to represent windows or bracing (Fig.11). In this figure the top & bottom of the Plates are joined by a Beam, and the edges of the Plates enter the U channel of each Beam.

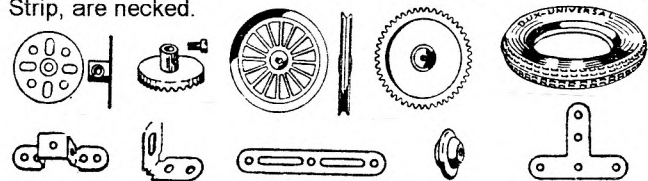


The **actual parts** include all those above except the small triangular plate, but a 3*6cm Pierced Plate was added, and some other changes made, see below. Other alterations: the end pairs of holes in the Beams are at 10mm centres; and the head of the Bolt is as shown below, with a normal slot & a central circular recess. Screwdrivers seen have a wooden handle like the one in MCS but the blade section has a semicircle in the centre which prevents it from slipping out sideways. The Hoop Nut and Brackets are illustrated below. The latter are only 7mm wide.



Details of the other main parts in the sets at this time follow: the starred ones are illustrated below.

- An ordinary M3 hex Nut, and a 23mm ordinary Bolt with the same head as the Quick one.
- **Axes**, 45,65,85 & 110mm long with slightly tapered ends, and a longitudinal groove about 1½mm wide, rather like M230. The **Pulleys and Gears** have no bosses but instead the centre hole in the disc on one side of the part is shaped to provide a key which engages the groove in the Axle. Rubber or something similar is packed between the discs in the centre of these parts, as in DINKY BUILDER Wheels, and this grips the Axle and prevents lateral movement. The parts I have work perfectly after some 45 years. Only 2 parts have normal bosses, the **Bush Wheel*** (28mm Ø and typically only .70mm thick), & the **Contrate**.
- 60,120,180mm long **Beams**. **Slotted Strips**, 40,60*, 120mm long, 10.5mm wide, & all with maximum length slots between their end & centre holes.
- 27 & 46mm* Ø **Keyed Pulleys**, plain on one side but with impressed radial spokes on the other; **Tyres*** to match. An **Axle Stop***, 15mm Ø, with the centre belled out on both sides and filled with rubber.
- A Mod.1 black plastic, 4mm face width **Keyed Pinion** with 15 teeth, and a similar 45 teeth **Gear*** to mesh with it at 30mm centres. The steel centre discs on either face are about 9mm Ø. (The PN for these at this time isn't known but later, though apparently unchanged, their PN ended with an 'a', which may indicate that there was an earlier version.) The **Contrate*** is 27mm Ø, with 26 teeth, and is made of brassed steel.
- An **Angle Bracket*** with 2 holes in one arm at 8mm centres, and a slotted hole in the other. A **T-Bracket*** with 3 holes at 15mm centres along the top, the outer ones very slightly elongated, and 2 in the vertical arm at centres of about 13 & 8mm. A **Double Bent Strip*** with slotted feet and not the 2 holes in each shown below. The bend in the Angle Brackets, and those at the feet of the Double Bent Strip, are necked.



- The **parts** are well made and finished. Though of quite thin metal, with Plates only .55mm thick for instance, the parts are strong enough, and structures are quite rigid. The Beams, Strips, Keyed Pulleys, Bush Wheel, Axle Stop, and Brackets, other than the Flat & Angle Brackets, are painted red; the Plates are red on one side and white on the other, and/or green/silver. The Axes, and the Angle & Flat Brackets are brass plated.

- **DATA** (in mm) **BEAM** (12cm): •hole pitch/dia, 15.0 (except end holes)/3.3; •width, 11.3; thickness, .55; •sq. ends. **SLOTTED STRIP** (12cm): •hole pitch/dia, varies/3.3; •width, 10.5; thickness, .65; •ends fully radiused. **BOSS**: •o/d, 8.0; •i/d, 3.45; •brass; single tapped M3. **THREAD**: coarse self tap type & M3. **AXLE DIA**: 3.25. **Mod**: 1.0. **NUT**: hex 6.0 A/F (Hoop Nut 7½mm Ø); **BOLT**: cheesehead, 5.4 Ø, with screwdriver slot & centre recess; all brassed steel.

The **manual** from his period (in German, Italian, French, & Swedish) has a PR which includes '1241', so that may well be its date.

SUMMARY OF MANUAL •Name: DUX UNIVERSAL Vorlagenheft für DUX-UNI 1,2 und 3 und für DUX-UNI A mit Ergänzungskästen B,C und D. •Maker: Markes & Co., K.-G., Lüdenscheid/Westfalen. •Dates &/or Ref Nos: HR 1241 L CARL V.D.LINNEPE, LÜDENSCHIED •Page size: 22*274mm deep. •No. of pages: 8 unnumbered inc covers. •Language: German, Italian, French, Swedish. •Printing: halftones of models with line drgs of details; cover is blue, red, green, yellow on buff, with at top left, a large Bridge, & Houses behind, as on the next manual. •No Parts List/Set Contents. •Sets covered: A,A+B,A+B+C,A+B+C+D. •No. of models for each set: 60,20,16,3. •Name, Model No., Page No. of first & last model of each set: A: Tisch mit 2 Bänken,1,2; Bahnsteigbank,60,4.

A+B: Langholzwagen, 61,5; Windmühle, 80,6. A+B+C: Verladebunker, 81,6; Aufzug, 96,7. A+B+C+D: Eisenbahnkran, 97,8; Ventilator, 99,7.
 •Other notes: • The models on the BC are in colour. • Other combinations of sets can be used for some models, inc No.1, & Parts Packs.

At the end of the above another manual, called Part 1, is said to contain larger & finer models. The one to hand, PR '1245', in the same languages, is described next.

SUMMARY OF MANUAL (details not given are as above) •Name: DUX UNIVERSAL Vorlagenbuch Band 1. •Dates &/or Ref Nos: OG 1245. C. v. d. Linnepe. •Page size: 240*160mm deep. •No. of pages: 72+covers. •Printing: models as before but some in colour, drgs white



on black; cover picture, left, as before.
 •Sets covered: certain of Sets A-D, 1-3, Parts Packs needed for each model. •No. of models: 38. •Name, Model & Page No. of first / last model: Bohrmaschine, 101,2; Kohlenförderanlage, 138, 68-71. •Notes: the parts for each model are on

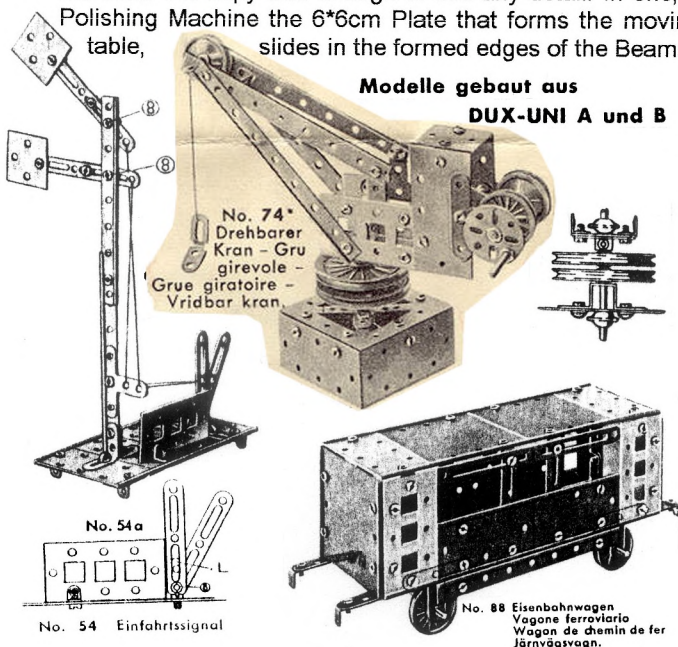
p72, a Model Index on the IBC, & a list of sets on the BC.

These manuals complement and are consistent with each other. The **range of sets** at the time was a basic Set A, with add-on sets B (Pulleys, etc.), C (Beams & Plates), & D (Gears, etc). Also Sets 1, 2 & 3 which are described as 'gift' sets. No.1 was probable equivalent to A+B+C, while Nos.2 & 3 included the same Gears as D. There were in addition 10 Packs of Parts, Nos.11-20, containing respectively red/white Plates; green/silver Plates; Beams; Slotted Strips, & Brackets; small Pulleys; large Pulleys; 4 small Tyres; 2 large Tyres; N&B; clear Celluloid for windows. A Manual with 60 models, included in Set A, is mentioned.

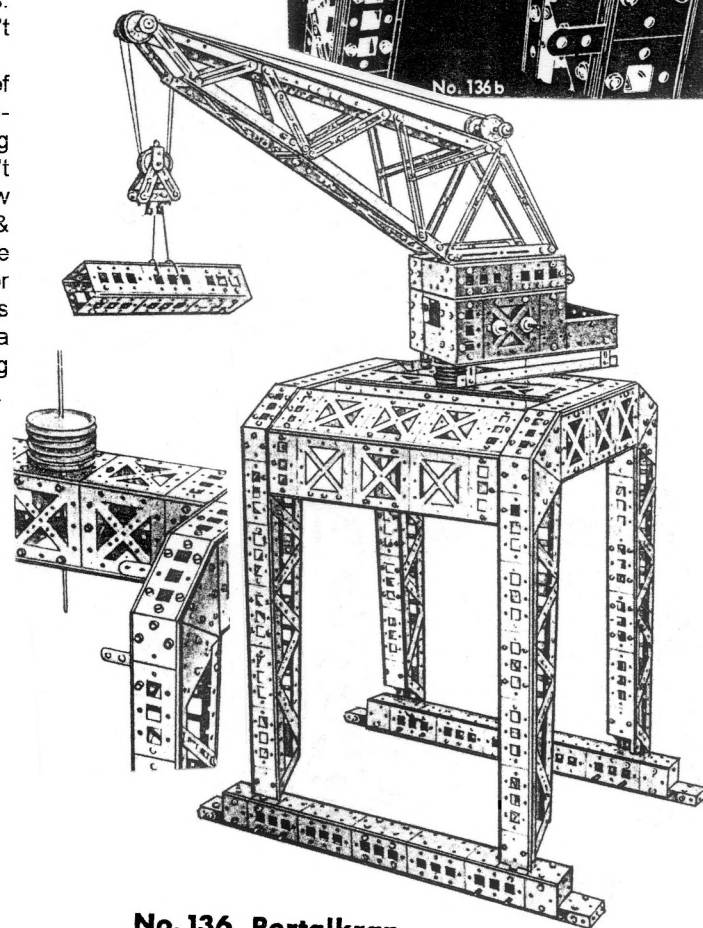
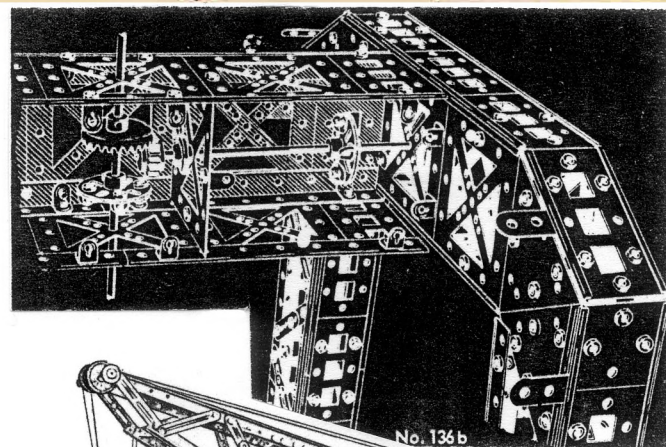
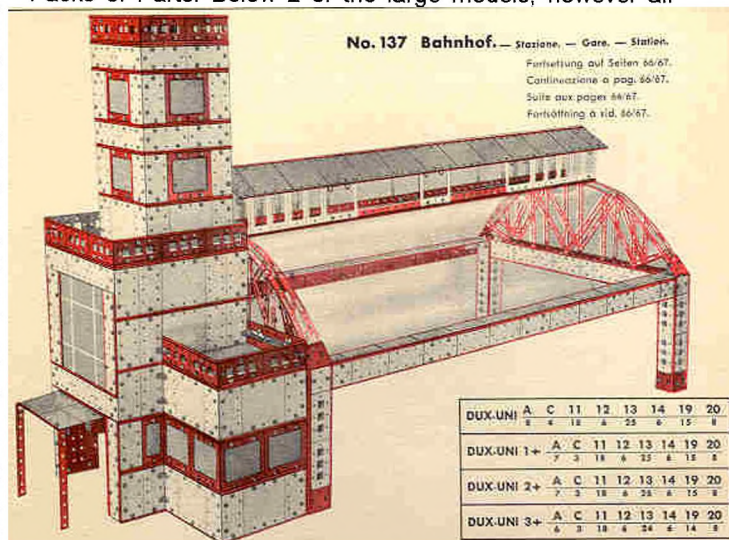
A photo of a **No.2 Set** shows the top of the lid completely covered by the Bridge picture used on the Manual covers. The parts match those described and among them are 4 small & 2 large Pulleys, 3 Bush Wheels, 2 Pinions, a Gear & a Contrate.

Neither manual contains a Parts List or Set Contents: these were in a separate Introductory Booklet, and one isn't available from this period.

The 60 **models** for Set A are mostly small models of everyday, static objects, with a few of more technical subjects. There's a small photo of each, plus an engineering drawing for a few, showing constructional details that can't be seen in or deduced from the photo. The Signals below give an idea. Set B contained a Bush Wheel, and 4 small & 2 large Pulleys, and the models for Sets A+B are a little more ambitious, the Railway Coach and Crane below for example. The Gears are used in the 3 A+B+C+D models but none will copy well enough to see any detail. In one, a Polishing Machine the 6*6cm Plate that forms the moving table,



The presentation of the Book 1 models is similar but the illustrations are much larger, some are in colour, and the auxiliary views are white on black, and often isometric. The 38 models start with a Drilling Machine that needs 75 Bolts, and can be made from Sets A+B+C (or No.1), and ends with a Coal Extraction Plant which needs 1164 Bolts from a Set No.3 + 4x A, 1x B, 6x C, 1x D, and 71 of the various Packs of Parts. Below 2 of the large models, however all



but 5 models need no more than a No.3 plus a Pack or two in some cases, and use no more than 170 Bolts. There is a good variety although about half are machine tools or plant - among the rest a Motorcycle, a Mechanical Shovel, 3 Cranes, an Anti-Aircraft Gun, a Windmill, and 4 fairground models. The Railway Station is the only model in the Manual that one would describe as architectural though a few of the others have buildings as part of them. 8 Packs of the Celluloid are called up for it including, I suppose, covering all the arched part. An intermediate arch in the roof might look well. Wide use is made of the Gears in a straightforward way in the suitable models, but all are simple mechanically, with, for example, centre pivot steering on the one realistic Lorry, and nothing to stop loads on the Cranes descending under gravity.

I made a small Lifting Bridge with my pieces, and I found that the parts fitted together well, and it was obvious that some thought had gone into their design. Some loss of flexibility arose from the hole pattern, but this didn't lead to any real difficulties. The appearance was good too with the Slotted Strips and the edges of the Beams adding interest to the simple structure. The Quick Bolts, Hoop Nuts, and 'tapped' Brackets worked well, and the hoops of the Nuts did not usually look out of place, on this model at least.

About the smaller models in Book 1 I'm not so sure, and I think that some of them look rather angular, with the wide use of Plates without any apparent framework. But they might look better in the flesh. With buildings the Plates are more suited to modern looking designs and I have seen such a medium size model. The problem I thought was the simple cutouts for windows, because they don't look right without the opening being set back a little, or having some sort of indication of a framework. In several of the manual models, as in the Station, this effect is achieved to some extent by using a different colour for the window panels.

Second Period An **Introductory Booklet** from this time shows the Set Contents for **revised sets**, with new Set Nos.101-104, plus linking 'a' sets, and shows the complete range of parts. The only ones not included are those associated with the **Quick Bolts**, and as explained in the Booklet, all (the 4 shown earlier) had been replaced by the conventional parts, below. The **Angle Bracket** is now 10mm



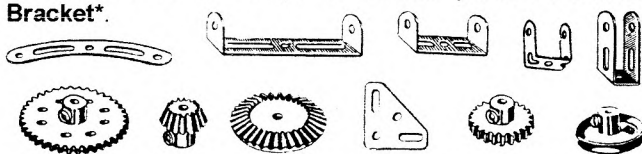
wide and the slot in one arm is 7mm long. The bend is still necked, and not as shown. The plain **6cm Plate** now has holes

on all four edges, as in the Patent.

The other parts (a few may have existed earlier) are listed below; they have only been seen in a photo. The starred ones are illustrated.

- A 12mm M3 **Bolt**, matching the existing 23mm one and the new short one. At some point the Bolts were given a standard cheesehead without the centre recess, and the **Screwdriver** blade was changed accordingly. Some **N&B**, including all 3 lengths of Bolts, found with some later DUX parts, were nickel plated, with the heads the same size as before but the Nuts slightly smaller at 5.4mm A/F. The N&B in an unused PITT set, also made by Markes, were this size, and the Spanner in it was stamped DUX.

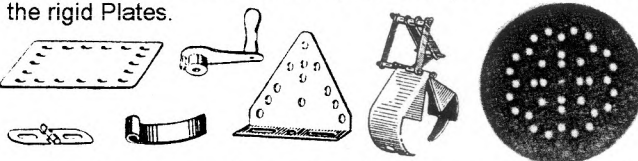
- 90 & 240mm **Beams**, a 180mm **Slotted Strip** with 3 intermediate holes at 45mm centres, and a **Slotted Curved Strip***. 2 **DAS*** and 2 **Double Brackets***, one quite deep, made from Slotted Strips or similar parts. A **Corner Bracket***.



- A small brass looking **Loose Pulley**, of about 15mm o.d. A **27mm nickel Pulley with Boss***. Brass **Gears*** with 22 & 38 teeth, and **Bevels*** with 16 & 32t, all with bosses. A

105mm **Grooved Axle**. **Smooth Axles** 30,70,90 & 110mm long, the same diameter as the Grooved Axles.

- A **Circular Plate*** of about 90mm Ø with holes as below, not as in MCS (unless that was an earlier variant).
- **Plates** of 3*6, 3*12, 6*6, & 6*12cm which are probably thin and flexible, and may be made of aluminium. Those known are not like the one below (with 5*6h), but have square corners and a similar pattern of perimeter holes to the rigid Plates.



- The **Large Trunnion*** with holes to allow meshing of the various Gears. The **Grab*** and **Pawl*** which scale at 6 & 3.3cm o/a. A **Hinge*** and a **Handle Crank***.
- Many of the parts are the same **colours** as before but the Bush Wheel, all the small Strips & Brackets, and all the new parts, are nickel, or perhaps in some cases, painted silver. Probably by this time the Plates were painted the same colour on both sides - green, silver, red, white, or blue. The green & silver ones may have been discontinued at some stage, perhaps when the blue ones were introduced. Some that look to be dark grey are shown in one of the models in *Eisenzeit*.
- The **manuals** listed are one for Sets 101-103, and one, described as Part 6, for No.104.

The **Set Contents** in the Booklet are as p6 of MCS/FB. The new parts are only in Set 104, and it may be that Nos.101-103 are variations on the old Nos.1-3. But now even Set 101 has 4 small Pulleys with Tyres, and the 103 also has 4 large Pulleys/Tyres. No.101 has a pair of Gears, with an additional Pinion and Contrate in the 103, and plus one each of the new Gears & Bevels in the 104. The 101 has 80 N&B, the 103, 180, and the 104, 300.

The **Booklet** is in English, Spanish, French, Italian & Portuguese, and in addition to the details of the parts, it shows 31 basic constructions, all fairly simple, and how to use the holes in the Large Trunnion.

No manual is to hand for this or the third period but a Set 103 **model** is shown in MCS/NZ, and a 104 one in /FB. The **cover** in MCS, showing a boy with a Railway Crane with Grab, is the same as the Booklet cover, and a No.103a Set with the same design on the lid is shown as Pl.17 in *Bauklötze Staunen*. A somewhat different lid and manual are shown in *Eisenzeit* with a similar boy, but wearing a striped shirt, and carrying a rubber-tyred Mobile Crane, against the same railway backdrop. Which of these designs came first isn't clear.

Third Period The main change in this final phase was the withdrawal from the Sets of the **Grooved Axles**, and the **Keyed Pulleys & Gears** for them. Whether they were still available separately isn't known. The replacement **Gears** were identical to the old ones but made of green plastic moulded onto a brass centre boss. In the half dozen bosses seen from this time the pilot tapping hole extends right through the boss but only one side is actually tapped. The **27mm Pulley** was replaced by the nickel Bossed version introduced previously, though some seen, thought to be DUX are only 25mm Ø. A similar nickel **Large Pulley** was introduced to replace the Keyed 46mm one. The **Sets** were revised to reflect these changes but remained the same otherwise. The Contents are given on p6 of MCS/NZ.

There were **other Sets** marketed during this Period, or at least during the time when the 101-104 Sets were current, and there are small illustrations of them in MCS/FB p7. **Sets 70, 71 & 72** were add-on outfits, which look to contain Gears and other parts. A Circular Plate and 2 Large Trunnions can be seen in No.70, and in No.72 there appears to be a Gear or Sprocket larger than any of the standard Gears. *EZ* says that 70 & 71 were Gears Sets but

doesn't mention No.72. **Parts Packs 11-21** are also mentioned in EZ.

The other 3 sets were to make one model each: an Electric Loco from **No.120**, a Passenger Coach from **121**, & a Goods Wagon from **122Z**. Not much can be seen in the illustration opposite but the track appears to be a standard model railway item.

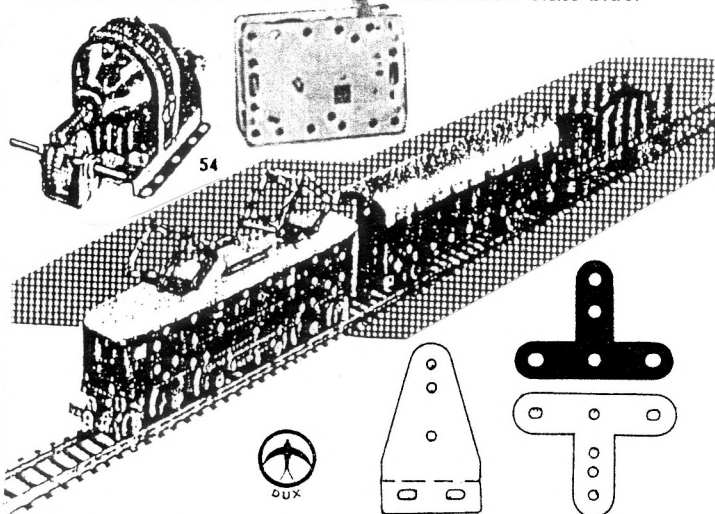
Above the train the No 54 **Electric Motor** from MCS, with a worm drive to the output shaft. Also a **C/W Motor**, No.52, which in a photo looks to have conventional grey or silver sideplates of perhaps 2*3".

EZ gives the **end date** of DUX as about 1958; GMM wrote in 1964 that the DUX range consists of 4 basic sets, 3 accessory outfits, and 3 supplementary kits, and later that year added a note saying that according to recent information the system was no longer made.

More on the Parts Don Redmond sent some notes on the DUX parts in a mixed lot. They include a **Small Trunnion**, 25mm wide by 36mm high, as well as the Large one, and a **T-Bracket** with different holes in the vertical arm. 'Pencilled-round' sketches of these, reduced in size, are shown opposite, with one of the T-Brackets described earlier in black. Other parts that appear to be DUX: a **Rack Strip** and a pair of **Sprockets**. The Rack is of angle girder form - the toothed flange is 9cm long with only end holes, 75mm apart; the plain one is 75mm long with 5 holes. The Sprockets are about 3cm Ø and have 13 teeth.

Other points from Don: • The **Axle Stop** contains a stiff spring which holds it in place while the outer housing is free

to rotate. It would have numerous uses, as a conveyor belt roller for instance. [The outside of the ones described earlier don't rotate.] • The **48mm Pulleys** are made of thin discs held only by the boss, and they tend to bend apart when Tyres are put on or taken off. • The **22 & 38t Gears** are stamped DUX. • The **bosses** are a reasonable fit on the Axles, though some Pulleys are a little slack. • A few Plates are red but most are 'a rather unattractive' slate-blue.



Thank you to all who have contributed to this account, including Toby Haffter, David Hobson, Don Redmond, Werner Sticht, and Clive Weston.

ESCHO This name has been known for some time but with no details. Now I have a No.2 manual, courtesy Jim Gamble, which mentions 4 Sets from the German firm Escho-Plast of Bad Godesberg (near Bonn), and the parts look like TEMSI. Jeannot Buteux reported that Temsi had licensed Escho-Plast in 13/360. On the back cover of the Manual is the name Escho-Metallbaukasten; on the front in small letters is METALLBAUKASTEN ESCHO-PLAST, and in larger ones 'ICH BAUE, IK BOUW, I'M BUILDING, JE CONSTRUIS'.



Already in MCS (Part 5) is a small system with TEMSI parts, called IK BOUW / JE CONSTRUIS (IB/JC), and the two manual covers have exactly the same boy, Strip & Spanner, and exactly the same model Bridge with toy train on it. The differences are the additional English & German names, in the same typeface, and the ESCHO name & logo (left).

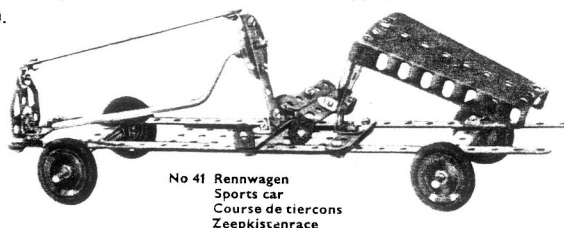
The ESCHO Illustrated Parts pages are identical to the MCS ones and to those in TEMSI manuals, likewise the List of Parts. A list of the models that can be made with the different sets is included and the names of the three IB/JC models in MCS are in the ESCHO List. So ESCHO & IB/JC may well be the same. Sets 1-4 are mentioned for each, though in the ESCHO manual the models for Sets 'I-IV' are listed in

French & Dutch, but for some reason only those for Sets '1-3' in German & English.) No company is known for IB/JC, and its date is given as the 1980s in MCS - there's nothing to indicate the date of ESCHO.

Though the parts are, or at least look like TEMSI, the Sets were not the same as any TEMSI outfits. The Manual has no Set Contents but many of the No.1 models use a 5*7h Flanged Plate and a 5*9h Perforated Plate, neither of which were in small TEMSI sets. Both can be seen in the IB/JC MCS models. None of the No.1 & 2 models have the 5*11h Flanged Plate used by TEMSI. The models are not very exciting, and the two opposite are not untypical, but it has to be remembered that there were no Flexible Plates in the Sets, and probably only 20 N&B in the No.1, and 25 in the No.2. The Strips on the manual cover are green and the Plates (all non-standard sizes) red.

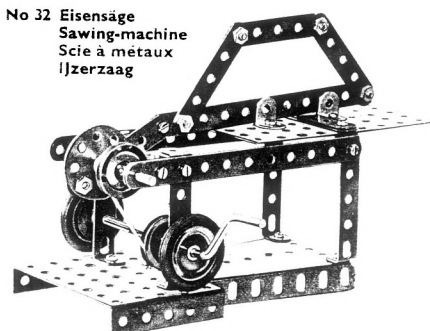
SUMMARY OF MANUAL •Name: ICH BAUE, IK BOUW, I'M BUILDING, JE CONSTRUIS on cover,

also METALLBAUKASTEN ESCHO-PLAST No 2. •Details of maker: ESCHO-PLAST Kunststoffzeugnisse GmbH & Co. KG, 5321 Berkum-Bad Godesberg. •Dates &/or Ref Nos: none. •Page size: 300*192mm deep. •No. of pages: 24 inc covers, with model pages numbered 1-12. (1-24 used below.) •Language: German, Dutch, English, French. •Printing: coloured cover (left) with yellow ground; B&W halftones of models; centre pages red. •Page Nos. of Parts List & highest PN: 3,4,11,14; 99 (illustrations on pp12-13). [No Set Contents] •Sets covered: 1,2. •No. of models for each set: 23,22. •Name, Model No., Page No. of first & last model of each set: 1: Dagger,1,5; Covered trailer,23,10. 2: Grandfather clock,24,15; Crane with turntable,45,20. •Other notes: which models from which sets on pp2,21-23.



Escho - Metallbaukasten

No 32 Eisensäge
Sawing-machine
Scie à métaux
Ijzerzaag



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

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

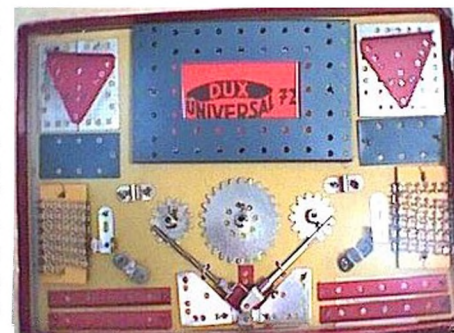


The No.70 (top) has some Strips, DAS, Plates, 4 Pulleys, and certain parts which were only in the largest standard set: a Grab 1059, a Handle Crank 1054, 2 large Trunnions 1051 (red), a Ring Spanner 1073a, a 22t Pinion 1031b, a 38t Gear 1032a, and a pair of Bevels 1065/1066. Also included is the large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

backing card.

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

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



SNIPPET: A Later ELEKTROMECHANISKAIS

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



above with the boy & model in full colour.

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



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

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

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

SNIPPET: SPIROU CONSTRUIT In MCS it is said that this Belgian system is TEMSI made under licence, and that the range of sets, Nos.1-5, continued into the 1970s. In 1966 GMM wrote that Sets 1-4 were being imported into Belgium



by S.A. Sarma-Nopri, 13-15 Rue Neuve, Brussels 1. The manual cover left (yellow with a green Crane, an orange boy, and the name is a light blue panel) is similar to

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

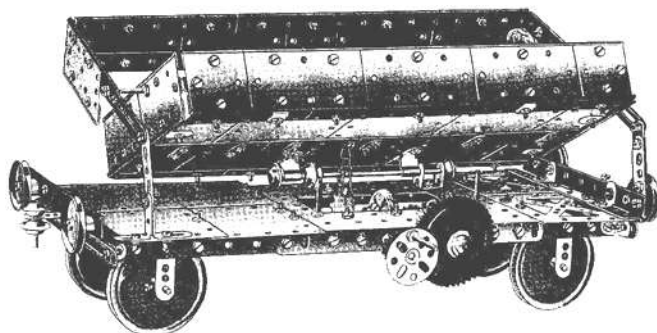
DUX-UNIVERSAL Sets 71 & 72 After the brief notes on these in 27/783 Jacques Pirat wrote that he has a manual for them, & most of the parts. He kindly sent some details & copies from the manual. The page below shows the parts & the set contents. The latter are in many ways similar in both sets but Nr.71 has Gears & various parts to provide bearings for them, while Nr.72 has Sprockets & a Universal.

The general appearance of the parts, & their colours are as described in OSN 27 (the illustrations in colour are on the OSN web site). The 19 parts which are not in the basic sets, and are not therefore shown in MCS, are as follows:

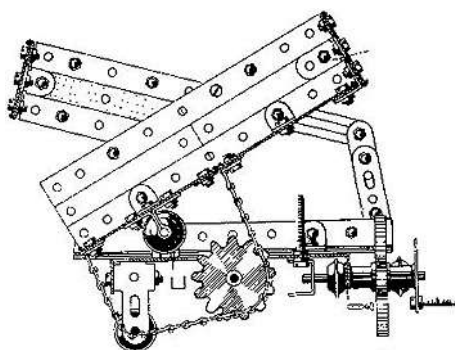
- The **Flanged Plate** 1009, 150*90mm with a centre cutout 80*35mm. The pitch of the end holes is 10mm as in the Beams (see #1015a & 20/558) – all the others are the standard 15mm.
- The **Triangular Plate** 1011 is 58mm wide & 35 mm deep.
- The **Reversed A/B** 1021a doesn't seem in any way related to the standard part #1021, a flat 'T' Bracket.
- The **Bearing Brackets** 1022a & b. The centre of the base of the latter is raised so there is no need for a hole in the part to which it is bolted. Another **Bearing Bracket** 1035.
- The 10t **Pinion** 1031. The **Rack** 1067, 90mm long, with a 75mm long flange for mounting.
- The **Gear Plate** 1051a is like the standard part 1051 but with additional holes that allow any DUX Gear or Pinion to mesh with any other, except a pair of the 45t Gears 1032b.
- The **Small Gear Plate** 1051b allows the brass **Worm** 1064 to mesh with any Gear or Pinion - a pair are bolted at right angles to a pair of 1051a, all on the same Plate.
- The **Corner Plate** 1053a – its sides are 32 & 34mm long.
- **Plates** 1057, 1058, are the same size as the standard Plates 1001, 1005 but with more holes, and are 1.2mm thick instead of .5mm.
- The **Hook** 1059a. There seems not to be a Hook among the standard parts; 1059 is a Grab.
- The **Sprocket Wheels** 1068a & b, 31 & 55mm o.d., with 13 & 26 teeth. And the (nickeled) **Chain** for them, 1069.

- The **Universal** 1070, and the **Spanner** 1073b.

The **MANUAL** has 24 pages, about 24*16cm, plus covers. On the front is 'Dux Universal / Vorlagenbuch / Getriebe+ baukasten Nr.71 und Nr.72', and a picture of 4 meshing Gears (3 of which are in the standard set 104 but not in Nr.71.) The PR is T 851 L, but whether that indicates 1951 isn't known. 6 models are shown for each Set (71 & 72) combined with one of the standard sets - 3 with Nr.101, 2



with Nr.102, & 1 with Nr.103. The Tipping Wagon above is made from Sets 72 & 103, & the mechanism can be seen right. A Pinion on the handwheel shaft turns the large side Gear Wheel, and its shaft (not in the view) carries a second Pinion which meshes with a Contrate on the Sprocket shaft (the top of the Contrate can

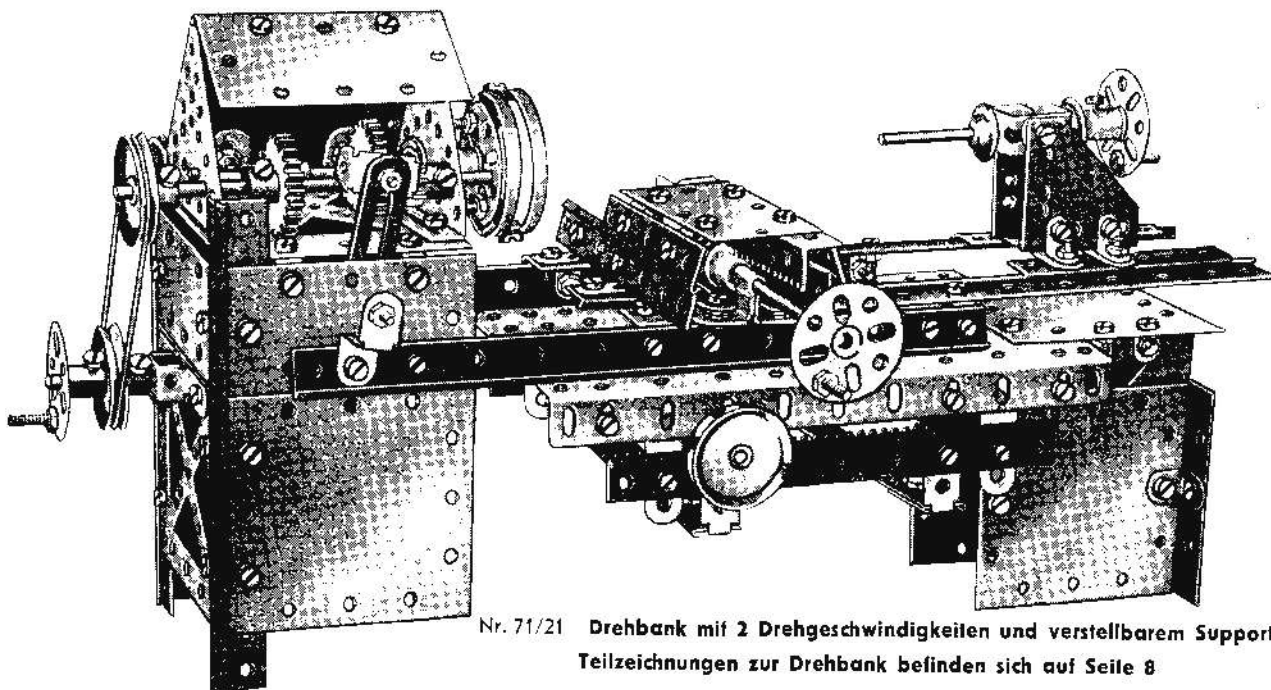


Inhalt der DUX-Getriebebaukästen Nr. 71 und Nr. 72											
Teil Nr.	Bezeichnung	Nr. 71	Nr. 72	Teil Nr.	Bezeichnung	Nr. 71	Nr. 72	Teil Nr.	Bezeichnung	Nr. 71	Nr. 72
1005	Rechteckplatte 60 x 30 mm	—	2	1041	glatte Welle 30	1	1	1061	Stellring	4	4
1009	Grundplatte 150 x 90 mm	1	1	1042	glatte Welle 70	2	2	1064	Schnecke mit Madenschraube	1	—
1011	Dreieckplatte mit Lappen	1	1	1043	glatte Welle 90	1	1	1067	Zahnstange	2	—
1015a	Tragschiene 90 mm	4	4	1044	glatte Welle 110	—	2	1068a	Kettenrad 13 Zähne	—	2
1021a	Z-Winkel	2	2	1051	Lagerplatte für Stirnrad	—	2	1068b	Kettenrad 26 Zähne	—	1
1022a	Längslager	2	2	1051a	Lagerplatte groß, für Kegelräder und Schnecke	2	—	1069	Kette 100 cm	—	1
1022b	Stützlager	1	1	1051b	Lagerplatte klein, für Kegelräder und Schnecke	2	—	1070	Kardangelenk	—	1
1023a	Laufrad 27 mm mit Nabe	1	1	1053a	Knotenblech groß	2	2	1071	Schraube 23 mm	4	4
1025	Lochscheibenrad	1	—	1057	Fußplatte 60 x 60 mm	1	1	1072	Schraubenschlüssel gekröpft	1	1
1026a	Winkel	5	5	1058	Fußplatte 60 x 30 mm	2	2	1073b	Schraube 5 mm	15	15
1031	Stirnrad 10 Zähne	2	—	1059a	Kranhaken	1	1	1074a	Schraube 12 mm	6	6
1031b	Stirnrad 22 Zähne	2	—					1171/1	Vorlagenbuch für Nr. 71 u. Nr. 72	1	1
1035	Lagergabel	2	2								

just be seen to the right of the Sprocket in the general view). The end linkages cause the side of the Wagon's body to lift as it tilts.

The Lathe below is made with Sets 71 & 102. It includes

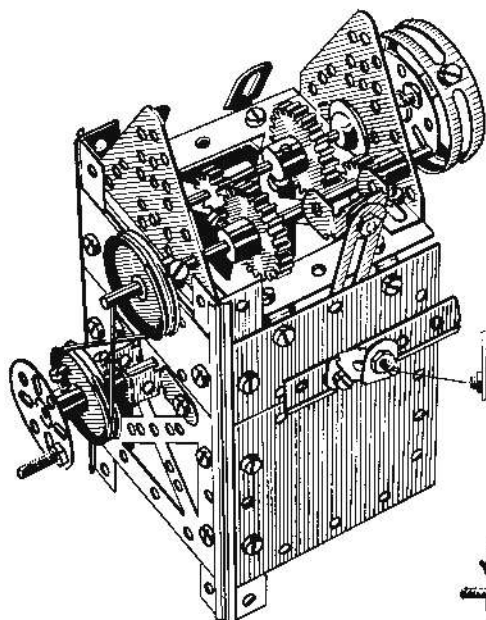
two geared movements for the tool rest but the tailstock seems to be fixed. The Bearing Brackets 1022a & 1035 are used in the tool rest mechanism.



Nr. 71/21 Drehbank mit 2 Drehgeschwindigkeiten und verstellbarem Support
Teilzeichnungen zur Drehbank befinden sich auf Seite 8

Wird der als Schalthebel verwendete Z-Winkel, siehe auch Abbildung 71/21b auf Seite 8, nach rechts gelegt, so greifen die Zahnräder auf der linken Seite ineinander und die Drehscheibe der Drehbank dreht sich schnell. Wird der Schalthebel nach links gelegt, so greifen die rechts liegenden Zahnräder ineinander und die Drehscheibe dreht sich langsam.

Teile zur Modell 71/21					
6 — 1001	1 — 1017b	3 — 1023	2 — 1035	2 — 1067	Die erste Zahl in den Tabellen bedeutet die Stückzahl und die zweite die Nummer der bei dem betreffenden Modell verbrauchten Bauteile.
4 — 1004	3 — 1018	4 — 1025	1 — 1036	2 — 1071	
7 — 1005	2 — 1019	4 — 1027a	3 — 1037	150 — 1072	
1 — 1009	6 — 1020	38 — 1028a	2 — 1042	121 — 1074	
4 — 1014b	4 — 1021	2 — 1031	2 — 1051a	9 — 1074a	
6 — 1015	1 — 1021a	1 — 1031a	2 — 1053a		
4 — 1015a	2 — 1022	2 — 1031b	6 — 1061		
6 — 1016	2 — 1022a	2 — 1034	1 — 1064		



71/21b Schaltgetriebe der Drehbank

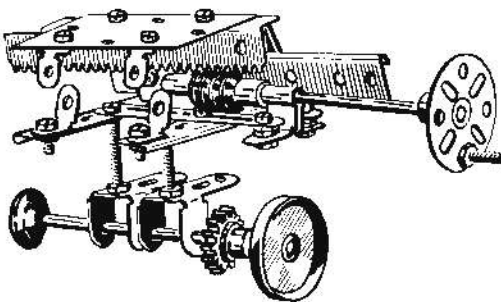


Abb. 71/21c Support

Das kleine Zahnrad Nr. 1031a greift in die im Drehbankbett eingebaute Zahnstange.

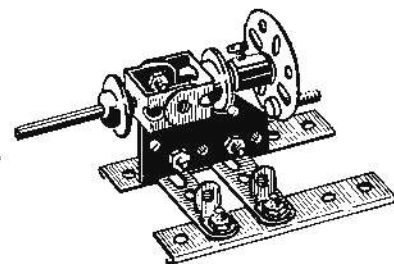


Abb. 71/21d Reifstock der Drehbank

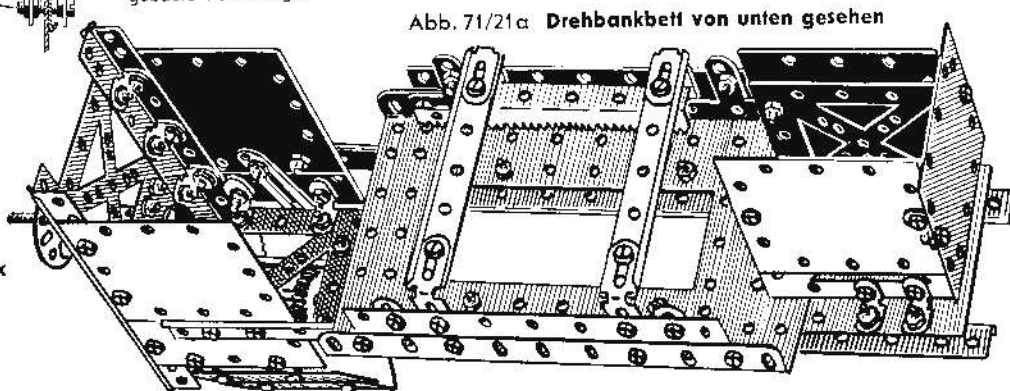


Abb. 71/21a Drehbankbett von unten gesehen

The DUX Eisenbahn Outfits

Although the examples given in Hornby's original patent were largely railway items they were not subsequently pursued in any systematic way. later a few other makers ventured to tackle the subject but in the main they were less than comprehensive, and most did not last for very long. The first was STABIL in about 1912 with sets to make Gauge 1 size Goods Wagons (see 23/676) but these were discontinued during WW1. PRIMUS in about 1914 made a better showing with standard sets from which Gauge 1 Stations, Coaches, Wagons, etc could be made (see 23/676) – and post WW1 there was even a PRIMUS C/W Loco (5/100) though it wasn't perhaps their finest innovation. The next foray was METALCRAFT's theme sets in the 1930s for a range of 12 Goods Wagons for Gauge 0 (23/677, 24/691 & 31/908), but no coaches, no loco, and no buildings. Nothing then until after WW2 with KÖSTER and DUX sets for models to be used with Gauge 0 track. By this time there were electric motors small enough to make a powered

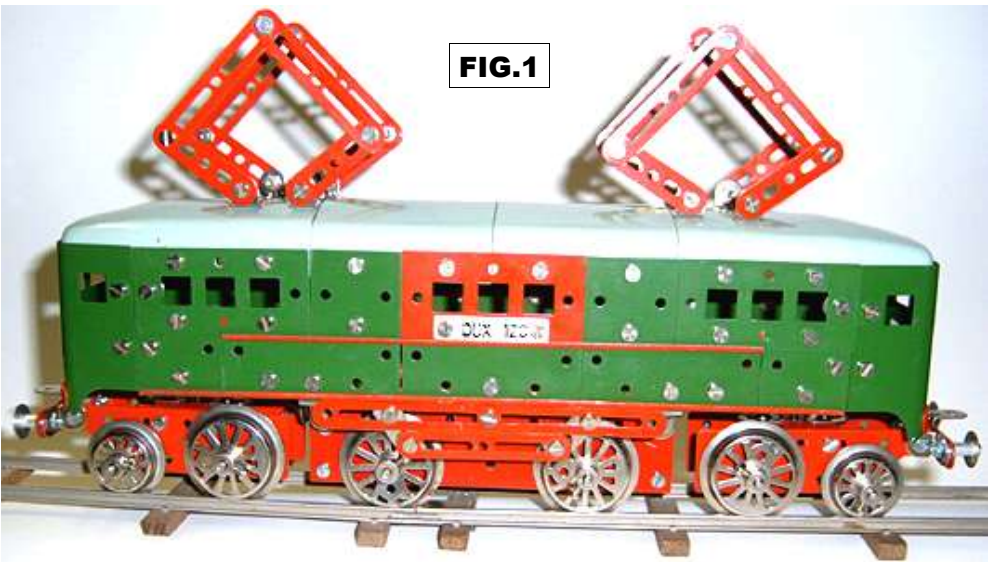


FIG.1

Gauge 0 Loco possible but sadly by that time Gauge H0 was rapidly becoming the most popular standard. Köster showed 3 sets at a fair in 1948 with No.80 for Goods Wagons and an unpowered Loco (23/678). The other sets may have been No.81, said to be for Signals, Bridges, Stations etc, and No.82, said to include an electric motor to power the Loco, but it is unclear if either of these sets was produced commercially.

Finally 3 DUX Railway Building Sets, Nos.120, 121 and 122z. They were mentioned in 20/561 but now Urs Flammer has kindly sent scans of the pages from a manual which covers all the sets, and photos of two of his models. Sets 120 & 121 can be used on their own to make a Loco and a Coach respectively, but 121z

needs parts from the (smallest) standard set, No.101 to make either a slightly different Coach, or a Goods Van. No precise dates are known for these sets but, from the Manual's PR, they may have been as late as the early 1960s.

The manual, in B&W, has 8 sides including the cover (Fig.4). All the text is in German, French, Spanish, Portuguese, & English. p2 has a short introduction, including a recommendation that the Loco be powered by the DUX No.54 Motor using

No.	120	121	122z		No.	120	121	122z	
120/1	2	4	4	roof sheet	1014 b	2	—	—	beam 180 mm
120/2	2	—	—	roof closing sheet	1015	—	—	4	beam 120 mm
120/3	2	—	—	face sheet	1017 b	2	—	—	stay 120 mm
120/4	2	—	—	carriage plate	1018	14	2	—	stay 60 mm
120/5	4	—	—	plate for turning trestle	1018 a E	2	—	—	stay 60 mm bent
120/6	4	—	—	angular traverse	1019	8	4	—	stay 40 mm
120/7a	4	—	—	driving wheel, insulated	1020	4	—	—	connection angle iron
120/7b	4	—	—	driving wheel, uninsulated	1022	2	—	—	bearing stand
120/8a	2	2	2	normal wheel, insulated	1026 a	1	1	—	screw driver
120/8b	2	2	2	normal wheel, uninsulated	1027 a	16	2	—	fish plate
120/9	6	—	—	separating roll	1028 a	20	32	—	angle iron
120/9a	6	—	—	separating roll	1031 b	2	—	—	spur gear 22 teeth
120/10	1	—	—	rubber-band for drive	1034	2	—	—	channel iron
120/11	1	—	—	counter-isolation for brush contact	1041 b	6	2	2	smooth shaft 60 mm
120/11a	1	—	—	isolation for brush contact	1045	1	—	—	smooth shaft 145 mm
120/12	1	—	—	angular support for brush contact	1047	4	—	—	big angle iron
120/13	1	—	—	contact spring	1060 a E	1	—	—	sheave 19 mm
121/12	—	2	2	support for bearing the axle	1061	2	—	—	setting ring
11	2	—	—	thread pin	1064	2	—	—	worm
77	4	4	4	buffer disc	1071	2	—	—	screw 23 mm
1001	—	4	—	square plate 60 x 60 mm	1072	165	100	—	hexagonal nut 5 mm
1002 E	—	4	4	square window 60 x 60 mm	1073	1	1	—	wrench
1005	6	2	—	rectangular plate 60 x 30 mm	1073 a	1	1	—	wrench with nut lead
1006 E	—	6	4	rectangular window 60 x 30 mm	1074	155	80	—	screw 5 mm
1008	4	2	—	rectangular plate with opening	1074 a	4	6	—	screw 12 mm
1010	12	4	2	sqare plate 30 x 30 mm	52/4	1	—	—	screw driver
1014 a	4	6	—	beam 240 mm	120/121	1	1	1	Model book

FIG.2

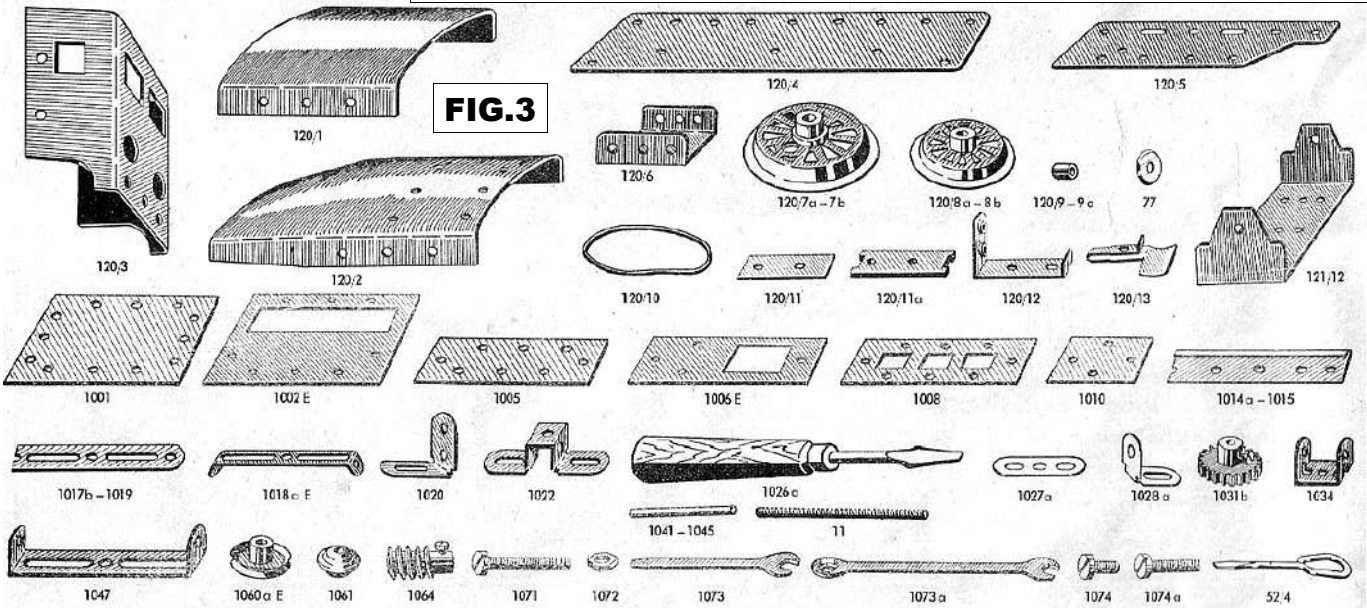
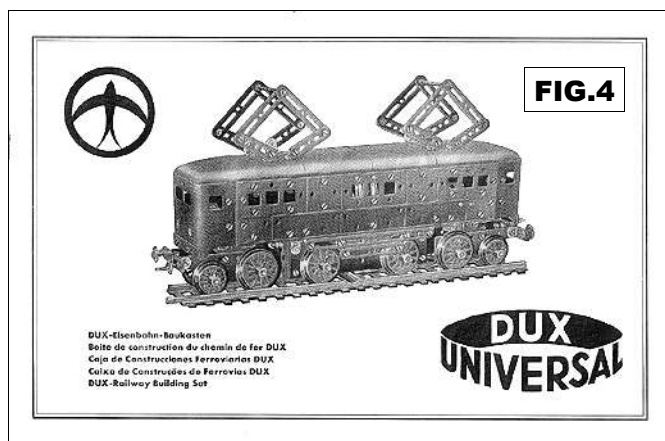
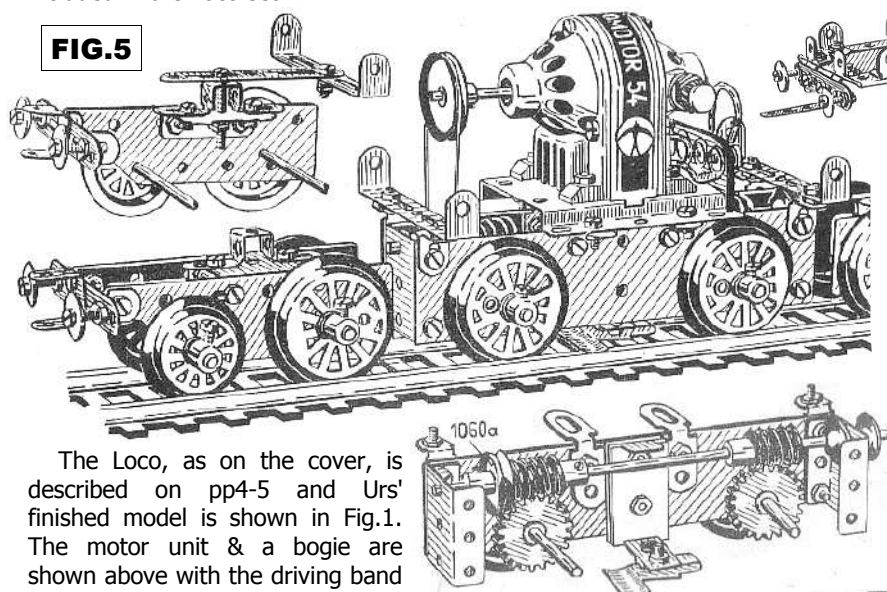


FIG.3



the No.55 Transformer; the Illustrated Parts (Fig.3); and the Set Contents. The latter are shown in Fig.2 with the English names from a list of the parts on p3 added. Of the 54 parts 27 are in the standard or Gear Sets, and a few of the 'specials' are modified standard parts. The Motor & Transformer are not included in the Loco set.



The Loco, as on the cover, is described on pp4-5 and Urs' finished model is shown in Fig.1. The motor unit & a bogie are shown above with the driving band going to a Pulley #1060a. All the Wheels on one side of the Loco have insulated bosses (#120/7a & 120/8a), and the springy pick-up Shoe #120/13 is also insulated using the Strip #120/11a with the Mounting Bracket #120/12. The Shoe can be turned through 180° to contact either an outer or the centre rail of 2- or 3-rail track. The complete body shell is bolted to the two DAS on the motor unit, and the Double Bent Strip on each bogie is linked to the centre hole of another DAS across the bottom of the body shell by a horizontal Strip, as top left in Fig.5. It is lock-nutted at

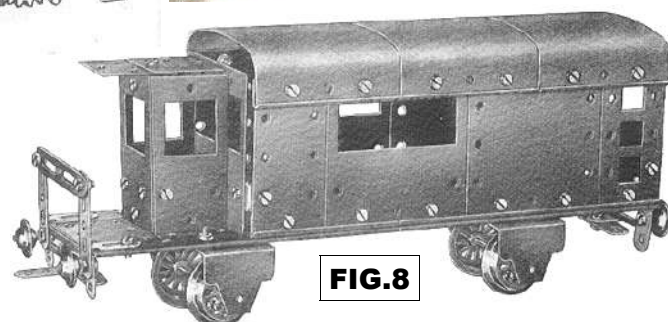
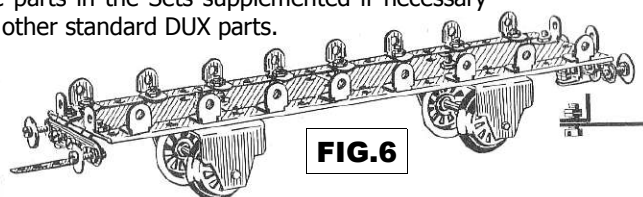
each end, through a slotted hole in the Strip at the Double Bent Strip end.

p6 has a Coach made from Set 121. It is basically the same as Urs' in Fig.7 except for the window panels. The chassis (Fig.6) is made from Plates edged with Strips with A/Bs to allow the side & end Panels to be attached. Each wheel unit is pivoted by a Bolt lock-nutted through its centre hole.

p7 has Urs's Coach made with Sets 101+122z. Apart from the Side Panels it differs from the Set 121 model in the Plates used in the chassis, the Brackets used to attach the Panels, and the way the coupling is mounted. Also on this page an ad for the Transformer – it has a knob on top giving 3 voltages for forward and 3 for reverse

p8 has an ad for the Motor: 20V/12W; the PR: G 1161 W; and the 101+122z Goods Van in Fig.8. Again the chassis differs only in the Plates & Brackets used.

Nothing is said in the manual of the possibility of making other rolling stock, but this would certainly be possible using the parts in the Sets supplemented if necessary by other standard DUX parts.

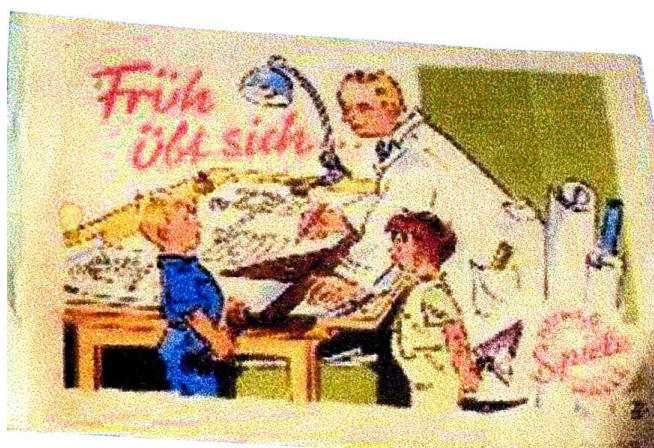


DUX-UNIVERSAL: S4

OSN 43/1300

Snippet. More on METALLBAUKASTEN [6] Yet another Nr.301/302 set (see 39/11663) has been offered on Ebay. It was in the same wooden box with card lid as before, and most of the parts mentioned earlier could be seen except the 5h Ø Disc. They included a 6*8h Perf. Plate (the 6*9h mentioned in OSN 39 was a mistake, it should have read 6*8h). One 'new' part is a 14h Strip. 6 Wheels (or Pulleys) could be seen, 4 which looked identical to those in the 38/1153 set, and 2 which were brown, and a little smaller in diameter.

With the set were the manual right with the same slogan as on the lid, and the Bauvorlagen document that was with the OSN 39 outfit. Both carry the 'Spiele' circular logo: bottom right on the manual cover and bottom left for the Bauvorlagen – its very top can just be seen in the bottom left corner of the OSN 39 photo.



METALLBAUKASTEN [6]: S3

OSN 43/1300

More TIM TIM, a set to make child-size toys, Scooters etc, was described in 34/1025. Urs Flammer recently acquired a set in Switzerland and kindly sent some notes about it, plus photos of the two models he had made.

The Set is the same as the one in OSN 34 but in addition to the model sheets it included a leaflet & an order form. The former is one sheet folded to give 4 sides and has the front in Fig.1. The back page has a price list of separate parts; the inside pages constructional hints in French & German.

The Order Form, in Italian as well as French & German, is a freepost card addressed to Firma Metaucol, Monbijoustrasse, Berne, and this firm is named as Représentant Général on the the front of the Leaflet. Also the construction hints are signed Tim, Metaucol, Berne. This supports the view in OSN 34 that TIM was probably Swiss, and further suggests that TIM was probably made by, or for, Metaucol.

The date given in OSN 34 of 1949 or soon afterwards, is also supported because the seller of Urs' set thought that his father had bought it from a cycle shop in about 1951, and Urs judged that from the address & general layout of the Order Form it is likely to have been from sometime in the early 50s.

The parts, mostly metal but with yellow painted Wooden Plates, are as in OSN 34 but Urs noted that the threads are, as would be expected, metric: M4 & M8. Also that the part with a question mark by it, bottom right in 34/1025, is used to lock the Saddle, to prevent it from turning. It is not mentioned in the instructions, nor is it included in the Price List. The Wheel is fitted with a centre bronze bearing (and not the ball race



Fig.1



Fig.2



Fig.3

suggested by the French version of the Instructions) and it was to be kept lightly greased. Light greasing was also suggested to ease assemble if any difficulties were met.

Urs' models are shown in Figs.2 & 3. The Scooter is 100cm long, its Saddle 50cm high, its handlebars 80cm. The Trailer's platform is 36*85cm and it is shown being put to good use.

In conclusion Urs wrote that that construction of the models was relatively simple but the size of the parts makes the system more of a toy for fathers than for youngsters.

OSN 47/1441

TIM: S3

Snippets. The DUX 121 & 122Z

Train Outfits. Notes on the manual models from these sets, and the Loco Outfit Nr.120, were given in 43/1299. Now to hand Ebay photos of the 121 & 122Z sets (the 'Z' is for Zusatzkasten, (Add-on Set)) because its models need parts from the smallest standard set Nr.101.

To the right, the 121's lid (its bottom has been cut off by a few centimetres). It is one of the two DUX lid designs, the 122Z lid is the other type with the same layout but with a Fire Escape replacing the Crane.



Fig.1

Fig.2 shows the 121 and all the major different parts can be seen (see OSN 43 for the contents of the sets). Presumably some of the parts are stacked. Another photo shows the blue box open and it contains the rest of the parts: N&B, A/Bs, Axles, Spanners, & Buffers. It also contains a wooden-handled Screwdriver not called up in the inventory.

As explained in OSN 43 there was one manual which covered all of the three Railway sets. The one shown with the 121 has the expected cover, as in Fig.4 in OSN 43.

Below the 122Z and, assuming some stacking, it is complete (the 60mm Smooth Shafts, #1041b, are below the centre Roof Sheets #120/1).



Fig.2

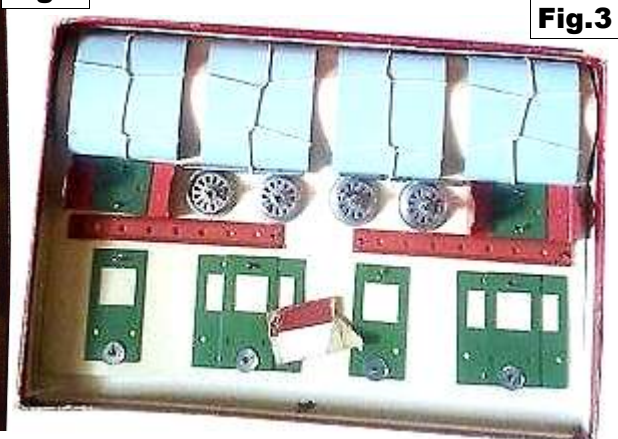


Fig.3

OSN 47/1441

DUX-UNIVERSAL: S5