

ENGINEERO - The DANDY BUIDER Limited details of this small American system are included in MCS but now Richard Symonds has kindly sent a photo of all the parts, an actual Strip, 1" Pulley, & a N&B, and a copy of a manual. And I find I have 3 other Strips that came from I don't know where. This system is known from around 1915, and is unique in having diamond shaped holes in most parts, with vee notches in the edges of all the strip parts and of the A/G, as can be seen below. Certain similarities with MASTER BUILDER were pointed out in 16/451.

PARTS The range of parts is identical to that of M B at the time of the 'Monroe' manual (see 16/450), except that ENG had no Pawl, Pinion, or 3" Axle. Notes on the 36 ENG parts follow. My Strips have a very dark grey metallic finish and except as noted, all Richard's parts are the same: no doubt the tin plating mentioned in MCS, darkened with age.

• **DATA** (in mm) **STRIP** (11-hole): •hole pitch/size, 12.7/4.3 square; •width, 12.7; •thickness, .8; •ends have chamfered corners. **BOSS**: •brass, •o.d. 8.7, •i.d. 4.27, •single-tapped .098" Øx40tpi. **THREAD**: .145" Øx32tpi. **AXLE DIA**: 3.96. **DP (Mod)**: N/A. **NUT**: sq 6.5 A/F; **BOLT**: roundhead 7.6 Ø; both nicked steel.

- A 25h **A/G** which is in effect 2 Strips joined at 90°.
- 4,5,6,7,11,17,25h **Strips**.
- 4*5 & 5*11h **Flanged Plates** with flanges on the long sides. An 8h long Flanged Sector Plate with a centre row of holes, the wide end straight, and the narrow one concave.
- 4½ & 5½" **Crank Handles** with a small hole through.
- 2,3½,4½,5½" **Axle Rods**.
- An **Angle Bracket** with the V nicks at the bend but a round hole in one lug and a slotted hole in the other.
- **Single & Double Bent Strips**, bent up from the appropriate length of Strip.
- A **Bush Wheel** with 8 round holes, about 1½" Ø. • A brass looking **Wheel Disc** of about 1" Ø, with 4 round holes at ¾" radius.
- A 1" brass plated **Pulley** with a tiny RH Set Screw in a neat boss that only protrudes ¾". A similar Pulley without Boss (called a Wheel) is shown below (#24), with a photo of the part under it. In both Pulleys the rims of the 2 discs are formed parallel to each other outside the V, rather like many ERECTOR 1½" Pulleys.
- A bright 14t **Sprocket** of about 1" Ø, and Sprocket Chain.
- A **Nut** 2.8mm thick, and a **Bolt** 7mm u/h. The thread definitely isn't the usual 8-32, see above: was there ever a 7-32 size? The **Set Screw** also has a smaller than usual non-standard thread.
- A brass looking **Collar**. • A **Spring Clip**. • A bright, flat

looking **Hook** (#29 below). • A RH **Woodscrew**, about ⅝" u/h. • A hank of dark looking **Cord**.

• A double-ended **Spanner**, about 3⅛" o/a, which may have been painted black. • A flat, curvy **Screwdriver**, 3¾" long, stamped ENGINEERO. Both are shown below.

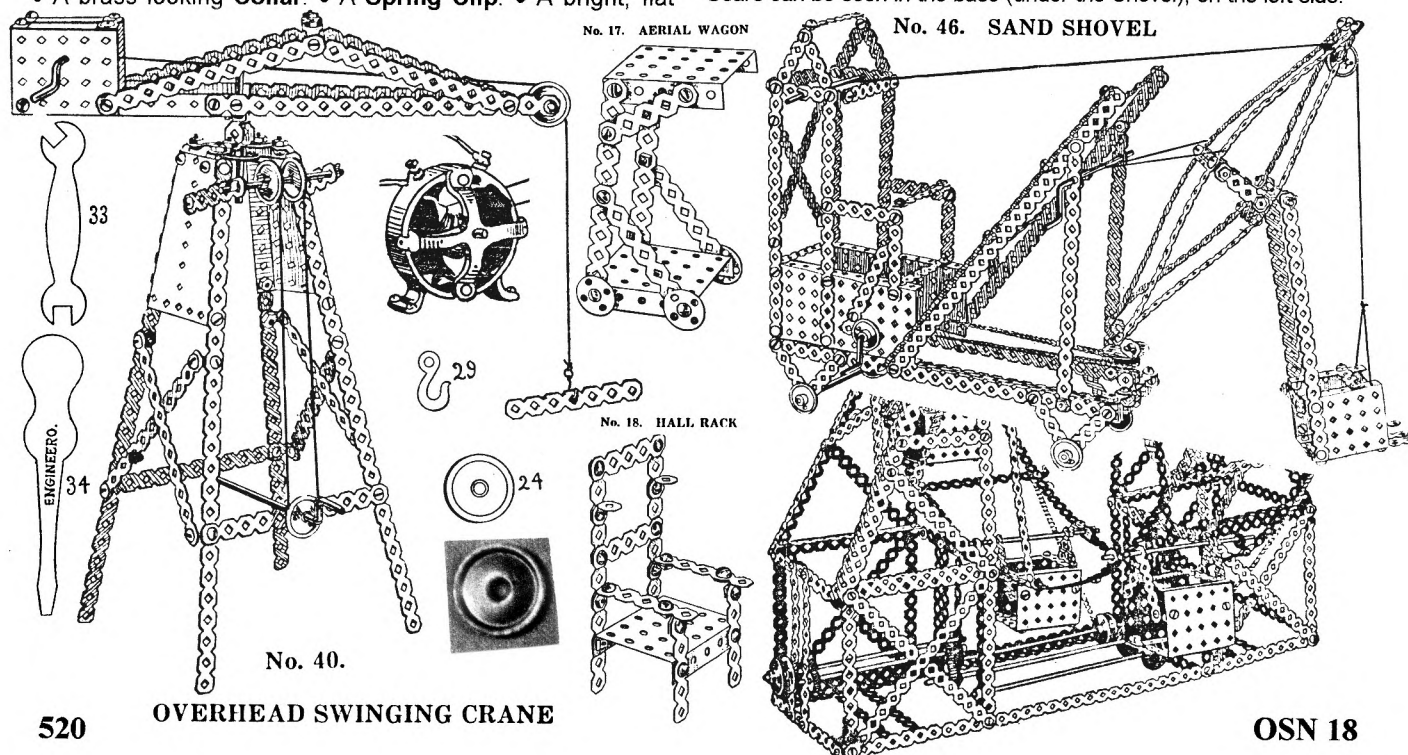
The first 11 parts in the ENG and M B Parts Lists have the same PNs, and nearly all have exactly the same name. One or two in both systems are unusual, such as Spanner Wrench, and Washer (for the Wheel Disc), though the ENG name is 'Washer, Wheel'. Some parts in the 2 systems look similar, in particular the Wheel Disc, and the Spanner (note that the Monroe part didn't have a centre hole).

The holes in the Flanged Plates in the models in MCS, certainly those in the small ones on p5, are round, not diamond shaped. And in the Manual the first 20 models, all those for Set 25, show the 4*5h Flanged Plate, the only one used, with round holes (as in the Hall Rack & Aerial Wagon below). All the Plates in later models have diamonds with a couple of exceptions - there are round holes in the 5*11h Plate in the Crib, No.27, and in the Sector Plate of the No.34 Bridge (also shown in MCS), although the holes in the rectangular Plates in that model are diamonds. Those last two might have been oversights but all the No.25 models...? It must be a possibility that all the Plates had round holes originally. Another anomaly in the Hall Rack is that the free holes in the Angle Brackets are diamonds.

SETS MCS shows 7 main sets, Nos.10,25,50,100,200,300,500, priced at that number of cents, ie from 10c to \$5; and 4 linking sets, 25A,50A,100A,200A. This manual contains models for Sets 25 through 300, though they are usually referred to by price, from 25c to \$3. The only mention of Set 10 is in the Set Contents, and a \$5 set is mentioned in the Introduction, along with a linking set 300a.

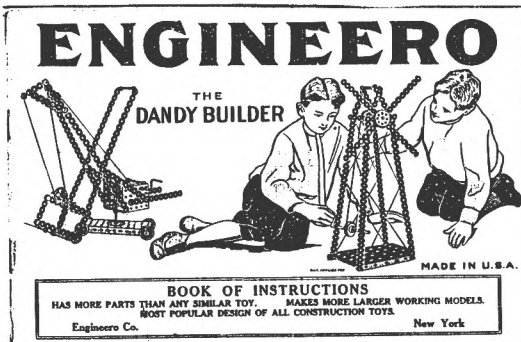
The contents of the ENG and M B Sets 10 & 25 are identical: thereafter they diverge somewhat, particularly in the matter of Strips, N&B, and Axles, with ENG 300/M B 3 having 135/80 Strips, 150/125 N&B, and 4/10 Axles.

MODELS The 20 page manual contains a fair selection of 50 models including all those in MCS. On paper at least the notches don't improve the look of many of them. Apart from the holes & notches, a few of the smaller ones are the same as M B models, & a good handful of others are near relatives. On the whole though they are perhaps slightly more imaginative. The Crane below is one of the better ones, & the Sand Shovel can be compared with the MODELIT version in 8/187. One model is shown driven by the motor below, under the Crane jib, but no reference is made to it. A 25" Ø Ferris Wheel on the back cover (without title or comment), has a Chain drive around the rim. I think that 2 pairs of reduction Gears can be seen in the base (under the Shovel), on the left side.



HISTORY The earliest known date is from the Jan 16, 1916 G&T, which in its American N/L describes ENGINEERO as a cheap and popular metal construction toy of U.S. manufacture which is selling well. The address of Engineero Co. is given in the Manual as 369 Broadway, New York City, and the 'Factory' as Keystone Mfg. Co., Newark, N.J. - & I also have a note that the original manufacturer was Haber Bros. Inc., of New York City, who sold to Keystone in 1917. None of these companies or addresses tie up with anything so far known of M B, and it isn't clear who was copying who. Quite possibly each was watching the other very carefully. There is 'PAT. APPLIED FOR' on the cover of the Manual, and a date for that would be of interest.

G&T also says that ENGINEERO is also known as the 'dandy builder'. I thought that might mean that sets were sold under the 2 names, but as can be seen, both names are on the manual cover, & so perhaps that's what G&T had in mind. But if anyone has



material under just the DANDY BUILDER name, do let me know.

SUMMARY OF MANUAL •Name: ENGINEERO/THE DANDY BUILDER •Details of maker: Engineero Co., 369 Broadway, New York City. Factory: Keystone Mfg. Co., Newark, N.J. •No dates/ref nos. •Page size: 255*170mm deep. •No. of pages: 20+ covers. •Language: English. •Printing: B&W cover & line drgs of models. •Page No. of Ill Parts & highest PN: 19,36. •Page No. of Set Contents & highest PN: 20/38.

•Sets covered: 25,50,100,200,300. •No. of models for each set: 20, 8,10,7,5. •Name, Model No., Page No. of first & last model of each set: 25: TABOURETTE,1,3; LIBRARY TABLE,20,6. 50: TOWER WAGON,21, 6; RAILROAD SIGNAL,28,9. 100: SWING,29,9; REVOLVING DERRICK,38,12. 200: AEROPLANE,39,13; FLYING MACHINE,45,16. 300: SAND SHOVEL,46, 16; RAILWAY SIGNAL,50, 18. •Other notes: sets sizes, inc #10, are given in the Set Contents but the models are related to the price of the sets.

More Small ERECTOR Sets

An Erector Set David Hobson has kindly lent me a set which has in it the M 973 Leaflet that was mentioned in 8/197 & 15/410. The box measures 7 1/2*5 1/8*5/8" and the blue & red lid is similar to the #4 Set one on p74 of *Greenberg*, with a man, & 2 boys working on a large Bridge. The main differences are that there's a toy train on this Bridge and no set number on the diagonal stripe in the bottom left corner. No indication of set size is given on the box or the Leaflet. The corner of a similar lid can be seen in the illustration of the No.0 Outfit in 15/411. On the bottom right corner of this lid is the reference M850, and the address: The A.C.Gilbert Co., New Haven, Conn., U.S.A.

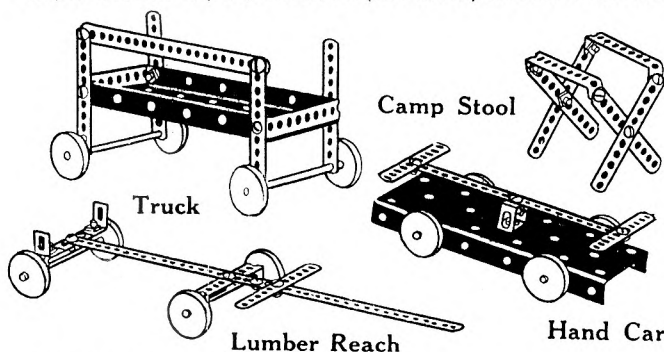
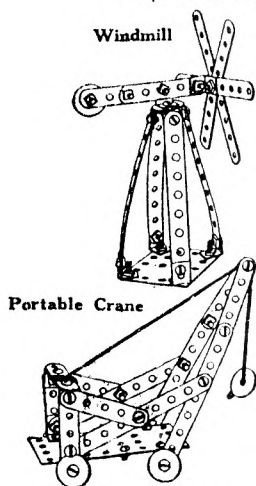
Apart from some missing N&B the Set appears to be complete with most of the parts held to a 'flanged' cream card by pressed out tabs and slots. The N&B & Angle Brackets are in a 1 1/2" Ø plain brown cardboard pill box. All the parts are nickel plated and comprise a 5*4h Plate, 6x5h & 2x9h 1/2" wide Strips, 6 Discs 7/8" Ø, and 6 Angle Brackets. All are made of thin steel, .52mm thick except the .59mm Plate, and the holes are 4.4mm Ø except those in the Discs & 5h Strips, which are 4.5mm. The ends of the Strips are not quite fully radiused (6.8mm) and some burr can be felt around their edges though it isn't sharp. There were probably 12 N&B - the Bolts have the normal round heads, and the Nuts are the post-1924 1/4" A/F size.

From the models in the Leaflet, 2 rather than 6 Discs might have been expected. Another oddity is that 4 of the 6 Angle Brackets are the pre-1924 1/2" wide type, while the others are the later ones, 13/32" across.

The Leaflet is a single sheet folded in 2 with pages 7*5". The address on the front is as the lid but without the U.S.A., & 10 models are shown on each of the other pages, for 1,2 & 3 of the Sets respectively. Many of the 1 Set ones are among those in 3/46, and two 3 Set ones are shown opposite.

There is no positive indication of date but the last Patent date on the lid (for Austria) is Jan. 25, 1924. The old style Angle Brackets, if they were in the Set originally, might indicate a date near 1924. The design on the lid was changed for the regular small sets in 1928 but if the ad containing the No.0 shown in OSN 15 was accurate, it may have been used for the very small sets well after that.

A No.000 Erector The other find is a single page torn from a manual. On one side are 17 'Models Built with No.000 Erector', with inset in a central box, 6 more 'Models Built with 2 No.000 Sets'. The main parts in the Set (see the models below) are a Flanged Plate, #FO, 4x11h Strips, H, 2x21h Strips, I, 2 DAS, FQ (an 11h Strip bent across holes 2



& 10), at least 3 Angle Brackets, 4 push-on Wheels (probably wood), & 2 Axles. The Strips all have the 1/4" spaced holes and all are standard parts, unlike some of those in the 1929 No.0 described in 15/410.

Most of the models are different to those in the 1929 No.0 Leaflet, though a few are of similar design but with Strips replacing the Girders.

On the reverse are small illustrations of 6 large 'Wonderful Models Built With The New Erector', and I found a similar page in a © 1926 manual, though it was probably used over many years. That is the only clue as to date except that Parts FO and FQ were listed from 1928.

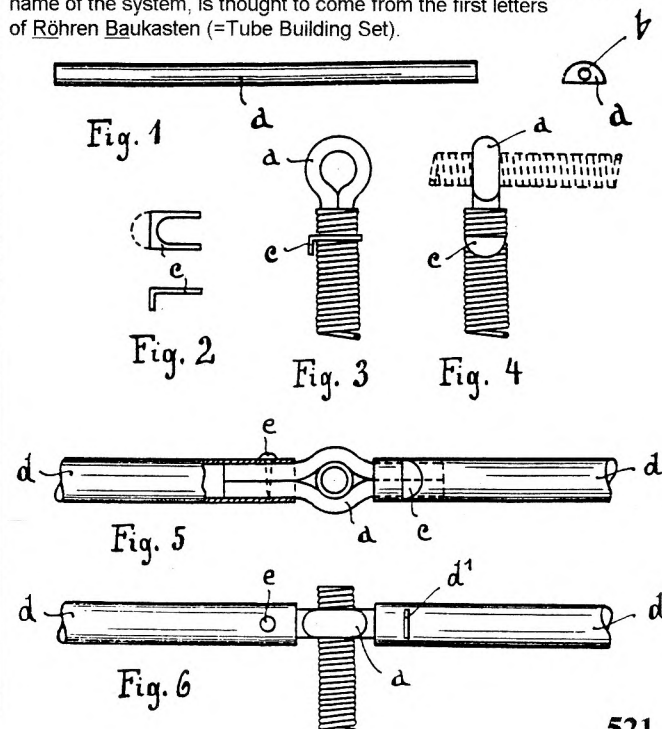
The FANTASIE 'R' Patent? This German system was mentioned in 15/413 and David Hobson has kindly sent a copy of the UK Patent 383107, which may show the method used to join the Tubes together. It is headed 'Flexible Connecting Elements for Screwless Metal Toy Building Elements', and is in the name of Jobst Fleischmann of 25 Bielingstrasse, Nuremberg; the application date was Jan.14, 1932.

The idea was that a length of semi-circular section rubber, reinforced by a flexible wire running through it (Fig.1) could be wrapped round a tube, or a wire spiral, and the ends pushed into a similar tube at right angles, to hold the two together (Figs3/4). Alternatively two lengths could be used to join 3 tubes as shown in Figs.5/6.

If spirals were used the joint could, if necessary, be locked by pushing a sheet metal clamping fork (Fig.2) into the rubber between the coils of the spiral, as at 'c' in Figs.3/4. With tubes (Figs.5/6) the fork could pass through slots 'd' on either side, or a pointed pin, e, could be pushed into the rubber through a hole in the tube.

So was this the method used in FANTASIE 'R'? The date and use of tubes & rubber connectors all sound right, but was the method described in the Patent really practical? Let's hope that one day some FANTASIE parts will turn up.

Incidentally I didn't mention in OSN 15 that ROBA, the alternative name of the system, is thought to come from the first letters of *Röhren Baukasten* (=Tube Building Set).



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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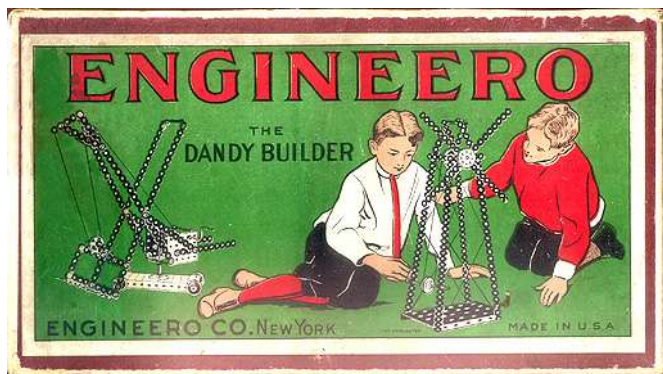
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MORE on ENGINEERO That's the early type with the diamond holes, see 18/520, and this is mainly about two more similar sets from what I'll call Phase 1, and another outfit, probably later, with some different parts, and a different manual. That will be Phase 2.

PHASE 1 First a **No.25** set, nearly complete except for the model leaflet, that David Hobson kindly lent me. Its dark red box measures $6\frac{1}{4} \times 11\frac{1}{4} \times 7\frac{7}{8}$ " and the lid is shown below. The



small print at the bottom is PAT. APPLIED FOR. There is no indication of the Set No. on the outside of the box but a label inside the lid is headed 'CONTENTS OF OUTFIT No 25' (and they are as in MCS). The Keystone Mfg. Co. logo (left) also appears on it (and it was on the the IFC of the OSN 18 manual as well).



The **parts** are as would be expected from OSN 18 except the **N&B**. They are nicked steel as before but with an 8-32 thread. The Bolt is nearly identical, with a 7.4mm Ø head, but the Nut is much larger, 9.5mm A/F & 3.5mm thick. Some of the models in the OSN 18 manual show a larger Nut, but it is hexagonal.

The other point worth noting is that the **Wheel Disc** is 24.2mm Ø, very thin (.4mm), and its holes (4.3mm Ø) are at 8.2mm radius (.32"). Using 3 of the holes the part can act as a corner bracket to allow 2 Strips to be bolted at right angles, though with the part's dimensions it is only just possible to do so. None of the manual models take advantage of this useful property.

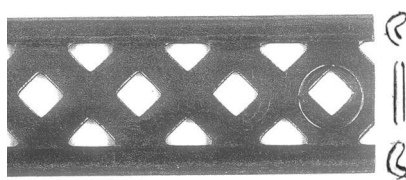
Another recent find is a lid of the same size with most of the parts from a **No.25** set (but no N&B). In this case the lid is black and the label is as David's except that the name, and the red/pink parts of the boys, are white. The only difference in the parts is that the Wheel Discs are tin instead of brass plated, and at .5mm, are slightly thicker.

PHASE 2 Kendrick Bisset kindly sent details of a **set** he has recently acquired, certainly incomplete, and without the bottom of the box, but with a manual. The **lid** is black, $12\frac{1}{2} \times 7\frac{1}{4} \times 3\frac{3}{4}$ ", with a label identical to David's above. There is no indication of size but from the manual models it is probably a No.50. Also the lid is very near the size of a Phase 1 No.50. The only indications of the maker is the 'ENGINEERO New York' on the label and the Keystone logo on a small packet labelled 'Clips and Anglebrackets' [sic]. The addresses of Engineero & Keystone, which were in the OSN 18 manual, are not in the present one and in fact Keystone isn't mentioned in it at all.

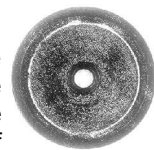
The **expected parts** in the Set are various Strips, a 5*11h Flanged Plate, & some nicked Wheel Discs (they match all the others seen in size, with a diameter of $1\frac{5}{16}$ " and holes at aa $\frac{5}{16}$ " radius - the OSN 18 ones were probably wrongly described).

The **unexpected parts** are 4x 11h Braced Girders about 20mm wide (which henceforth I'll just call Girders), and 2x $1\frac{3}{8}$ " Ø Loose Pulleys. The Girder looks nickel plated and a short length is shown right, full-size, with a sketch of its cross-

section - it is really a standard Strip with vee section channels added at each side (very like an ERECTOR Girder in this respect). The Pulley



(right) is larger than any seen before, and was the only type found in the Set. It is 2 tinplate discs held with a centre eyelet. Two other new parts can be seen in the manual with the Set, a 25h version of the Braced Girder, and a 12-spoke Pulley of perhaps $2\frac{3}{4}$ " Ø. The latter looks very like the ERECTOR part, P19, which was made from two, staggered 6-spoke discs.



The Intro in the **Manual** speaks of 5 **sets** from 10c to \$2 in price and in the model section they are referred to as Nos. 25, 50, 100, & 200 (no No.10 models are shown). Also mentioned are 5 accessory sets 'from 25a to 100a' to convert a 25c to a 50c set, etc - though that seems to imply 3 sets rather than 5.

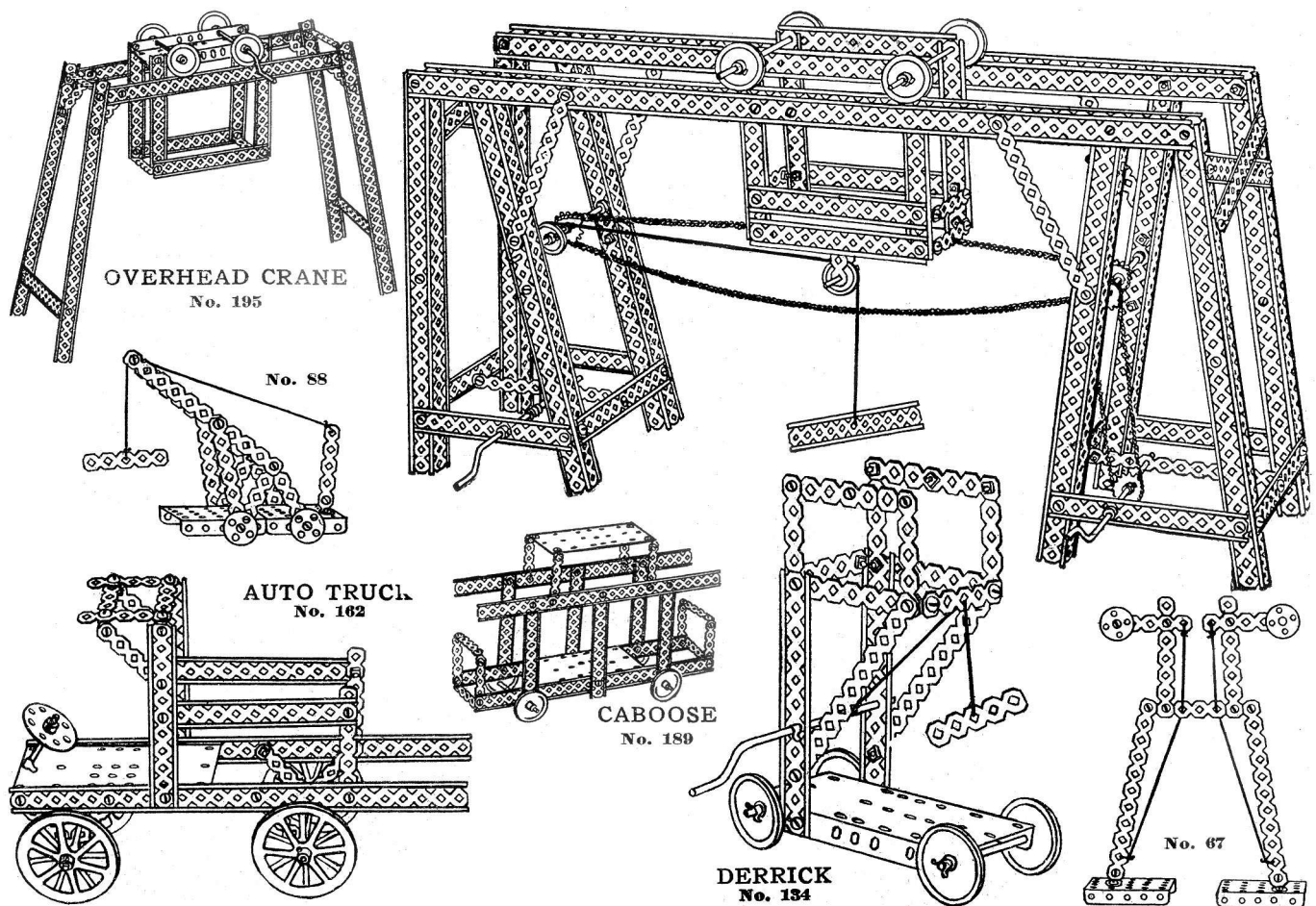
The Manual has 16 pages, 255*171mm, plus covers, and the front is identical to the cover in OSN 18 except that it is printed in blue on pale blue paper and the 'Engineero Co. New York' does not appear in the rectangle at the bottom. There is an Intro on C2, similar to before but with an omission that will be discussed later, and then 200 models on pp1-16. Set 25 has 100 unnamed models starting with the (unnumbered) Alphabet & Numbers 1-9,0 on p1, then from No.37 Sledge? on p2 to No.100 Low Table on p5 (my names). For Set 50: No.101 ICE SKATE on p5, to No.136 SINGLE R. R. SIGNAL on p9. For Set 100: No.137 ENDLESS ROPE WAGON on p10 to No.173 DOG CART on p14. For Set 200: No.174 WHIRLIGIG on p14 to No.200 HORSE TOWER WAGON on p16. C3 has the Illustrated Parts, as in the OSN 18 manual & MCS, and not updated to show the new parts; C4 shows an unnamed non-outfit Gantry Crane.

As in the OSN 18 manual there is a line drawing for each model, but no longer any Parts Lists. There are many more models than before, and with fewer pages, the drawings are very much smaller, particularly for some of the No.25 & No.200 models. The examples at the top of the facing page are full-size, and are fairly typical although they have also been chosen to show the different parts. Also shown is the Gantry Crane on the back cover, again full-size.

There are no **inventories** in the manual but the models probably give a fair idea of the major items in the different sets. Apart from the Strips those for the **No.25** (see models #67,88) are 2x 5*4h Flanged Plates & 4 Wheel Discs. The main ones in the **No.50** (#134) are a 5*11h Flanged Plate, 4x 11h Girders, & 4x $1\frac{3}{8}$ " Pulleys. The Flanged Plate is shown with the same, new pattern of holes in all the No.50 & later models but the one in Kendrick's set has a full complement of diamond holes. 4 each of 11 & 25h Girders are used in a number of the **No.100** models (#162) but one needs 6x 11h and another 6x 25h. Other parts are 4 Spoked Pulleys, a 5*11h Flanged Plate, & a Bush Wheel. The **No.200** models (#188,194) need the same parts as those for Set 100 with in addition a Flat Plate that looks like the Flanged Plate without the flanges.

Presumably the sets are progressive but oddly none of the models for sets above No.25 use the 5*4 Flanged Plate, or the Wheel Discs from that outfit. As already noted the new parts aren't shown in the Illustrated parts in the Manual and some of the parts there aren't used in any of the models, notably the A/G, Flanged Sector Plate, Sprocket & Chain, and the Hook. Also perhaps the 1" Bossed Pulley and Strips longer than 11h. The Sprocket, Chain, & Pulley though can be seen in the Gantry Crane.

HISTORY There is no positive proof that Phase 2 came after Phase 1 but it seems almost certain in view of the new parts



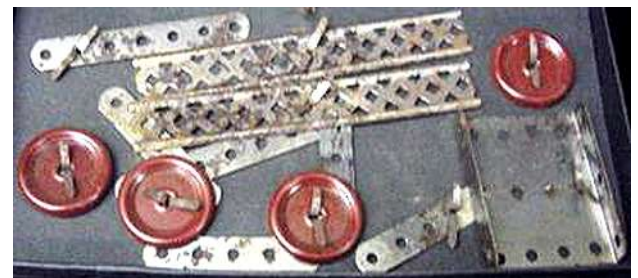
and the manual. On the latter the main things are that the Illustrated Parts page has not been updated, and that there is no longer a postal address for Engineer.

Also on the manual, the Keystone logo and name & address no longer appear and this may point to the parts being made by a new manufacturer, or to a change in the ownership of ENGINEERO. It is true that the logo is still on the parts envelope but this of course could just be old stock being used up.

Some aspects of the manual point to hurried preparation, for example an offer of help by correspondence over problems with models is still given at the end of the Intro but now there is no address underneath ('369 Broadway, New York City' before), nor, as noted above, is one given elsewhere.

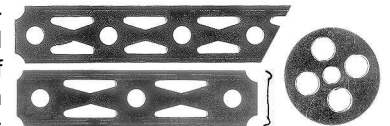
The main puzzle in all this is the design of the Girders, so near to the ERECTOR patented pattern. Gilbert's patents also covered the 'square girder' and while there is no mention of Girders being used in this way in the Manual, and no square girders can be seen in the outfit models, they are used for the corners of the towers in the non-outfit Gantry Crane. With such provocation one wonders why Gilbert didn't threaten/take action. Perhaps he did and that is why so few examples of Phase 2 parts are known. Or perhaps Gilbert had bought the company and Phase 2 was an experiment in using new parts prior to his redesign of ERECTOR in 1924 (as in the case of STEEL ENGINEERING).

OTHER ENGINEERO PARTS An Ebay snip shows a box, said to be about 6*9*1", with a lid label like the green/white one mentioned earlier except that the background colour is orange or red instead of green – a colour not seen before I think. The parts in the open box are shown at the top of the next column and as can be seen only the Girders are recognisable as ENGINEERO. All the other parts have round holes - the 5*4h Flanged Plate is the same size as the ENGINEERO part but with 2 missing rows of crosswise holes, and the red parts look like Wheels rather than Pulleys. I saw



this lot before I knew of Kendrick's set and I wondered if it was an early outfit, and whether the diamond holes in the Braced Strips led to their adoption for the later parts. Then my theory continued, Gilbert objected to the Girder and it was replaced by the A/G. Sadly the manual with Kendrick's set has the A/G in the illustrated parts & the Girder in the models - it would have to be the other way around for my imaginings to be correct. Just shows how one can concoct a plausible tale and be completely wrong.

And some MYSTERY PARTS These were with Kendrick's ENGINEERO parts and are shown below, 1/2-full-size, with the top 7h Strip cut back to 4 holes. The parts are nickel plated and the edges of the Strips are once again grooved. A strange thing is that the 2 Strips have different hole pitches – 1.00" for the 3h Strip, and .76" for the longer one. The holes are 4.7mm Ø. The Disc is 1" Ø, a little larger than the ENGINEERO one, and its outer holes are about 1/4" Ø.



There is no reason to think that these parts are anything to do with ENGINEERO, and to underline this both Strips have since been seen is a large Ebay lot of AMERICAN MODEL BUILDER parts, together with several DAS with a base like the 3h Strip.

Another 'new' system to look forward to.