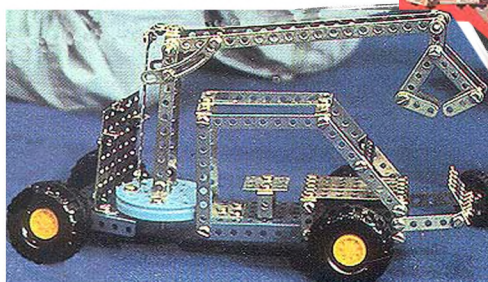


PITT EZ gives the dates as 1948 into the 1950s; MCS has the end point as 1965. The Flanged Plate was blue and the Pulleys red. The Spanner shown in MCS has 'Pitt' on it but one found in an unused set has DUX - both systems were made by Markes.

PLASTICON Another East German system, made by VEB Plasticart at Annaberg-Buchholz. The date it was introduced isn't known but the boy on the manual cover looks later than the 50s; it continued until around 1987. A B&W copy

plasticon
Bauanleitung



of the manual cover is all that's available but it shows several models and is for Sets GB1, GB2, EMB3, & EMB4. VEB Plasticart also made BURGSTÄDTER (12/324) and nearly all the parts in the models look like BURGSTÄDTER ones, including the Slotted Curved Strip that can be seen in the Big Wheel above. Its hub is probably the large Flanged Disc Pulley that's used in the Grab model, and again it appears similar to the BURGSTÄDTER one. The large Road Wheels look rather like the plastic CONSTRUCTION type with the push-in hub.

RECORD Another small set from sometime in the period 1945 to the early 50s. A photo of a box lid is shown in EZ but with no details. The logo on the lid has a 'W' in it and perhaps an 'R'.

ROBO EZ says the maker of this little set isn't known but the logo is 'EFFEM'. The set was also known as BAUKERL ROBO and dates from the 1950s. The models (see MCS) are made from wooden Blocks and 4mm diameter Rods held together with 'J' Clamps. MCS also includes the Spanish system EL INGENIERO MECANICO which appears to be identical, and is said to date from 1940.

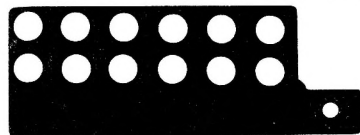
SACHSENMEISTER This East German system had small parts with 3.3mm Ø holes at 7.5mm spacing. Some were bare aluminium and some steel with a metallic black finish. There was also a theme set with special parts to make Tractors/Trailers. From EZ. The system was made from 1948 to at least 1955 by Sachsenmeister Metalbau Kurt Müller of Markneukirchen/Vogtland. The Nr.1 Outfit allowed various electric and steam powered models to be built, and the theme set models are described as attractive in red, green and silver.

SATURN A system from the early 1950s with brown, nickel and bare aluminium parts. The pitch of the holes is 12.0mm, their diameter 4.1mm. The lid of a (quite small) No.2 Set is shown in EZ and I can see that the model on it has 4 wheels. No other details are available.

SCHEFFLERS This system was mentioned in the piece on BURGSTÄDTER in 12/324 and EZ confirms that BUR followed on from SCHEFFLERS. The start date was probably 1955 and the original maker, Artur Scheffler of Burg-

städt/Sachsen. The change of name occurred when the company became VEB Metallspielwaren Burgstädt around 1960. In a set the Strips and the like are black, small parts including Pulleys nickel, the 5h Ø MÄRKLIN-style Pulleys red, 5*11 Flanged Plates blue and Flanged Sector Plates green. The hole spacing is said to be 'ca. 12.8mm'.

SCHWERKA Another small system in EZ from the early post-WW2 years. It was packed in a small wooden box and the parts were bare aluminium. By chance I recently came across a very similar set to the one shown in EZ, in a box 11*8*1" with wooden sides and partitions, and the bottom and sliding lid made of cardboard. The latter is orange with a boy and a Crane on it, and METALL-BAUKASTEN NR.1 plus MECHANICAL CONSTRUCTION BOX NO.1. Among the various parts in it were a few Strips that are probably original. They are bare aluminium and have 4.1mm holes at 12.7mm pitch. One is a MÄRKLIN-style 5h slotted Curved Strip and it can be seen in the Crane on the lid, along with some 20 other parts including Strips up to 15h long, a MÄRKLIN pattern 5*11h Flanged Plate, and a similar Plate but only 7 holes long. Among the other parts found in the box were 3 black Windmill Sails which look just like the STRUCTOMODE ones in MCS except that the fillet in the inside corner is convex instead of concave. Their length overall is 95mm, width 35mm, and the large holes are about 7½mm Ø. If anyone has a Canadian one I'd be interested to know if it matches.



SICO EZ lists this as a set from Keim & Co. of Nürnberg, first made in 1932, but with no other details.

SIEMENS A system from 1933 with wooden and nicked steel pieces. The only information available is that there were about 78 different parts and the hole spacing was 50.0mm.

SONNEBERGER EZ fills in some of the details missing from MCS. This system was first made by Schoenfeld & Boetsch of Sonneberg in 1948. From 1955 it was produced by VEB Injecta Steinach, and then from 1971 by VEB (K) Metallwaren Schmerbach. The end date isn't known. The hole spacing is 10.0mm and the Axles and Threaded Rods are 4mm Ø. Apart from the pieces in MCS, Sprockets and Chain came later. The parts were made of anodised aluminium and in the sets shown most have their natural colour, but some Strips are red or yellow, A/Gs are light blue, and some Plates yellow. Jeannot mentioned white and gold coloured parts as well, and that the holes are generally 4.1mm Ø but some are larger with in one case, 4.1 and 5mm holes in the same Strip.

SPRANGER This was a system with 24 steel and 16 wooden parts. The former were plated with nickel or tin; Pulleys were of wood with brass plated steel bosses. The holes were 3.9mm Ø at 12.0mm pitch. EZ gives the manufacturer as Gustav Spranger of Klingenthal/Sachsen and the dates as from about 1933 to about 1955.

STABA This is the East German one described in 8/195 and EZ gives some more details. Production was started in 1948 by the Gebr. Ehrlicher of Erfurt: subsequently the company became successively, H.H.Ehrlicher in 1949, Otto Hörseljaun (1953/54), and Karl Teuteberg in 1955. STABA

SONNEBERGER This is the East German system that had about 50 aluminium parts with holes at 10mm pitch, most of 4mm Ø, but some 5½mm. It was made from soon after WW2 until at least the 1970s, by 3, or probably 4, different firms. Over the years many of the parts seem to have remained the same but there were some variations, and the manuals and boxes were changed several times.

The original entry in MCS was under VEB INJECTA, the name of one of the makers. This may have been because some manuals have that name on the cover and not SONNEBERGER, although the cover shown in MCS does have both. A later /FB section is called SONNEBERGER, and that cover is one of those with only VEB INJECTA on it. Incidentally Sonneberg is the name of a town about 80km south of Erfurt. Both MCS entries show most of the parts, and the set contents of the main sets (Piccolo, Standard, & Spezial), but only the /FB has details of the small accessory Zwerg I & II outfits. EZ has information on the makers and the colour of the parts (see 15/418), and also has colour photos of several sets.

These notes are based on all the sources above plus a Piccolo set that David Hobson lent me; photos of, and some parts from, a Spezial outfit owned by Richard Symonds; a 'Goods Train' box that Harry Marien sent across; and 2 manuals of my own. A thank you to all contributors. I shall consider in turn the phase associated with each manufacturer, in what I hope is chronological order.

SCHOENFELD & BOETSCH This was the original firm at Sonneberg and EZ gives the start date as 1948. 1945 is mentioned in the Introduction shown in MCS/FB, p6, but it needs confirming that this date does refer to the start of SONNEBERGER (SON henceforth).

No firm information is available on this period but it's possible that the Piccolo set, in the red box with gold lettering, in EZ Plate 65, is from this time: as would be expected it has the original type of 30mm Ø Pulleys (Nabenrad) with 8 holes in the face, against 4 later (cf MCS/NZ & /FB). Another part shown, which may not be clear in MCS, is the Half Pulley (Scheibenrad, klein). In early illustrations it scales at about 26mm Ø and looks almost like a flanged disc but later it's nearer 20mm and more 'V' pulley shaped. To form a pulley a pair are locked with Nuts on a Screwed Rod - threaded as well as smooth Rods are used as axles. The EZ set also includes a normal Pulley of about the same size with a boss, but I've not found any other evidence of such a part. One piece not shown very clearly in MCS is the Lochscheibenrad, geköpft: the plain Lochscheibenrad is a flat 50mm Perforated Disc and the geköpft version is flanged, as can be seen in the Tractor shown later.

VEB (K) METALLWARENFABRIK SONNEBERG This manufacturer not mentioned in EZ, but the name can be seen on the fawn/blue manual shown in EZ, it is on one of mine, and also on the Goods Train box. It is always associated with the triangular logo below, which has the name in tiny letters around the lower sides. What does MESO stand for? From the artwork it seems likely that this firm followed S&B, and preceded VEB Injecta Steinbach. Perhaps VEB Sonneberg was the name for S&B after it had been nationalised.

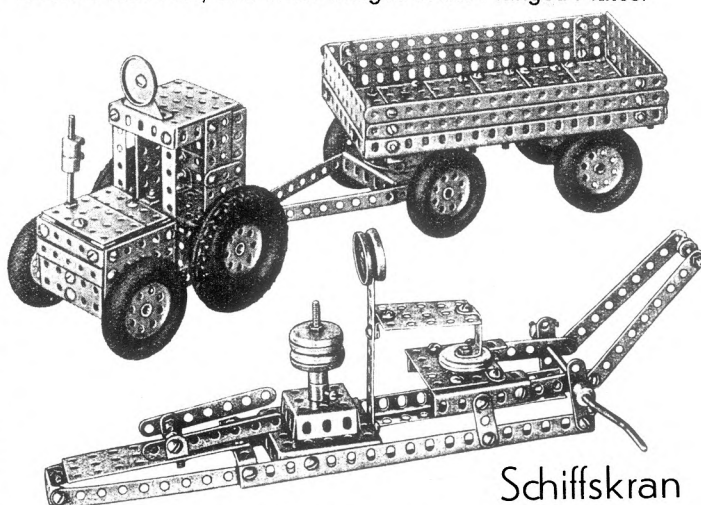
Starting with the Güterzug box. It's red (27*18*2cm) with a large cream label on top bearing a photo of the Goods Train (below), with Güterzug under it, the logo, and the SON and VEB names in small letters, all in dark blue. Per-

haps it was a theme set with parts to make the Loco and 3 Trucks, though if so the box must have been packed with parts. (It was full of parts but though they were aluminium, none of them were like SON.) In the illustration it may be possible to see that Half Pulleys are locked against what are probably the 30mm Pulleys to form flanged wheels, and are also used in a stack for the funnel.

My 'manual' of this period consists of 24 loose sheets inside a folder, 210*157mm deep. The sheets look like the ones shown in EZ but the cover of the folder is in full colour with 2 boys working on a blue Glider, against a pink ground. It's the one in MCS/NZ apart from having the different name and the MESO logo. All the sheets have the reference v/5/24 Si577/54, and possibly the last 54 is the year. The first sheet has an Intro and Set Contents quite similar to MCS/FB, p6. The Zwerg (literally 'dwarf') accessory sets have already been mentioned: #I contained about 50 Strips & Brackets, plus some Axles, N&B, 2x30mm Pulleys with Tyres, and a Spanner & Screwdriver; the #II included 4 of the Pulleys/Tyres, Axles, and 2 large & 4 small Gears.

The others Sheets have on one side a photo of a model, or more than one on a few sheets, and on the other some notes on the prototype, and the parts needed, excluding the N&B. No indication is given as to which models can be made with which set, but they range from simple Gardening Tools (Ackergeräte) to quite large Cranes of the size of the Digger in MCS/FB. A fair range (there are 35 Bolts in the Piccolo & 200 in the largest set) but simple mechanically, & the Gears in the Spezial aren't used. Some of the models must be intended for that outfit though since the Digger for example, needs more parts than are in the Set. It's difficult to follow the detail of the larger models from the photos.

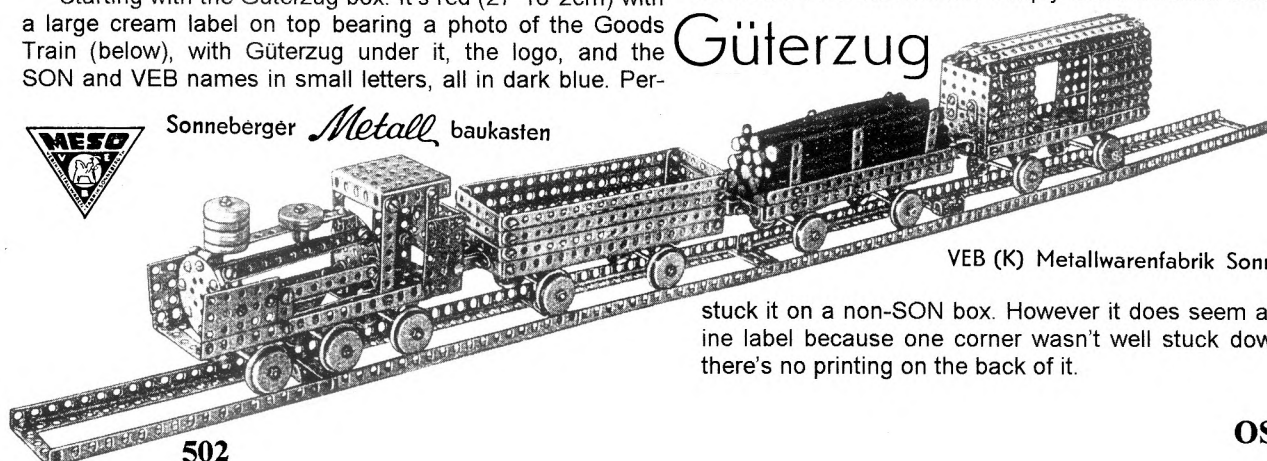
I've chosen to include the models below because they show some points of interest about the parts. The large Tyres are in the Parts Required but not in the Set Contents, and they aren't shown in MCS. The small Tyre looks much fatter than the ones in later sets & manuals. No oversize holes can be seen but there are elongated holes in both arms of the A/Gs, and in the flanges of the Flanged Plates.



Schiffskran

The format, size, and colour of the model side of these Sheets is identical to the label on the Good Train box and I did wonder if someone had simply taken a Model Sheet and

Güterzug



VEB (K) Metallwarenfabrik Sonneberg / Thür.

stuck it on a non-SON box. However it does seem a genuine label because one corner wasn't well stuck down and there's no printing on the back of it.

VEB INJECTA STEINACH Steinach is a town just up the road from Sonneberg, and production is said to have started there in 1955. MCS/NZ and pp5-7 of /FB probably show an early phase of the Injecta period with the 2 boy/Glider design on the manual covers and box lids. The Steinach logo (below) can be seen on some of the pages, but the earlier slogan is still used: Das praktische Lehrspielzeug, literally, 'The practical (or clever, or handy) teaching toy'. The reference that can be read is v/5/24 Si989/56. The 8-hole Pulley is still shown, but it's not possible to say whether the elongated holes have been changed to the extra large round ones. The Trunnion (with cut-in sides, below) may be a new part because this is the first mention of it. Apart from the addition of some Trunnions, the contents of the main sets and Zwerg II are unchanged, but Zwerg I has slightly fewer parts. What appears to be a Zwerg II is shown in EZ and a length of brass Chain can be seen in the box, but I've not found mention of Chain anywhere.



MCS/FB, pp2-4a, are from a later manual and the modified parts are shown in the Illustrated Parts - the 4-hole 30mm Pulley, the smaller Half Pulley, a revised Double Bent Strip which had spanned 3 holes but now has sloping sides and spans 5 (above), and the triangular Trunnion (above). Large holes replace slots in the AVG, and perhaps in other parts, but they can't be seen. Only the contents of the Spezial set is given and it has 343 parts (excluding N&B), 50 fewer than before. From my manual of this period, which has pages virtually identical to the MCS ones, though the cover is different, there are similar reductions in the other 2 main sets. The Zwerg II outfit is no longer mentioned and Zwerg I has again been made slightly smaller, and is now called just Zwerg.

Details of this manual are as follows:



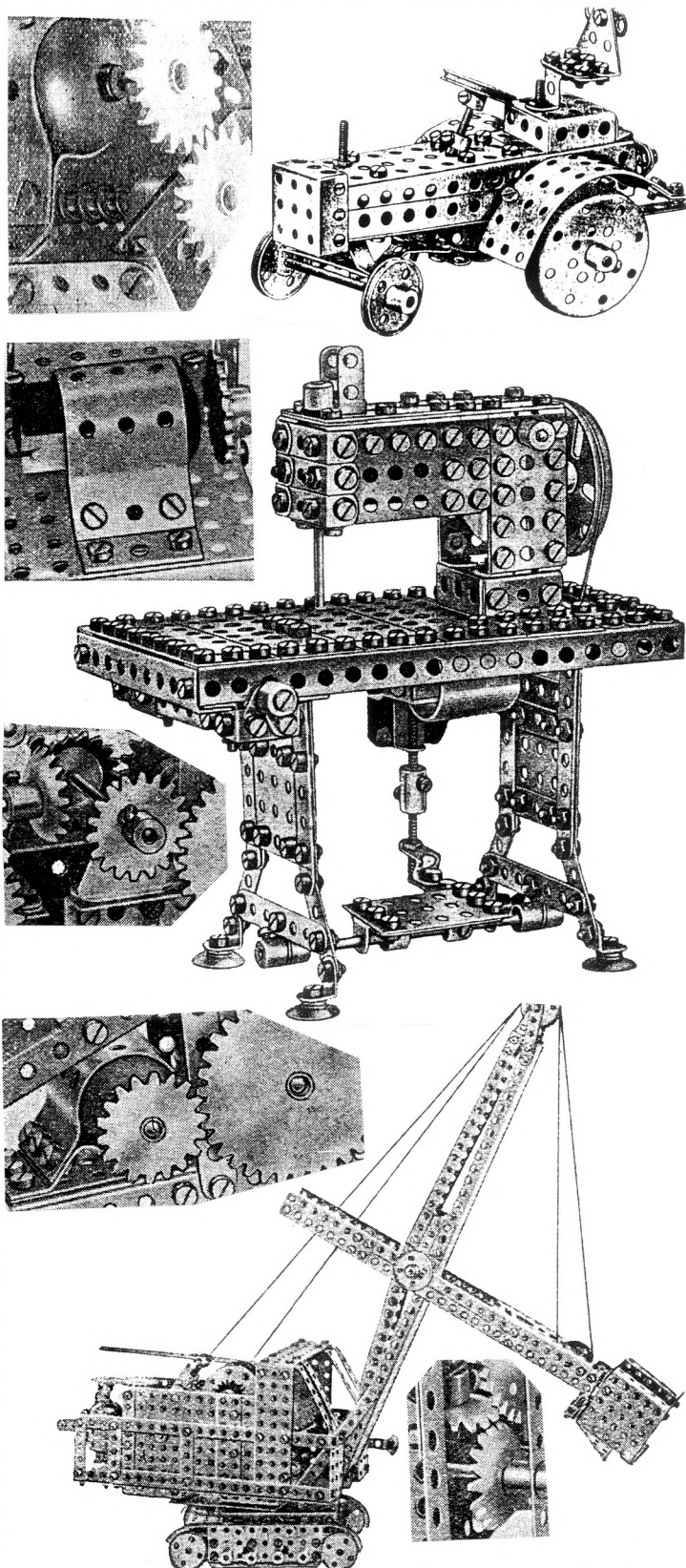
SUMMARY OF MANUAL •Name: Sonneberger Metallbaukasten. •Details of maker: VEB INJECTA STEINACH IN THÜRINGEN. •No dates/Ref Nos. •Page size: 200*190mm deep. •No. of pages: 52 inc covers, unnumbered. •Language: German, Russian. •Printing: cover blue on yellow with black model; each model has black photo(s) on coloured panel. •Page Nos. of Illustrated Parts: 44,45 [no PNs]. •Page Nos. of Set Contents & highest PN: 46-49,49 [PNs vary between sets]. •Sets covered: Zwerg, Piccolo, Standard, Spezial. •No. of models for each set: 1,4,1,11 (+4 for Standard+Spezial). •Name, Page No. of first & last model of each set (no Model Nos.): Zwerg: Bogenleuchte,9. Piccolo: Schaukel,7; Briefwaage,15. Standard: Kartoffelroder,13. Spezial: Nähmaschine,19; Karusselldrehmaschine,43. Spezial+Standard: Förderband,27; Exzenter-Pressse,41. •Other notes: • Some models need parts from a Motor/Gears Set, but no details of it are given. • The name SONNEBERGER is on p3 but not on the front cover.

So, a manual very different to the earlier loose sheets, with only a few models for the smaller sets and many which need more than one outfit and/or the Motor/Gears Set (Elektro-mechanischen Getriebekonstruktionen), although manual versions of some of those models would be possible. The models are generally much better than the earlier ones with more working features, but the instructions for the more complex ones are even less clear, with a small, blurry photo of the finished model and a close-up of part, but only a part, of the innards. And there's no longer a list of the parts needed. Large holes can be seen instead of the earlier slots in all the appropriate parts.

No logo is used in this manual, nor as far as can be seen in the /FB one, but in both the slogan has been changed to Spielzeug unserer Zeit (roughly, Today's Toy). The /FB version is probably the earlier because the length

of the shorter smooth Axle is given, as it had been earlier, as 75mm, but in the 'Radar' one it has been altered (in different type) to 70mm, the length found in the sets described below. The models may differ too because the fairly elaborate Lathe on the MCS cover isn't in the 'Radar' manual.

Nothing is known of the Motor/Gears Set, but as well as the Small & Large Gears in MCS, the following can be seen in the models in the Manual: a Motor that looks like others found in East German sets, with a rounded front & a rectangular extension at the back, held in place by a Clamping Plate; a formed Bevel Gear that will mesh with the standard Gears; a TRIX-type wire Worm, and a Coupling with a tapped holes at each end but on opposite sides. The photos in the manual don't copy well, but all these parts may be visible in the models below and the snippets from other models around them. The Tractor is the one mentioned



earlier; the Coupling can be seen in the Sewing Machine; and the Navvy is one of the larger models. The insets show from the top: the end of the Motor, 2 Small Gears & the Worm; the Clamping Plate; a Small Gear on the Motor, driving a Large Gear; Small & Large Gears, and a pair of Bevels; and another pair of Bevels. Notice the slots in the Flanged Disk used in the Sewing Machine - these can be seen in several of the models in the Manual but the illustration in the Parts List, and the parts in Richard's Set, see below, have the normal round holes.

Both David's Piccolo and Richard's Spezial sets are from this period and have similar lids; the Piccolo manual is missing but the Spezial has the Radar manual already described. The boxes are still red but all the top of the lid is printed in colour with a boy & girl behind the Navvy shown on the last page, with real bucket excavators in the background. There's a product code in one corner: GHG Nr. 6510/3/4 // VEP MDN 34.80 on the Spezial. So 1980? No, because on the Piccolo: Artikel Nr. 6310/3/2 // VEP M 9.40. Again there's no logo and the old slogan is on both. The Piccolo box measures 12*10*1" and the parts are in a white moulded plastic tray. Both sets have plain aluminium parts but a similar Spezial set in EZ, with the same product code, has some coloured parts, as explained in OSN 15.

The PARTS What follows is based on the parts in the Piccolo and Spezial sets, both incomplete. **DATA** (in mm). **STRIP** (10-hole): •hole pitch/dia, 10.0/4.2 (but some holes in other parts 5.4); •width, 10.0; thickness, .83; •ends fully radiused, but with only about 1¼mm of metal outside the end holes. **BOSS**: •o/d, 10.0; •i/d, 4.10; •aluminium; •single-tapped M3. **AXLE DIA**: 4.00. **Mod**: 1.5 estimated. **NUT**: hex 7.0 A/F; **BOLT**: roundhead 6.9 Ø (mean); both

plain steel. **THREAD**: M4.

- The corners of all parts, other than Strips, and Brackets made from Strips, are square.
- None of the Strips (2,3,4,5,7,9,10,14,18h) have any large holes. The 14 & 18h ones are thicker at about 1mm, and the ends of most sizes are semi-radiused (r=6mm).
- The following holes in the Brackets are large: all in the Angle Bracket, the Reversed Angle Bracket, & the 1*2*1h DAS. The 3 centre holes in the 2*1*2h Double Bracket, and the holes in the lugs & the outer holes of the base of the 1*5*1h DAS. The holes in the 2*3*2h DAS, the Double Bent Strip, and the base of the Trunnion haven't been seen.
- All the holes in the A/Gs are large.
- The only large holes in the Plates and Double Strips are in the flanges of both Flanged Plates.
- The Gears have 18 & 35 teeth, and appear to mesh at 40mm centres.
- The 30mm Pulleys have a very sharp corner between the face and the 'V'; the Tyres for them are 45mm o.d. when fitted, and have SWL 29X8 moulded into one side. The small Loose Pulley is 10mm o.d.
- Collars are similar to the bosses, and are 8mm long.
- The shaft of the Crank Handle is 90mm long. As already mentioned the shorter smooth Axle is 70mm long. All Axles, including the Screwed Rods, are steel.
- The Bolts in the Spezial have bigger, 8mm Ø, fillister heads.

VEB (K) METALLWAREN SCHMERBACH This is the manufacturer given in EZ for the period after 1971, but I've nothing relating to it at all, and Schmerbach, if it's a town, isn't in my gazetteer.

Further Notes on AMERICAN MODEL BUILDER

Don Redmond & Richard Symonds have very kindly sent samples of a number of AMB parts, & following on from the notes in 9/218, 11/278 & 14/395, the points of interest are:

- The **½" Pinion** has 14 teeth and is all brass (not nick-eled), but with a separate boss rivetted on, though the peening is almost flush with the face. The boss $\frac{5}{16}$ "Ø by $\frac{5}{32}$ " long, and is fitted with a **Grub Screw** about $\frac{1}{8}$ " long, with a concave end. The **¾"**, with 20 teeth, is similar but the boss is $\frac{3}{8}$ "Ø by $\frac{3}{16}$ " long, and the Grub Screw is $\frac{5}{32}$ " long. The **¾" Crown Gear** has 20 teeth.
- **Bosses** on other parts are also short, $\frac{3}{16}$ " or up to $\frac{1}{64}$ " longer, with little peening showing. The **Set Screws** seen have either cheeseheads, $\frac{5}{32}$ "Ø; or roundheads, $\frac{3}{16}$ "Ø. Some with slightly larger roundheads may be ERECTOR.
- The **A/Gs** are quite similar to MECCANO but one or both of the arms of each of the 4 to hand are slightly wider. The MECCANO Flat Girder is $1\frac{1}{16}$ " wide and a hypothetical AMB one would be $1\frac{1}{8}$ ". Also the distance from the edge to the start of the slotted hole is about $\frac{5}{32}$ " on the AMB parts and less than $\frac{1}{8}$ " on typical MECCANO ones.
- The **½" Pulley** is $\frac{1}{8}$ " wide and the 'V' is rounded at the bottom. The **Flanged Wheel, #4**, has a pulley groove and an 'internal' boss which is longer than the tread (the part that bears on the rail, is tread the right word?) by about $\frac{3}{32}$ ", but nevertheless its Set Screw is angled slightly outwards. It is listed as $1\frac{1}{2}$ "Ø but the pulley is $1\frac{3}{8}$ " o.d. and the tread $1\frac{1}{4}$ ". The **Car (flanged) Wheel, #65**, also has the boss on the inside, again longer than the tread, and the Set Screw angled. The tread is $1\frac{1}{4}$ "Ø too and the o.d. of the flange proper is $1\frac{1}{16}$ ".
- The **Angle Bracket** has a 9mm slot in one arm and often very little metal outside the hole(s) in one or both arms. #42, the **Spanner and Screw Driver** is stamped AMERICAN MODEL BUILDER.

Kendrick Bisset has also been good enough to send some notes on the parts he found in a 1914 #6 (1914 because it's in a cardboard box), and a #6½ in a wooden box with the 'new' parts in it, probably from 1915.

Later **Axles** had rounded ends, as described in the List of Parts in MCS/FB, but not those from 1914; similarly some have a transverse hole. The 1" was not listed after 1914.

The **Pulley Belt, #45**, is made up from a $5\frac{1}{2}$ " length of Spring Cord, .094" o.d., very similar to the MECCANO pattern but wound 'left-handed' so that a right hand screw can be screwed into the MECCANO part but not the AMB version. One end is tapered to screw into the other open end, forming a ring of about $1\frac{11}{16}$ "Ø.

The **Sprocket Chain** has $3\frac{1}{2}$ links per inch, and is made from .031" wire.

Don also sent some notes on manuals. The covers most often found are multicolour with a man, boy and Funicular Railway, similar to the one shown in MCS. But a manual belonging to John Wapshott is totally different with a matt grey cover printed mainly in black with buff highlights. There's still a man and a boy (with high button boots) but the model is a very simple Crane on Rails. On the cover is PATENT APPLIED FOR, and on the reverse is a 1912 copyright date. The illustrations of the models are fine-screen shaded drawings rather than the line drawings of later manuals, and at the top of each righthand page is MAKES MECHANICS EASY. The contents go from the usual simple Trucks on p2, to Fig.57, Wright Aeroplane, p44, and Fig.58, Ferris Wheel, on p46, followed by mechanisms, structures, and Parts List on pp48-56. Following on from 13/340 it seems very likely that this is a (or the) '**1912**' manual.

The Patterned Wallpaper/Kling Cover The cover in MCS has a yellow background with a red pattern on the wallpaper. In small print under the chair and model are The Kling Litho Co, Dayton, Ohio, and Copyright 1913; and at the bottom PATENT APPLIED FOR. This cover has been seen on the '**1913**' manual, and a very similar one on the '**1914**'. At the bottom in the latter case is PATENTED IN CANADA JULY 29, 1913, U.S. PATENT APPLIED FOR; and MADE IN U.S.A. is below the red outer frame.

The Striped Wallpaper/Artcraft Cover This variation has a light green background and wallpaper with buff vertical stripes on the light green, and no pattern. In the centre is ARTCRAFT LITHO CO, DETROIT, & the same 1913 copyright. The bottom wording is exactly as the '**1914**' above. Models start with the Alphabet on p3, and finish with Fig.369, Grandfather's Clock on p72, & Fig.370, Dutch Windmill, on p73. Mechanisms and the Parts List are on pp74-80. These details fit either the '**1915**' or '**1916**' manuals of OSN 13.

ITEMS FROM LETTERS

1. From Richard Symonds. • An ad for a 6" dial calliper gauge that he bought recently for \$19. Made in China, but well made, he recommends such an instrument as being ideal for OS/handyman purposes.

• A photo of a **LYNNCRAFT** Set that's similar but not identical to the one described in 12/309. The outside of the lid looks identical, though I can't quite read if the Model No. is '146'. It's probably an earlier Set because there are no Tyres in it; otherwise the contents look the same, with a generally similar layout, except that all 5 Pulleys are between the Trunnions, there are 2 extra Pulleys (with hidden, or no, bosses), each holding down 3 of the Triangular Plates, no Span'drivers are visible, and in dark areas of the photo on either side of the Large Flanged Plate, there looks to be an extra Bush Wheel on the left, and another part, perhaps a Pulley or a third Bush Wheel on the right. There's no centre hole in any of the Strips.

2. From Don Redmond. • On the **ERECTOR No.100 Set** (from 11/298 & 15/ 411), the bore of the Wheel is just over 3.25mm, & the Axle is 2.90mm Ø. See *Greenberg* 2, p139, for a photo of the Set; it's said there that it was marketed only in 1957, & that the parts were shrink wrapped onto a yellow backing board.

• **JE-IL/JEP** (see 13/344) were still going strong last summer. Their address is Jeil Science Material Enterprises, Kuroku, Kurodong 546-2, Seoul (Buyoung Building, 3rd floor), and the phone numbers are the 858 ones in OSN 13. The firm does not market its products outside South Korea. The sets 1-3 and 5 & 6 continue but there's doubt about the Army outfit (see 6/111). The current manuals are for Sets 1; 2 including 1; 3 including 1 & 2; 5; & 6). The #3 is the same as the one described in OSN 13 with very minor changes to the text, and the models in #5 & 6 are probably the same.

• On **TEMSI** hole spacing, see 9/225, Charles Shrubsole has found that the it is erratic rather than being uniformly a little over ½". Don checked four 25h Strips from one set for himself and found some pairs of holes at exactly ½" while others were up to 1.5mm out. But the erratic spacing was identical between all the Strips, and the end holes were all 3mm over 12" apart. [The 6 in a set from the 1950s or 1960s are all no more than 1½mm out over the 25 holes and the holes seem to be very nearly uniformly spaced; the 4 A/Gs in the set are very similar.]

• **STRUCTOMODE** A/Gs are black, like **MÄRKLIN** used to be, but are easy to recognise because they are copper plated under the chemical blackening.

• The **MASTER BUILDER** Motor shown in 18/495 looks just like the 1914 **ERECTOR** P-51 Motor on p52 of *Greenberg* 1. It was only listed for the one year, and was fitted with strip brushes. Are they identical? And who made them? In 1915 Gilbert changed to the P-58 which had carbon brushes, slightly different frames with 4 terminals, & bracket feet. Said feet had a round hole in each, later slotted right out to the edge of the foot.

• The word in the **KONSTRUKTOR [10]** 'flying goose' logo (18/498) is Moskva (Moscow) in script.

• **Buffing** dull dark grey (tin plated) **STRUCTO** parts using a cloth buffing wheel impregnated with tripoli (rottenstone) gave a bright, smooth shine. Tin oxide is tough.

• Some 5h Strips with very large end radii, of about 2", cut close to the end holes, have been identified, thanks to Kendrick Bisset, as **MASTER BUILDER**. [As far as I know most M B Strips have well rounded ends, see 16/450.]

• **MESO** in the **SONNEBERGER** logo (see 18/502), no doubt comes (in similar fashion to other German abbreviations) from **MEtallwarenfabrik SOnneberg**.

3. From David Hobson. • An unused **MECANIKIT No.0**, still strung in its box, is exactly the same as the one described in 10/250, and MCS, except that all the Strips bar 3x 3h are aluminium, and there are 12 N&B. 8 of the Nuts

are square and 4 hexagonal, both the same across flats. The Axle is aluminium, and the Balloon Wheels have a gold sheen, and appear to have been lacquered. No Screwdriver was found in the Set.

• From the Nov. 1930 *The Toy Trader*. **Sonneberg** (see 18/502) has been known for toys for the last 200 years and has 'the unique **German Toy Museum**'.

• Something on the history of **VOGUE** (ref. 17/464) appeared in the Sept. 1951 *The Toy Trader & Exporter*. The Vogue Manufacturing Co. of Egerton Road, Melton Mowbray was established some 40 years before and produced metal trimmings for shoes. It was bought by A.N.Pallett in 1947 and new machinery for making toys and fancy goods was gradually installed, including plastic moulding equipment. A subsidiary, Vogue Playthings Ltd. was formed in 1947 to market the toys, and in 1949 Thermold Ltd., who made toilet goods and advertising novelties, was acquired. During 1948/49 the original factory was enlarged and another factory at Oakham, 10 miles away, was taken to make the constructional sets. In 1950 A.E.Pallett, father of A.N., and managing director of Casceloid Ltd. from 1919 to 1943, joined the firm and became responsible for admin and sales. In that year additional premises were obtained in Melton for packing and dispatch, and the original factory was modernised. The **VOGUE** pressings were then made there and taken to Oakham for finishing and packing. A blurry photo in an earlier (Feb. 1951) issue showed 3 sets which look like those shown in the Manuals, and behind them is a largish model that might be a Big Wheel.

• An ad from the manufacturers' agent Val Green, in the Jan. 1952 *The Toy Trader & Exporter*, mentions 'The latest & greatest' **KONSTRUKTA** Steel Constructional Sets'. The parts in this system, and their similarity to **BEAVER**, were discussed in 6/129, & this is the first definite date for either. Incidentally **BEAVER** was made by a firm, Rutland Plastics Ltd., in Oakham, where **VOGUE** sets were produced.

• **DAN DARE** Sets 1 & 2 (see 14/366) were announced in an ad by Bartram, the manufacturer, in *The Toy Trader & Exporter* for July 1953, and a similar ad with illustrations of the Sets appeared in the August issue.

• An article on **CONSTRUMENTS** in the Dec. 1932 *Toy Trader* says that the sets have only been on the market for a week or two. So that confirms the date inferred in 5/79. The 20, Plus, & 100 Sets are mentioned and the 20 is said allow instruments worth £20 to be made, or at least £100 for the No.100 Outfit. It is also stated that the interchangeable metal parts were made by The British Thomson Houston Co. Ltd.

• The 1937 **JUNEERO** box lid illustrated in 9/216 was also shown in *The Toy Trader* for Feb 1936, in an ad for cartons, and in a later 1936 Waddy ad.

• **ARKIRECTO** (2/19) was patented in 1933. Mentioned was made of it in the Feb 1934 *Games & Toys*, and in March an ad from the manufacturers, Arkirecto Ltd., Carlton House, Regent Street, London, S.W.1, offered sets from 2/6 to £2-2-0. In October the price range was 2/6 to 52/6 and ads continued until Feb 1935. The next ad, with the same prices, was in June from Waddy Productions, Astor House, Aldwych, London, and they had another ad in September. Finally in June, July & August 1936, E.M.Napier Ltd., Exmouth House, 3 Pine Street, Farringdon Road, London announced 'We have procured the entire stock of **ARKIRECTO** and can offer complete outfits or parts at greatly reduced prices'. (From a Nov 1937 Napier ad: 'Turn that dead stock into £-s-d - London's Largest Job Stock Buyer - pays spot cash for surplus stock.')

• The **MEX** No.2 Set (see 16/452) was advertised by W.H.Cornelius in the Nov 1933 *The Toy Trader*, price 1/-. So unless it had a very short life it's strange that it wasn't mentioned in the later *Games & Toys* ads.

• In 18/523 Don Redmond asked about a yellow plastic Wheel with Tyre marked **BILDIT**. It probably came from the simple plastic **BILDIT** system which was based on a special

Wheel or Spool which acted as a multi-way connector for square section Rods. BILDIT was patented in several countries and was on sale in the UK in the 1950s & early 1960s.

4. Tony Press has suggested, and I'm sure he's right, that it is the packet the parts were in that is under the French **MECCANO X1s** box in 16/446, and not a Model Leaflet as stated. He also mentioned that he has a similar style British MECCANO X box (with the light diagonal stripe), and I've noticed that a 1932 (or '33) UK catalogue shows both the X1 & X2 in the same style of box.

5. On the **STEEL TEC Corvette** (18/496), Keith Cameron wrote that there is a switch for the headlights. It's built into the console between the seats.

6. From Werner Sticht. • On the **MÄRKLIN nickel 5*11h Flanged Plate** in 17/473, such a part, #11321, of nickel plated brass, was included in their ELEX Sets, but I don't know of a corresponding 5*7h one.

• **VEB (K) Schmerbach** (reference SONNEBERGER in 18/504) was probably at the village of Schmerbach between Eisenach and Limenau; there's another Schmerbach near Meiningen but it's only a few houses without a proper road to it. CONSTRUCTION was also made at Schmerbach.

• Werner is in touch with **Karl Debik**, a collector of metal constructional systems from the former GDR. He knew practically all the manufacturers there and is preparing a history of the subject. He would welcome contact with other collectors (in German or in English) - his address is Nordshäuser Str. 25b, D-34132 Kassel, Germany.

7. From Kendrick Bisset. • On **ENGINEERO** (18/520), there was a 7-32 A.S.M.E. thread listed in the 1914 Edition of the *American Machinists Handbook*, together with 7-30, and the standard 7-36 (see 8/203). Haber Bros. were listed in the *Thomas Register* as toy manufacturers at 878 Broadway, New York City in 1917 & 1918, and later at 91 5th Avenue.

• Another **GIRDER BILT** Set (see 17/467). Again it has some parts missing, but the contents are broadly the same. The 15 of both the 4h Strips & Angle Bends in it probably indicate 16 of each originally. Again it contains one of the unusual 6*4h 'Plates'. The Wheels are the same diameter but thicker, more sharply detailed, and a dull red colour. The Screws are 4-40 (a much more suitable size), steel with countersunk heads, and 3/8" & 1" long. The hex Nuts are aluminium, .253" A/F & .095" thick. The Screwdriver & (different shaped) Spanner are 2 5/8" & 2 3/8" long respectively, and are shown below. There was a Model Leaflet with this

Set, the one used in MCS, 15 1/2*8 1/4", folded into 3. Its 18 models (plus 0-9 & 8 Letters) start with Rake and finish with an unnamed framework, 8*8*16h, with on the front, a cross or 4-bladed propeller made of 2x 8h Strips. All the models on the OSN 17 container are included but the Letters are different and use only 4 & 8h Strips.



8. Alan Partridge mentioned **MAKE-AND-KNOW**, a small set with MECCANO-like parts that was bought in India, probably in 1979.

9. Harry Mariën recalls being given a set called **MECANO** in the 1950s, as a child in Belgium. The parts were not copies of MECCANO.

10. Roger Baker writes of **ALCON**, see 8/199 & 9/224. In a 'Junto' Set the wood parts are match stick sized in various colours, and are cut to length according to the 'number' shown for each Stick on the model plan. A scale is provided with the length for each 'number' marked on it. He added that it is extremely fiddly to use, the Brackets are easily bent/broken, and the end result is a small, very flimsy, skeletal model.

11. On **Richter's Metal Sets** (10/260), Jacques Pitrat wrote, 'I have a third Richter set which includes only metal parts. It is a bridge set, but unfortunately not the 1895 one! This is **Set #10 Eisenbrücken**, an accessory set to be used with a normal ANKER set to build the piers, and from the style of the picture on the lid it dates from before WW1. There are 2 kinds of girder. The first is like the one at the bottom of 10/261 except that it has 6 bays instead of 4. Its length is 156mm and it is 34mm high; there are 4 in the Set. The other 6 girders are larger, also with latticed sides but the upper member is arch shaped. They are 205mm long, 34mm deep at the ends and 67mm in the middle. There are corresponding roadway parts, both 62mm wide: two 156mm long, and three 205mm. No N&B are used in assembling the parts, the girders slide onto the arms of a U-shaped strip, one at each end, with the roadway sitting on the base of the U. The girders are painted blue-grey and the roadways brown. In *Eisenzeit* it is indicated that these parts appeared in 1901 and that they were originally nickel plated.' [An illustration of the parts is on p54 of *Bauklötze Staunen*, but the parallel girder shown has only 4 bays. The German patent discussed in 10/261 is Nr. 133728.]

EXTRA MCS SHEETS The Sheets listed here are available at 15p per Sheet plus postage. That makes £3.30 for all 22 Sheets.

KONSTRUKTOR K:115: X1.1,2,3/4/6,5 [2]

LYNX: X2.6a [1]

MALY INZYNIER: X1.1,2,3/4/6,5 [2]

METEOR: X2.3d/4d,3e/4e,5a/6b [2]

MÖWE: X2.6/7a [1]

PLASTICON: X2.3/4/6,3a/4a/6a,3b/4b/6b,5,5a [3]

PONTIFEX: X1.1,2/3/6,4,5,5a,5b [3]

TECHNICAL TRAINER: X1.1,2,3/6,5 [2]

TOY PLANNER: X1.1,2,4,7 [2]

ULOXETTE: X1.1,7 [1]

WALTHER'S INGENIEUR: X2.3a/4a/6a [1]

WEYCO: X1.1,7,7a [2]

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ITEMS FROM LETTERS

1. From Gordon Finch. On the **STEEL TEC Enterprise** parts in 17/481: the 3 & 5h Strips are, in MECCANO parlance, formed and not curved; the 10h Strips are both curved and formed, but not quite to the extent shown in the manual, and at a glance they appear to be identical; the black Plates are of very thin, very flexible plastic; and the 7h Formed NS has kinks/creases across the holes. The electrical functions are operated by very neat, moulded push buttons, which aren't mentioned anywhere in the Manual.

2. • On the **Gilbert MECCANO #150 Set**, see 19/546, John Hanby noted that not all the parts needed for the models are included in the Set (or the Parts List), and there are insufficient of others.

• He also wondered if all the manual models for **CONSTRUMENTS** Sets 30 & 100 would actually cost £30/£100 (19/554). [Perhaps not because the claim wasn't used in any other known ads.]

3. From Werner Sticht. • On what was produced at **Schmerbach** (see 18/504 & 19/555), Karl Debit has asked some workers at Pfaffschwende, who had worked there for over 40 years, and they told him that there was never the machinery at Schmerbach to produce aluminium parts, and no-one knew of a connection with the **SONNEBERGER** system. A friend of Karl has also asked about **SONNEBERGER** in Sonneberg and in Steinach, and there too no-one knew of production at Schmerbach (or any connection with **CONSTRUCTION** either, see 17/489). So the Schmerbach phase of **SONNEBERGER**, arising only from the reference to it in *Eisenzeit*, is 'not proven'.

• The German mail order house **Quelle** (see 13/361) have sold **TRIX** and **CONSTRUCTION** in recent years, but in their Autumn/Winter 1998/99 catalogue the 3 sets offered appear to be repackaged **MEK-STRUCT**. They are identified by the numbers of parts in them, 300, 400, & 600, and the models on the lids look just like the small ones from known **MEK-STRUCT** outfits. The main name, **METALLBAUKASTEN**, on each lid, is stylised in a way unique to Quelle,

good
play



and the 'good play' logo (above) is in the top left corner of the 600 box below it. The two larger sets contain a Motor, and the 600 has the Sound/Light Unit. The sets are priced at DM 99.95, 69.95, & 49.95.

• A photo of a **STABILA** Outfit (see 13/343), with a strikingly bright and modern looking lid (below). It is orange and yellow with a large clear panel in the centre so the manual underneath can be seen. The name is on the diagonal band top left, with the slogan **TECHNIK FÜR Mädchen** (Engineering for Girls) on the right. 7 red circles probably show real life activities, with an aeroplane in the one clearly

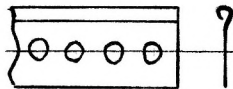


visible, and what may be a girl using a microscope in another. I still find it hard to reconcile the image this creates with the woolly looking (literally) models in the manual.

4. From Thomas Morzinck. • A photo of a **STABILA No.1 Set**, courtesy Karl Debit. Apparently the cover described above was only used for the No.2; the No.1 is a much plainer affair with no illustrations on the lid and no clear panel, just brown wording on a mottled light brown or or-

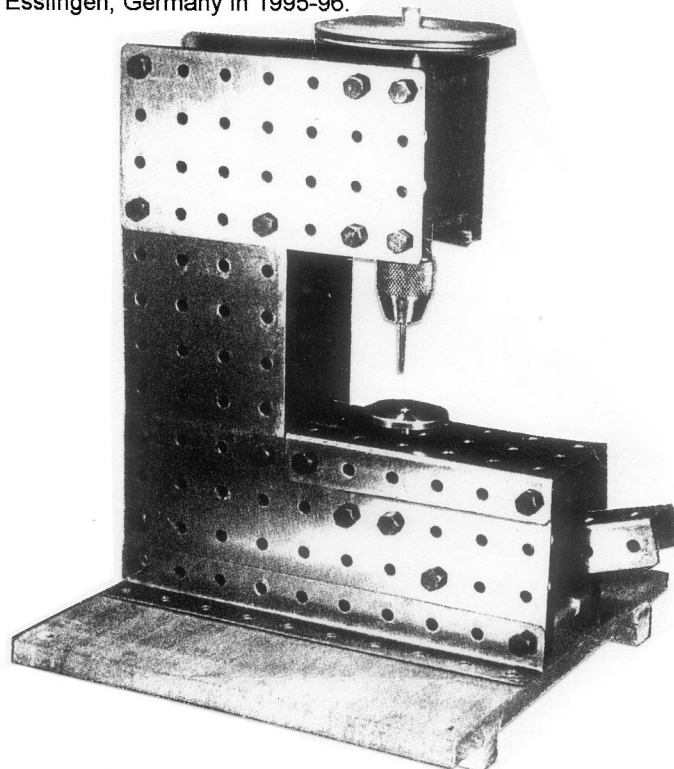
ange ground. The Wheel Discs have a brass look, and the 4 hanks of wool are white, blue, light green & orange.

• Karl also explained that the **WALTHER'S INGENIEUR** part called **Wulsteisen** (see 19/550), is a perforated strip with one edge formed over to stiffen it, as in the sketch opposite.



• **KOSMOS** (see 17/477) educational sets for children have been produced from 1930 to the present day, and have covered almost the full range of scientific topics: radio, chemistry, mechanics, electricity, optics/photography, biology, astronomy. The 'Mechanik' and 'Technik' sets contained a lot of special parts to allow physical experiments with simple but working machines (including a steam engine). The only Set, apart from the 'Maschinen', that would really be called an 'mcs' was **TECHNOFIX** (15/419 & 17/477). In the late 1950s/early 1960s a similar set with plastic parts called **STECOFIX** was offered but it is a mystery because Franckh'sche Verlagsbuchhandlung of Stuttgart, who have produced and distributed **KOSMOS** sets since the beginning, have nothing in their archives about it. [An English language **KOSMOS** Set called **THE TECHNICAL KID** has strayed into MCS, and has 63 special parts including some for a steam engine. The manual was © 1952, and has on the cover '170 Experiments in elementary Physics, laying the foundation in Engineering, by W.Fröhlich'; W.Keller & Co. appears after the maker's name given above.]

Kosmos **MASCHINEN** was produced around 1930, and working models of a Lathe, Milling Machine, & the Drilling Machine below could be made, powered by a 110/220V motor. The model is on a wooden base, and the drill is held in what looks like a real chuck. This material has been taken from the catalogue of an exhibition of stone/metal/wooden sets belonging to Tobias Mey, that was held at Esslingen, Germany in 1995-96.



• The **METEOR** Windmill and Crane, (see 19/534) are very similar to the **MÄRKLIN** models Nr.1009-30 Windrad, and Nr.1010-30 Fahrbarer Drehkran, in Manual No.14910. [The 1009/1010 Sets appeared in 1957.]

• On **PONTIFEX** (19/527), the main parts are aluminium, and the basic pitch of the holes is 10mm. The holes are drilled by hand and are about 4mm Ø. The N&B found in the Set are not M4: the thread is near 5/32" BSW but slightly smaller in diameter and with a finer pitch. No doubt at that time whatever was available was used.

thou) thick. It could easily be cut to size with scissors and fits easily & firmly under the finger of Clip H, but kinks very easily even with careful use. The rolled **Sleeve** closes up to less than the diameter of a Rod when pushed into a Clip, as the free edges slide over one another. In most cases though a Clip by itself can act as an adequate bearing for a Rod to run in. The blue **Small Pulley** is 27mm Ø, about 9½mm thick, and is recessed on one side like the larger one. The **Axle Stop** is red rubber, 7mm Ø & 4mm long.

The MODELS The No.1 manual has a single photo of each model and in many of them it is not easy to see which parts, and particularly which Clips are needed. The line drawings on the Midget's Sheet are easier to follow and all the Rods in them are marked with their lengths. No doubt it was produced later than the No.1.

I made the No.1 manual Windmill shown at the bottom of

the previous page from with my No.3 set. It was reasonably easy to push the Rods into the Clips, and rather less easy to take them out, especially in the middle of a model. Suitable Clips could be bent when necessary to give a different angle but pliers were needed for this. The finished framework was quite rigid except for the single point attachment of the blade arms. But that was easy to improve with other parts from the Set, following a method used in another of the manual models. The built-up bevels worked well enough after careful adjustment and a cord drive from an extra Pulley near the base was possible, again from the parts in the Set (plus a few extra Clips).

As a rod system CLIP-CRAFT has the virtue of neat Clips which allow Rods to be set at angles to one another fairly easily. All but simple models though would be more difficult to make than with MECCANO style parts.

CLIP-CRAFT: S2

OSN 31/930

The SONNEBERGER PIONIER Sets The parts in most SON sets (East German, 1948 to after 1971, 4.2 & 5.4mm holes at 10mm pitch) are plain aluminium but coloured parts were noted at 15/418, & a set with certain coloured parts in it at 18/504.

The two **Pionier sets**, not referenced anywhere before as far as I know, have all the main parts in colour, anodised in blue, gold, & red (apart from MECCANO the only system I think to have this colour scheme). The basic set is No.I; the second, an add-on outfit, is No.II. This note is based on a near complete No.I. Both sets have a red box with almost all the top of the lid printed in colour as below, and this lid hasn't been seen on any other SON sets. The name PIONIER I is in the centre of the blue hexagon. The No.I box is 35*45*2cm and the parts are housed in a white moulded plastic tray, with a separate recess for practically every part.



The Set & the Parts The set isn't very large despite the size of the box, and it's a strange mix of parts with relatively few Strips, only 2 of which are longer than 8h - a 10h & a 14h. The No.II only adds another of each of those plus 2x 9h. On the other hand there are more A/Gs & small Plates than might be expected. A list of all the parts is given below (from the manual) with the quantities in Sets I/II in curly brackets, and a note where the actual content differs. Differences from the parts described in 18/504 are also mentioned.

• 2,3,4,5,7,8,9,10,14h **Strips** {2/0, 2/0, 2/2, 0/3, 6/5, 2/0, 0/2, 1/1, 1/1}. • 5,9,18h **A/Gs** {6/4, 4/2, 2/2}. But my No.I has 4x 18h & no 9h. • 1*2*1, 1*5*1 & 2*3*2 **DAS** {0/1, 2/0, 2/2}. The 2*3*2, not seen before has large holes either side of the bends. • A/B {8/3}. 2*1*2h **Double Bracket** {2/1}. 2*2h

Corner Bracket {1/0}. • **Trunnion** {2/0}. Missing from the Set but the later triangular pattern is shown in the manual models. • **Flanged Plates**. 7*9h, 5*5h, 3*3h {1/0, 1/0, 2/1}. The 7*9h is a new part with large holes in its flanges. • **Perf. Plates**. 2*8h, 3*5h, 3*9h {4/2, 6/3, 2/1}. • **Flanged Disc** {1/0}. This part is 52mm Ø with a flat flange. • **30mm Pulley & Tyre** {4/2, 4/2}. The Tyre is black rubber & has no markings on its side walls. • **Gears**. 18t, 30mm Ø, & 35t, 56mm Ø {1/0, 1/0}. They are Mod 1.5. • **Collar** {5/2}. 6 were in the Set. **Hook** {1/0}. Flat, 24½mm long. • 70 & 110mm **Axles** {1/0, 2/1}; **Crank Handle** {1/0}. All are nicked steel with slightly rounded ends. 30 & 75mm plain steel **Screwed Rods** (2/2, 2/0). The 75mm were missing from the Set and there were 2x 70mm Axles. • **N&B**. Nicked steel and very similar to CONSTRUCTION parts. The pressed Nut is 7.0mm A/F, and the 7.0mm CH Bolt, 6mm u/h {80/40, 70/30}. The **Set Screw**, again nicked steel, has a 4.9mm CH & is 5mm u/h {20/8}. Only 12 were in the Set, one for each (s/t) boss & Collar. • The **Spanner**, nickel plated, is the later type (see MCS/FB), cranked at the ring end and 91mm long o/a {1/1}. The **Screwdriver** was missing but is shown in the manual as the wooden handled type in MCS/NZ {1/1}.

Colours. It is explained in the manual that all the round parts are anodised red, all the flat parts are yellow (actually a pleasant gold), and all the angled parts, the A/B for instance are blue. The colours are metallic except that some of the blue parts are almost matt & quite dark.

The Manual. It is the same size as the one described at 18/503 but is a completely new production for the Pionier sets, printed in full colour throughout, & none of the models have been carried over from any of the earlier known manuals. SONNEBERGER is on the first page but not on the cover (right). Of the 12 models in it only two can be made with Set I. They are a Pair of Scales & an Electric Cart, fair



small models but not very exciting, especially given the size of the box, and neither of them do justice to the Set. All the other

models need Set II as well, and two of them are motorised and need a Motor/Gears Set (Elektromechanischen Getriebekasten) as well.

SUMMARY OF MANUAL

•Name: SONNEBERGER (on p1). •Details of maker: VEB INJECTA, STEINACH IN THÜRINGEN. •Dates &/or Ref Nos: V/5/24-Si 15/68 on p28. •Page size: 200*190mm deep. •No. of pages: 28 unnumbered + covers. •Language: German. •Printing: all in colour. •Page Nos. of Parts Lists/Set Contents: 24,27 (PNs are given but differ between the Sets. The Sets' layouts are on pp25,26.) •Sets covered: Pionier I & II. •No. of models: 2 for Set I; 10 for Sets I+II. •Name, Model No., Page No. of first & last model of set(s) (no Model Nos.): I: BALKENWAAGE,10-11; ELEKTROKARREN EIDECHSE,12-13. I+II: SCHLITTEN, 6-7; DREHMASCHINE,22-23. •Other notes: C2,3 blank. 2 models, the Drehmaschine & a Bandsäge, also need a Motor/Gears Set. pp4-5 have Standard Constructions.

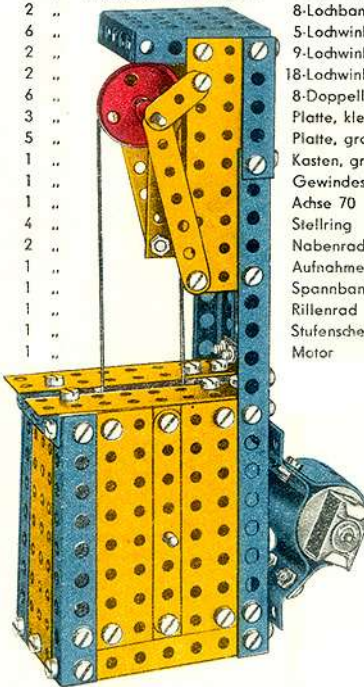
One or two of the I+II models are very simple but most are reasonable given the size of the Sets. The better ones include a Gantry Crane, the Crane on the lid, the Lathe on the cover, and a Dumper Truck. There is one large illustration of each model, plus a parts list & some descriptive text. The latter would certainly be needed in some cases. The Lathe & the Dumper Truck are shown bottom left.

The motorised models are the Lathe & the

ERFORDERLICHE TEILE:

BANDSÄGE

2 Stck.	3-Lochband
8 "	7-Lochband
2 "	8-Lochband
6 "	5-Lochwinkel
2 "	9-Lochwinkel
2 "	18-Lochwinkel
6 "	8-Doppellochband
3 "	Platte, klein
5 "	Platte, groß
1 "	Kasten, groß
1 "	Gewindestift 75
1 "	Achse 70
4 "	Stellring
2 "	Nabenrad
1 "	Aufnahme
1 "	Spannband
1 "	Rillenrad Ø 50
1 "	Stufenscheibe
1 "	Motor

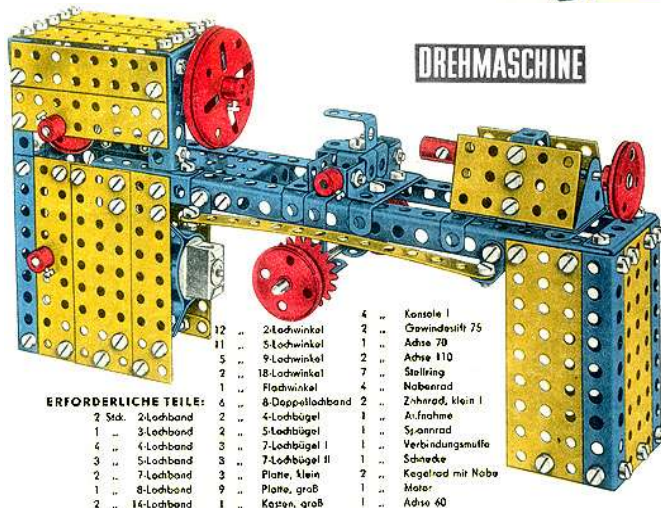


Band Saw below, and the brush end of the Motor and its Mounting Plates can be seen in them. Both need other parts from, & only in, the Motor/Gears Set. They include the 50mm Flanged Disc Pulley and the Coupling, both of which can be seen in the Lathe, a Worm, and a pair of Bevel Gears (as in 18/503). No Motor/Gears Set with coloured parts has been seen but an Ebay photo of one with plain parts is available. The lid is the boy/girl/Navvy type described in 18/504 & in addition to the parts already mentioned it has a 7*9h Flanged Plate, 3 & 5h Strips, and one each of the Gear Wheels. Also a round part a little larger than the Small Gear, with a boss carrying 3 spokes to a rim – it looks as if it could be a Steering Wheel.

Given that all the interesting models in the manual needed more than my Set I, I used nearly all the parts to make the little Tower below, some 35cm high. The 3*3h Flanged Plate lift is operated by a Crank Handle at the back of the base. The parts are accurately made, and nicely finished, but washers were needed to prevent the N&B scratching the anodising. The large holes were useful

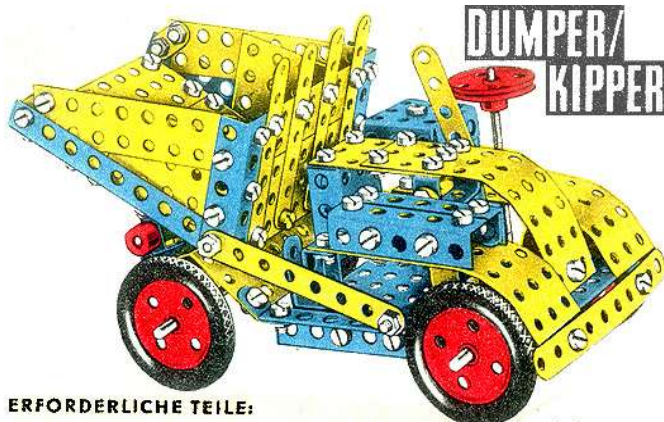
and don't I think look out of place. The Plates though were too thick (.85mm) to allow them to be curved to any extent without kinking. But of the manual models, only the Dumper requires any parts to be curved.

History. The PRs on SON material do not seem to be helpful in providing dates. Most likely the Pionier sets came towards, or at the end of the VEB Injecta period - the Artikel Nr. on the lid is 6310/3/5, compared with 6310/3/4 on the boy/girl/Navvy lids in OSN 18 & Eisenzeit. But it isn't known if they over-lapped with the 'standard' sets. Not many seem to be offered on Ebay so perhaps the blue/gold colour scheme didn't prove popular, or perhaps it was a last ditch attempt to stay in business.



ERFORDERLICHE TEILE:

2 Stck.	2-Lochwinkel	4 "	Konsole I
1 "	3-Lochwinkel	2 "	Gewindestift 75
4 "	4-Lochwinkel	1 "	Achse 70
3 "	5-Lochwinkel	2 "	Achse 110
2 "	18-Lochwinkel	7 "	Stellring
1 "	Flachwinkel	4 "	Nabenrad
6 "	8-Doppellochband	2 "	Zahnrad, klein I
2 "	4-Lochbügel	1 "	Aufnahme
2 "	5-Lochbügel	1 "	Spannband
4 "	7-Lochbügel I	1 "	Verbindungsmuffe
3 "	7-Lochbügel II	1 "	Schnecke
2 "	7-Lochband	2 "	Kegelrad mit Nabe
1 "	8-Lochband	1 "	Motor
2 "	14-Lochband	1 "	Achse 60
			Kasten, groß



ERFORDERLICHE TEILE:

1 Stck.	4-Lochband	3 "	5-Lochbügel	2 "	Konsole I
5 "	7-Lochband	2 "	8-Doppellochband	1 "	Gewindestift 30
2 "	8-Lochband	2 "	4-Lochbügel	2 "	Gewindestift 75
1 "	10-Lochband	3 "	5-Lochbügel	1 "	Achse 70
10 "	2-Lochwinkel	1 "	7-Lochbügel I	2 "	Achse 110
6 "	5-Lochwinkel	1 "	7-Lochbügel II	4 "	Stellring
3 "	9-Lochwinkel	3 "	Platte, klein	5 "	Nabenrad
2 "	8-Lochband	9 "	Platte, groß	1 "	Grundplatte
2 "	4-Lochbügel	2 "	Kasten, klein	4 "	Gummiprofilreifen



Snippets. The SONNEBERGER Gears/Motor Outfit

SONNEBERGER sets are often found on Ebay and some 6 examples of the Gears/Motor set have been seen over the years – not many perhaps considering that it was needed for many of the models in the manual for later standard sets, the one described in 18/503. This note is based mainly on information kindly sent by Joachim Kleindienst about the 1966 set shown on his website, www.baukasten-sammler.de. (Its well worth visiting, click on Metallbaukasten in the top left corner, and then on Baukasten to see sets, or Werbung/Kataloge for publicity material.)

The SETS Joachim's box measures 31*26*3½cm and its lid is shown in Fig.1. The text in its bottom right corner is 'GHG.-Nr.6520/3/1' and 'VEP MDN 18,75'. The first group indicates the wholesaler or maker, I'm nor sure which; the second is the selling price (MDN was the abbreviation for the East German Mark from 1964 to 1967). In passing Joachim's website comment that the Set was hardly a bargain at its original price of MDN18.75, may perhaps help to explain the relative rarity of the Gears outfit. The lid's design is the one most commonly seen and is as used for the standard sets of the time except for the name: Elektro-mechanischer Getriebekasten.

2 of the 6 Ebay sets have the earlier 'standard' lid design (still from the VEB Injecta company) with 2 boys working on a Sailplane's framework. At 31*19½*4cm, the box is a little smaller, and rather than the later moulded plastic tray (Fig.2), the parts are in 1 large & 2 smaller compartments formed by card partitions. One of these sets was said to be from the 1960s and has the same MDN 18.75 price as Joachim's in the lid's bottom right corner. So the change of lid design seems to have occurred between 1964 & 1966.

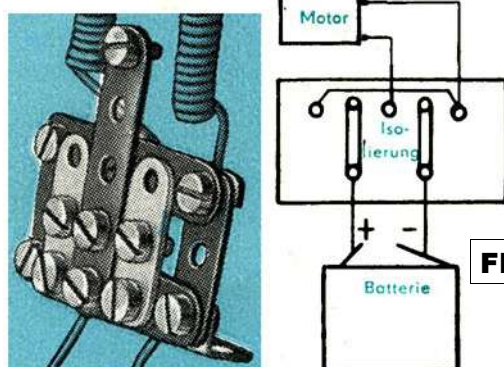


FIG.4

Mit Hilfe einfacher Baukastenteile und einiger Isolierbänder kann der auf der Abbildung gezeigte Schalter hergestellt werden. Er dient zum Ein- und Ausschalten sowie zur Veränderung des Drehsinnes am Kleinmotor.



FIG.1



FIG.2

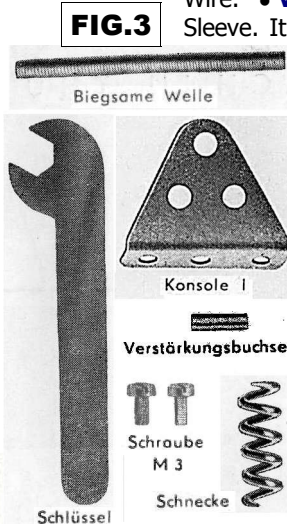


FIG.3

Missing from the Set, it can be seen in Fig.6. • **Motor**, 4.5v, 150mA, 2500 rpm. • **Motor Mount**. The Motor is clamped between the top & bottom formed plates. • **Igelitierte Cu-Litze** = Igelitierte (meaning not found) Copper Connecting Wire. • **Verstärkungsbuchse** = Strengthening Bush or Sleeve. It is shown in Fig.3 but its use is unknown. In some Ebay photos the Motor's shaft looks substandard and so it could be a push-on sleeve – but one might think though that this would have been done in the factory. • **Flanged Plate**, 5*9h. In the manual 2 long slots are shown in each flange but the part in

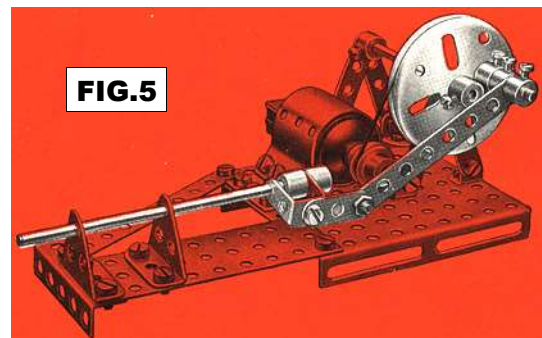


FIG.5

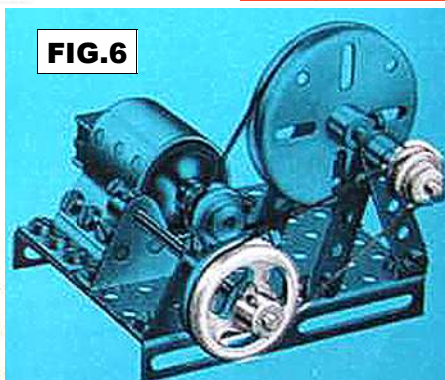


FIG.6

Fig.1, and the only example where the flanges can be seen in the Ebay sets, has 9 holes instead. • **Strip** 3h {2}. • **A/B** {2}. • **Trunnion** {2}, see Fig.3. • **Insulating Strips** 3 & 5h {4,4}. • **Insulating Washer**, 4*10*1mm {10}. • **Axles**, 75 & 110mm. • **Crank Handle**. • **Screwed Rod**, 60mm. • **Coupling** {2}. • **Collar** {4}. • **Flexible Coupling**.

It is shown in Fig.3 (Biegsame Welle) and may be the MECCANO type, perhaps about 6cm long. • **Bolts:** M4 {50}; M4 x 12mm {3}; M3, for the bosses {15}. For reasons unknown two types are shown in Fig.3. • **Nut** M4 {70}. • **Spanner**, see Fig.3 but the actual part is longer has a cranked ring opening at the other end. In one Ebay set the tray has a dedicated recess for it between the Gears and the Motor. • **Screw-driver**, wooden handled.

The **MANUAL** has 20 pages, 21*15cm, and the cover is



Switch in Fig.4 have been rearranged.

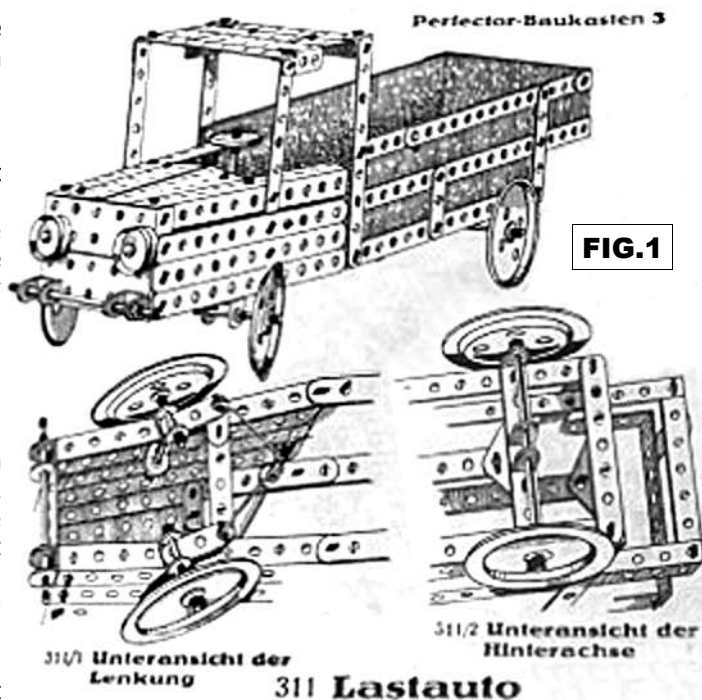
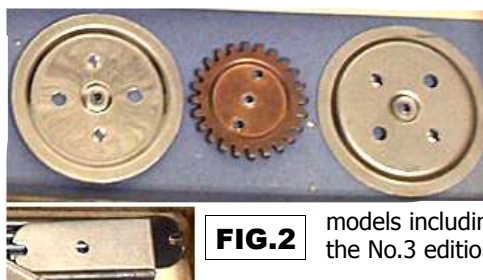
SONNEBERGER: S4

OSN 43/1306

Snippets. A PERFECTOR No.3 OUTFIT Since the notes in 38/1163 a No.3 set, not previously known, has been seen on Ebay. It isn't 'organised' but it contains some parts not seen before. The Ebay photos don't actually show the set's number but one of them is a manual page with a model (right) made from 'Baukasten 3'. Also below, a few points of interest from recent Ebay photos.

The NEW PARTS These are mostly those which were promised as additions to the system on the rear cover of the manual described in 23/855. They comprise the Gears already covered in OSN 38 and: • A **Pulley Disc** (Fig.2), nickelled, which scales at 68mm Ø. • A **Strip** of 15h, and probably a longer one of around 20h. • A **Perforated Plate** 2*7h, and a 7h long **A/G**. Both these would be made from the blank used for the 2*5h Flanged Plate. • An **Axle** about 20cm long. • Possibly the **Triangular part**, two of which can be seen in the scrap view of the rear axle in Fig.1. • The **Tool** in Fig.2 which looks to be a short length of Strip with a centre hole and a notch in each of its rounded ends. One end is angled. It is used to move parts along Axles and was the second Tool mentioned in the OSN 23 manual, not the black one illustrated in OSN 38. • On the **OSN 38 Tool**, one manual page shown for the Ebay Set describes how it is used to open the Driving Dog to allow it to be pushed onto or along an Axle. The nib at one end is slid between the Dog's wings and turned through 90° to spread them. Such a tool wasn't found necessary when the Dog was first tried (before OSN 38) with an Axle, but it has now been found that by chance the Axle used then was one of two with a diameter of only 2.99mm, and the Tool is definitely needed with normal 3.07mm Ø Axles. Also opening the part to put it on an Axle was almost impossible unless it was held with pliers because otherwise the rather large force needed to turn the Tool was so great that the part slipped round in the fingers. It was noted that although a whole page in the manual is devoted to using this Tool it doesn't show the Dog being opened prior to putting it on an Axle. Really the Dog's springiness is unnecessarily strong. • Also from said manual page it is clear that at that time the **Axle Stop** was just the Driving Dog turned round so that its square end faced the appropriate way. It may be though that earlier it was a separate part, perhaps similar to a shorter version of the Coupling.

The SET is in a 2 layer, 5cm deep, brown box with an irregular pattern of dark brown streaks on it. It has the same plan size and lid label as the No.2. The base has the same partition too and the tray has two lengthways partitions giving 3 bays of near equal width. The parts sit on blue cards in these bays and the small parts are in 3 of the small parts boxes. The set seen



has many more parts than the No.2 including 8 Flanged Plates, 4 of the new large Pulley Discs, and 2 each of the Gears (all copper coloured, as in Fig.2). Among the jumble of other parts two each of all three Tools can be seen and so the box probably contains parts from more than one set. Supporting this, there are nickel & copper Pulleys & 36mm Pulley Discs, whereas in all the other 7 sets (Nos.1, 1a, & 2) seen on Ebay all of each of the circular parts in them have one finish or the other (in passing the Pulleys in one No.1 are brass coloured). Going back to the Set, in one corner a number of bright RH Bolts & hex Nuts can be seen – they look about the right size to fit the small holes but may of course be foreigners.

The MANUALS All that is known of the No.3 manual is the model in Fig.1 and the page devoted to using the Tool to open the Driving Dog. The model has cord operated 'proper' steering and the wheels are the new Pulley Discs, used singly.

It is also worth mentioning that although the OSN 23 edition is the commonest seen it is now clear that it was made

up from an earlier 20 page manual with 8 pages of No.2 models added in the middle. That explains the odd model numbering in OSN 23 and without the 8 pages the models are 101-160 as before, followed by only 201-207 for Set 2.

Was there ever a manual with No.2 models including the Gears? Or were they the included in the No.3 edition?

PERFECTOR: S2

OSN 43/1306