10

OTHER SYSTEMS NEWSLETTER

OSN 10 APRIL 1994

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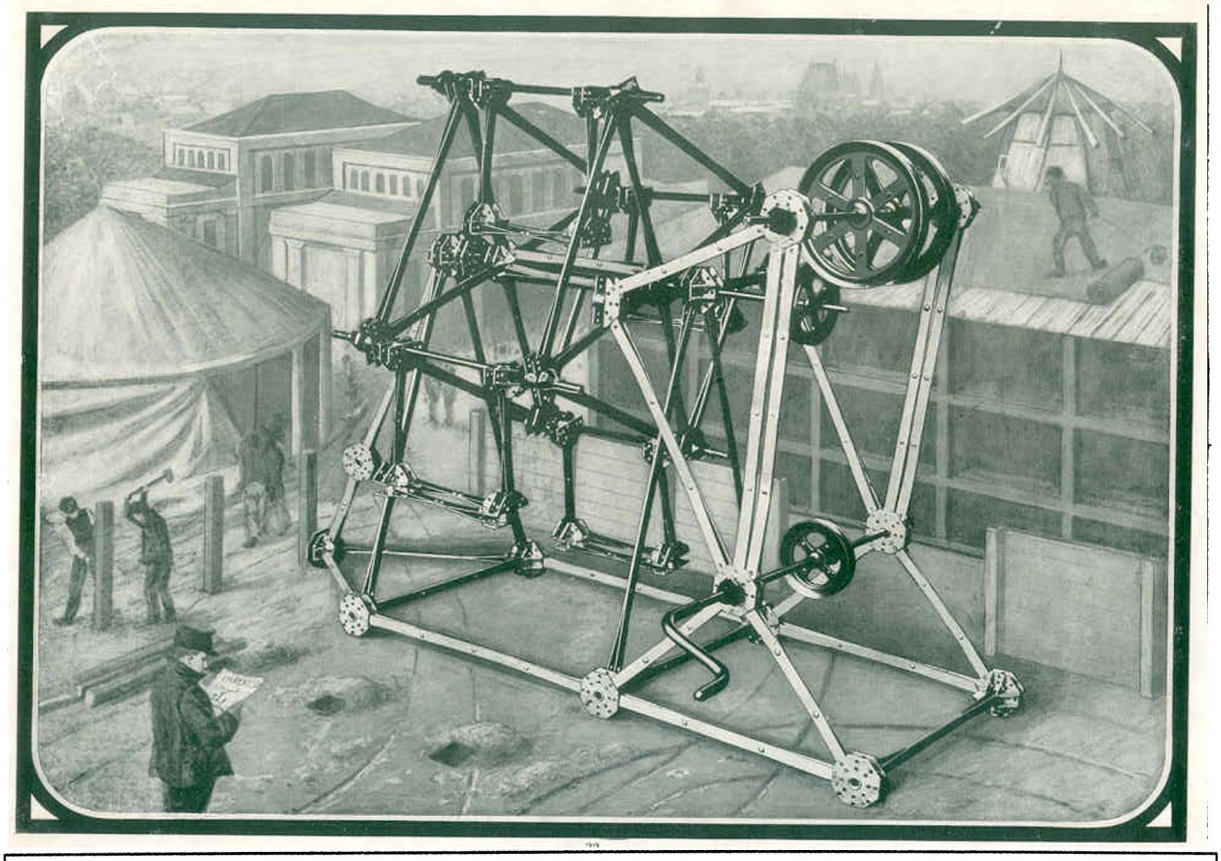
EDITORIAL Let me try to clear up a couple of misunderstandings. First about hole spacing/hole pitch - several readers have sent me hole spacing information which has been the distance from the end of one hole to the beginning of the next, that is the amount of metal between holes, rather than the distance between hole centres, or, as is usually more easily measured, the distance from the edge of one hole to the corresponding edge of the next. I'm sure that this last, the pitch of the holes, is the best measurement for OS purposes, and in as much as it's possible to interpret 'hole spacing' in more than one way, that term should ideally be avoided. However it is widely used to mean 'hole pitch', and so perhaps we can go on using either term with the understanding that 'hole spacing' means 'hole pitch'.

Secondly, some readers have asked for clarification of my remark in the OSN 9 Editorial that 'if you see any red ink [in the ACCOUNTS section] it is time to send more money'. The main question has been whether the next Issue will be sent if the amount of credit is less than it costs. The answer is yes, provided there is some credit no matter how small, and you will also receive the Extra MCS Sheets that go with that Issue if you have asked for them to be sent automatically. If your credit is negative I put it in red and you receive nothing further unless you send more money. I do it this way for simplicity, but of course if you prefer to always stay in credit, feel free to send monies whenever you like - and as much as you like.

To end on a sad note, many will know by now of the untimely death of Dennis Higginson. He was one of the first subscribers to OSN and was an unfailing source of encouragement and material. Nothing was ever too much trouble for him, and I miss his cheery phone calls, and his enthusiasm for Meccano and Other Systems.



An IMPERATOR model, reproduced here by kind permission of the Editor of MECCANO-NIEUWS. See p260 for more on this system.

THE CHINESE TRIAD. That's to say WISDOM, CONSTRUCTION MODELS and CONSTUCT-O-STEEL, and I'll shorten then to WIS, CM and COS for this account. These sets are still available and most at least have been on sale since about 1978. They are included in MCS but more details are available, in particular on the colours of the parts and the contents of the various sets. I am grateful for information from Jean-Louis Figureau, Don Redmond, and Ed Barclay, and I have also drawn on an article in INFOS JOUETS #11. Before starting it is worth saying that although there are differences between the 3 systems in terms of colour, packaging, and to a limited extent, set contents, the parts are very probably identical. Don pointed out that small variations may well arise from differences between batches rather than between the 3 systems. The Names of the systems are also sometimes mixed up in the Instruction Leaflets, for example the Introduction in a CM one I have here is headed CONSTRUCTION MODELS WISDOM; the Chinese version of the Name though is the same 4 Chinese characters no matter which English version it is. To further confuse matters, common Ref Nos also occur, the WIS Manual in MCS has MM193 on it and the same number is used to describe a COS Set (MCS/FB p7). In French markets WIS is also sold under the name SAGESSE (= wisdom).

SETS and CONTENTS. Sets 0-6 are known for WIS, and 0-4 for CM and COS, - MCS says 1-3 for COS but the FB p7 shows 5 Sets with Ref Nos. MM190-194 and these are believed to be Outfits 0-4. Sets 0-4 are (with the odd exception that may come from errors) progressive in terms of contents but not #5 or 6. Set 5 is essentially a #2 plus a Clockwork Motor, and #6 is a special Lorry Set including a Friction Motor and a special Cab, on the same lines as the one in MECCANO Multikits. The Contents of Sets 0-6 are included in an Extra MCS Sheet. Most readers will have seen something of these Sets, the largest has less than 100 N&B, and all have a fairly well balanced selection from the 40+ parts in the system, but there are no Strips longer than 11-hole and no A/Gs or large diameter Wheels. The #2 is not dissimilar to a MECCANO #2 of the 1960s. The wheels in the sets are unusual, there are the expected Pulleys (28mm) and Rubber Rings, but also plastic Hubs, with nickel Hub Caps and 1½" o/d Tyres, which are a push-fit on 2.6mm axles, and these run in the normal sized holes in the parts. This is the more surprising because with one or two exceptions the parts are nicely made and finished. In INFOS there is a comparison between #2 and 4 WIS and #2 and 4 CM sets bought in Hong Kong in 1982. The WIS was more elegantly packed than the CM: expanded plastic and a transparent box lid v. parts strung to a card. But the contents were identical except that both CMs had two 2.6x40mm Axles not included in the WISs; the models shown were different though and the WIS #2 cost nearly twice as much as the CM.

THE PARTS. These are generally MECCANO-like though with quite a few exceptions:

- Hole pitch is 12.5mm and hole diameter is 4.4mm. Strips are 12.2mm wide with fully radiused ends. The end holes of DAS are elongated, as are the 4 outer holes in the 90a style Curved Strip.
- Flanged Plates all have 2 flanges with slotted holes, and as well as the 5x11 and 3x5-hole sizes, there are 5x5 rectangular and 7-hole long Flanged Sector Plates. Trunnions are the 7-holes type with no cutouts. All Flexible Plates are plastic with round end holes.
- Bosses are made of steel, 9.0mm dia, single tapped M4, and are clumsy looking at nearly 12mm long. The centre hole of the 8-hole Wheel Disc is about 6½mm dia.
- The N&B are steel M4: the 6mm Bolts have round crossheads, 6.8mm dia (earlier they may have been cheeseheaded); the hex Nuts are 6.9mm A/F and 3.1mm thick. Some threads found have been tight. The Spring Clips are smaller than usual with 5mm wings. The Hook is flat, similar to the MÄRKLIN pattern.
- Strips, Brackets, and N&B are always nickel plated. The colours of other parts vary, in one Leaflet, probably an early one, metal parts are red with green Plastic Plates, assuming flexible plates were plastic then. In another CM #2 Leaflet those colours are used for a model on the cover but those inside have blue steel/yellow plastic parts. In the UK the most common colours seen are metallic red for steel and yellow plastic. The remains of a COS Set I have is in these colours. The standard metal parts in the 1982 INFOS outfits were red for the CM and C/W #5 Sets, metallic red for WIS #2 and 4, and blue for the Lorry Set; the colour of the plastic parts isn't given. A #5 and a #6 WIS that Jean-Louis bought in Egypt in 1990 were red metallic and blue metallic respectively, with yellow plastic in both. Don found the same colour scheme in a #6 Set bought in Canada recently, while a #4 was metallic red/yellow, but he also noted that various reds and blues could be found among 'Chinese' parts. All agree that both the nickel and the paintwork are excellent but that the plastic parts are rather brittle and may break if curved too far.
- The special parts in Sets 5 and 6 have not been seen. The general shape of the special Cab can be seen opposite in one of the models from the Manual; it is in 3 parts with a Chassis at the bottom which also carries the Motor. From a photo Don sent, the main metal body is red with a nickel bumper and radiator grille/headlights; the top is white plastic with a clip-in windscreen. Parts not in MCS are shown on the new Sheet though some are rather blurry.
- Part Nos are not consistent between sets, a single part can have as many as 5 numbers.

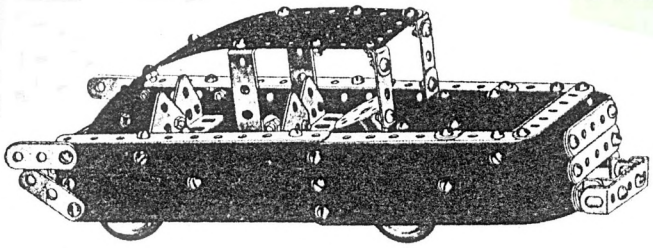
MANUALS. Sets 0-2 have folded Instruction Leaflets, the larger Sets proper Manuals. In the INFOS Sets the CM models are line drawings and the WIS, photos. But there are many more of the former, 45 for Set 4 against 20 for WIS. Don's 4,5 and 6 Manuals are in English, French, Arabic and Chinese. Details

of the two leaflets I have are given below, the models in them seem to me to be quite attractive and to make good use of the parts.

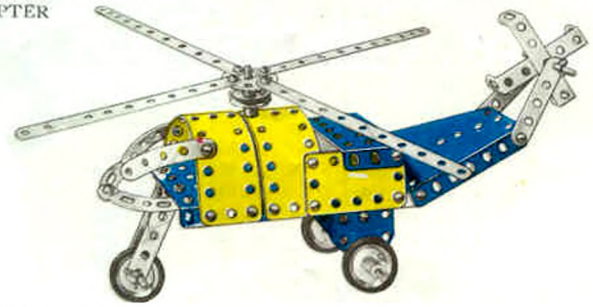
LATE EXTRA. Karst Quast very kindly sent me a WISDOM #0 Set and the parts in it were just what would be expected except that the push-on Road Wheels (for the 2.6mm Axles) were a smaller type not noted before. They were $1\frac{1}{8}$" dia instead of the normal $1\frac{1}{2}$" and the Hub, Hub Cap and Tyre were all smaller in proportion.

AMENDMENTS TO MCS (as necessary, depending on version): NAMES: CONSTRUCTION MODELS and CONSTRUCT-O-STEEL. HOLE DIAMETER: 4.4mm. HOLE SPACING: 12.5mm. SETS: 0,1,2,3,4. PARTS: 36. COLOUR: Nickel Strips, Brackets; other metal parts red or possibly blue (C M), metallic red (COS); yellow plastic Plates (may be green in early C M sets). COMMENTS: WISDOM, CONSTRUCTION MODELS, CONSTRUCT-O-STEEL parts are very probably identical. See WISDOM for full Set Contents.
NAME: WISDOM. HOLE DIAMETER: 4.4mm. HOLE SPACING: 12.5mm. SETS: 0,1,2,3,4,5,6. PARTS: 41. COLOUR: Nickel Strips, Brackets; other metal parts metallic red or red for #5, and blue or metallic blue for #6; yellow plastic Plates. MOTOR: Clockwork in #5; Friction in #6. COMMENTS: Also sold under name SAGESSE for French markets. WISDOM, CONSTRUCTION MODELS, CONSTRUCT-O-STEEL parts are very probably identical.
AMENDMENTS TO INDEX IN OSN 6: Add THREAD: M4. [for CM and WIS]

SUMMARY OF MANUAL. #Name: CONSTRUCTION MODELS. #Details of maker: None. #Dates &/or Ref Nos: None. #Page size: 414x376mm deep sheet folded into 12. #Language: English, Chinese. #Printing: Halftone colour. Models are red, green & bright Strips. 'Cover' has boy/model against brown ground. #Highest PN in Parts List/Set Contents: 026 in both. #Sets covered: #2. #No of models: 20. #Name, Model No. of first & last model: MICROSCOPE,1; SEED-PLANTING MACHINE,20. #Other notes: CONSTRUCTION MODELS WISDOM referred to in text.
SUMMARY OF MANUAL. #Name: CONSTRUCTION MODELS. #Details of maker: None. #Dates &/or Ref Nos: ART.NO.MM092 on cover. #Page size: 490x379mm deep sheet folded into 4. #Language: English. #Printing: Colour 'cover' with halftone boy with red/green/silver model against solid blue ground. Models in solid blue/yellow/light grey. #Highest PN in Parts List/Set Contents: 027 in both. #Sets covered: #2. #No of models: 26. #Name, Model No of first & last model of each set: SEED PLANTING MACHINE,2.1; PROJECTOR,2.27. #Other notes: There is no Model 2.20. In text it is said that Sets 1 to 4 available.

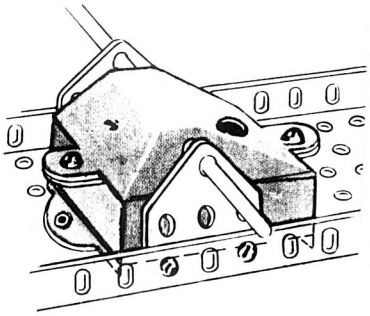


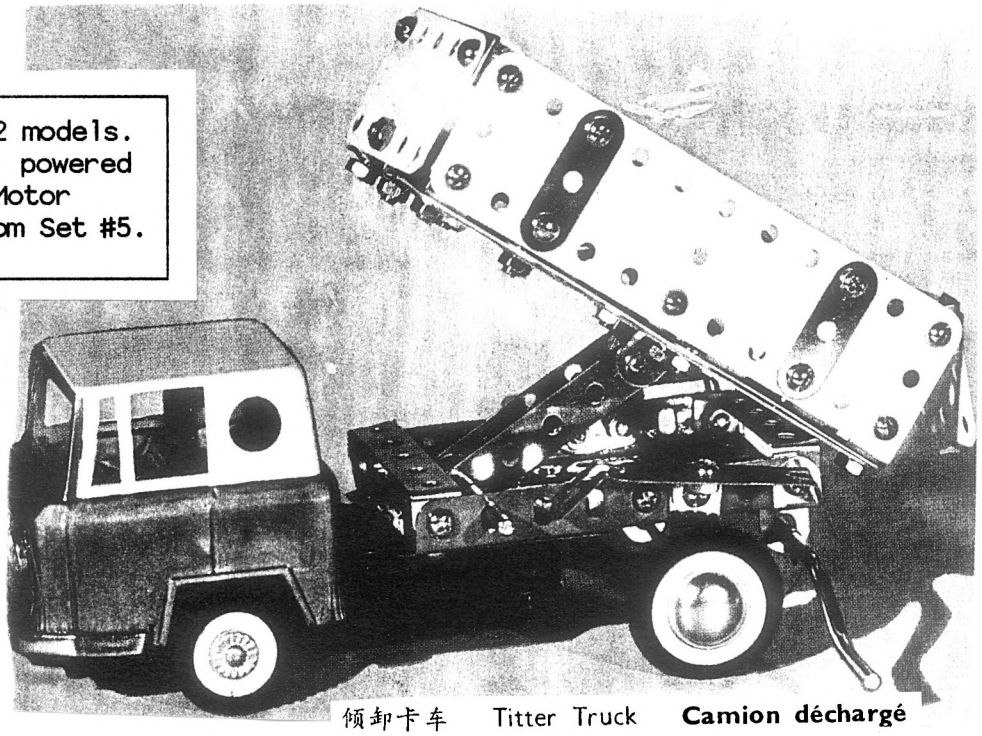
2.8 HELICOPTER



4.38轿车 Sedan

Above: Set #4 and #2 models.
Right: #6 Set model powered by Friction Motor
Below: C/W Motor from Set #5.





倾卸卡车 Titter Truck **Camion déchargé**

NEW SYSTEM - STEEL TEC When Don Bock from Ohio mentioned STEEL TEC on the telephone my mind went to STEEL-TECH, alias Duplex ERECTOR, as sold by Montgomery Ward in the 1930s. But no, the spelling is different and this is the 1990s, so on the STEEL TEC (S/T I'll call it) box it says that 'the parts are compatible with MECCANO ERECTOR parts'. Not only compatible but in most cases a fairly exact copy. But let's start at the beginning, the parts and sets are produced in China, for Remco Toys Inc. of New York, and they went on sale in 1992. Remco have been in the toy business for at least 40 years and Don remembers their slogan from his childhood - Every Boy wants a Remco Toy - and when they included dolls in their range, they added 'and so do Girls'. But until now they had never sold a constructional toy, so perhaps the talk of MECCANO ERECTOR being a success is true if other manufacturers are getting in on the act.

THE SETS Don very kindly bought a #6 for me and sent it across and later sent me a #5 for a friend: what follows has been gleaned from those Sets, plus some details of a #1 that Don Redmond bought in Woolworths in Canada. All the boxes are in full colour with the models that can be made from the outfit shown against a black ground. The full range of sets, with the manual models for each, is on the back of both of the large boxes. There are 9 different #1 Sets. The parts for these are housed in formed transparent plastic inserts on a corrugated board base; these slide into the outer box which measures 152x196x54mm. #2 is called Construction and Road Vehicles; #3 is Road and Air Vehicles; and #4, Construction Vehicles. Set #5 is entitled 'Road and Air Vehicles plus Walking Robot', and #6 is 'Construction Vehicles plus Walking Dinosaur'. The parts in both the #5 and 6 are packed in a block of expanded polystyrene; with all the Strips and some other parts in a nice black plastic box with a lid, and pegs inside on which the parts are placed. The block slides into the 70x318x414mm box which has those nasty interlocking ends that are practically impossible to open without tearing them.

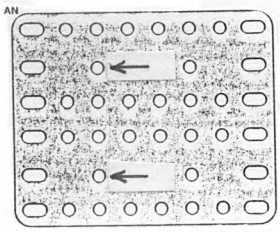
As will be seen the sets are not progressive, #3 and 4 are not related; #5 is a #3 with the extra parts in it to make the Robot, and #6 is a #4 plus the parts for the Dinosaur.

Also shown are a Steel Tec Work Center/Storage Case, and a battery (2xAA) powered Power Wrench, which comes with various screwdriver bits and includes '50 Nuts, Bolts and Parts'. The Case looks about 12"x16" perhaps, or a little larger, and is moulded from black plastic with partitions for parts in the bottom; there is also a red lift out tray, again partitioned. The lid opens out flat and it contains a socket in which a 6" long rod or tube can be inserted so it sits there vertically. It's shown with a small model on top of it but I'm not sure what it's doing there. On the carton are the words 'can be used to assemble MECCANO ERECTOR sets and parts', and I'm not sure what to make of that either.

THE PARTS I counted 74 different parts excluding motors and tools but there may be one or two more in the smaller sets. Most of the standard parts seem to be near carbon copies of MECCANO and since the S/T parts have letter designations but no names, I'll use MECCANO ones. In passing the letters used to label the Remco parts are consistent or nearly so between Sets 3 to 6, but are different for Don's #1. Back to the parts, there are Strips with 3 to 9 holes, a 3 hole A/G, DAS up to 1x5x1 holes, 4 lengths of Bolts up to $1\frac{1}{8}$", some 7 different Brackets, 2, 3 and 5 hole Flat Girders, a 5x3h Flanged Plate, a Rod and Strip Connector, etc, etc. If you look really hard the occasional small difference can be seen, the ends of the DAS for example are fully rounded instead of having the larger radius used on MECCANO ones. Also some lengths of Strip, the Flat Girders and the 3x3h Plate (BZP) are stamped REMCO, and all of those except the Strips have a thin line stamped all round on one face, about .05" in from the edge.

Of the remaining parts: 10 or so are plastic intended for a particular purpose; two are the unusual Plates shown in Fig 1, but note that the actual parts didn't have the arrowed holes; the rest are parts more or less different from their MECCANO counterparts. From all these categories I'll list the more interesting examples:

- The 3x5 hole Triangular Plate is like the MECCANO 221 but is of thicker material and quite rigid. Likewise the only 'Flexible' Plate (5x3h), although there is a plastic version as well.
- The $1\frac{3}{4}$" dia Road Wheels are made from a slightly 'grippy' black plastic and push onto the Axles; STEEL TEC is moulded twice around one face of the 'tyre'. Only the Bush Wheel and Gears have bosses and they are brass, double tapped, 9.0mm o/d and look very neat as most only extend out about 5mm. Their bore is 4.10mm and this means that they are a good fit on MECCANO Axles but are slightly sloppy on the 3.99mm dia S/T ones: the latter are of good quality, nickel plated, with sheared, but slightly chamfered, ends.
- There are 3 gears - a Worm, a 19 tooth Pinion and a 57t Wheel; all are made of yellow plastic with a brass boss moulded in. At a glance they could easily be mistaken for MECCANO but in fact their DP is 40 and this means that the Pinion and Gear Wheel are slightly smaller than the MECCANO variety. So much so that they barely mesh at 1" centres; this doesn't matter in the S/T models because both Gears are only used with the Worm, and there is plenty of slack in the bracketry to allow correct adjustment, but I suspect nonetheless that this feature wasn't intended. One oddity is that 2 Gear Wheels without bosses are supplied for the Dinosaur though the manual shows normal ones with bosses. It doesn't matter because they only have to play the part of Wheel Discs and the large (7.3mm) centre hole isn't used.
- There are 3 plastic Pulleys, 15mm and 22mm o/d loose and 22mm push on. They are yellow and the 2 larger ones have a pattern (Fig 2) moulded into both cheeks; the small one has it on only one side.
- With the emphasis on compatibility with MECCANO it is no surprise that the thread used is $\frac{5}{32}$"BSW. The Nuts are square and the Bolt heads are similar to current MECCANO ones with the same size Allen key recess. The Grub Screws take the smaller Allen key. Some of the longer Bolts have a slightly



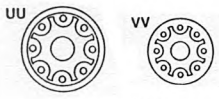
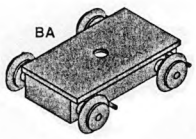
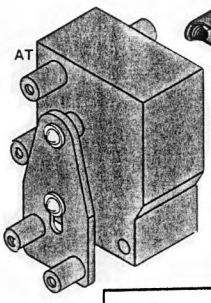
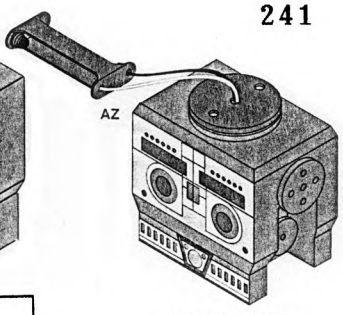


Fig 2







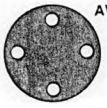


Fig 4

Fig 6

Fig 7

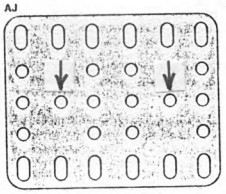
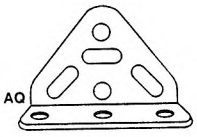


Fig 1



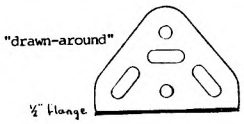
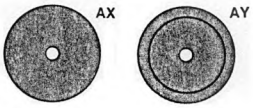


Fig 3



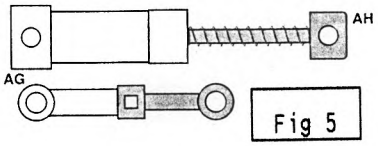


Fig 5

larger head, up to 6.7mm against the standard 6.5; the Nuts measure 6.4mm A/F. The standard Bolt is a bare 6mm u/h: there are several other lengths and one version of the 19mm is a Pivot Bolt with a partially plain shank.

• The Hooks look like MECCANO, the current large one and the small one with a 5 sided weight, now obsolete I think. But 'weight' is a term to avoid because the Remco ones are made of (black) plastic.

• The Trunnion (Fig 3) is unusual, a variation on the Argentinian theme but the spacing of the centre holes is more than $\frac{1}{2}$" so an 'upright' Strip can't be attached by 2 N&B.

• The special plastic parts include a one piece Head for the Dinosaur and a $2\frac{1}{2}$" square Flanged Plate on which it locates. For the Robot there are 4 wheeled Trucks (Fig 4) which act as feet; each axle is fitted with a pawl and ratchet. Also for the Robot, and in Fig 4, are 2 Discs and a Cup (#AY). All these parts are black. Then in black and yellow, 2 Sliding Struts, one spring loaded, shown at half scale in Fig 5.

• The only special metal part, apart from the Plates already mentioned, are 7 hole Strips with a slot between holes 3 and 4. These are shown separately in the Parts List but actually came assembled as part of the motor unit for the Robot.

• The basic motor for both sets looks just like the latest Meccano MO except that it has additional cooling slots. It comes with a neat Holder for 2 AA batteries which has an integral On-Off-Reverse switch at one end. I'm not sure whether MECCANO have one like that or not. In one set these items were black and in the other, red. There is a special Power Unit for the Dinosaur (Fig 6) with internal gearing to the oscillating cranks that give the walking action. Another special Unit comes for the Robot (Fig 7) and this time there are outputs for the arms each side as well as the feet. The markings on the front are from a label sheet supplied. There is a special plain Battery Holder for this model which fits inside the Robot's head. Both these Units work well but have of course only limited usefulness in other types of models.

• Since most of the parts are almost identical to MECCANO the pitch of the holes should be $\frac{1}{2}$", and so it is in the main, though Don found extremes of 12.65 and 12.75 in a few cases when checking a selection of parts. Holes in the metal parts are about 4.2mm dia.

• The Strips, Brackets and Girders, the Bush Wheel and some of the small Plates have a BZP finish and for most of the parts it's as good as any I've seen, but in the #5 a few parts showed one or two small dull patches. The Plates, Trunnions and some of the Flat Girders were painted, either yellow, orange, red or black. The colours in the box didn't always correspond to those in the Manuals and it says on the box that colors may vary. The paint finish is again very good and, on the basis of making one model, seems to be durable.

• The parts all seem accurately made and most are entirely free of sharp edges; slight burr can just be felt on one or two parts in the #5. Also in the #5 I noticed that some of the Angle Brackets were not quite flat across their width, no doubt the press tool was getting a little worn.

SET CONTENTS No lists of contents are included in the sets. Don's #1 Set contained 4 $\frac{1}{2}$" Pulleys with Tyres, 7 Strips/DAS, 6 small Plates (up to 10h), 1 5x3h Flanged Plate, 1 3h A/G, 2 Trunnions, 13 small Brackets, 14 plastic Spacers (MECCANO #38a) and 35 N&B. In all 135 parts - all the other No.1s have more, the largest, 173. The #5 contained 368 against 348 claimed on the carton, but all but 3 N&B were needed to make the various models if the parts needed List for each model was correct. The contents included 2 A/G, 38 Strips and DAS, 15 Plates, 4 Road Wheels and 3 Pulleys, 5 Axles, 43 Brackets, 3 Gears, 5 special Robot parts, 91 N&B, 2 motors, and a Bush Wheel.

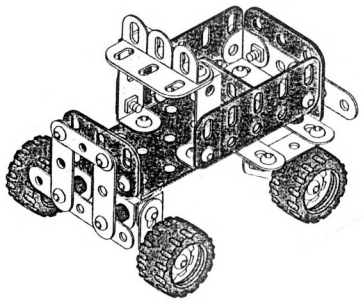
The #6 had 405 parts in it against the claimed 370 and again nearly all seemed to be needed. Among them: 2 A/G, 42 Strips/DAS, 17 Plates, 4 Road Wheels and 2 Pulleys, 10 Axles, 44 brackets, 5 Gears, 2 special Dinosaur parts, 105 N&B, 2 motors, 2 Trunnions and a Bush Wheel.

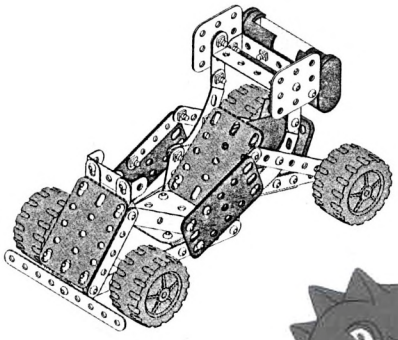
THE MANUALS AND MODELS All the manuals contain large, clear, step by step instructions in full colour with the parts to be added shown 'exploded', and labelled with their letter codes. All the parts used in any particular manual are illustrated at the front. The manuals in the #4 and 5 Sets are in English only, the Canadian #1 is bilingual.

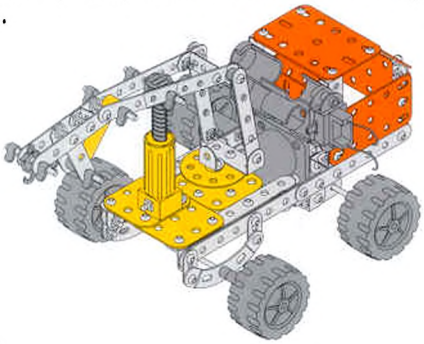
The 9 #1 models are mostly vehicles such as a Dump Truck and an Auto Wrecker, but also a Road Grader and a Helicopter. One of the largest is about 6" long and generally, though adequate, they don't look

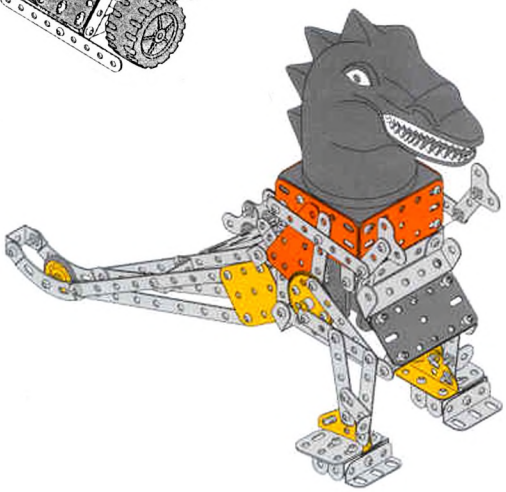
very exciting to me. They are certainly not in the same class as recent small MECCANO models, but no doubt they're cheaper, and easier to make. The 8 models for Set #2 are 'Motorized' according to the box lid, and though they appear to be similar to the #1's (the Helicopter is missing), they are shown from a different angle and there are probably small differences to accomodate the motor. On the larger sets the legend reads 'Battery Powered Motor Included', so the motor in the #2 may be mechanical, perhaps one of the push-wind sort.

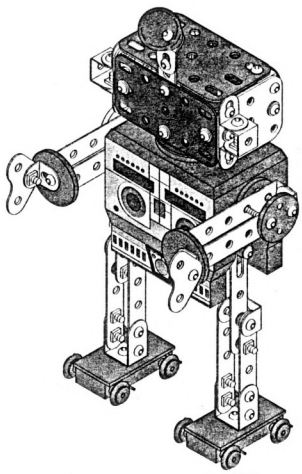
The #3 again has 8 models, all slightly larger than those in Set 2. There are a couple of Racing Cars, a Buggy, a Weapons Truck, and so on, and a Helicopter, the only air vehicle. Once more simple models, adequate in appearance. The #4 too has 8 models, a Grader, a Dozer, a Fork Lift, etc. Again the models are larger, the Dump Truck is some 8" long for instance, and though still simple they take my eye more than those in the smaller sets. One model from each of Sets #1, 3 and 4 are shown below. There are 2 manuals in Set 5, one labelled '3' which contains all the #3 models and a separate one for the Robot. Likewise Set 6 contains one manual for the #4 models, though it's labelled '6', and one for the Walking Dinosaur. Said animal (below with the Robot) is 12" long and 10" high and I couldn't resist making it as soon as the set arrived. It was voted a winner by our local small Meccano club but I must say that I had some trouble making it from those super looking instructions, and adjusting the feet to get it to walk was far from easy. However walk it eventually did, with a sedate, rolling gait accompanied by a suitably fierce noise from the geared motor.











ENDWORD Since I wrote the above Eric Sinton and Kendrick Bisset have also sent some notes on the Sets. Some of Eric's comments on add to the above: • The plastic Spacer is somewhat cone-shaped. • Another part is the Girder Bracket, but without the 2 lower, centre round holes and with slotted holes in the top row. • Adding to the Trunnion's defects, a Strip can't be attached to it at 45° using 2 Bolts. • The 2 Spanners supplied, stamped REMCO, are an improvement on MECCANO ones. They both have one open end and one ring end angled up, on one these openings are square but on the other they are octagonal [I liked the 8-pointer but missed having a cranked open end - Ed]. • The Power Wrench is reasonably efficient with enough torque to give adequate tightening for children's use; it has an effective spring loaded ratchet clutch to prevent damage to the little motor. The Instruction Leaflet is in English, French, German, Spanish, Italian and Dutch, so perhaps it will be available in Europe. In fact Don R mentioned that his Canadian #1 box was in the same languages, though not the Manual.

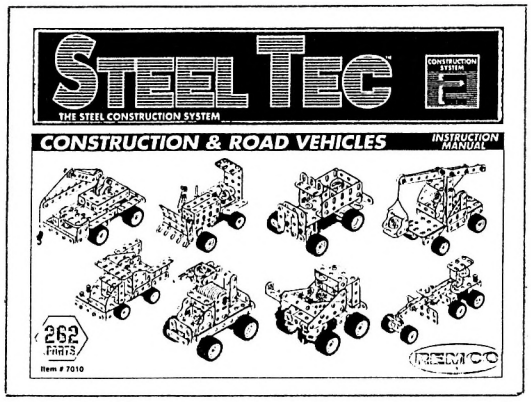
Eric had also noticed Lou Boselli's report in the September CMN that Meccano had taken legal action against Remco on the grounds that the parts are not compatible with MECCANO, as Remco claim on their boxes. This Don B tells me, was successful and Remco must remove the offending claim; however the #5 Set was bought in the U.S. just before Xmas and still carried the message. It would be interesting to know wherein lay the incompatibility, but on the other hand I'm surprised that it is (presumably) legal in North America for Remco to use the name MECCANO at all, without permission.

Kendrick has a #2, a #4 and a #6 and again I'll list only new points: • Boxes carry a copyright date of 1992; manuals have 1992 or 1993. • There is a friction motor in the #2: its short output shafts are 2.5mm dia and are fitted with short serrated plastic sleeves. This means that only the plastic Wheels can be used and then only in the one position. • When he bought his sets, some of the boxes in the store had a black label glued over all the references to Meccano. • There are mistakes in the model instructions and no reference to the double-nutting needed in some models. • The large Plates (Fig 1) are only used in one Set 6 model. • The thickness of some otherwise identical Plates varies considerably, and some of the zinc plating is uneven. • Some of the Nuts were badly made and one broke when being tightened.

Kendrick bought his sets in his local K-Mart discount store, in Canada it is sold in Woolco; for other sources you could try the phone numbers given in the sets as help lines. For the U.S. it's 1-800-243-

2961; in the Canadian sets there is a message from Playtoy Industries (the distributor?) with 2 numbers, 1-800-268-1408 and, for Toronto, 241-5273. If all else fails Don Bock has kindly offered to help if he can, his address is 23553 Belmont Drive, Westlake, Ohio 44145. U.S.A., tel:(216)333-2211. The prices I have heard of are a #2 at $40 in what I guess is a Canadian mail order ad (from Richard Symonds), and a #5 in the U.S. at $50.

Extra MCS Sheets contain a list and illustrations of all known parts, and the contents of Sets 2-6.



AMENDMENTS TO INDEX IN OSN 6: NAME: STEEL TEC TYPE: ML CY: US THREAD: 5/32W SPCE: 12.7 dST: 4.2 DAXL: 3.99
SUMMARY OF MANUAL. #Name: STEEL TEC 3¦ROAD AND AIR VEHICLES. #Details of maker: Made in China (for) REMCO TOYS, INC. NEW YORK, NY 10010. #Dates &/or Ref Nos: Copyright 1993 (p36); Item # 7020/7022 (p1); RVPART1¦7020 (p2); RVPART2¦7020 (p3). #Page size: 280x217mm deep. #No of pages: 36 inc covers. #Language: English. #Printing: solid colour throughout. The top panel of the cover is black with blue/white lettering; the models are shown against a light blue ground. #Page Nos of Parts List & highest PN: 2-3; Z. [no Set Contents] #Set covered: #3. #No of models: 8. #Name, Page No of first & last model: FORMULA 1,7; HELICOPTER,33. [no Model Nos.] #Other notes: this Manual is 1 of 2 in Set 5.
SUMMARY OF MANUAL. [From here on data which are as above, aren't repeated] #Name: STEEL TEC 5¦BATTERY POWERED WALKING ROBOT. #Dates &/or Ref Nos: Copyright 1993 (p8); Item # 7022 (p1); ROBO1¦7022 ROBO (p2). #No of pages: 8. #Set covered: #5*. #No of models: 1. #Name, Page No of model: ROBOT,4. #Other notes: * this Manual is 1 of 2 in Set 5. Cover is as above but shows the Robot, and a '5' in the top box.
SUMMARY OF MANUAL. #Name: STEEL TEC 6¦CONSTRUCTION VEHICLES. #Dates &/or Ref Nos: Copyright 1993 (p40); Item 7023 (p1); dinoset1¦7023 Set (p2). #No of pages: 40. #Set covered: #6. #No of models: 8. #Name, Page No of first & last model: EXCAVATOR, 7; ROAD GRADER,36. #Other notes: this Manual is 1 of 2 in Set 6.
SUMMARY OF MANUAL. #Name: STEEL TEC 6¦BATTERY POWERED DINOSAUR. #Dates &/or Ref Nos: Copyright 1993 (P8); Item # 7023 (p1); dino1¦7023 DINO (p2). #No of pages: 8. #Sets covered: #6*. #No of models: 1. #Name, Page No of model: DINOSAUR, 4. #Other notes: * this Manual is 1 of 2 in Set 6. Cover is as above but shows the Dinosaur.
SUMMARY OF MANUAL. #Name: STEEL TEC 2¦CONSTRUCTION AND ROAD VEHICLES. #Dates &/or Ref Nos: Copyright 1992 (p32); Item #7010 (p1). #No of pages: 32. #Sets covered: #2. #No of models: 8. #Name, Model No, Page No of first & last model: CRANE TRUCK, 4; EXCAVATOR, 28. #Other notes: ad for other sets, power wrench, and storage case on back cover.

SMALL ADS.

SWAP-EXCHANGE: I have the following No.2 Car Constructor parts: A1050,A1008,A1016,A1012,A1065(2), A1046,A1029,A1001,A1005,A1066,A1086,A1032,A1075,A1073(2),A1006,A1052. I would like to swap these for AeroplaneConstructor parts; I particularly need: P201,P211(2),P210(2),P212(2),P46,P59(l&r),P205,P206, P41,P188,P189,P175. Some other parts O.K. Please contact Ivor Ellard, 44 Well Lane, Galleywood, Chelmsford. Essex. CM2 8QZ. Tel: 0245 269830.
EXCHANGE: samples of parts. The following are available: MIGNON, STRUCTATOR, AUTOCYCLE, ASSEMBLO, FORGEACIER, EFEL ALU, BEAVER, ARTS & METIERS (3), MOBILO, MINITECH, KIKO, MERCATOR, NECOBO, TECNIC, METALIX, etc. Also belonging to friends: MINEX, A.W.S., TRIX-E.C.F., STANDARD, TUBEPLAC, CONSTRUCTOR (French, 1916), CONDOR, MECABEL, EDISON, TECHNOKID, etc. - Jeannot Buteux, 67 Bd de Dijon, 10800 SAINT JULIEN LES VILLAS. FRANCE.
FOR SALE: the two Indian META BUILD Sets described in OSN 9/223. They are new but the boxes and inner packaging show some minor transit damage, and one or two of the nickel parts are slightly corroded. Offers to the Editor please by the end of May.
FOR SALE: ERECTOR pattern nickel roundheaded Bolts to match the Nuts advertised in OSN 9/219. Details from Marion Designs, 594 Front Street, Marion, MA 02738. U.S.A. [These are very neat and nicely made, the head is $\frac{1}{4}$" dia. Note though that they do not fit MECCANO Nuts - Ed.]
WANTED: samples of Canadian systems such as CASTLE BUILDER, ENGINEER, STRUCTOMODE; parts or literature. D.A.Redmond, 9 St. Catherine St., Kingston, ON K7K 3R9, Canada.

THE FUNSTRUCTION SET. Bill Harrison came across a set and generously sent it across as a gift. It is an Outfit that was marketed by Radio Shack (Tandy) in the U.S. for a short time around 1979; it contained MERKUR parts but the packing was done in America. The box it came in was huge for its content, 21½x13½x2¼", and on the lid was 'Catalog No.60-2323', 'motorized funstruction', 'OVER 150 PARTS', and 'PRINTED & PACKAGED IN U.S.A. MADE IN CZECHOSLOVAKIA'. Also in a large yellow panel, 4 models that could be made from the Set, and, in full colour, a boy working a Big Wheel with 3x5 hole Flanged Plates in it which weren't in the Set. Inside the parts were in shaped transparent bubble packs on a light green card packing board, which meant there was no where to put the parts once they had been unpacked. But most of the opened bubbles remain so it does allow one to guess at some of the parts which are missing but which might have been included.

Before pursuing that consider the 52 page Manual: there is no Set Contents but the models indicate that the Set is basically a #4 MERKUR (see MCS MERKUR (C) p6). The models, 135 of them, are identical to those for Sets 1-4 in the MERKUR Manual Ref A, described in OSN 9. All the illustrations, though rearranged to fit onto a slightly smaller page size (189x139mm deep), are the MERKUR ones, and the Introduction is identical except for the omission of the Czech name. The only 'new' pages are the front cover and, on the two sides of the back cover, notes on using the Motor/Gear unit (it is not shown in any of the models), and a Price List for Extra Parts. MCS includes all those pages and also those showing the parts, except the one with the two Flanged Plate, #35,36. About 15 of these parts are not used in the set, nor were they available as Extras.

As found, making allowance for a few parts no doubt lost, the only variations from a #4 are (a) a Cargo Hook #96 as well as a #97; (b) about 30 extra N&B, and this would mean that, counting a N&B as one part, as MERKUR did in their Lists, the part count would be that many over the 154 for a Set 4, against the 'over 150' on the box; and (c) there is a space for the flat Screwdriver #80 and not the #81, Screwdriver with Handle, called for. On the lid is shown a small Screwdriver with a yellow translucent handle and there was a similar one in the box, but there was no place that I could see for it in the packaging.

The Motorized Gear Train is a small 3v motor (with JOHNSON HK No.120 on its plastic end), driving 3 stages of fine toothed gears to the final gear pressed onto a standard size shaft. Was it ever a standard MERKUR item or was it just in this Set? It is referred to as #100 (with #101 and 102 as parts of the Battery Holder), possible MERKUR PNs but 101 and 102 were probably used later for the Brackets which are numbered #1101 and 1102 in the 'new' scheme. The Battery Holder is made of thin red plastic, it holds 2 C cells and is 5.8" long.

The parts are finished in recognisable MERKUR colours, bright orange Strips and A/Gs, light blue Plates, green Pulleys and Trunnions, light yellow Bush Wheel, black Hook #96, and nickel brackets, DAS and 3-hole Strips. Collars and the ½" Pulley are aluminium, bosses too except nickel ones on the Bush Wheel and 62mm Pulleys. All this nearly corresponds to the parts in a #7 Set that came with the large size Manual Ref B (in the MERKUR article), and so since FUNSTRUCTION with its models from the smaller Ref A Manual, was sold around 1979, this gives an indication of dates for these MERKUR Sets and Manuals. But the 'nearly' above: the FUN N&B, Reversed Angle Brackets, and 70mm Axles are a BZP finish, and this was not seen on parts in a MERKUR Set until the N&B in the Set with the Ref C Manual, and that had the darker orange Strips, and the date 1987 on its underside.

So still a few loose ends, but an afternoon and evening full of FUN, thank you Bill: I shall go to bed and dream beautiful MERKUR-like dreams.

AMENDMENTS TO MCS HOLE DIAMETER: 3.9mm. COLOUR: Change 'Red' to 'Orange.'

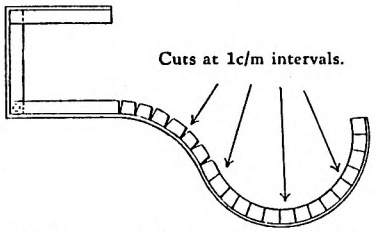
N-G-NEERO and a French Connection. First about N-G-NEERO, Geoff Wright kindly sent some details of a set he'd seen and Roger Baker let me admire, examine and take photos of a set he owns. This DIY system is well covered in MCS so just a few extra details on the parts and related matters:

- Most rotating parts are stamped N-G-NEERO MADE IN ENGLAND, and there is a narrow groove around the outside at the outer end of all the bosses seen except for Pinions and the Worm. Its width varies a little from part to part but typically it looks about .02", with a slightly greater depth.
- The Motor Car Wheel, N133, and the Railway Carriage Wheel, N138, have no bosses; the former can be driven by an Engaging Boss, N194, engaging in a slot provided in the outside face of the Wheel.
- All gears are made of brass, also all pulleys except the 70mm which is two steel halves spot welded together in four places, with the standard brass boss. Although it looks wide in MCS the V groove is only about 4mm across. It is painted dark red, the Car Wheel has the centre on the outside in the same colour, with the 'tyre' and rear face, dark grey; the Railway Wheel is painted a glossy black. No example of the Cart Wheel, N135, has been seen.
- Bosses are single tapped 1/8"BSW and are .314" dia with a bore of 3.40mm.
- Cranks, N123, come in a range of lengths up to, the longest seen, 9.7" overall. The handle portion

of all of them measures 1.2".

• In the Instruction Booklet it is stated that the Strips are 1cm wide and .8mm thick; Angle Bars are 1x1cm and .7mm thick - both are enamelled steel. The Rod is said to be 3.5mm dia but if so it wouldn't go through the bosses. N&B are 'brass 3mm dia with 6-sided Nuts'. From a photocopy of the N&B in a set the diameter of the Bolt looks about 1/8" and so the thread may be 1/8"BSW; the hexagonal Nut is 6mm A/F; and the Bolt has a cheesehead 5mm dia - in the Booklet it is shown roundheaded. The Eyelets, used as rivets, are brass too and, incidentally, the Tool supplied for removing them cuts off their formed heads and so they can't be used again.

• In the Instructions it is explained that to bend an Angle Bar it must first have one flange cut at 1cm intervals in the special slot in the Shearing Machine (see right). As far as I can see no material is removed during this operation and if this is the case where does the 'excess' material go when the cuts are on the inside of the curve? Has anyone tried this manoeuvre?



FORGEACIER. This is the French connection, as any assiduous student of MCS will have noticed: the Tools, Accessories, and even Models all look identical and have the same PNs, apart from some different prefixes. But the parts aren't quite the same, based on one Roue de Barillet FA130 (Bush Wheel, called Plate Wheel in N-G-NEERO), that was odd man out in a MECCANO lot. It is stamped FORGEACIER JEP FRANCE (JEP = Jouet de Paris, the maker) and the main difference is that the boss, still with the end groove, is larger in diameter at .336" (8.53mm), and is tapped M3.5. The bore is 3.45mm, slightly larger than the N-G-NEERO version but still not big enough to take a 3.5mm Rod. The o.d. of the disc is the same for both parts but the 6 holes in the English one are slightly larger than in the French. So this bears out the statement in the French literature, 100% Français, and in the English, 100% British Made. One further point on threads: with the N-G-NEERO parts I have are what I'm fairly sure is an N186 Winch Handle and an N187 Pillar Bearing, and the shanks of each are threaded 4BA, very near to the probable M3.5 of the French equivalent. The bore of the N187 (like a MECCANO #136) is again very slightly less than 3.5mm. N186 may look like a Threaded Pin but is .155" dia so it's a one purpose part, a Winch Handle like they say.

So which Set came first? Most of the indications point to FORGEACIER, for example, the basic dimensions are metric, and are described at one point in the English Instructions as French Measurements; again the Gantry Crane (MCS/FB p5) has a motor which has the same unusual shape as the FORGEACIER ones, and there is no mention at all of motors in the English literature. The only contra-indication I can find is that (English) Patent Nos are quoted in the N-G-NEERO Booklet but I haven't seen any such mention in the (limited) FORGEACIER material I've seen. Both Companies claim to have been awarded Gold Medals - 'Gold Medal - Paris Fair' - 'Médailles d'Or'.

DETAILS OF BUCO-INGENIEUR This is the Swiss system with wooden parts held together by metal brackets, see 6/134 and 7/162. Thanks to the generosity of Peter Kessler I am now the proud owner of the No.2 Set referred to in those articles and hence some more details are available:

• For the wooden parts the holes are at 17.5mm pitch and their diameter is 4.1mm. The Strips are 12mm wide and the both the Strips and the Plates are 4mm thick. All corners are square or nearly so.

• The 3 sizes of Pulley Wheel are 70, 40 and 20mm in diameter and vary in thickness, one size to another, from 8 to 9mm. The 2 larger diameters are perforated with holes to match the Bush Wheel, #16, and in the larger one there are 8 extra outer holes at 27mm radius, in groups of 2, with the holes in each group spaced at 17.5mm.

• The metal parts are made from 24 thou steel; the holes are 4.2mm and the outer holes in #14-18 are 17.5mm apart. Corners have a small radius of between 1 and 2mm.

• Bosses (PNs 16 and 27) are 9.50mm in diameter and have a bore of 4.06mm; the Collars are slightly smaller at 8.97mm dia. Both are brass and double tapped, and the Grub Screws (#45) are about 4mm long despite looking much longer in the Parts List.

• All threads are M4. N&B are brass: the hex Nuts measure 7.0mm A/F and the Bolts' cheeseheads are 6.0mm dia.

• Axles are 3.99mm dia with sheared square ends. The Hook is a zinc die casting and has BUCO cast into one side of its ball; the Cord is red. Parts #36,47-49 have not been seen.

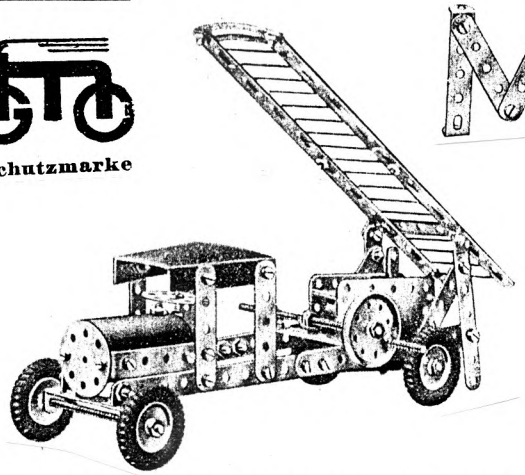
I made a small model to try the parts and the Brackets proved well designed and were easy to use. To my eyes the model, an Invalid Carriage, looked very attractive and as with PRIMUS, the combination of wooden and metal parts was very effective, at least for an old fashioned type of model.

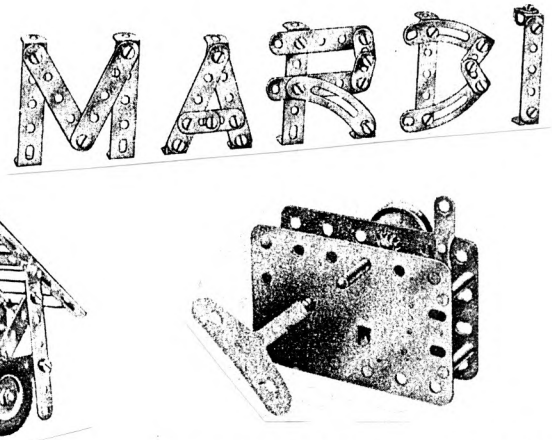
AMENDMENTS TO MCS HOLE DIAMETER: 4.1mm in wooden, 4.2 in the metal parts. HOLE SPACING: 17.5mm in wooden parts and between outer holes in Parts 14-18. COLOUR: Wheels red, Strips and Plates red, green, blue and yellow; Brackets have black metallic finish.

AMENDMENTS TO INDEX IN OSN 6 TYPE: LG. CY: SW. THREAD: M4. SPCE: 17.5. dST: 4.1. DAXL: 3.99.

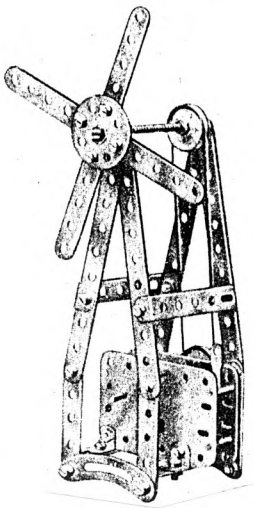
MÄRKLIN MARBI.

Schutzmarke





MARBI-Motor Nr. 650

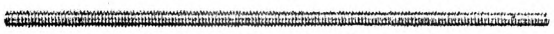


It was pointed out in 5/99 that the information given on MARBI in MCS is not entirely correct and that in particular the hole pitch is 12.7mm, identical to that of standard MÄRKLIN parts. At that time no detailed information was available but now, thanks to Ernst Leuthold, a fuller account can be given, based on a manual for Set #601 and two MARBI parts, an 11-hole Strip and a 1" Pulley, all of which Ernst most kindly sent from Switzerland.

There were two MARBI sets, #601 and an add on outfit, #601A, both simple sets consisting of only 22 types of part, although that number did include a Pinion and a Gear Wheel. The parts were basically standard MÄRKLIN but there were some differences. Details are given later but there were two main ones. The first was the use of Threaded Rods, which were never listed as standard parts, as axles; the second was that the parts were given a different, and no doubt cheaper, finish. The Pulley (made of steel) has a dull, darkish grey metallic look; the Strip is the same but rather lighter and might even be untreated steel.

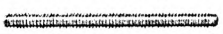
The official MÄRKLIN history (4/50) gives the date of MARBI's introduction as 1933/34 and the print ref in the manual is 'TNN 1132 fr'. In any case then, a little after the introduction of TRIX and it seems to me likely that MARBI was marketed to compete with TRIX, and perhaps other small sets like BAUFIX which may have appeared at about that time. All of them, and STABIL of course, used threaded rods as axles, undoubtedly to keep costs down. I've no comparable prices for any of the competitors but in 1934 the smallest proper MÄRKLIN set was the 00, and it cost RM2.50; it contained 94 parts including 56 'fixings', and so did the MARBI 601, but its price was RM1.00.

Going back to the parts, the range consisted of 11, 7 & 5-hole Strips; Flat, Double and Angle Brackets; 4 lengths of Screwed Rod; 38 and 25mm Loose Pulleys; 8-hole Wheel Discs; a 19t Pinion and a 57t Gear, both without boss; 1x5x1-hole DAS; Curved Strips; Spanner, Screwdriver, Hook and N&B. Those parts that differ from the standard parts are shown below. The two halves of the Pulley 622 are held together by 4 bent tabs, 2 from each side, instead of the 4 'riveted' holes shown in illustrations of the standard 25mm Loose Pulley. The holes in the Strip are 4.2mm dia, slightly smaller than those in modern Strips, possibly because of the use of Screwed Rods which would be slightly smaller in diameter than normal Axles. In the illustration the centre hole in the Wheel Disc looks smaller than the others, for the same reason perhaps; the holes in the MECCANO X part #217a were smaller than normal. The PNs are generally the usual ones plus 600.

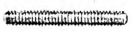


Nr. **615 Gewindewelle** 13 cm

Nr. **616 Gewindewelle** 9 cm



Nr. **617 Gewindewelle** 5 cm



Nr. **618 Gewindewelle** 3 cm

Nr. **657 Lasthaken**

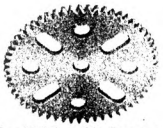
Nr. **634 Schraubenschlüssel**

Nr. **621 Schnurlaufrad**

Nr. **622 Schnurlaufrad**

Nr. **624 Lochscheibe**

Nr. **626 Zahnrad**



Nr. **627a Zahnrad**

Set 601 can best be described by comparing it to the 00 Outfit: 2 extra 11-hole Strips and 3 extra DAS replace the Flanged Plate; Screwed Rods replace the Axles; extra Nuts replace Spring Clips; 4 Wheel Discs and 2 25mm Pulleys replace 4 of the latter, 1 of 12mm, and a Bush Wheel; and some of the Brackets are replaced by 2 Curved Strips and a Hook. The second set #601A doesn't look at all like the 00A, there are more Strips and Brackets in each but the 00A includes 4 25mm Pulleys with Boss and a Flanged Sector Plate, while in the 601A there is a Pinion and Gear Wheel, and a 38mm Pulley. To compete with TRIX you had to have gears?

The manual, 24 pages of about A5 size, is nicely produced with a clear photo of each of the 122 models included. The paper though is of rather poor quality. Two pages are devoted to Standard Constructions

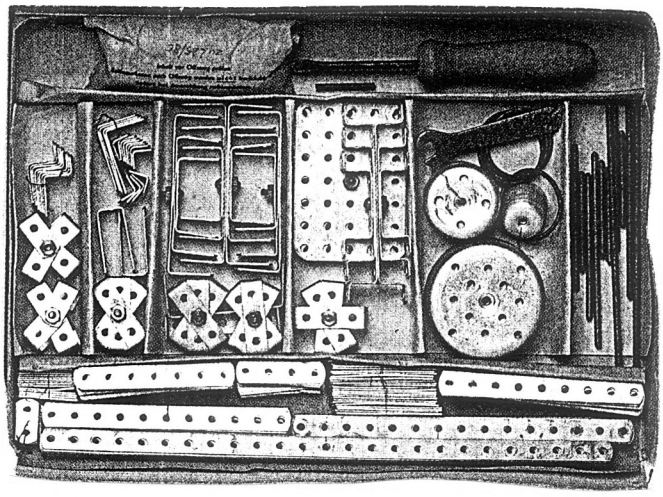
and although nearly all of them require Nuts to be locknutted, there is only one Spanner in Set 601, with another in #601A. The models are generally well up to standard for a set of this size and the Curved Strip with its long centre slot is an attractive part to have in some of the models. The Flanged Plate is not missed structurally but its absence does make the models more difficult to make, and card is often shown to fill in where the Plate would have been. The MARBI letters opposite are the only letters/numerals among the models. There was a separate manual supplied with the 601A Set with another 100 models in it, but no models using both sets are shown in the 601 manual. On its cover however is a large and quite complex Elevated Jib Crane, some 3ft high, an impressive MARBI supermodel.

The two models opposite are taken from the back cover where the MARBI Nr.650 C/W Motor is advertised. It is actually 6 holes long despite the 5 holes shown in the Truck illustration. Also I don't understand what is being driven by that motor because the drive shaft is always shown in the top row of holes, perhaps it can be relocated to the bottom and could than drive the Truck's back axle. The tyres shown were not in either set but could, it was suggested, be bought separately. They are referred to by a standard PN, 209/22, at one point, but as an apparent MARBI PN, 609/22, on the back cover, possibly an error.

Extra MCS Sheets have been prepared for MARBI, showing the manual cover; the Illustrated Parts List and Set Contents; and a selection of models. Final thought, STABIL were selling two KNIRPS Sets in 1939, K1 and K2, which may have been MARBI competitors, and there was a KNIRPS C/W Motor of about the same size as the MARBI one: MCS has brief details but does anyone have anything on when these sets were introduced, or the set contents, the finish of the parts, etc, etc. Knirps in my prewar dictionary is said to mean mannikin, in a later one, brat.

AMENDMENTS TO INDEX IN OSN 6: dST: 4.2 DAXL: --
SUMMARY OF MANUAL #Name: MARBI. #Details of maker: GEBR. MÄRKLIN & CIE, g.m.b.H, GÖPPINGEN (Wttbg.). #Dates &/or Ref Nos: TNN 1132 fr. on IFC. #Page size: 143X199mm wide. #No of pages: 24 inc covers. #Language: German. #Printing: B&W halftone photos inc covers. #Page No of Parts List & Set Contents, & highest PN: 3,690. #Sets covered: #601. #No of models: 137 but 1-15 are std constructions. #Name, Model No, Page No of first & last model: Scraube mit Mutter and Gegenmutter,1,4; Faßkarre,137,20.

EIFFEL. In BAUKLÖTZE STAUNEN, the Deutsches Museum reviewed elsewhere in this Issue, the chapter on Metal Systems contained several items new to me and one of them was EIFFEL, though it was referred to as EIFFELBAUKASTEN (EIFFEL Building Set). Apart from a good colour photo of the set (opposite) the book contains only limited information; I was going to write up what there was but then came along Part 5 with the system shown in some detail, so I'll just put down anything extra that's in the book. First though for those without Part 5, EIFFEL is a fairly simple system with 39 parts most of which are made of unfinished aluminium. There are 9 different lengths of Strip with 4.1mm holes at 12.7mm pitch and large radiused ends; otherwise just one size of Plate but numerous Brackets, DAS and Double Bent Strips of different lengths. There are no smooth rods but 5 different sizes of Screwed Rod, and the 3 diameters of Flanged Wheel are bolted to these, back to back if necessary to form Pulleys by the look of them. The thread is M4. In the BSKN photo most of the N&B have a brass look to them, as have the Screwed Rods though they look darker, corrosion perhaps. There were 2 sizes of Set, the larger with 108 Nuts (above), has twice as many of each part as the smaller. The only model shown (in MCS) is a rather rudimentary 4-4-0 loco about 13" long.



Eiffelbaukasten – ein eher universell angelegtes System

These Sets were made in Munich from the late 1930s until at least 1944, the date of the set shown here. Its box is stated to measure 33x24x3cm. There is a comment in the book that, if I've translated it properly, although metal constructional sets were very popular in the 1930s, they were not cheap and remained a dream for many, and sets like EIFFEL were an attempt to market a cheaper product.

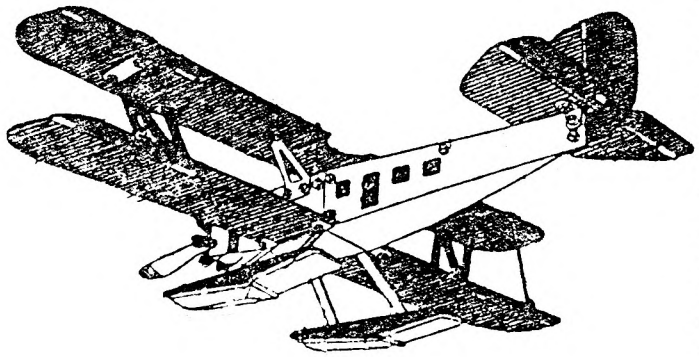
AMENDMENTS TO INDEX IN OSN 6: NAME: EIFFEL. TYPE: MP. CY: GG. SPCE: 12.7. dST: 4.1.
AMENDMENTS TO MCS PERIOD: From late 1930s until at least 1944.

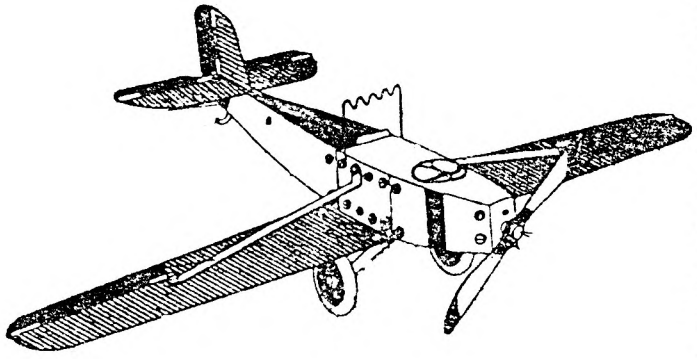
DUX AERO OUTFITS. The standard DUX-UNIVERSAL sets made by Markes & Co. are covered in MCS but no mention is made of Aeroplane Outfits. Now Richard Symonds has sent a photocopy of a manual for such a set, DUX Metall-Flugzeug-Baukasten Nr.104. That was the smallest outfit in the series and the contents are also given in the manual for two others, #106 and 108, plus a linking set, 106a.

The main difference between #104 and the larger outfits is that the wings, tailplane and fin supplied are simpler with fixed control surfaces; also the 7-cylinder radial Engine only comes in the larger sets. Only monoplanes can be made with the two smaller sets but for #108, 4 extra parallel chord wings are supplied and these are used for biplanes. The only other difference is that floats are included in Set 108.

6 models can be made with the 104 Set: 3 variants are low wing, shoulder wing and parasol monoplanes, obtained by simply moving the wing position; for the other 3 the rear fuselage panels are fitted on opposite sides so that the windows etc painted on one side don't show. 12 models are claimed for the #106 Outfit and from the contents it is likely that these are the 6 above plus the same 6 but with the radial engine fitted. Set 108 is said to allow 30 models, 21 monoplanes and 9 biplanes, so at least for the monoplane some possible combinations of wing position, side windows or not, engine or not, floats or not, have been left out.

Not much is known about the parts or their dimensions. It is suggested in the manual that if dirty, aluminium parts should be cleaned with benzine, but whether all the main parts are of that material isn't clear. Richard has seen a model made from this system and describes it as being a gunmetal colour. All the flying surfaces appear to be corrugated and since the wings are not handed they no doubt have no chordwise curvature. In fact there is a left and right wing in Set 104, the ones without ailerons, but the reason for this is not known. The wheels are fitted with rubber tyres. One unusual part is a wire bracket which can be bolted to the top of the fuselage to allow the model to be hung up.





The manual has 12 pages including covers, of about A4 size, and after an introduction to flying and the sets, step by step building instructions are given for one model. Then each model is illustrated with details of an actual aeroplane that it might represent, 3 German, one English, one French and one Dutch. The various manoeuvres that an aircraft can make are described, and how the controls of a real machine are arranged. Reference is made in different places in the manual to Sets 106c, 109, and 110 but no details are given, except that after #108 is '(Steuer beweglich)', and after #110, '30 Modelle mit completter Steuereinrichtung'. The best I can do with these are 'movable controls', and 'complete with adjustable controls'. German speakers forward please. Mention is also made of a Clockwork Motor but again with no details except that when fitted the propeller will pull the model along the floor.

The manual gives a positive date with 'Copyright 1937' on p2; there is also a printing reference of T.839L. From the aircraft mentioned I would have guessed that the set might have dated from earlier in the 1930s. It is also stated on p2 that German, English, French, Dutch, Italian, Swedish and Spanish versions of the manual are available. Despite all the models having open cockpits no pilot was provided to add a finishing touch.

Extra MCS Sheets contain • illustrations of all the parts, • a Parts List and Set Contents, • the full manual cover, • various other extracts from the manual.

AMENDMENTS TO INDEX IN OSN 6: NAME: DUX AEROPLANE. TYPE: AS. CY: GG.

KLIPTIKO. In the Set Contents given in 5/101 the No.0 is listed with the 'A' linking outfits under Accessory Sets, and now thanks to Geoff Wright, that small mystery is explained. In a small Manual he showed me there is an illustration of it (below, x.7) with its raison d'être. Also, below, a list of the complete (presumably) range of Sets available, taken from the same source. Whether it was the intention to confuse possible purchasers I don't know but in case it helps Models 1-7 were shown in the Manual for Set No.1, 8-10 for No.2, and 11-12 and 13-17 for Nos.3 and 4. No models were shown for Sets 03, 3½, or 3A. There is nothing to date this Manual but it may be fairly early since some play is made of Patents including a U.S. one said to be of May 5th 1914.

One of those quoted is English Patent No.9628/13, and Malcolm Hanson tells me that he has details of this and that there was an earlier relevant Patent in 1909; both were granted to a Henry Charles Harrison. MCS/NZ gives the date of introduction of KLIPTIKO as 1911; the earliest reference I have to sets on sale is in the 1913 Au Bonne Marché catalogue where 3 Sets were shown. At about that time a UK trade list also shows 3 Sets, but neither gives Numbers for the sets. In a 1925 Dutch toy catalogue from Harry Mariën, Sets 1-6 are listed, plus Accessory Sets 1a-5a and 0. So it may have been that originally there were no 'accessory' sets, then the complicated series below grew up, followed by rationalisation into linking sets plus the #0.

While talking of KLIPTIKO, MCS gives the finish as nickel (/NZ) and black (/FB); another scheme I saw recently in a Set, was brassed Tubes with the Hopper parts red one side and brassed on the other.

Complete Sets.
No. 1
" 2
" 03
" 3
" 3½
" 3A
" 4

Accessory Sets.
No. 0
" 01
" 02
" 03A
" 04

Combinations of Sets and Accessory Sets.

No. 0 is useful to any Set.

No. 01 added to No. 2 will build all Models from No. 1 to No. 10, and Sandwheel No. 16, also Models Nos. 17 and 19.

No. 02 added to No. 1 will build Models Nos.1 to 7, and Models Nos. 16, 17 and 19.

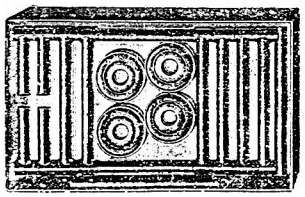
No. 02 added to No. 2 will build all Models mentioned above, also Models No. 18 and many others.

No. 03A added to No. 3 will build Models Nos. 1 to 12, Sandwheels Nos. 16 and 22, also Roundabout No. 23.

No. 04 added to No. 4 will build Models Nos. 1 to 15, also Sandwheels Nos. 16 and 22, Passenger Wheel No. 24, Roundabout No. 23.

ACCESSORY SETS.
No. 0.

Containing everything necessary to mount the Cranes and other structures on Wheels, and to facilitate the erection of working models requiring pulleys, etc.



MCS DATABASE In OSN 6/122 I gave some details of a Database that I had produced with the aim of having a concise record of some of the more useful facts about all the various OS, and in a form that could easily be reprinted following the incorporation of amendments. At that time I had a preliminary version and since then I've entered new information as it has come to hand, including the data in Frank Beadle's MCS Part 5. There are still many gaps in it but that will I expect always be the case, and so I have now produced the first proper version which is available for £4, UK, and £4.50 overseas, including postage.

It runs to 14 A4 pages and its layout and the information in it is essentially that described in OSN 6, except that now all three classifications, alphabetical, by Country and by Type, are included in the one document, as well as the notes on the contents, and the lists of the abbreviations used. However to keep it to a manageable size only the 10 most important facts are shown for each system in the Country and Type listings - reference to the main alphabetical list is needed for the others, and for the Comments given for each system.

To avoid any misunderstanding I must make clear the the Database contains very little information that can't be found in MCS or OSN, and of that most will appear in future Newsletters. It's just a question of whether it's worth having it classified, and all in one place.

Finally let me thank Don Redmond for his most valuable help in tracking down errors and omissions in the preliminary version, and for his suggestions on improving the layout to make it easier to use.

TECNIKIT AND MECANIKIT. A rose by any other name..., well perhaps not quite a rose given the rather poor quality of some of the parts, but these two products from Luton Jigs & Tools Ltd do seem to virtually identical. TECNIKIT is a simple MECCANO-like system of about 30 parts; there is some information on it in MCS and what follows, based on a No.4 Set still strung in its box, will add to this, and correct some errors that have crept in. MECANIKIT only came to light recently, courtesy of Geoff Wright, in the shape of a No.0 Set (below), again still strung. With very minor exceptions the parts are the same, and, apart from the change of name, so are the labels on the box lids and the covers (and style) of the Manual. Also the MECANIKIT models for Set 0 are identical to those for TECNIKIT, and the lists of Parts Required show the same Part Nos. Compare model 0.5 below with the TECNIKIT version in MCS.

To start with TECNIKIT, three features stand out. The parts are made from thin or in some cases, very thin, steel, for example the Strips are .018" thick and the A/G .015". Secondly the holes are larger than normal at .182" and the N&B are commercial size steel 3/16" BSW, roundheaded Bolts and pressed hex Nuts. Lastly the Strips are slightly wavy in appearance, no doubt due to distortion when the holes were punched. The parts are generally quite MECCANO-like with the following exceptions:

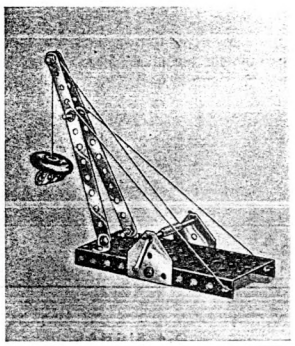
- There is a 13 hole Strip. All Strips have near fully radiused ends. A/G are 8 and 12 holes long with a small radius on each corner. None of the holes in them, or in any other parts, are elongated.
- The 11x5 hole Flanged Plate is flanged only on its long sides. Its corners have a small radius like the A/G, and so do all the other Plates. The Flanged Sector Plate is 5½" long, with the same pattern of holes as the PREMIER one.
- Flat Trunnions have no cutouts and have sharp corners.
- The Axles are 5/32" dia aluminium. Pulleys are die castings from what looks like aluminium but it could be zinc; they have a bore to suit the Axles, and the 1" has an integral boss double tapped 4BA, and TECNIKIT cast into the face remote from the boss.
- Road Wheels are the balloon tinplate type, unpainted, with a dia of 1½".
- The bent wire Screwdriver is made of 1/8" dia wire painted green, and its handle has parallel sides.

The Manual is a single fold over sheet with loose pages inside. Models, a single photo for each, are shown for Sets 0,1,2 and 3, but none for No.4, perhaps at some stage they got mislaid. Inside the front cover is the List of Parts given in MCS and it contains all the parts in the No.4 except the Screwdriver and the Curved Strip; it also includes several parts not in the No.4 so maybe larger sets were also available.

Now for the MECANIKIT Set. Again the parts are of thin material, mostly steel but two of the four 1½" Strips and the four ½" Angle Brackets are aluminium, of a slightly heavier gauge. All the Strips look slightly better quality than the TECNIKIT ones, with

MECANIKIT

0.5 CRANE



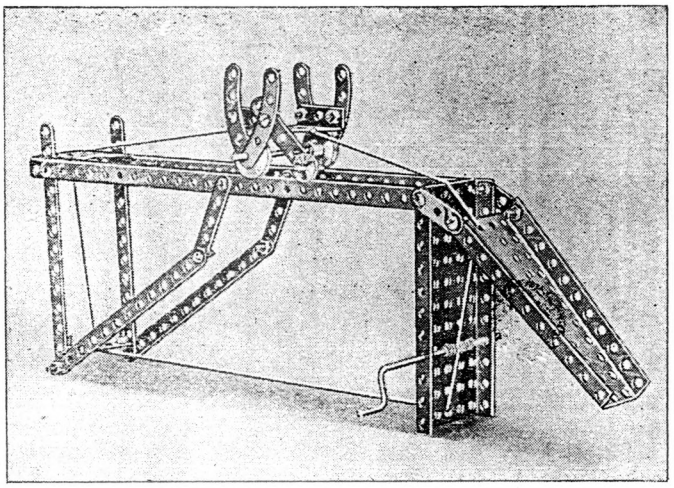
PARTS REQUIRED

Qty.	Code	Description
1	FL11 S	Flanged Plate
2	T.1	Trunnion Plate
2	S.9	Strips
2	S.5	"
1	S.3	"
2	S.R1/1	Angles
1	W1½	Wheels
1	R.4	Rod
9	B	Bolts
10	N	Nuts
2	S.C	Spring Clips
1½ yd.		White Twine

When you have built all the models shown in this booklet, and others you will think of, you will be keen to build bigger and better models, and to do this your next step is to either purchase a number 1 set, or better still, purchase spares to build any particular model you may have in mind. The model building possibilities of Mecanikit are unlimited. Spares can be obtained from your local dealer or direct from

LUTON JIGS & TOOLS LTD.
FREDERICK STREET PASSAGE, LUTON, BEDS.

3.3 BARGE LOADING TIPPER



TECNIKIT

no waviness. The only difference in shape is that the corners of the only Plate (11x5 Flanged) are sharp. As already mentioned the front of the Manual is nearly the same, including the unusual border (not reproduced in MCS). There is no list of parts in the MECANIKIT Manual but a No.1 Set is mentioned as the recommended next purchase, and a fuller address for the manufacturer is given.

The labels on the box lids show red and blue parts but the actual colour scheme of the parts in both Sets is red Strips, DAS, and Flanged Sector Plate, and green Plates, A/G, Trunnions and Angle Brackets. The green is a mid to dark shade except for the Angle Brackets in the MECANIKIT Set which are darker. The general standard of finish on the green parts is reasonable but the red paint is rough or has an orange peel look to it.

Some time ago a shoe box of parts came my way which seem to be MECANIKIT/TECNIKIT. All those listed in MCS are there except the $5\frac{1}{2}$"x$2\frac{1}{2}$" Flat Plate and the Reversed Angle Bracket, Z1. As well as Curved Strips, there are two other parts not in MCS, a Trunnion (only a Flat Trunnion is in the MCS list) and a 7x2 hole Pierced Plate, ie FP.14 in the TECNIKIT nomenclature. The other point of interest is that some of the corners of the Plates, even those of the same size, are sharp and some are slightly rounded. All the Trunnions though have sharp corners. Most of the Strips are steel, some are wavy and some, .030" thick are not; a few of each length are made of aluminium.

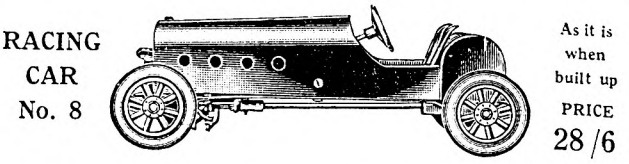
From their general appearance both TECNIKIT and MECANIKIT were probably made soon after WW2. But which came first and why the two names? Extra MCS Sheets are available for MECANIKIT, and also for TECNIKIT showing photocopies of the parts, the contents of the #4 Set, and two of the larger models. Another Set 3 model is shown at the bottom of the facing page.

TECNIKIT: AMENDMENTS TO MCS (as necessary, depending on version). HOLE DIAMETER: 4.6mm. SETS: #0,1,2,3,4 known. Larger Sets are possible but no Linking Sets are likely. PARTS: At least 34. COLOUR: Red Strips and Sector Plate; mid green Plates, A/G, Angle Brackets. PERIOD: Probably soon after WW2. COMMENTS: Add: MECANIKIT is similar and from the same manufacturer. The unusual Flanged Sector Plate has the same pattern of holes as the PREMIER one.

MECANIKIT: AMENDMENTS TO INDEX IN OSN 6: Add MECANIKIT/TECNIKIT to list of Alternative Names with Explanation: Same system by same manufacturer.

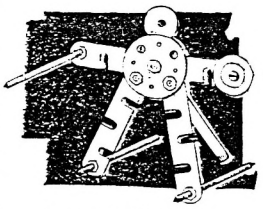
STRUCTO AUTO-BUILDER OUTFITS. Three of the vehicles in this series were shown in 5/105 but there were several others: Don Redmond came across a STRUCTO ad in a Dec 1920 magazine which featured the following 8 sets: #8, Racing Auto; 10, Bear Cat (ie Stutz) Auto; 11 High Wheel (ie Farm) Tractor; 12, Deluxe Auto; 14, Dump Truck (ie Tipping Lorry); 40, Roadster; 44, Caterpillar Tractor; 48, Caterpillar Whippet Tank (a just after WW1 tank).

Some of these Sets at least were sold in the UK as witnessed by ads in MM. The first was in Dec 1924 from the agent, H.A.Moore & Co. Ltd.,150 Southampton Row, London W.C.1; a No.12 De Luxe Motor Car Set was offered at 57/6, with 6 different models available from 32/6. In addition to the features claimed in OSN 5, the #12 was said to have 'regular big "car" differential', and to be finished in orange enamel, nickel trim and black mudguards. The #12, at 52/6, was offered in 12/25 but no others; in 12/26 there was the #12, plus the #8 Racing Car (right) at 28/6, and the #14 Giant Tip Lorry, as in OSN 5, at 52/6. Neither of the latter were described as having a differential; Set #8 is green with red wheels, and #14 red; both trimmed with nickel and black. The wheelbase of the Racing Car was 10" against about 12" for the others so far. Nothing from Moores in 1928 but the Racing Auto (the name on the box) was shown in Hamleys' ad in December, price 27/6, and 2 other Sets were mentioned, a Motor Tractor Set at 35/- and a Sports Car Outfit at 47/6. The final ad, from Moores in Dec 1929 was for #12 at 47/6; #8, now called Racing Auto, at 27/6; #10 Bearcat Auto at 35/-; and #11 Tractor and Trailer, finished in green and red, at 35/-.



According to Joseph E. Freed writing in Collecting Toys, Structo introduced an Automobile Chassis Set in 1917 and, though it's not entirely clear, it's possible that more than one model could be made from this Outfit. At any rate by 1919 most of the models in Don's ad were available, except the tracked vehicles, and in 1920 the name was changed to Auto-Builder. Production of the Sets ceased in 1925 though STRUCTO continued to make pressed steel vehicles for many years. If that date is correct it took at least 4 years in the UK for stock to be cleared.

More details on these Sets would be welcome and in particular how much commonality there was between the parts for the different vehicles, and whether the parts were sold separately.



SIR ROBOT DU ULOX
THE KNIGHT OF THE HOLEY DIAL

SOME MORE ON ULOX - AT LAST. 6 or 7 years ago when I started to take a serious interest in Other Systems, someone, I think it was Frank Beadle, showed me the difference between ULOX and BAUFIX, both of which have those unusual Strips where all the inner holes are extended out as slots to alternate sides. It's easy to tell the Strips apart, BAUFIX ones have small holes in them, one between each hole/slot. Also though the hole pitch is the same (13mm) for each, the holes in the ULOX parts are larger, 4.2mm against 3.7; a MECCANO Rod will go through one but not the other. At a glance the Wheel Discs look very similar, each with 4 small holes between the 4 normal size ones, but the ULOX ones are slightly larger in diameter, 34mm against 30, and again the size of the main holes is different. Sometimes 30mm diameter ones are found that have the larger holes, more of them later. It was also pointed out to me that although some BAUFIX literature was known, the only thing that had ever been found with the name ULOX on it was a small tin - the ULOX ACCESSORY SET T.17. There is a sketch of it in MCS and it contained some N&B, 2 Wheel Discs (called Wheels), a Hook and a yard of Cord. I suppose that it was by a process of deduction that one could say that if a Strip wasn't BAUFIX it must be ULOX. Quite right to, as we shall see. ULOX Strips and Discs turn up quite frequently and as noted in 6/137, in one lot there was a 5x5 hole Plate, and in another a second Plate and a 9-hole A/G. So it looked as if there might be more to ULOX than met the eye.

Move on to the Henley 'Gathering' last year when Jim Gamble came up and mentioned, in case I was interested, that he had happened to hear Frank Paine chatting to someone about ULOX. The upshot was that Frank very kindly sent me copies of all his ULOX material, and now all, or nearly all, can be revealed. The haul consisted of the 'ULOX Mechanical Magazine for Boys', No.1, dated March 1930; a photocopy of all the parts in the standard outfit; a page from the April 1930 'The Railway Magazine' showing a 64" long (rather skeletal) loco made from ULOX parts; and copies of the T.17 tin, and another ULOX accessory packet that contained 8 Additional Strips.

THE MAGAZINE. It has 16 pages, 9.8x7.4" wide, and it cost 2d; the cover (Fig 1) is partly printed in orange and all the pages have some part or other in orange. Most of them are given over to ULOX matters in one form or another, with a model competition; a page of 'Working Instructions; 4 pages of models; 'A Corner for Mum and Dad'; notes and illustrations of new parts; and quotes from letters and answers where appropriate. The non-ULOX material consists of a one page short story - 'The Boy Hero of the Bridge'; one page on 'Wonders of British Engineering - 1', with details of the new L.N.E.R. loco that was to be known as the No.10000; and a page of 'SMILES, Mis-conducted by THE JESTER', jokes usually with a ULOX flavour, for example, 'Why is ULOX so full of possibilities? Because there's lots (slots) of it!'.

Fig.1

THE PARTS. The different parts in the basic Set were 3 lengths of Strip, the Wheel Disc, 12 and 20mm Washers, the Lever, the 50mm Threaded Rod, the Spandriver, and N&B. Fig 2 is reproduced from the Magazine, it seems to be a display board rather than the packaging of the set, and most of the parts can be made out from it. The Lever though (just above the two 20mm Washers) needs explaining, it was a 17mm long, 2.5mm dia rod with a shoulder near one end. It would pass through one of the small holes in the Wheel Disc and as explained in the basic Instructions (see Fig 3), it was meant to be clamped between two Discs to form a crank handle. It was said to have 'many other applications'. As already mentioned the Accessory Set contained 2 parts not in the basic Set, the Cord and the Hook, and the latter is also shown in Fig 3.

So far 13 different parts but then the Magazine shows 'a few' of the new parts that were being placed on the market, 'to be on sale separately, so that you can purchase just what you want, at prices you

can well afford to pay'. The 'few' amounted to 24 parts (Fig 4) with PNs of 101-124. The only ones known are those in OSN 6, but perhaps readers will now be able to identify others among their treasures.

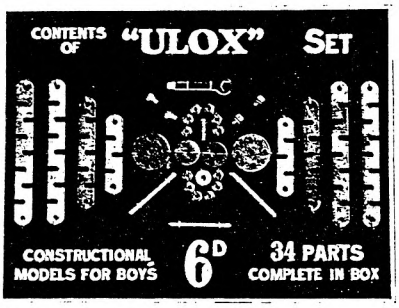


Fig.2

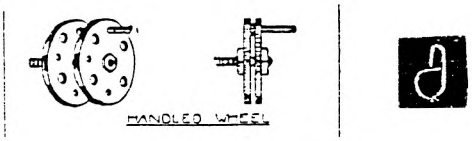


Fig.3 Handed Wheel & Hook

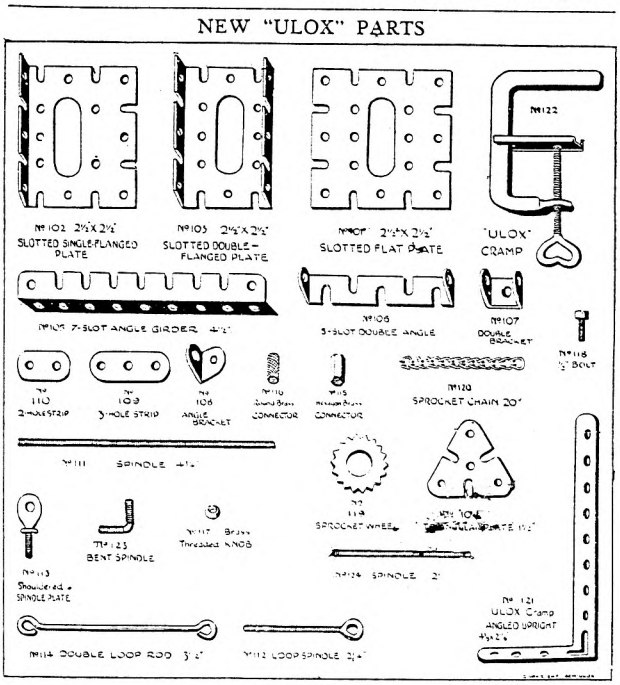


Fig.4

'The wheel is being enlarged and will have symmetrically arranged holes - a great improvement.' This quote might explain those 30mm Wheel Discs with the large holes mentioned earlier, but what the symmetrically arranged holes means I don't know. The only thing I can think of is that the smaller Discs have the holes at 11mm centres whereas in the 34mm ones they are at 13mm, the spacing used in the Strips. In passing, in the Discs with the smaller main holes, BAUFIX it is presumed, the large holes are at 10mm centres and the smaller ones at 11mm. It is also mentioned several times in the Magazine that a new, non-rusting finish is being introduced, so it looks as though early parts may have been plain steel. All but one of my half dozen 30mm 'ULOX' Discs are plain steel, the odd man out is nickel plated. For anyone who hasn't see ULOX parts they normally have a light to mid grey metallic finish, often dull, probably some form of zinc plating.

Other notes about the parts. The thread used is 5/32 BSW. The Threaded Rods are of steel and those shown have pointed ends, but others are square; all known have been too rusty to see what finish they had originally, if any. N&B are plain steel, the hex Nuts are 7.5mm A/F and the dia of the cheeseheaded Bolts is 6.3mm. The (odd shaped) Hook is copper plated steel, and the Cord seen is red.

THE SETS. No example of the basic Set is known but the contents can be seen from Fig 1; there is a reference in the Magazine to it being in a 'box'. The Accessory Set has already been mentioned but there was another Packet available, which seems not to have had a proper name, but was labelled 'ULOX ¦ 8 Additional STRIPS'. The 8 Strips, 4 7-slot and 2 each of 5- and 3-slot, were listed on one side of the packet and shown, coloured light blue, on the other.

THE MODELS. It is said in the Magazine that 'our new box has many more illustrations of models on it', and there may never have been a manual or leaflet in any of the sets. The Magazine in many ways takes the place of a manual with the page of Instructions for making Pulleys and so forth, and the several pages of models. There are 8 on one page that can be made with one Set; two are shown in Fig 5, the Scales being one of the better ones, and the Chassis one of the worst. Its side members are only held together by the two 3-slot Strips, which just sit there and are not held positively in any way. The two N&B at the ends of the forward cross Strip don't seem to do anything and those Nuts could be better used locking one of the axles to one of the side members. Or better still one Strip could be bent to form a DAS and then bolted across. Bend a Strip, sacrilege, but making DAS that way is just what is suggested in the Instructions. It says the slots make bending with the fingers easy or, it goes on, if you prefer make a saw cut in a block of hard wood to make a bending block. I've just tried bending a rusty Strip with my fingers and it does work, and slowly bending it back was successful too, just as claimed, but I suspect that another cycle would have added to the fair number of broken Strips in my little collection. Another problem with this model would have been that if it was picked up the rear axle looks as if it would have fallen out of the bottom of the slots it sits in. Oh dear, but perhaps it was to teach the ULOX boy not to take anything on trust.

[Cont.>]

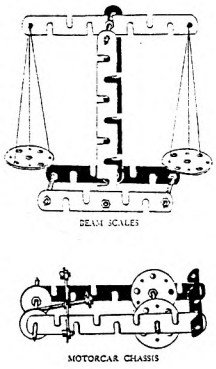


Fig.5
Beam Scales
Motorcar Chassis

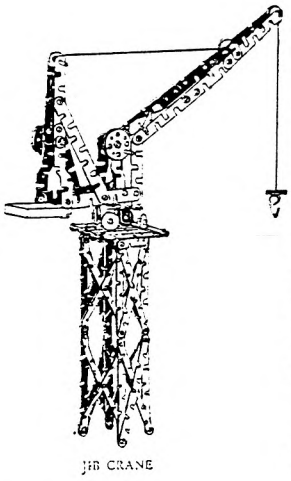


Fig.6 Jib Crane

On another page are 8 models that can be made from 2 or more Sets, and these are generally rather better; I liked the Jib Crane shown in Fig 6. The centrefold carries 3 large models, a Beacon Tower about 30" high (Fig 7), a (railway) Breakdown Crane, and a Seaplane. The latter is fitted with an electric motor driving the propeller, but there is nothing to suggest that the motor was marketed by ULOX. A complete set of plans for these three models was offered 'FREE OF CHARGE to every "Ulox" Mechanic who sends us twelve empty contents envelopes from Sixpenny "Ulox" Sets'. Another large model of a Big Wheel is shown on the front cover (Fig 1). The ultimate ULOX supermodel must be the 2-8-0 loco shown in 'The Railway Magazine'. Apart from being 64" long, it is said to be 24" high, 17" wide, and is complete with valve gear, working hand brake and various fittings; it is also said to be made from standard ULOX parts as sold in the sixpenny outfits. The model is mentioned in the Magazine as being the largest and best model in the ULOX display at the Ideal Homes Exhibition at Olympia. The original photo hasn't copied very well and little detail can be seen, but it's worth including in the Extra MCS Sheets for ULOX.

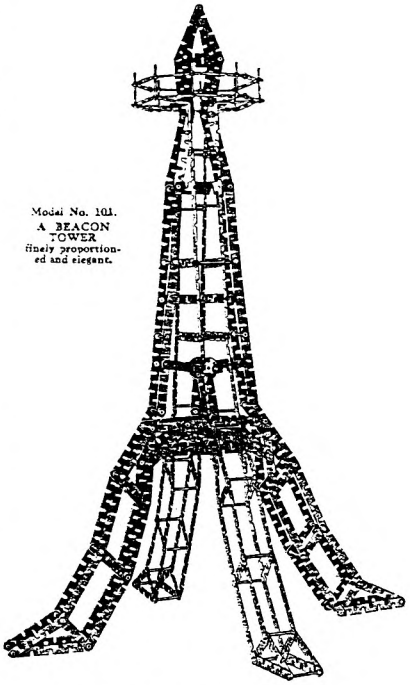


Fig.7 A Beacon Tower

None of the models seem to make much use of the slots in the Strips and I can't say that for me they add anything to the appearance of the models. In the Instructions the slots are said to make the parts easier to use, with the explanation, 'When bolting two pieces together, slot to slot, place the bolt on the nut first, adjust the two pieces to the required angle, and tighten up with the spanner. It's easy, isn't it.' Well I suppose so, but when I made a model out of BAUFIX some time ago, the Chair-O-Planes ride shown in MCS, the main thing was that the slots did allow the bracing struts to fit correctly; the downside was that the shafts wouldn't run successfully in the slots and all the appropriate Strips had to be doubled up so that every pair of slots formed a round hole.

HISTORY. The name and address given several times in the Magazine is BCM/ULOX, London W.C.1, and it is explained at one point that this is their 'monomark' address, which I guess means a GPO approved, simplified address. In 'The Railway Magazine' it is said that Hommade Ltd., Enfield Road, Acton, London W.3, had made the loco model and sent it to them, and so it seems that Hommade had an interest in ULOX. This is partly confirmed by a patent No.328457 which was in the name of Hommade Ltd. and S.N.Wolson; I don't have details of it except that it described ULOX like strips. The date of the patent was 1929 and ULOX was probably on the market for a period before that, witness the PATENTS PENDING on the Additional Strips packet. Against that, in the magazine it says of the Packet, 'Also - NOW ON SALE', as if it had been recently introduced.

On the back cover of the Magazine it is said that ULOX could be obtained from all branches of F.W.Woolworth & Co. Ltd., and Woolworths clearly took an interest; they have the only outside ad, a quarter page devoted to 'TAUT' curtain rod. And in reply to a letter, it is suggested to Chris Tompkins of Llanelly that if Woolworth's manager was asked nicely, he would be pleased to show the model you are so proud of in his window.

Where were ULOX parts made? The only clue in the Magazine is that it is not claimed that ULOX is 'Made in Britain'. That was a popular claim at that time, and too good to have been omitted if true. The fact that ULOX dimensions were metric doesn't necessarily indicate the Continent, MEX has 13mm spacing and it's said to have been made in Japan. How does the claim in the Magazine that ULOX offered exceptional value for money stand up? TRIX, introduced soon after 1930, is the obvious comparison; the basic set in each case cost 6d and TRIX provided 51 parts against 34, with 10 Strips (plus 2 DAS) against 8, 4 large Discs against 2, and 20 Nuts and 8 Bolts against 12 and 4. So how long did ULOX survive? And were there any more issues of the ULOX Mechanical Magazine for Boys? One was promised for April but elsewhere in the Magazine the question was raised, should it appear every month, or every 3 months; and someone may have thought that it was going to be yearly because there is 'ULOX Magazine 1930' at the top of most of its pages.

Where did the name ULOX come from? To quote the Editorial: 'Funny name isn't it. You will probably be interested to know why the inventor named it ULOX. Well it's because of the 'U' shaped slots, which look like 'U'-locks.' So that's that little mystery solved.

AN EARLY DUTCH CONSTRUCTOR SET. Harry Fell kindly let me examine his No 2 outfit, largely complete and with a manual which covers Sets 0, 1 and 2. Why 'early'? - first because the models are shown as line drawings instead of the photographs used in a presumed later manual, and secondly some of the parts are less developed than others seen, the latter corresponding to those in the later manual. Also the Set 00 shown in the later version is not mentioned. MCS shows the later parts and the FB edition shows early ones as well. The Illustrated Parts List in Harry's manual is similar to the FB early one except that only parts through #35 are shown. This may be because these were all that were included in the #2 set; a Loco shown on the cover of the manual has main wheels too large to be any of the parts shown. The Contents for the sets shown (0,1,2) are similar to those in MCS but with 2 less 5x3 hole Plates in each set, and of course none of the parts above #35.

Points of interest regarding the parts are as follows:
• The 5x11 hole Flanged Plate and the 25 hole A/Gs are made of aluminium alloy, .050" thick. Later both were of steel.
• None of the #22 (Half Wheels/Pulleys) have bosses, later ones come as pairs, one with boss and one without. Also the early ones are of a metal which is quite rigid but isn't steel or brass, it has a dark grey metallic appearance.
• The Tyres are marked JAFO twice (opposite) on each side: later ones have CONSTRUCTOR JAFOWORKS once on each side.
• As shown for the early parts in FCS/FB, the Plates #3,4,5 have no centre hole, and their corners, and those of the Flanged Sector Plate are square. The 3 hole Strips have one end hole elongated unlike the early MCS illustration.
• The bore of the only bossed part, the Bush Wheel is 3.86mm against 4.01 for later bosses. The Axles are smaller too but they may not be genuine because their lengths are not those in the Parts List.
• Apart from the Wheels already mentioned, all the parts, including Brackets, are painted mid red except the Flat Plates, the Trunnions and the 25 hole Strips and A/Gs, which are all a mid to light green. The red is much the same as that of later parts but the green is definitely lighter than the mid to dark later shade. In passing the colours of other (later) parts seen are Sprockets, dark blue; Half Pulleys, cream; and Flat Girders, green.
• Again in passing the Pinion and Gear Wheel (#46,45) have 18 and 53 teeth, with a DP measured as 35 which probably indicates Mod .7.

The set comes in a 15x11" box, with coloured illustrations on the lid of a Hammerhead Crane, an Articulated Lorry, and a Windmill; all Set 2 models. Also on the lid is NED. OCTROOI AANGEVRAAGD NO. 127420, A patent number perhaps, and if so can anyone put a date to it?

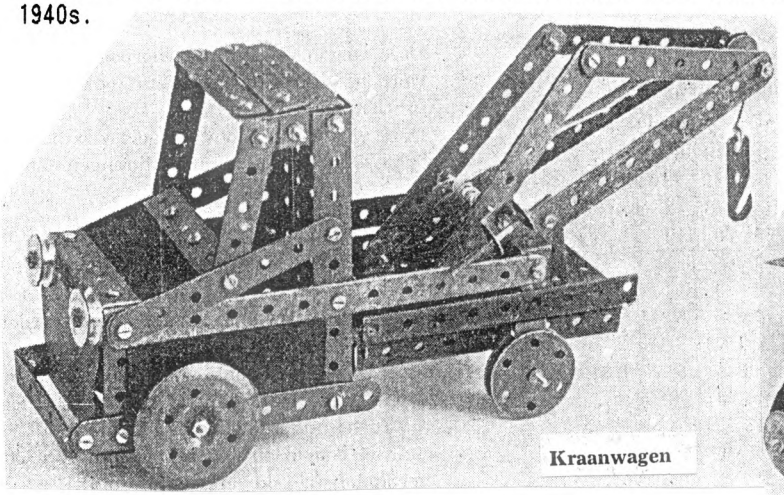
There is no model shown in MCS which makes use of the range of parts in the largest set, No 5, so I have prepared an Extra Sheet showing a Tram from the later manual - it's powered by a sideplate motor not shown in MCS. On the reverse is the cover from the old manual. Below a couple of changes to the MCS data: the holes in both the old and the newer parts seen are about 3.9mm diameter, and the spacing is ½" - it may show 11mm in some copies.

FOOTNOTE Since this piece was written Richard Symonds has sent a photo of a manual cover which may have followed the one described below, it is in full colour and shows two of the models on the lid of the No.2 Set described above, the Crane and the Lorry, plus two boys. And René Mikkers sent copies of a the cover of another manual and two of the models from it. The latter are identical to those in the 'later' manual mentioned above (which didn't have a cover); René's cover shows one boy, a Hammerhead different to the one above, and a 6-Wheel Tipping Lorry. He puts its date at the mid 1950s. The address on it is JACOWORKS, GRONINGEN, presumably an error because all the other material refers to JAFOWORKS.

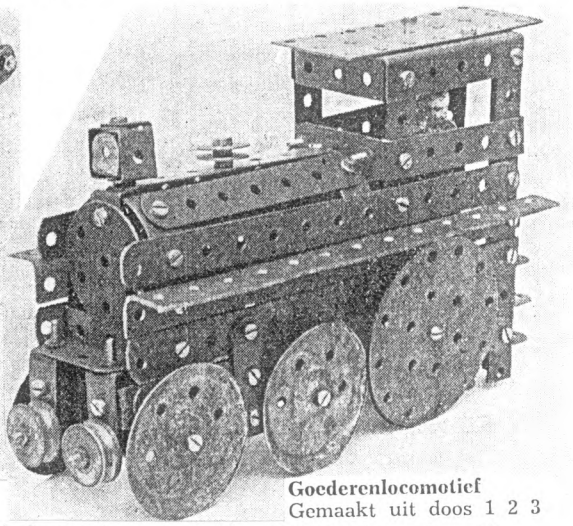
SUMMARY OF MANUAL #Name: Constructor. #Details of maker: [on p28] CONSTRUCTOR - JAFO WORKS - GRONINGEN (Holland). #Dates &/or Ref Nos: none. #Page size: 254x168mm deep. #No. of pages: 28 plus covers, all unnumbered. #Language: Dutch. #Printing: Black line drawings on fawn paper. Cover black (halftone photos) on yellow top and red bottom. #Page Nos of Parts List & highest PN: 2,3,35. #Page Nos of Set Contents & highest PN: 3,35. #Sets covered: 0,1,2. #No. of models for each set: 0: 20; 1: 43; 2; 15. #Name, Model No., Page No. of first & last model of each set: [no model numbers] 0: Ledikant,4; Spoorweg-signaal,7. 1: Graanvork,8; Ophaalbrug,19. 2: Hollandse windmolen,20; Dubbele ophaalbrug, 27. #Other notes: Set 2A mentioned on p28.

AMENDMENTS TO MCS (as necessary, depending on version): HOLE DIAMETER: 3.9mm. HOLE SPACING: 12.7mm.

STRICON FROM HOLLAND. The name STRICON has been known as a possible OS name but now, thanks to René Mikkers, some details are available. He kindly sent me his Set 3 Manual to examine; as far as is known no-one has any STRICON parts. Sets 1 to 3 are mentioned in the Manual and they are not progressive, the larger sets are accessory outfits which introduce different parts and allow larger, more complicated models to be made. The largest model shown in the Manual, a 90cm long Swing Bridge, needs 8 No.1, 5 No.2 and 4 No.3 Sets. It's rather like TRIX in that respect and the range of 34 parts is comparable too, the main difference is that there are no Tyres, Gears or Electrical Parts; of course there may have been other STRICON parts/sets but none are mentioned in the Manual. Another similarity with TRIX is that Threaded Rods are used as axles. René thinks that STRICON was being sold in the late 1940s.



Kraanwagen

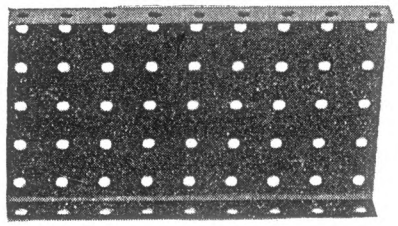


Goederenlocomotief
Gemaakt uit doos 1 2 3

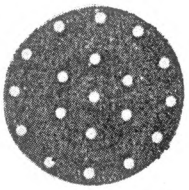
The parts in Set 3 are shown in the Manual (see below) and from those and the Parts Lists for the models the full range of parts is as follows:

- Strips with 3,5,7,9,13 holes; 1,5,9,13 hole A/Gs, all have square corners except the 1-hole (Angle Bracket). DAS 1x1x1 (Double Brkt),1x2x1,1x3x1,1x4x1,1x5x1, and also the narrow 2x1x2 B½ shown below.
- Flat Discs of 10,16,38,66mm dia; W66 is shown below, W38 has only the 6 inner holes. 'Half Pulleys' of 20,30,40mm dia; see Fw40 below, the others have only the centre hole.
- The Pl45 Flanged Plate shown below and a 7x3 Perforated Flat Plates. Both have square corners.
- Threaded Rods 25,40,50,60,90mm long. Hex Nuts and roundheaded Bolts, though in some models they look cheeseheaded. A Hook which is a 3-hole Strip with a 45° slot into the last hole. There is also a TRIX style Spandriver but with 4 holes in the shank. Cord drives are shown and in one model there appears to be quite large diameter Spring Cord around two Pulleys.

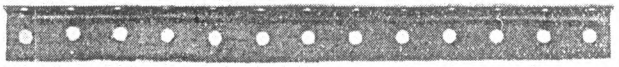
There are no elongated holes in any of the parts though the holes in the Angle Bracket cannot be seen clearly.



Pl 45 (1 st.)

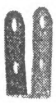


W 66 (2 st.)



H 13 (2 st.)

S 13 (2 st.)



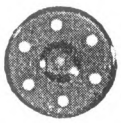
B ½ (2 st.)

B 5 (2 st.)

B 4 (2 st.)

A 90 (2 st.)

Bo Mo (20—25 st.)



Fw 40 (4 st.)

INHOUD VAN DOOS 3

The hole pitch isn't stated but can be estimated by scaling from parts and models whose dimensions are given. This leads to figures that vary from 13.8 to 14.6mm and similarly the hole size is between 3.8 and 4.2mm. Scaling the Threaded Rod (see above) gives its diameter as about 3mm. That's much smaller than the size of the holes but it might be correct, it would make the Bolts about ½" long and they look about that in the models shown. Another Dutch system of the same period, STRUC, has a quite similar style of parts and the hole pitch/size are 14.0/3.8mm; and the thread used is 1/8 BSW, near enough 3mm. The relatively large holes allow a little adjustment in the absence, as also in STRICON, of any elongated holes, but of course the axles are very slack.

The 19 models in the Manual range from a Sewing Machine to a 70cm long Loco and Tender; 11 of them can be made from the combined parts of Sets 1, 2 and 3, including the two shown above. Although all the models are fairly simple mechanically their appearance seems to me rather above average consid-

-ering the limited range of parts. Card is shown in a few of the models to fill open areas. As so often though the wheels of vehicles don't look very realistic. In a page of Basic Constructions two gear Wheels and a Rack are shown, made from the (long) Bolts in the 2 larger size Discs and a Strip, but I couldn't see any use of them in the models. The Swing Bridge though does have a small roller bearing using the 4 16mm Pulleys between the 66mm Discs. Two of the larger models are shown in the Extra MCS Sheets for STRICON.

ENDWORD After writing this account I remembered that a couple of years ago Frank Beadle had showed me some unidentified parts which contained a 3-hole Hook just like the STRICON one. It turned out that with two exceptions all his parts matched those in the Manual exactly: additional details of them are as follows:

• The hole pitch is 14.0mm and the holes are 3.9mm dia. Strips are 13.1mm wide and their end radii are 7mm. They, and the A/G are painted silver.

• There are two styles of Bolt, one is $\frac{1}{8}$"BSW and is roundheaded, the other is M3 with a cheesehead. Both have hex Nuts and both are about 10mm long u/h.

• Brackets, DAS, Plates, the 20mm Half Pulley, and the Hook are blue. The Angle Bracket has 2 round holes. The 30mm Half Pulley and the 38mm Disc are dark red; the 16mm Disc and the Spanner are black.

The exceptions referred to above are the Spandriver which doesn't have any holes in it, and a 5x3h Flanged Plate with the flanges along the longer sides: this part matches the others but isn't mentioned in the Manual.

SUMMARY OF MANUAL. #Name: STRICON. #Details of maker: STRICON FABRIEK, POSTBUS 5039, AMSTERDAM. #Dates &/or Ref Nos: None. #Page size: 193x232mm wide. #No of pages: 24 plus covers. #Language: Dutch. #Printing: Models are halftone photos, cover is blue and grey, with blue, grey, red print. #Page Nos of Parts List & Set Contents, & highest PN: 3 (parts are not numbered in sequence). #Sets covered: No.3, but sets are not progressive and Sets 1 & 2 are needed for models shown. #No of models: 19. #Name, Model No, Page No of first & last model: (no Model Nos.) Goederenlocomotief,3. LOCOMOTIEF MET TENDER,22. #Other notes: None.
AMENDMENTS TO INDEX IN OSN 6: NAME: STRICON. TYPE: MPLG. CY: HO. SPCE: 14.0 dST: 3.9. DAXL: --.

BAUKLÖTZE STAUNEN by Annette Nosschka and Günter Knerr This book from the Deutsches Museum in München, was generously sent by Toby Haffter and Peter Kessler: it's in German of course and the title means Amazing Building Elements. It is a hardback of 158 near A4 size pages, and there are sections on sets with wooden, stone, metal, and plastic parts, followed by an account of the use of building sets in schools. After that a catalogue of exhibits at the Museum with brief details of each, a list of references, and an extensive bibliography.

The authors trace the history of building sets largely I think in terms of the extensive collection held by the Museum, and this means that apart from major players like MECCANO, STOKYS and LEGO, most of material mentioned is German. My limited German doesn't allow me to properly judge the text but where I've dipped into it I've been pleased with the historical detail I've found, and I'm sure I'll be using this book regularly in the future. The illustrations help of course and there are good quality b&w photos etc on nearly every page, and 24 full pages in excellent colour.

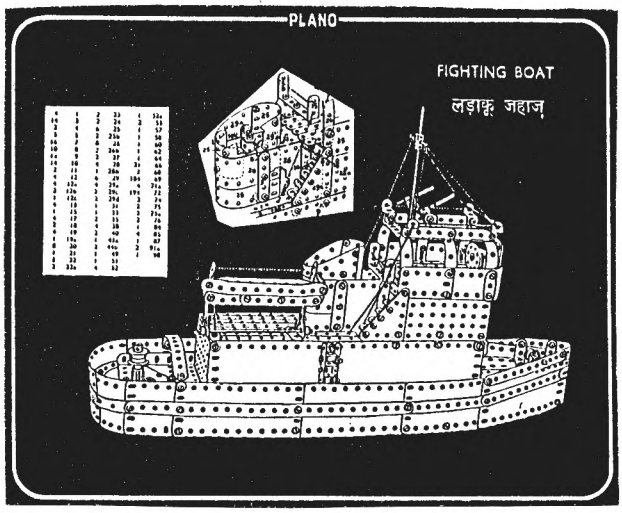
I understand that the book can be obtained from the Deutsches Museum; there is no detailed address in the book but just München should be enough. In case it is of help the book was published in 1986 by Hirmer Verlag in association with the Museum, and the ISBN number is 3-7774-4180-5.

METAL CONSTRUCTIONAL SYSTEMS • PART 5 • compiled by Frank Beadle Many readers will already have this latest instalment in the series, but for those who haven't yet, a brief look at the 180+, mostly double sided, photocopied A4 pages. The first part consists of corrections to the existing 4 volumes, 45 new pages plus 6 sides of amendments to be added. Then comes over 40 new systems, from ALPHA (2) to WEMA, taking up over 100 pages. In addition there are 14 pages giving brief details of well over 100 of the more interesting wooden and plastic sets, with illustrations of some of the wooden ones. Finally there are lists of all the systems from Parts 1-5 arranged by country, by type, and by number of parts (50-100, 100+), and a list of systems thought to exist but for which there's no information yet. If you're interested Frank's address is 33 Yoredale Avenue, Darlington, Co. Durham DL3 9AN. Tel: (0325)356097. Part 5 costs £20 plus £4 postage for the UK and £5 abroad.

QUERIES 17. From time to time a particular spanner turns in mixed lots of MECCANO/OS, but doesn't ever seem to relate exactly with the other parts. It's double ended with cranked jaws of .25" and .20", and is stamped J.&LR.LTD ¦ MADE IN ENGLAND. Does anyone know who J&LR are or were?

PLANO Sets Nos.1 and 2 are listed in MCS but now Ashok Banerjee has sent across two sets, a #7 and the largest ever produced, #14, both still strung in their boxes.

Let's start with the #14. The box measures $16\frac{1}{2}$x$11\frac{3}{4}$x$2\frac{1}{2}$" and the lid is a rich purple with a coloured label showing a boy and a model Crane, with a seafront scene in the background; also on it, as noted in MCS/FB, is 'Registered Trade Mark NO.222066' and a logo reading 'ECS ¦ BHARAT ¦ RAI TOYS'. Inside are 5 layers of red and green parts strung to yellow card. At a glance the parts might be taken for MECCANO - they are all similar in shape, but when you look more closely the differences become apparent. First, again as noted in MCS, they are very badly made with flash around some of the edges and in some of the holes, and the holes are not always in line or regularly spaced. Ashok commented that production was stopped because of the state of the tools and that they may not have been that good in the first place. The paint finish isn't good either but at least there's no rust showing. The second difference is that the holes are only about 3.8mm dia and their pitch is 13mm. Those are typical values, there is some variation and in particular a pitch of 12.8mm is quite common.

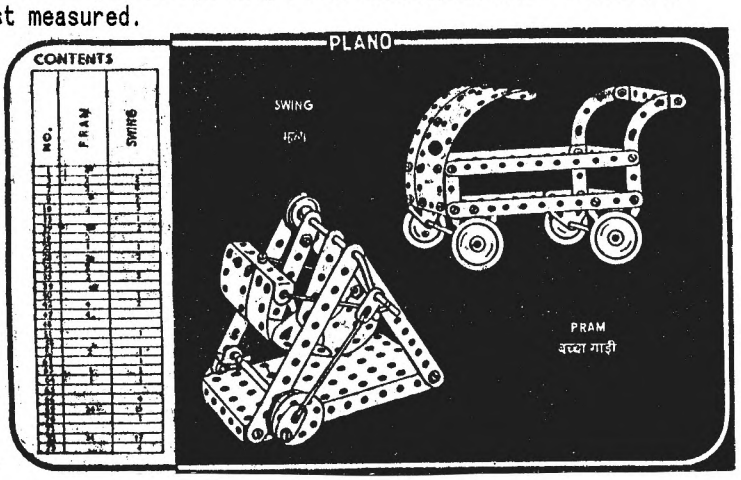


The contents of the Set are almost exactly those of a 1962/69 MECCANO #7, and the Manual shows all the MECCANO #7 models, plus 4 of the #6. Some of their titles have been changed but the illustrations are virtually identical, except that photographs have been replaced by line drawings, and many of the Nuts have been redrawn hexagonal. The MECCANO C/W Motor is shown in several models but as far as is known there was never a PLANO one.

Now some more detailed points - parts are to MECCANO pattern, as shown in the Extra MCS Sheets, except as noted, although some parts hidden away in parts boxes couldn't be examined:

- The thread used is $\frac{1}{8}$"BSW. Axles are 3.20mm and are therefore loose in the holes, even worse the bore of bosses is 4.2mm or more. Likewise all the bores of the Coupling. The only part seen which matches the bosses is the Threaded Pin with a shank of 3.94mm. Bosses and Collars are steel, double tapped and about $\frac{3}{8}$" dia. N&B are untreated steel, the Nuts are hex, 6.4mm A/F; the Bolts have 5.1mm dia roundheads.
- The 25h Strips vary in width between 12.7 and 13.2mm; shorter ones are mostly about 11.4. Ends are nominally fully radiused, but the metal outside the end holes varies from 2 to 7mm.
- The 1" Pulleys without Boss have no holes in their face; The 2 and 3" are red, all others and Gear/Bush Wheels are silver. Road Wheels are the original style: the conical centres are red and the 'tyres', silver.
- The Flanged Wheels are .770" dia over the flange and are nicely turned from solid brass. Other brass parts are the Threaded Pin, the Coupling, the 19t Pinions, and the Worm which is shorter than usual with about 10mm of thread. The Coupling is 30mm long by 9.3mm dia, with the 3 cross holes spaced 11 and 13mm apart, and all parallel to one another. The o/d of the Pinion is about .02" greater than a MECCANO one and the 57t Gear is smaller by about the same amount, so whether they would mesh at 26mm centres must be in doubt. I can't try them because they're strung in.
- Parts are painted a medium/dark green except for the following, and any other exceptions already noted: metal Plates, Trunnions and Wheel Discs are medium red; plastic Plates are black or transparent; 2h Brackets, Spanners, the Chimney Adaptor and the Hook are sprayed silver.
- Most of the parts are made of steel of about the normal thickness but a few parts appear somewhat thinner, the Gear Wheel for example, and the Trunnions, although they're 25 thou which isn't that much less than the .030" of a MECCANO one I've just measured.

Now for the #7. The box is of the same style but measures $10\frac{1}{2}$x$15\frac{1}{2}$x1", and the parts are strung, one at a time, on the single light brown backing card. The nearest MECCANO Set is the 1954/61 #1, the PLANO has a few extra parts including 4 3h Strips and 2 8h Wheel Discs. The Manual cover is exactly like the one in MCS, inside are one or two original models but most are from #1 MECCANO manuals, from the 1954/61 period or earlier, all shown as line drawings against a black background, again as in MCS.



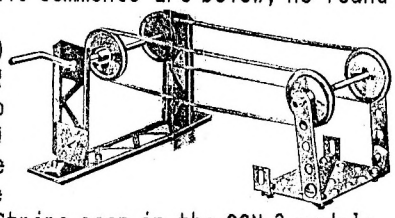
The #7 parts are much as in the Set 14 except

that: • The Bush Wheel and the 1" Pulleys are painted red; and the Hook is green. • The Screwdriver is the bent wire type, as in MCS; the #14 one has a brown plastic handle. • The N&B are slightly smaller at 6.1 A/F and 4.8 dia. • More important, the Axles are 3.58mm dia, though the Crank Handle is the 3.20 of the Axles in the #14.

It is believed that PLANO was introduced in 1961 (OSN 3/41), and it continued until 1990 (4/72); the manufacturer was Rai Toys Industries, Sitaram Bazar, Delhi. In the next Issue I plan to include details of MAXHINA, another, comparable, Indian system.

AMENDMENTS TO INDEX IN OSN 6: SPCE: 13.0* dST: 3.8 DAXL: 3.58* SUMMARY OF MANUAL. #Name: PLANO #Details of maker: RAI TOYS INDUSTRIES, SITARAM BAZAR, DELHI-6 (on front cover). #Dates &/or Ref Nos: none. #Page size: 245x201mm deep. #No of pages: 48 inc covers, unnumbered. #Language: English, Hindi. #Printing: Cover is b&w on light blue ground. Each model has line drawing on black ground, plus black on white exploded views. #Page Nos of Parts List & highest PN: 46-48,98. #Page Nos of Set Contents & highest PN: 2,98. #Sets covered: #14. #No of models: 20. #Name, Page No of first & last model: ENGINE,5. CRANE,43. (no Model Nos.) #Other notes: Models are MECCANO 1962/69 Set 6 & 7. Basic Constructions BC1-14 are shown on p3. SUMMARY OF MANUAL. #Name: PLANO #Details of maker: RAI TOYS INDUSTRIES, SITARAM BAZAR, DELHI (on back cover). #Dates &/or Ref Nos: none. #Page size: 205x128mm deep. #No of pages: 24 inc covers, unnumbered. #Language: English, Hindi. #Printing: Cover and models are white on black. #Page Nos of Parts List/Set Contents & highest PN: 2-3,71. #Sets covered: #7. #No of models: 28. #Name, Page No of first & last model: SWING,4. TRICYCLE ROUNDABOUT,23. (no Model Nos.) #Other notes: most models are MECCANO. 2 #8 models are shown on the back cover.

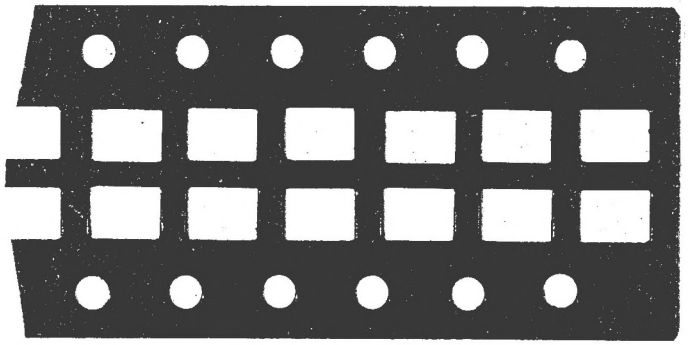
MYSTERY PARTS Kendrick Bisset sent some comments and also wrote, "Might it be helpful to identify the area where mystery parts were found? I realise that parts may travel far from their origins, but it seems that the U.S. is more parochial than even Canada; I find much more variety north of the border than here." This might certainly help in some cases and if contributors give me this information, where they think it could be relevant, I'll include it. His comments are below; he found the Parts #19 and 20 in the Chicago area.



MYSTERY PART No.1 (The ERECTOR 5x4h Plate, see 3/47 and 8/197) Kendrick sent a copy of the Instruction Sheet which was in his ERECTOR #0 Set. One side of it is generally similar to that shown at the top of p46 in OSN 3, with a the reference no., M 466, and the same 1920 copyright date at the bottom, and No.0 Erector at the top. On the reverse side are 9 models which include both the 5x4h Plate, old style wide ERECTOR Girders and 4 Pulley Wheels, as well as the 5 and 9 hole Strips seen in the OSN 3 models. No PNs are given for any of the parts. There is a mention in Greenberg of Sets #0, 00 and 000 although there are no illustrations of them and apparently they were never shown in ERECTOR catalogues, so it is possible that the leaflet shown in OSN 3 came from the 00 or 000.

MYSTERY PART No.19 (The Plate with alternate round and square holes, 9/222) He has a 3h Strip and 2 11h Angles which seem to be from the same system. The hole pitch is $\frac{7}{16}$" (11.1mm) counting both square and round holes, and all holes are 4.5mm dia or wide. All the end holes are round. The Strip is 11.3mm wide and 1.2mm thick; the flanges of the A/G are about 15.2mm wide and .8mm thick.

MYSTERY PART No.20 (The 4x1$\frac{1}{2}$" Plate with one $\frac{1}{2}$" flange, 9/222) No less than 9 of these pieces, all unpainted have been found among collections of ERECTOR, THE CONSTRUCTIONEER and AMB parts, but do they belong to any of these systems? The holes are at $\frac{1}{2}$" pitch and are 4.4mm dia except the end ones in the large face, which are 4.8. AMB lists and models show no such part, and the hole pitch is wrong for THE CONSTRUCTIONEER, so ERECTOR seems the most likely - several poorly documented ERECTOR parts are already known.



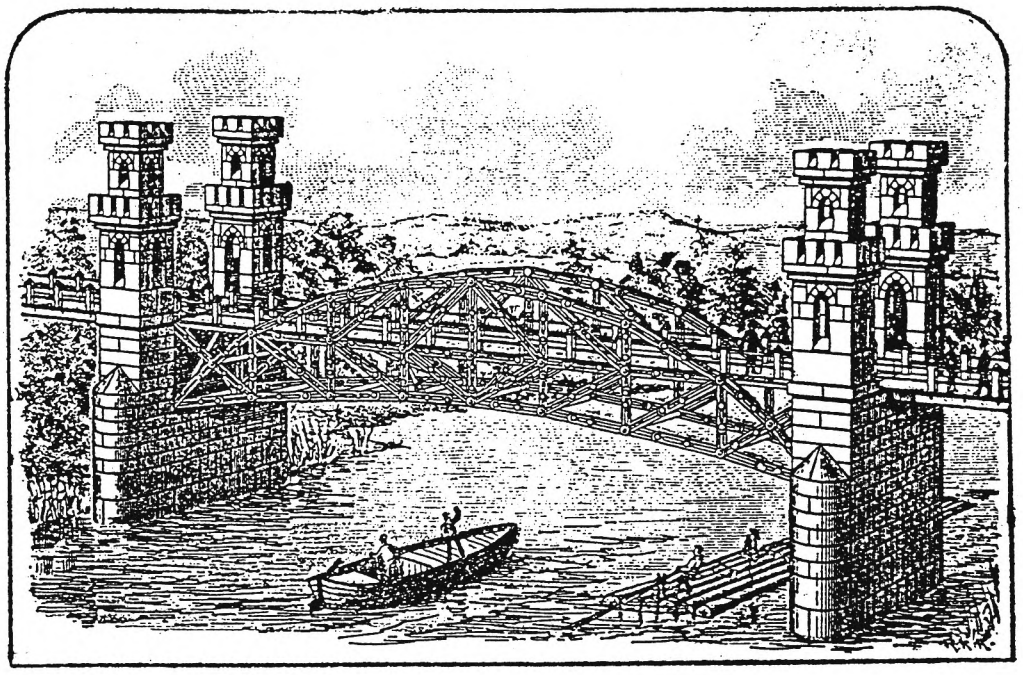
MYSTERY PART No.22 The 6 holes worth shown is from the original 25-h part, and both ends are similar with the same extension beyond the outer holes. There are 25 pairs of cutouts and so they have a varying stagger in relation to the holes. The holes are 4.4mm dia and their longitudinal spacing is 12.5mm, but crosswise it's something less than 32mm. 3 of them were in a STABIL Set that Geoff Wright showed me recently, one painted red, one green, and one blue. The STABIL hole pitch is of course 12.5mm so that ties up, but none of the other parts were painted and there was no mention of this part in the 1956 manual which was in the Set.

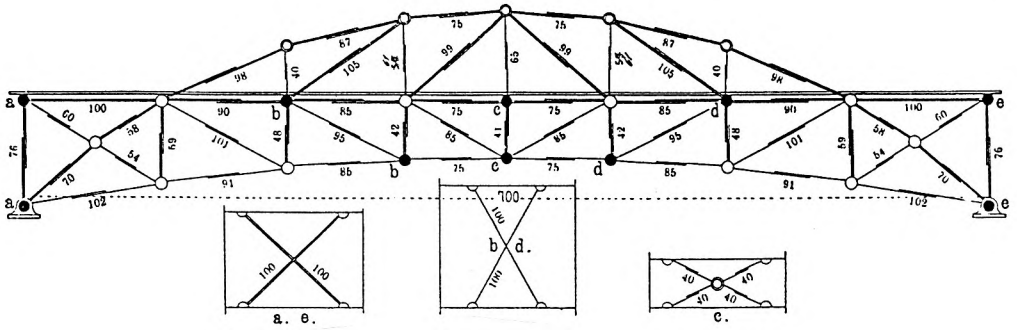
RICHTER'S METAL SETS. What follows is based on an article which appeared in MECCANO-NIEUWS the Dutch Guild magazine; it was originally written by George Hardy of the American Anker Club and Hans Klarenbeek was good enough to translate the Dutch version for me. The Illustrations are reproduced by kind permission of the Editor of MECCANO-NIEUWS.

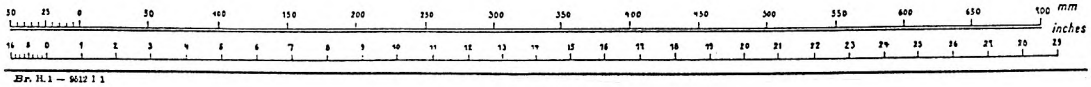
Richter's ANKER stone building blocks are well known but the firm also marketed two constructional sets that used metal components. The first in 1895 was a Bridge Building Set, with stone bricks forming the towers etc, and metal strips of various lengths for the arch. These strips were slotted so that they could be overlapped to make the various lengths needed for the outer members, struts and bracing. The method of fastening the strips together is not clear - in the model illustrated below there are small round circles at the joints, which might or might not be bolt heads. The metal span of the model was well over 2ft and scaled from the sketch the strips might be about 10mm wide. 16 models are shown in the manual, which is in both German and French, but no Set has ever been found.

The second set, IMPERATOR, is in MCS; it was launched in 1914 and survived WW1 because it is included in a Richter 1919 List, but was marked 'no longer available' in the firm's 1925 Catalogue. ANCHOR, the English version, was included in Bassett-Lowke's 1926 Catalogue. There were 4 IMPERATOR Sets, Nos 0,1,2,3 and they contained 62, 97, 167, and 295 parts respectively. The PNs of the 31 different parts are given as, 501-6, 511-5, 521-2, 527-8, 531, 533-40, 543, 551, 553-4, 557, 559-60; but the parts are not described and only the 5 below are illustrated, without PNs. The model on the front cover was from the No 2 Set, no indication is given as to what it is. The full title of the set was IMPERATOR METALL-BAUKASTEN and it was also sold under the names ANKER-METALL-BAUKASTEN and INGENIEUR-BAUKASTEN.

AMENDMENTS TO MCS (as necessary, depending on version). SETS: 0,1,2,3. PARTS: 31. PERIOD: 1914 to early 1920s. COMMENTS: add 'The full title of the set was IMPERATOR METALL-BAUKASTEN and it was also sold under the names ANKER-METALL-BAUKASTEN and INGENIEUR-BAUKASTEN.
AMENDMENTS TO INDEX IN OSN 6: add the alternative names above to the list on p123.

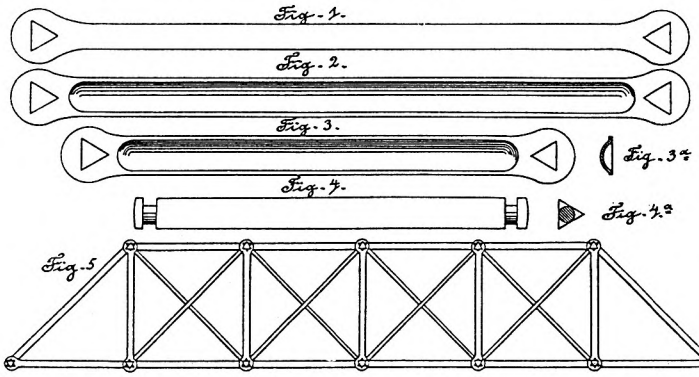


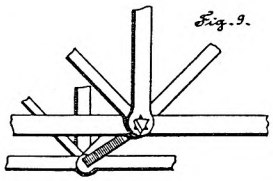


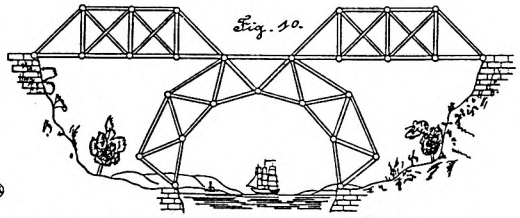


EARLY BRIDGE PATENTS. Since the piece opposite was written Toby Haffter has sent copies of several early German patents for constructional toy bridges, and I think they will be of general interest to many readers. The earliest is from 1890 and is in the name of Henry C. Zenke of St. Paul, U.S.A. Some of the Figures are shown below and are I think self-explanatory. All the parts were stated to be made of steel.

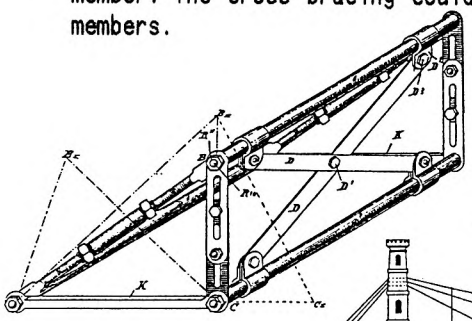
KAISERLICHES PATENTAMT.

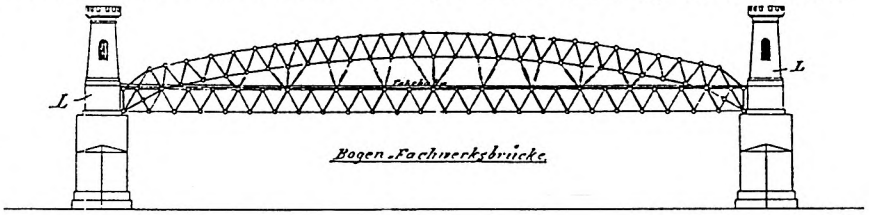


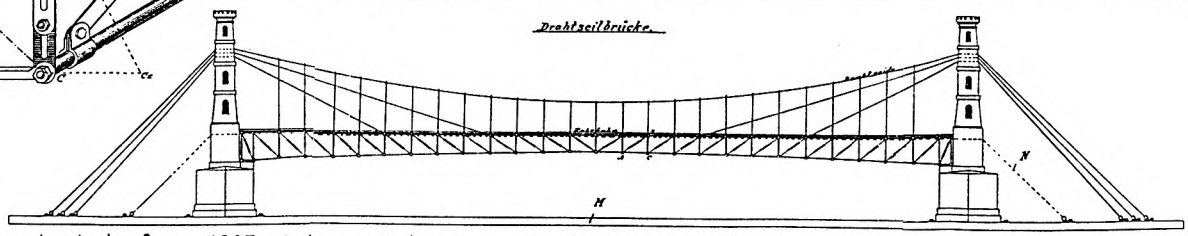




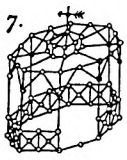
The second dates from 1892 and is in the name of Julius Weiss of Hamburg. Again the diagrams are clear, though I'm not sure of the advantage of using the adjustable length screwed rod element instead of the surely much cheaper alternative of two slotted strips. Each circular section cross member is made from a sleeve of suitable length fitted over a rod with threaded ends. The towers it is said, would be made of wood or a similar material. The 1895 Richter bridge clearly used several ideas from this patent, the slotted strips obviously, and the cross members and the method of attachment of the cross diagonal bracing, both look similar. It's hard to see now why DAS weren't used for the cross members, or better still the slotted strips with one end formed at right angles to attach to the side member. The cross bracing could then have been more slotted strips bolted directly to the cross members.

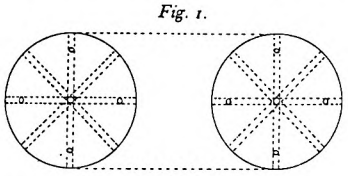


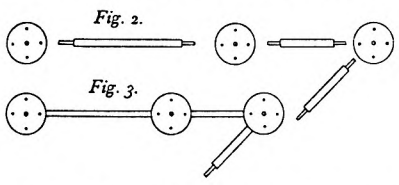


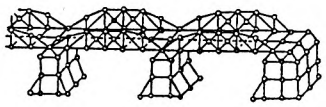


The next patent is from 1897, taken out by Franz Hendrichs of Solingen and is much simpler. The circular joints were to be made of an elastic material, rubber for example, which it was claimed would be better than the wooden ones then on the market. The rods were to be rigid, and their ends might be tapered.

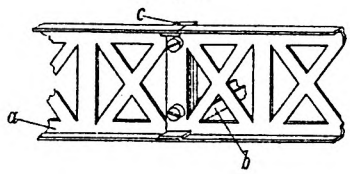


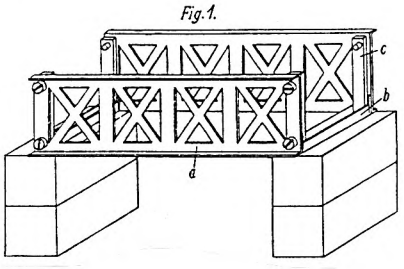


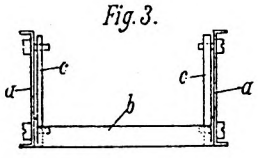


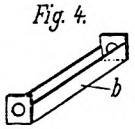


Finally what may have been the very first Braced Girder, in a 1901 patent by Richter & Cie of Rudolstadt. The parts shown were included in the RICHTER ANKER Building Sets, basically stone blocks with just these metal parts.









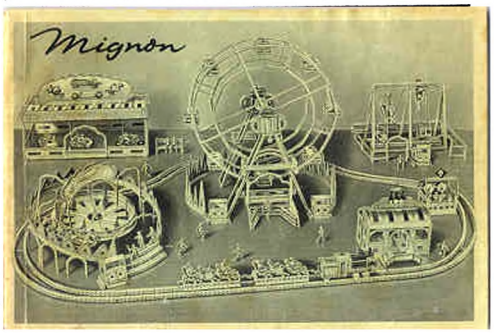
MIGNON With that name you might expect this system to be French, but it isn't, nor is it Austrian as stated in MCS, it is in fact German, and thereby hangs a tale. Ernst Leuthold told me about it when I met him at Skegex last year and subsequently he very kindly sent a manual and a Strip; and there were a few more details in 'Bauklötze Staunen'. MIGNON was made in a town called St. Georgen in the Black Forest, and after WW2 that area was under French control; the local Commander told Gebrüder Staiger, a long established firm of precision engineers, to make toys, and MIGNON was the result. That was in 1945 and initially only Set No.1 was made and it was only available to French children; the following year Set 2 appeared and MIGNON became available on the German market; then Set 3 and a C/W Motor. Production ceased in 1953 due to increased competition from other toys, and the small N&B were difficult for children to handle; some 150,000 sets had been made. (If the N&B are the same size as those used in the Motor, see below, they are M2.5).

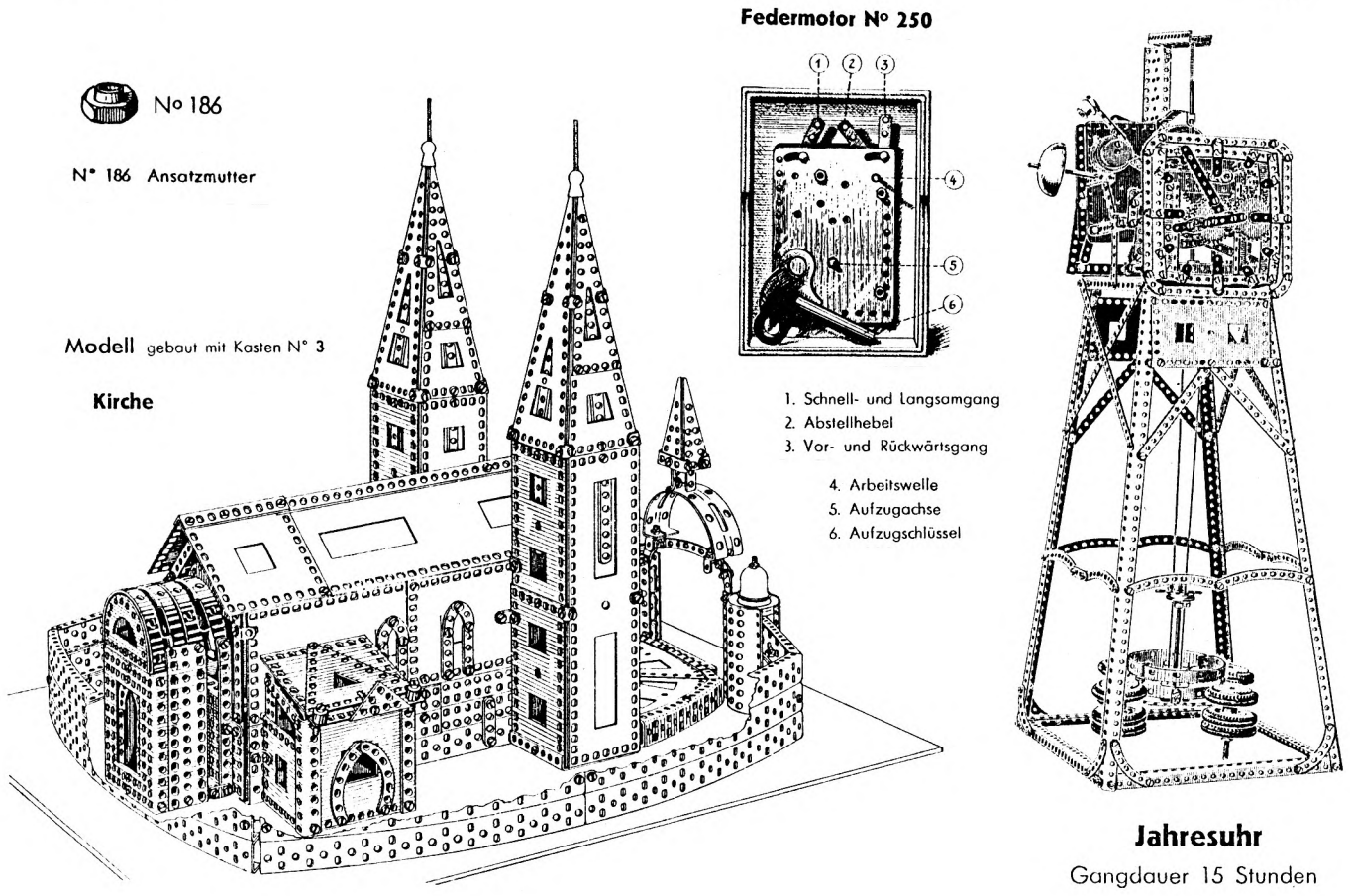
MIGNON parts are very unusual: they are small with the holes at 6mm pitch, and there is a range of 150 parts, all made of aluminium. Apart from Strips, including Slotted and Curved, there are several types of Girder: Flat, Angle, Z section, U section, Straight and Curved, as well as Half Round sections. There are also a good range of Plates of different shapes, you can see some of them in the Church reproduced opposite. Strips and Girders are plain aluminium; the other parts are anodised red, blue, and yellow. Mechanically, there's a good selection of 15 Gears and Sprockets, of which 3 are helicals; most other essential parts are present, including Threaded Rods, but none of the 3 Couplings have any cross bores, and I suspect that they, and the bosses, are single tapped. One deficiency is that there is no Fork Piece and so the universal has to be made from Double Brackets fitted to Threaded Rods. One unusual part is a Spring Washer, and another I'm curious about is a Nut, #186, called Ansatzmutter - I can't find the word in my dictionary but perhaps it's a lock nut?

The full Illustrated Parts List and set contents are given in MCS, so I will only give details of the Strip that Ernst sent, and of a Motor which I came across in its box some time ago. The Strip is .045" thick and the holes in it are 3.1mm dia; the ends have a 3.6mm radius. Its width is 6.17mm so with the 6mm hole spacing, Strips can't be bolted to a cross member alongside one another, although 2 might be so fitted given that the holes are appreciably larger than the Bolts. The Motor is a jewel. It has red anodised aluminium sideplates with brass bearings for all but the spring shaft, and its 3 levers operate On-Off, Reverse and 2 Speeds. Its size is 75x54x17mm, that's slightly larger than a Magic Motor but the same width. The output pinion has 18 teeth, of, like all the Motor gears, Mod .4; thus much finer than the comparitively coarse standard gears (Mod .8). The motor carries no name or PN; the illustration of it in the Manual is shown opposite.

The smaller models in the Manual are rather above average with in many cases good use of the various Plates in the system, but it's some of the #3 models which really catch the eye. This Set contains 380 N&B and so the models can be quite ambitious: most of them use the C/W Motor which means careful construction I should think, to minimise friction enough. I liked a Lorry complete with a compact differential, and there's a very good 'Tower' Bridge. My favourite is a 'Model' Railway consisting of an oval of track, an Electris Loco and Wagon, a Crane, Signal Box and Signal, Level Crossing, and Watertower. There are several Clocks in the Manual starting with one for Set 1 which has only a minute hand and runs for an hour on a 250g 'stone' or 'piece of metal'. All the others use the C/W motor, the #3 model is a Stop Clock fitted with a compound pendulum, which has hands for minutes and seconds, and has a running time of 2 hours. 3 more are shown on the inside back cover but with no detailed instructions: one has a digital display of hours and minutes, the second is a Wall Clock, and finally the one on the next page, which runs for 15 hours on one winding. Not in the Mike Edkins class, but not bad. What looks like a bell (on the left), is not in the Parts List. At the back of the Manual are good illustrations of the 3 sets showing the layout of the parts.

AMENDMENTS TO MCS (as necessary, depending on version) HOLE DIAMETER: 3.1mm PARTS: 150 COLOUR: Strips, Girders and Brackets are natural aluminium; other parts are anodised yellow, orange, red and blue. MOTORS: 1 Clockwork (PN 250). PERIOD: 1945 to 1953. MANUFACTURER: Gebrüder Staiger, St.Georgen (Schwarzwald). Germany. COMMENTS: Add: Parts are made of aluminium.
AMENDMENTS TO INDEX IN OSN 6: CY: GW.
SUMMARY OF MANUAL. #Name: Mignon #Details of maker: Gebr Staiger, St.Georgen (Schwarzwald). #Dates &/or Ref Nos: none. #Page size: 247x165mm deep. #No of pages: 96 plus covers. #Language: German. #Printing: Cover green-grey halftone; models are black line drawings. #Page Nos of Parts List/Set Contents & highest PN: 90-96,197. #Sets covered: 1,2,3. #No of models for each set: 77,37,21. #Name, Model No, Page No of first & last model of each set: 1: Telefon,1,9; Uhr engang getriebe,77,29. 2: Verandaausstattung,1,30; Drehbank,37,51; 3: Auto "Jeep",1,52; Uhr,21,86. #Other notes: 37 Standard Constructions/Mechanisms are shown on pp3-8. The C\W Motor, #250, is on p89. 3 Clocks without instructions are on the inside rear cover.



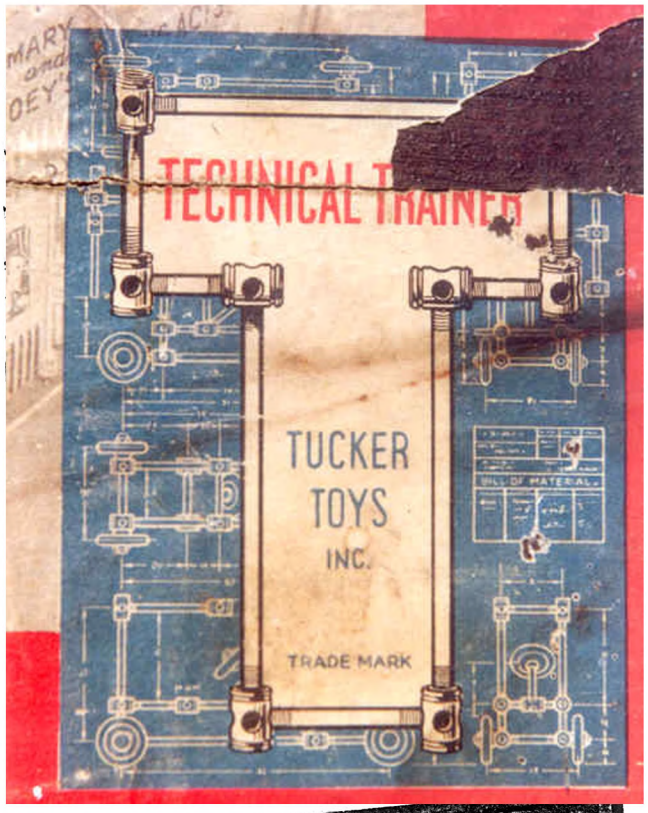


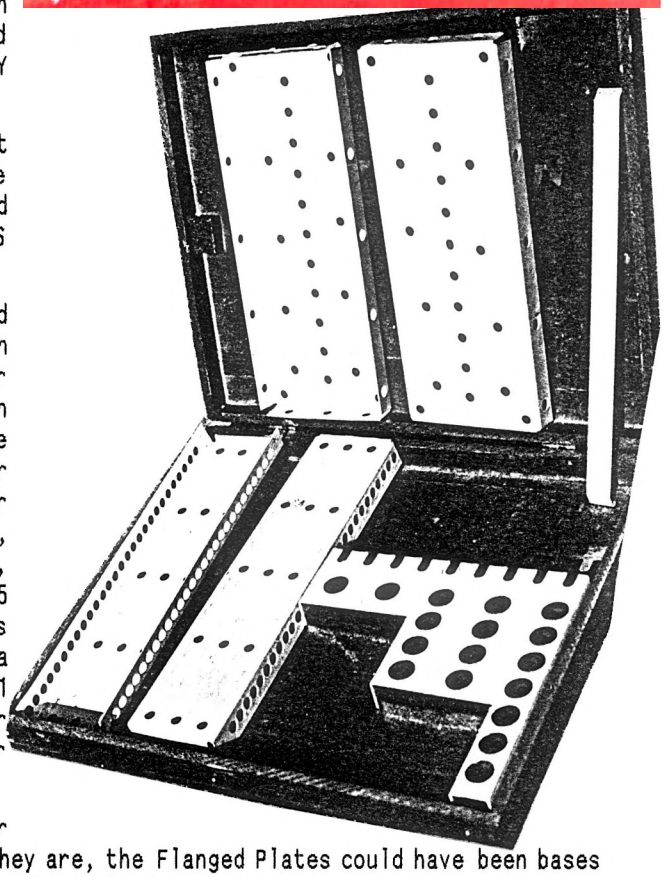
SOME NOTES ON KWIK BUILDER There is an account of this Belgian system in MCS but now a few more particulars have become available from Jean-Louis Figureau, who kindly sent details of the parts in his unused No.4 Set, and a copy of its Manual. For those without MCS this is a small system of some 30 different parts; as far as is known the largest Set is the No.4 but the manual cover and the box lid do show other parts, like longer Strips and a larger Wheel, that are not in the #4. The main parts are Strips up to 8 holes long, DAS, and Plates which range from 2x2 holes to 3x9 holes. The width of the Strips and the pitch of the holes are both $\frac{1}{2}$", but the holes are larger than usual at 5mm.

The new facts are as follows: • The Manual contains models for a No.0 Set, as well as those for the Sets 1-4 mentioned in MCS. No Set Contents are given but an idea can be gained from illustrations in the Manual, each box is shown with its lid removed. • The No.0 has Strips from 2 to 7 holes long, 1x3x1 and 1x5x1 hole DAS, 6 Angle Brackets, 2 small Plates, and 15 N&B. The No.1 doesn't follow on directly from the #0; it has no DAS but a 5x3 hole Flanged Plate instead, and its small Plates are in different sizes. The most noticeable difference is the 4 Pulley Wheels and Axles for them. The other Sets progress from the #1 - the No.2 has 8 hole Strips, larger 5x4 hole Plates, a Crank Handle and 1x4x1 DAS. In the #3, 1x3x1 and 1x5x1 DAS are new, and longer 7x2 Plates, but otherwise just more of the same parts. Similarly for the No.4 with the extra parts including a second Flanged Plate and 2 more Pulleys; and with 2x9 and 3x9 Plates as new parts. • The Manual cover is as shown in MCS, and all the text (except the name) is in English and French. The box lids all carry a label with the same illustration as the cover, but surrounded by Strips, and Pulleys of about $\frac{1}{2}$" dia.
• The parts are made of steel; the Strips are painted green, the Plates blue and red, and the Pulleys are polished steel or perhaps nickel plated. The Plates have square corners. All the parts are of good quality.
• Axles are 4.5mm in diameter; the Pulleys which look to be about 30mm dia, have no bosses but are held in place by 'Collars' made of red rubber, one on each side. The thread used is 5/32 BSW; the Bolts are cheeseheaded and the Nuts are hexagon, the large pressed type.
• Turning to the list of parts in MCS, additions are 2, 5 and 7 hole Strips, 2x5 hole Plates, 1x5x1 DAS, and the rubber Collars. Also, in the Manual some of the models appear to have ordinary Spring Clips on their Axles, and what appear to be Washers can be seen. The Fishplate in the MCS list may be the 2 hole Strip already mentioned; as far as can be seen the Angle Bracket is the only part with an elongated hole. The holes in the flanges of the 5x3 hole Flanged Plate can be seen as round in some of the models, also it is the 5 hole sides that are flanged. The tops of 2 of these parts can be seen in the #4 Set shown in MCS but in my NZ version only the end 3 holes of each can be seen as such, the rest are 'filled in' by something underneath, probably packets of small parts.

No date is given in MCS for KWIK BUILDER but Jean-Louis hazards a guess of around 1950. Nor is there any clue as to the manufacturer but as noted in MCS under MERCATOR, the parts of the two systems have similarities - one difference is that the Axle dia in the MERCATOR List is 4.9mm.

SUMMARY OF MANUAL. #Name: KWIK BUILDER. #Details of maker: none. #Dates &/or Ref Nos: none. #Page size: 265x164mm deep. #No of pages: Probably 8 inc covers, none numbered. #Language: French, English. #Printing: the front cover shows 2 boys working on a model aeroplane; there are halftone photos of the outfit models. [No Parts List or Set Contents] #Sets covered: 0,1,2,3,4. #No of models for each set: 6,4,3,9,8. #Name, Page No of first & last model of each set [No models Nos.]: 0: Piece of furniture,2;Ladder,2. 1: Cart,3;Handtruck,3. 2: Sailing cart,4;Tugboat,4. 3: Hay cart,5;Road crane,6. 4: Trolleybus,7;Small truck with eking-piece on wheels,8 [the French version is: Petit tracteur avec allonge sur roues]. #Other notes: details taken from photocopies.
AMENDMENTS TO MCS SETS: 0,1,2,3,4. PARTS: about 28. PERIOD: possibly about 1950. MANUFACTURER: may be as MERCATOR.
AMENDMENTS TO INDEX IN OSN 6: THREAD: 5/32W. DAXL: 4.5.





TECHNICAL TRAINER A TECHNICAL TRAINER Set was included in George Wetzel's Sale List mentioned in 6/136 but no details were given, except that it was made by Tucker Toys, N.Y., in the 1940s. Now Richard Symonds has come across a Set, far from complete and the manual is missing, but it's a start and he's sent photos of it and photocopies of the parts.

Starting with the box, it's wooden, about 14"x11", and has a large, colourful label on the lid. It's rather faded and most of it won't reproduce but one corner of it is shown opposite. You can see a framework made of Rods with threaded ends which screw into Threaded Couplings, and the frame is superimposed on a blueprint of what seems to be a 3-D framework with small Wheels at the four corners. The main scene on the label is a fairground with a Ferris Wheel, a Chair-O-Plane, what I take to be a Roundabout, one or two other small stalls, and, rather unusually, a larger building marked Tunnel of Love in large letters above a cupid. Only the facade is visible which is perhaps just as well because a small boy and a small girl are playing with the models; but no, it must be OK because Mum's there sewing and Dad too, smoking his pipe. All the models are basically frameworks but some of the walls and roofs appear to be filled in with unperforated sheeting, some with a striped finish and some plain. Over the entrance gate are the words 'MARY and JOEY'S ..... ACTS'.

The whole scene is called the Family Carnival Project and it can be 'built with the basic set plus spare parts'. The Set is designated 'BASIC SET model A', and the full address of Tucker Toys Inc is given, 2496 Amsterdam Avenue, New York 33, N.Y.

Now for what's in the box. First, sadly, no Rods and no Couplings, just two types of Flanged Plates, an unperforated Strip with formed ends, and another Flanged Plate with $\frac{5}{8}$" holes in it. All are shown in the photo opposite and all are made of aluminium. The larger 'normal' Plate measures $10 \times 3\frac{7}{8} \times \frac{11}{16}$", the other $10\frac{3}{8} \times 2\frac{1}{2} \times \frac{3}{4}$". The smaller holes are $\frac{1}{4}$" dia; their spacing differs between the various rows of holes, 21.1mm along the centre holes in the large Plate, 60.0mm along the centre row of the small one, and 54.5 and 8.6 (average) for the holes in the longer flanges of the two Plates. None of those seem to have a fractional or decimal equivalent except that 21.1 could be $\frac{5}{6}$". Also the pattern of holes in the outer rows of the large Plate are not regular in either direction.

I suppose there must be a little doubt as to whether the parts in the box are genuine, but assuming that they are, the Flanged Plates could have been bases for the rides although none are visible on the lid. The irregular hole spacing may have had a purpose, not best Liverpool practice perhaps but ERECTOR were never loathe to introduce a new part when it was expedient to do so, and then it's only a small step to putting holes just where they are needed. But what of the Plate with the large holes, Richard suggested that it might have been part of the packing and was meant to hold the Couplings. Possible, if the Rod was $\frac{1}{4}$" to fit the smaller holes, the Couplings could easily be $\frac{5}{8}$" dia.

End of story so far except that in his listing of some American Sets, Joseph E. Freed gives a date of 1936, and the manufacturer as Farmingdale Aircraftsmens Mfg. Co., Farmingdale, New York. He also mentions 4 Sets with aluminium parts intended to make carnival rides, but that other models were also possible. I'll prepare some Extra MCS Sheets in due course but I'll delay them until the OSN 11 batch in case anyone can shed more light on TECHNICAL TRAINER in the meantime.

AMENDMENTS TO INDEX IN OSN 6: NAME: TECHNICAL TRAINER. TYPE: RT. CY: U.S.A.

NEW FROM MERKUR José Bernal Moreno wrote about a new set from MERKUR called ALFI, which a friend of his bought in the middle of last year. The manual is in Czech and what follows is taken from colour copies of the covers, the Set Contents and the Illustrated Parts which José kindly sent. ALFI is a Set to make a Plotter, and it's shown on the cover with a 15 way ribbon cable, which comes in the Set, running from it to what looks like a computer keyboard, with a screen in the background. The cover illustration is reproduced below, .4 full size, but it may not come out too clearly.

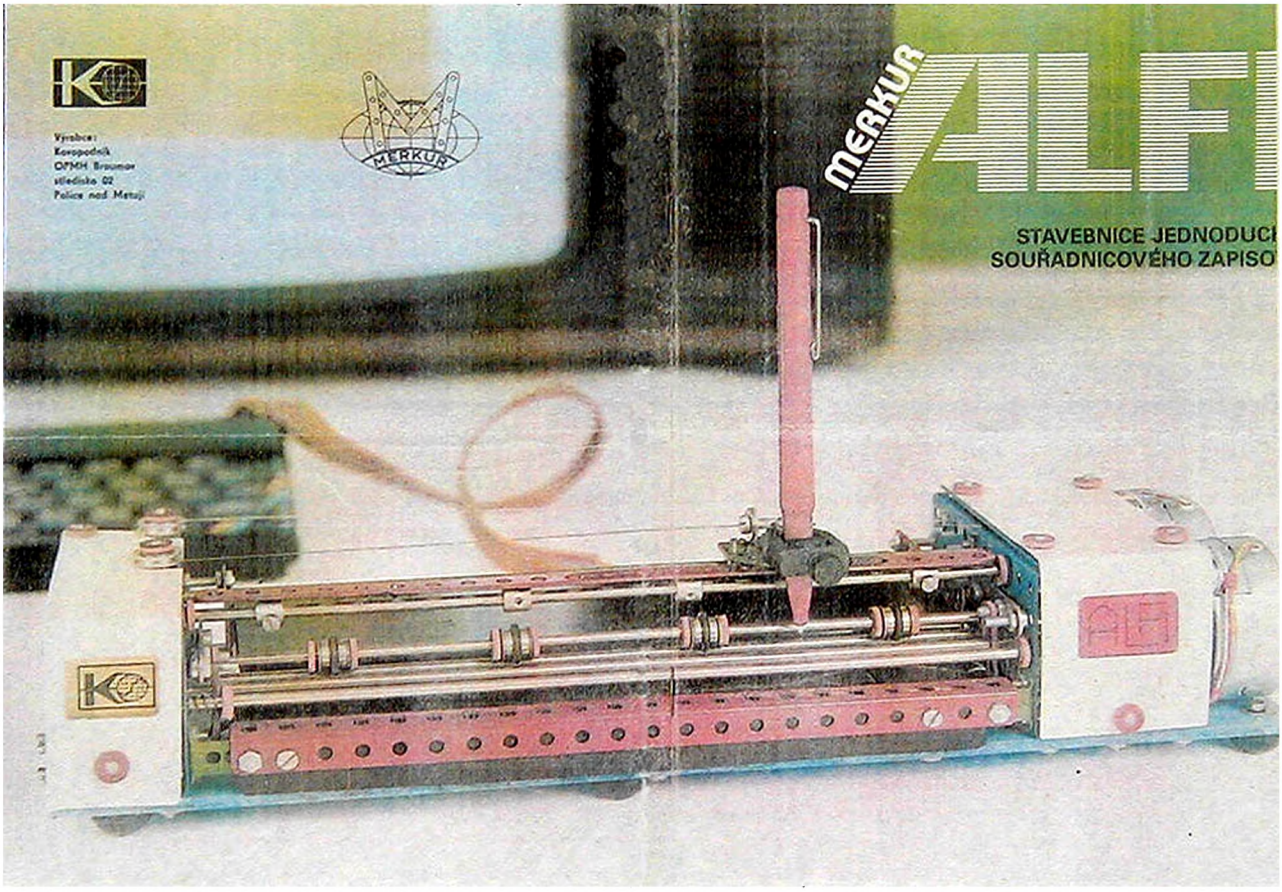
The base of the Plotter is a blue plate about 3mm thick perhaps, which scales up at about 350x100mm. At each end are cased in units, the inner faces of which are 10x5h Flanged Plates. At the RH end there are also 2 24v (stepper?) Motors, one no doubt to transport the paper, and the other to move the pen.

There isn't a pen among the parts listed and it looks like an ordinary ballpoint; it is held in a special holder attached to a Flat Trunnion, which appears to slide, in some way that can't be seen, on a long Rod located behind the top long Strip. That Strip looks as if it is there to provide a steady for the pen unit; it is a special part and has 23 holes, with 4 Collars attached to it which serve to locate the Strip on the foremost top Rod. The pen unit appears to have a cord or wire attached to it which to the right, goes into the end casing, and to the left passes round the 2 small Pulleys on the top of the left casing, and so back to the RH end. Possibly the wire goes round a winch driven by one of the motors.

The paper may pass between the 2 long Rods at the bottom and the one above them with the 4 'cylinders' on it. Their centre part is rubber and they could move the paper if they are fast on the Rod and the other motor drives it.

That's mostly speculation, now for some facts. There are 351 parts in the Set, of 69 different types. That includes 8 different N&B, M2, M3 and M3.5, 83 in all; there are also 50 Washers and 44 of the rubbery Stops (#1095) that MERKUR use as collars. Of the rest about 50 are standard parts or derivatives, different lengths of Rod and A/G for instance. One part new to me is #1094, a small Compression Spring: you may be able to see it on the LH end of the foremost lower Rod. The remaining parts are mostly electrical or electronic, a Printed Circuit Board, a Relay, Connectors, 18 Transistors, 9 Diodes, 36 Resistors, etc. It would be interesting to know if the Transistors and so on have to be soldered in, and who the Set is meant for. The standard parts are in normal MERKUR colours, the Covers for the end casings are shown white. All the parts and the Set Contents will be included in Extra MCS Sheets.

On an entirely different tack, Don Bock has heard that MERKUR are planning to replace their 300 series with 3 new sets.



SMALL AD - FOR SALE. Several lots of English BOB parts including a selection of the Plates described in OSN 9/233. Each lot weighs about 2½lb and contains around 200 parts with approximately 41 Plates/Strips of 13 types; 6 Tyres; 35 Pulleys of 6 types; 48 formed and 50 straight Rods (8 shapes and 5 lengths), most somewhat rusty; and 25 'fixings'. But note there are only 8 Joints, not enough to make a real model. £10 plus carriage from the Editor.

ITEMS FROM LETTERS.

1. Peter Kessler sent a comment on the MÄRKLIN Seilbahn (Aerial Cable Car) Set that was on the market a few years ago. Toby Haffter and a fellow AMS member made a very much elaborated and improved version with a true-to-life intermediate pylon, but found that MÄRKLIN ½" Pulleys skipped off the cable; so did the STOKYS version and the groove in the MECCANO 23 was too deep to pass the centre pylon. The solution was to turn down the 23's and machine the V groove into a U shape.

Writing last summer Peter added that the quality of the STOKYS parts with bosses tapped M4 [see 7/166] is inferior to the earlier versions, and that many parts were out of stock at the factory, with Electric Motors difficult to obtain and up by 30% in price.

2. Richard Symonds sent (from Canada) a copy of a Feb 1937 ad for a FROG constructional kit of a non-flying Blackburn Shark biplane. The parts are probably mostly of wood and all are said to be correctly shaped. Details to anyone interested. In a later letter he sent photos of 3 plastic systems. • The lid of the FASTECH box shows 5 small vehicles made from perforated Strips and Plates, and longer Beams of perhaps U section, and Wheels of course, two sorts, Road Wheels and what appear to be smaller spoked Wheels; the parts are white, red and black and are held together by some form of rivet - to quote the box, 'Includes the unique, fast and fun Fastech™ tool, many Fastech™ fasteners, ..'. The name Schaper is on the lid, no doubt the manufacturer. • The second box lid is CAPSELA 400 and again carries several vehicle models, but this time they are very stylised, being basically red Wheels fitted to combinations of spherical, transparent capsules which contain various forms of gearing, and plug into one another. The only other parts are yellow spheres which are used to 'improve' some of the models. 22 motorized models can be made and the motor runs off 1 AA battery. The lid in the photo is in both French and English, as it would be if sold in Canada, but it's not clear where the Set is made; it was on sale in the UK quite recently and in a 1991 toy catalogue Sets #200, 400 and 1000 are listed. Also shown on the model illustrated in the catalogue are red Sprocket Wheels connected by black, metal or plastic Chain. • The final photo shows the lid from a Gabriel YOUNG ERECTOR Set with 4 varied models on it - a Lifting Bridge, a Car, a Crane and a skeletal House. They are all attractive looking models and all look considerably larger than normal ERECTOR models would in relation to the youngster shown by each of them, but that may be the photography. The parts are coloured red, white and blue with black N&B, and all look quite similar to normal metal parts, with Strips, DAS, Plates, a Flanged Plate, Trunnions, etc. The Wheels can be fitted with Tyres but are not grooved like pulleys but instead have gear teeth; only one size can be seen and none of the models show these Gears meshing but there is something about gears on the lid and I can't read what it says. • Going back to the CAPSELA, I've just noticed that there's a sixth model on the lid, a Tanker, the ship sort because the name in french is Bateau Pétrolier. Again it's basically several Capsules joined together but at each end there are 2 of the yellow spheres and they look as if they give enough buoyancy to make the model float; the Motor is above the waterline and drives a Propeller under the water. All rather fun, and maybe my grandson ought to have a set for his next birthday! • Again please ask if you would like more information on any of these sets.

Richard also sent a correction on HUSTLER ACTION TOY, the wooden Wheels mentioned in 9/228 have rubber inserts in their centres.

3. Jeannot Buteux sent a postcard from Denmark and mentioned that he'd come across several OS there including DEN DANSKE INGENIØR, c1935. In a later letter he included some details of an exhibition of MECCANO and Other Systems held in the Municipal Library at Saint Julien Les Villas for 2 weeks last December. The group CONSTRUCTORAMA showed over 130 OS Sets there with as many again represented by a display of parts or literature. Quite a show. Jeannot also sent a list of OS which are not included in MCS and I hope to include this in OSN 11. On the subject of the name of the GILBERT NEW WHEEL TOY (OSN 8/198 and 9/219), he notes that it was shown in a La Samaritaine department store catalogue of about 1920, under the name JOUET DÉMONTABLE GILBERT [Gilbert Constructional Toy]; and on ERECTOR, it is known that it was on sale in Belgium around 1920 with a manual in French.

4. Roy Zuehlke from Wisconsin wrote that as well as MECCANO he sells MÄRKLIN sets and parts, and TEMSI sets - he didn't say if he had their parts separately. Also when he wrote, last autumn, he was on the point of importing a range of some 200 different EXACTO parts. His address: Valley Transport Inc., P.O.Box 148, Plymouth. Wisconsin 53073. U.S.A. Tel/Fax: (414) 528-7197/7404.

5. I was rather far out in my translation of the MÄRKLIN slogan Technik mit Köpfchen (9/209), Geoff Davison kindly pointed out that it really means Technology with Brains; Köpfchen does mean little head but is also a slang or humorous word for brains.

6. Donald Bock has been trying to track down sources of MERKUR parts/sets and after some difficulty discovered the telephone number of the factory in the Czech Republic (447 21901); but when he rang no-one there spoke English. He had more success with Inter Toy in Holland (Tel: 206 115151) where a lady called Karina Appledorn spoke English and was very helpful. It's not certain though whether they

sell MERKUR or TECC Sets, or both. He also sent some details of a new club called ERECTOR ENTHUSIASTS INTERNATIONAL which seeks to cultivate Fellowship, Communication and Education of (despite its name) all Metal Systems. Don is co-founder and invites anyone with similar aims to get in touch - his address, 23553 Belmont Drive, Westlake, Ohio 44145. U.S.A. Tel: (216) 333-2211.

7. Don Redmond came across a shop called Pinocchio and Friends in Toronto (4 Cumberland Street) which had WISDOM, Mini-MERKUR, and MECOTECH, a new Set which I plan to include in OSN 11.

8. In describing one of his models Eric Sinton remarked, "I wonder if it is widely appreciated that STOKYS Sprockets (and Chain and Roller Chain) are compatible with MÄRKLIN Toothed Rings and with the MECCANO Large-Toothed Pinion, Large-Toothed Quadrants and even the Multi-Purpose Gear."

9. Tony Rednall sent a Belgian ad for a plastic Set called BUILDERIFIC. The wording on the box is in English and on the inside of the lid there is an illustration of one each of the different parts in the box, they are brightly coloured red, blue, green and yellow, with black looking Road Wheels and Bolts. I can pick out 28 different parts and the total number in the Set is said to be 200. Many of them, the Braced Girders and 2 sizes of Triangles for instance look similar to PLASTIC MECCANO, but all the holes are the same size and there are other differences, like the square ends of the Strips, the longest of which has only 7 holes. Other parts include 2 sizes of Flanged Plate, spoked Pulleys (I think) and 2 sizes of Gear Wheels. Also on the inside of the lid are fairly large pictures of 7 reasonable looking small models; no manual is shown in the ad.

ORSTA PNEUMATIC SETS Some details of these sets were given in 4/65, 6/132 and 7/156. José Bernal Moreno sent a copy of a Fax, dated 16 September, 1993, that he had received from Traudl Rieß, a wholesale supplier in Germany: it said that although they still had a small quantity of sets and parts in stock, Orsta-Pneumatik was no longer being produced.

CONSTRUCTO - CONTINUED FROM OSN 9/235 There wasn't room in OSN 9 to include the following AMENDMENTS TO MCS SETS: replace by: A small Set and perhaps a larger one; also Sets V-8 and V-12. COMMENTS: Add: The models shown on p5 are from the 'small' Set, those for the V-8/12 Sets are identical to MERKUR Sets 201/202 models, though some of the Tyres shown on the box lid are different, see OSN 4/60 and 9/235. Some 'small' Sets are known that contain strange selections of parts, probably to use up remaining stocks, see OSN 3/38.

EXTRA MCS SHEETS The Sheets listed below are available at 15p per Sheet plus postage. That makes £4.95 + post for all 33 Sheets. Those with * relate to earlier Issues and contain little new material.

* BRAL: X2.3/6-a. [1 Sheet]
CONSTRUCTOR (2): X1.2a,5a. [1 Sheet]
DUX (A): X1.2,3/5/6,4. [2 Sheets]
MÄRKLIN (E): X1.1,2,3/4/6,5. [2 Sheets]
MECANIKIT: X1.1,2,3/4/6,5. [2 Sheets]
MERKUR ALFI: X1.1,2,3/6,4-a. [3 Sheets]
* NECOBO: X1.3/4/7,3/4a. [1 Sheet]
PLANO: X1.1,2,3/4-b,5-a,6. [4 Sheets]
STEEL TEC: X1.1,2,3/6,4,5. [3 Sheets]
STRICON: X1.1,2,3/4/6,5. [2 Sheets]
* SKOLNIEKS: X1.1,2,3/6,4-a,5. [3 Sheets]
TECNIKIT: X1.4-a,5a,6. [2 Sheets]
* TEMSI: X1.3/4-a,6. [2 Sheets]
ULOX: X1.1,2,3/4-a,5,6,7. [4 Sheets]
WISDOM: X1.4a/6a,5a. [1 Sheet]

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CONTRIBUTIONS. If possible please type these, single spaced, on one side of the page only, within a width of 6½" (165mm). If available please use letter spacing of 15cpi.

No. 686. Kleine Achterbahn.

(Gebaut mit Grundkasten No. 6 und Zusatzkasten No. 101/2.)

Dieses Modell stellt eine Achter- oder Schleifenbahn dar, wie man sie häufig auf Vergnügungsplätzen sieht. Durch Einbau eines Elektromotors gewinnt das Modell besonders an Reiz. Die Fahrbahn ist aus normalen Eisenbahnschienen Spur 0 hergestellt, welche unter der Nummer 1650 zu haben sind und zwar werden folgende Schienen benötigt:

15 gebogene Schienen 1650 A 1/1, 3 gebogene Schienen 1650 A 1/4.
5 gerade Schienen 1650 D 1/1, 4 gerade Schienen 1650 D 1/2, 2 gerade Schienen 1650 D 1/4.

Außerdem ist es zweckmäßig, den ganzen Wagen oder aber mindestens die Messing-Laufräder für den Wagen zu beziehen.

Das für Elektromotorenantrieb benötigte zweite große Zahnrad ist unter der Nummer 31 zu haben.

Model from the 1929 MÄRKLIN Manual No.76, for Zusatzkasten 101/1 and 101/2. See OSN 9/220.

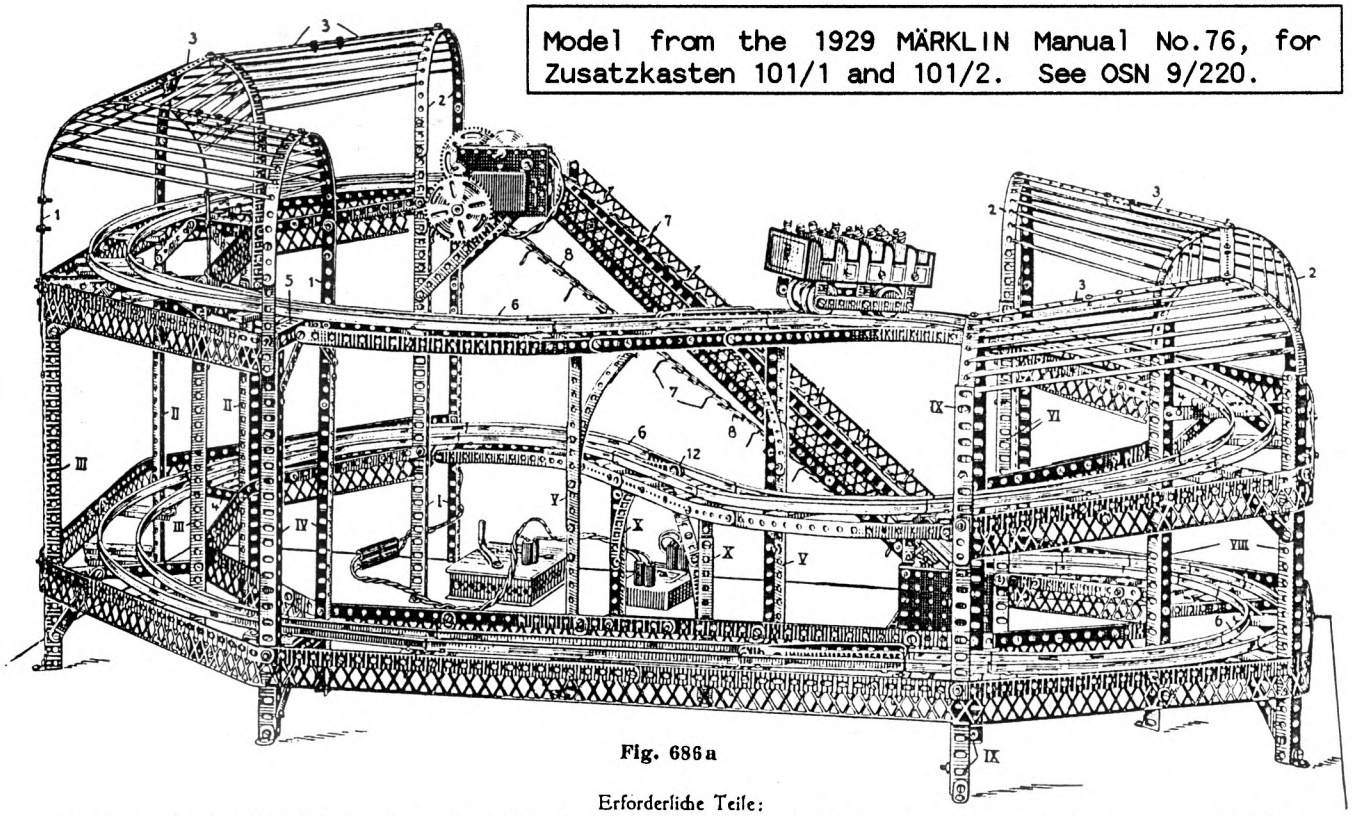

Fig. 686a

Erforderliche Teile:

39 Stück No. 1	24 Stück No. 4	24 Stück No. 8	1 Stück No. 13a	2 Stück No. 24	2 Stück No. 31	23 Stück No. 48	6 Stück No. 59	10 Stück No. 81/5
56 . . 2	6 . . 5	16 . . 9	1 . . 15	1 . . 25	382 . . 37	46 . . 49	12 . . 60/7	4 . . 88
19 . . 2a	1 . . 6	1 . . 10	1 . . 16	1 . . 26	3 . . 46	1 . . 52	20 . . 81/1	
6 . . 3	16 . . 7	52 . . 12	1 . . 23	2 . . 30	4 . . 47	2 . . 53	10 . . 81/2	

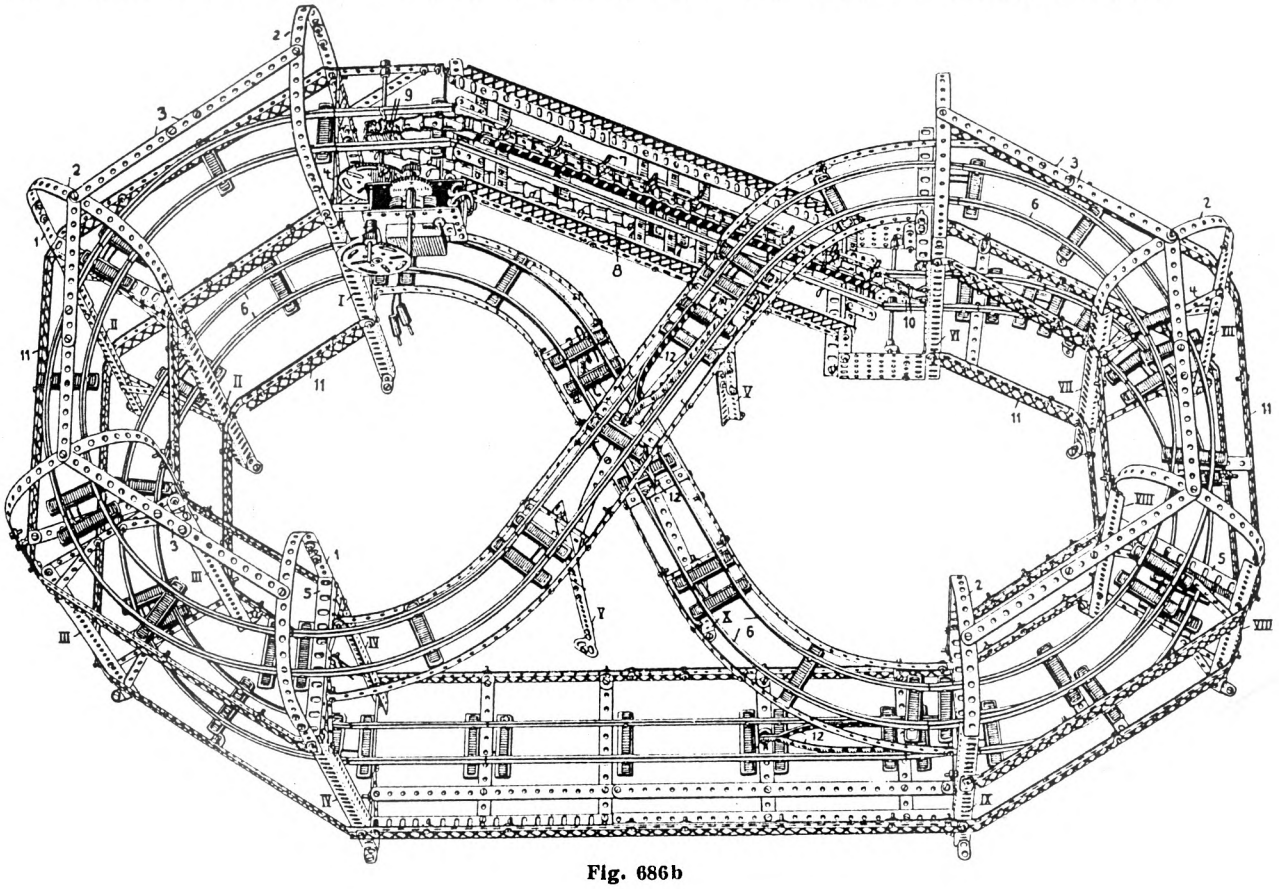

Fig. 686b