

on the AMI-LAC, Eitech, & Dickie-Schuco sets in the next Issue.]

4. On **PRINCE WILLIAM** (23/679), Tony Press sent the photo below of Jack Little's Loco & Tender, standing in front of the Loco's box. The main parts, including the Loco's Undercarriage, are green, with red Wheels, Boiler Supports, Coupling Brackets, and Saddles for the (brass) Chimney & Steam Dome.



5. Thomas Morzinck sent the photo below of Dr. Griebel's **KÖSTER Goods Train** (23/679) on 0-gauge track. The sides of the Loco are green and those of the Wagons red. The Loco roof is grey and all the Strips are black.



6. On the claimed Aug. 22 1922 patent for **STEEL ENGINEERING** (23/666-7), David Hobson has found that the only 'toy' patent of that date was No.1426376 to A.C.Gilbert, but it related to 'square girder construction', not **STEEL ENGINEERING**. It was originally filed on 2 Feb. 1915.

7. On the **AMI LAC** Gearbox Plate (23/659, John Hanby wrote that it wasn't available when he asked Guiseppe Servetti about it in around 1968. The MÄRKLIN part was

shown in a June 1967 List but by 1969 it had been deleted, along with over 20 other parts.

8. From Dan Farmer, St Paul, Minnesota, 'Hello! I just found your website. My grandfather, Weston Farmer, created the **BUILD** erector set back in the mid '40's. My father has told me stories about how he & his four brothers would sit around creating the models that were eventually used in the manual. Quite apart from **BUILD** O, my grandfather was a world renowned naval architect & writer. He even worked for Walt Disney in the early days, and I recall actually throwing out some Disney 'cells' as a teenager when helping my grandparents clean out the summer cabin!

The reason I went online looking for references to **BUILD** O is that my father just sent me a complete **BUILD** O set. Of course, **BUILD** O was a small player, with Gilbert at the top of the heap, and ironically I think it was my grandfather who bought me the Gilbert **ERECTOR** set I played with as a child. But I'm pleased to find that **BUILD** O is still remembered and mentioned on several web sites.'

[**BUILD** O was a small system of some 36 parts, but with some unusual features. It is shown in MCS and I hope to include some notes on it in OSN at a later date.]

9. From Jacques Pitrat. 'I have found an ad for the French system **MOBILO** in the 18 December 1919 issue of the weekly 'Sciences et Voyages', and it is likely that the system had recently come onto the market at that point.' [See 20/581 for a note about **MOBILO** Wheels.]

10. From Orion DreamDancer. • Photos of a **Super GIRDER BILT** Set which match the one described in 19/555 except for the N&B. They have the same 4-40 thread, but the Nuts are brass (again 1/4" A/F), and the Bolts, 5/16" & 7/8" u/h, are steel (perhaps brassed) with respectively round & fillister heads. [A set shown on ebay seemed very similar except that the background colour of the tubular container was light brown instead of the red of Orion's set & those described in 17/467 & OSN 19. No Spanner could be seen and the Screwdriver was a 'commercial' type with a clear yellow plastic handle. The Bolt heads were too blurry to be clear.]

• 'The manual from a **STEEL TEC** No.4 Set corresponds to the one mentioned in 11/277, and is #7021 dated 1993. The Dump Truck is the only model in the No.6 which uses the 6*8 & 6*5h Plates in that outfit, and they are not in the No.4 Set or the #7021 manual.'

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MCS Amendments, List No.9 [1 Sheet]

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BILD-A-SET: X1.2/5,4/5a/6 [1 Sheet]

CONSTRUCTOR [0]: X1.1,2,4,5 [2 Sheets]

CONSTRUCTOR [1]: X1.1,6,a,b,3/4c [3 Sheets]

ELECTRIC: X1.7,a,b,c [2 Sheets]

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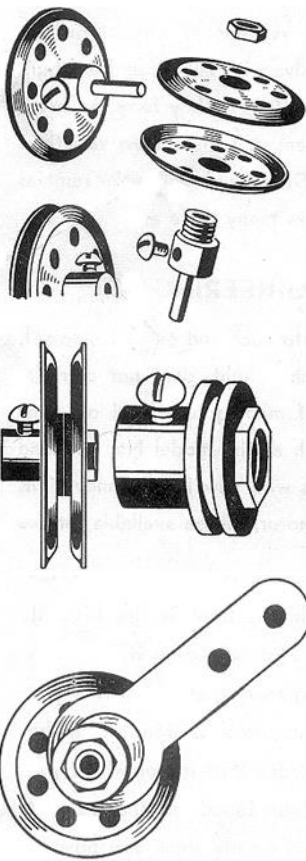
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BUILDO That's the American one from just after WW2, a small system of 36 parts, plus another 12 or so to make an Electric Motor. The pitch of the holes is the usual $\frac{1}{2}$ ", but their diameter is less than 4mm to suit the 6-32 N&B used. BUILD was the brainchild of Weston Farmer (see 24/715) and its interest lies mostly in two patented features, shown right. The first was the use of a Threaded Hub (rather like the MECCANO one for the Circular Saw) to join Pulley Discs (called Diskos) and smaller Discs, all with a $\frac{1}{4}$ " centre hole; the second was an Eccentric with an Offset Disc which was attached to a Shaft using the same Hub. Most parts found are aluminium but the earliest were steel.

HISTORY The first set, No.45, with steel parts, was produced late in 1945. On the box lid is 'The Buildo Company, Minneapolis' (Farmer's company) with in much smaller letters 'BUILT FOR THE BUILD O COMPANY BY SKG CORP'N'. The address on the back cover of the manual for this set is 'THE BUILD O COMPANY, FOSHAY TOWER, MINNEAPOLIS 2, and alongside is 'Copyright, 1945'. The manual to hand has '5th Edition, 40,000 Copies' on p3 & p33, and on p14 'Buildo Bill' says 'When Weston Farmer contracted with me to build up to 200,000 Buildo sets before Christmas of '45, V-J Day had just passed.', and 'We call it "Model 45" because it was designed and built in 1945 for sale throughout '46.'

After the No.45 came Sets 400 & 600 with aluminium parts. The manuals for these sets are Copyright 1946 and the Buildo company address is given as 209 Foshay, Minneapolis 2. The 600 outfit contained parts to build a 6 volt motor called the 'Bumblebee'. Mention is made of Sets 900 & 1500 in both manuals but it is believed that neither outfit was actually produced. Both were to have included a mains motor, also called Bumblebee, and the 1500 was to have had 'Chains & Gears' (the 600 actually has Sprockets and Chain).

John Farmer, Weston's son, wrote of his recollections of BUILD's history: 'At some point soon after the surrender of Japan in 1945, BUILD was launched to fill a toy vacuum created as a result of metals being needed for the war effort. With the cessation of hostilities those metals once again became available to private industry for general consumer products. The initial BUILD parts were stamped out in steel and the shipping costs were not of any great consequence at first due to the fact that the Warner Hardware Co. of Minneapolis absorbed all of the early production. By June 1946 sets made of aluminum were starting to be produced. Shipping costs were then a major consideration as production expanded to meet the clamor of retailers nationwide for toys to sell. An additional benefit of aluminum was the ease of coloring the parts by the anodizing process. Orders for BUILD sets piled up, the electrified set was launched and expectations were at an all time high. Unfortunately the paper products industry could not keep pace with the huge demand for packaging, and heaps of BUILD sets had been produced and were awaiting boxes, etc. - sets that had already been sold to wholesale and retail buyers, and which couldn't be delivered on schedule. The cash flow situation deteriorated and a West Coast entrepreneur, Clinton Merrill, came to the rescue by buying Buildo from Dad, along with all the orders and associated debts. He had driven to Minneapolis to complete the deal which assumed the debt and provided Weston Farmer with a royalty on future sales. Unfortunately, Mr. Merrill was killed in an auto accident on his way back West, and BUILD died with him. So the royalties were never realized, but at least the debts were no longer a burden.



On the SKG Corp.- it is my understanding that it was a stamping/manufacturing job shop that was utilized for production because Buildo had no factory of its own. I believe that one of Buildo's investors was connected with the firm.'

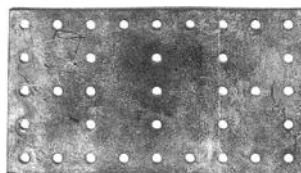
But maybe that wasn't quite the end of BUILD because a No.200 set, not known before, has 'The Buildo Co., 416 Puyallup Avenue, Tacoma 2, Wash.' on its box and model leaflet. That's a West Coast address and so perhaps Merrill's executors sold the rights to BUILD, or otherwise caused sets to be put on the market. The Leaflet also advertises the No.400 outfit. The only other possible clue to its date is a 'Tested & Commended by Parents' Magazine' logo on the box.

PARTS Most of the parts, from a 600 set, are shown at the top of the facing page, and the notes that follow refer to the aluminium parts commonly found in the 400 & 600 sets, with mention of the few variations known. Pieces not shown are asterisked. Except where stated the parts are made from aluminium about 1mm thick. The only slotted holes are in the Flanged Disc. The differences in the steel parts, and those in the 200 outfit are given afterwards. The numbers of parts in curly brackets are those in the 45 set, the only one with a published inventory.

DATA (in mm) Strip (11-hole): •Hole pitch/dia, 12.7/3.7 •width, 12.8; •thickness, 1.30; •large radiused ends. Boss (detachable): •o/d, 9.5; •i/d, 3.67; •brass; •single tapped. Thread: 6-32. Axle Dia: 3.33 (but see below). Nut: hex 7.9 A/F; Bolt*: pan head 7.1 dia., 8 u/h; both brass. But see also below.

Strips with 2,3,5,11, & 24*h {4,4,9,6,2}. At 1mm the 2-5h Strips are thinner than the 11 & 24h. The ends of the 2 & 3h are nearly fully radiused. The **DAS** matches the Strips {4 called 5 Hole Arches, and there are also 4 Axle Arches*, a formed DAS, shown later as the front axle of a Dumper Truck. This part hasn't been seen in aluminium.}

Plates. 5*9h Flanged Plate {1}; & 6h long Flanged Sector Plate {1}, with 5 holes across in the first two rows. Flat Plates 3*5, 5*5, & (below) 5*9h, though it may only exist



in steel {2,2,1}. All corners are square except for slight rounding on the Sector Plate. Later (probably) the two smaller Flat Plates were fully perforated, and the 5*9h had a complete row of 9 holes along

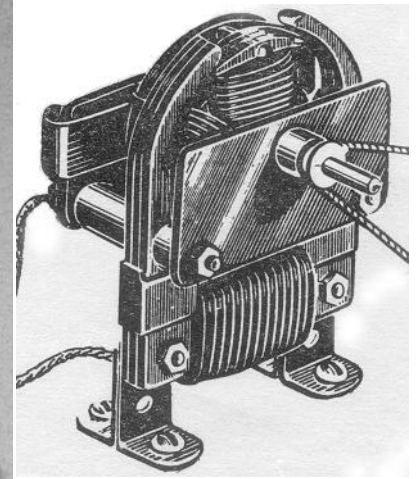
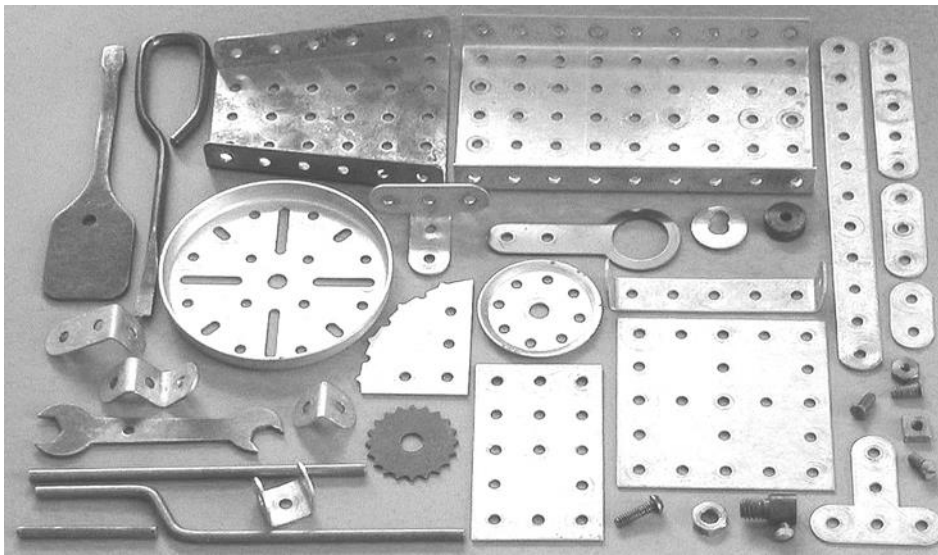
the centre.

Discs & Pulleys. The Pulley Disc is 38mm Ø, and the $\frac{1}{4}$ " centre hole has PAT. APL'D FOR stamped around it. {10} It is sometimes found anodised orange. The Flanged Disc is 72mm o.d., 7.7mm deep o/a, with the same $\frac{1}{4}$ " centre hole, and slots 19.5 & 6.7mm long {1}. Discs* (washers) of about 12 & 17mm Ø with the $\frac{1}{4}$ " bore, were mostly used with the Pulley Discs to give different size pulleys {5 total}. The $\frac{1}{2}$ " **Pulley** is solid brass, 12.8mm o.d., 3.8mm bore, & 4.8mm wide {1}. The **Threaded Hub** used to join the $\frac{1}{4}$ " hole parts is brass, $\frac{3}{8}$ " Ø, 7.9mm long, with an 8mm long extension threaded $\frac{1}{4}$ "x20tpi {5}. The $\frac{1}{4}$ " hex Nut for it is 9.7mm A/F & 3mm thick; some are aluminium and some brass steel {5}.

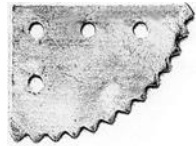
Shafts. 40 & 98mm long {2,2}, and a **Crank Handle** 125mm o/a {1}. All are steel with sheared ends, and reported diameters vary from 3.23 to 3.58mm. All are rather loose in the Hub.

Brackets. A 1*1h & a 2*1h A/B {2,2}. A Double Bracket {4}. A Reversed A/B {4}. A 3*3h T-Bracket & an Angled version of it {2,2}. The ends of all these are fully radiused or nearly so. There are also 4 unidentified 'Z Hole Clips' listed for Set 45.

Chain Parts. The Sprocket is 27.9mm o.d. and has 20



teeth; it is 1mm thick & is anodised red. At 1¼mm the Chain Quadrant is slightly thicker and has 4 shallow, triangular teeth, with a pitch of about 16mm, equivalent to 4 teeth on the Sprocket. The semi-circular cutouts between the teeth are of no apparent use. 4 Quadrants bolted to a Pulley Disc give an o.d. of about 80mm. Below is another version with 13 complete normal teeth, but at a rather coarser pitch than those on the Sprocket. In the 600 manual it is suggested that the Quadrant could also be used as a Corner Gusset. The Chain* I have has a pitch of approximately 7.7mm (about 5/16") and is 8mm wide – it doesn't run on the sprockets very well & as it looks just like ERECTOR Chain, it may not be genuine.



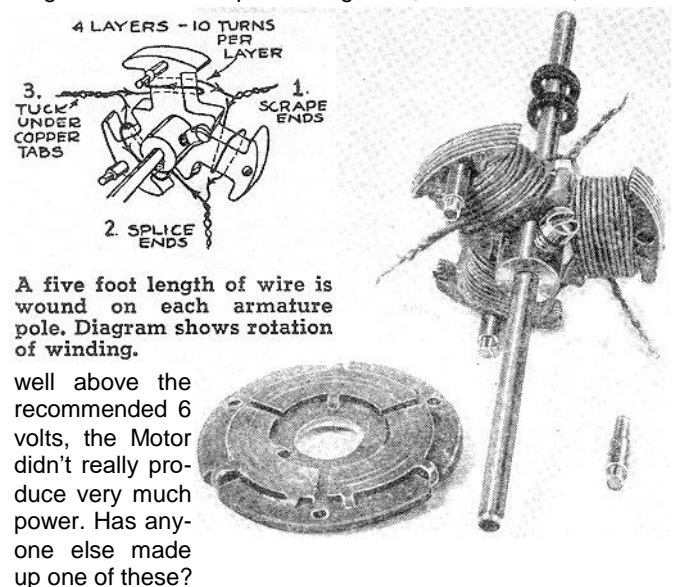
The **Eccentric {1}** Strap is 1mm thick and is usually anodised red. The Offset Disc is 1.7mm thick, 17.4mm Ø, and is similar to the 17mm Disc but with the extra ¼" hole offset about 5/32". The part's extra thickness ensures that the Strap does not bind against adjacent parts.

Fastenings. Plain steel as well as brass Nuts may be found, and several other patterns of Bolts, as follows. Dull plated steel with a tiny 5.5mm Ø mush head, and 9mm u/h. Longer, ½" u/h, plain steel with a 6.2mm RH; and long ones with fillister heads have been reported too. The Set Screw is dull plated steel with a 5.5mm Ø fillister head, and is 5mm long u/h. The Axle Stop* from a 600 set is a black fibre washer, 8mm o.d. & 1.7mm thick. It is hard to push it onto a Shaft. {50 N&B are listed with unspecified numbers of Long Bolts, Washers, & Axle Stops}.

The **Tools** are dull plated steel. The Wire Screwdriver {1} is 120mm long and the wire is 3.8mm – slightly different shaped examples may be found, with squarer top corners for instance. The Plate Screwdriver probably superseded it and is 107mm long, 2mm thick, with a 4.6mm hole in the handle. Another version* has a centre cutout in the handle and the (smaller) hole is in the flare between handle & blade. The Spanner {1} is 74mm long, 1½mm thick, with a 3.1mm hole. One end fits the standard Nut and the other the Boss Nut.

The Motor Parts. Referring to the views in the next column, from the 600 manual, the Shaft runs in front & rear brown insulating Bearing Plates, 51*27*3mm – they are identical with 7 holes: 1 in each corner, a top centre hole for the Shaft, and a smaller hole between it and the corner holes (to take a tab on the end of the Brush). The 6-32 side Studs are brass, 41mm o/a, with the centre 9.5mm Ø & 16mm long. The matching Spacer on the front side of the 7 Field Laminations (51½*64½mm o/a) is 6.3mm long. Each of the U-shaped, coppery Brushes, 11.2mm wide & .35mm thick, is bolted to the rear Bearing Plate. The 3-pole Armature, about 38mm Ø, has 7 laminations too and is fixed to the Shaft by a Set Screw in a brass boss; the copper Segments of the disc-type commutator are held by bent-over tabs through a red fibre Disc, and this assembly is a push fit

on 3 shouldered rivets that hold the laminations. The windings are to be hand-wound using the .68mm Ø cotton-covered copper Wire supplied, 90 turns for the field & 40 on each armature pole. Not easy that! The poles & field are connected in series, and the wires from the poles are held under more tabs on the Segments. I ended up soldering mine, but even then, and on

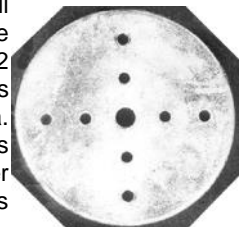


A five foot length of wire is wound on each armature pole. Diagram shows rotation of winding.

well above the recommended 6 volts, the Motor didn't really produce very much power. Has anyone else made up one of these?

The Steel Parts. The steel used in the fair selection of parts to hand is 1mm thick, even for the 11h Strip, but the 24h and the other parts made of thicker aluminium have not been seen. The finish is said in the '45' manual to be 'flash Cronak plating'. I'm don't know the term but probably the parts were originally bright – now they are dull grey with patches of darker grey, and the fingerprints that can be seen in the finish point to cadmium plating. The holes in the parts are 3.6 rather than 3.7mm. Like the aluminium ones, the parts are well made except that the radiusing on the ends of the steel Strips is not always well centred and a step on one side can be seen in one or two cases. The normal 2 & 3h Strips are known but also versions with one end hole slotted to 6mm o/a. The A/B & Reversed A/B also have this slot. The Flanged Disc on the other hand (right) has only 2 rings of 4 holes each, with no slotted holes.

The Set 200 Parts. The Flanged Plate has slightly rounded corners, and the only other Plate, the 3*5h is fully perforated. The stamping around the centre hole of the Pulley Disc is 'PAT. 2,410,409'. The Hub is aluminium and its Nut is dull plated steel. All the Bolts in the set are like the Set Screw described already, and the Nuts are square, dull plated, and 7.8mm A/F. The Spanner from the Set is missing and the Screwdriver with it has a yellow translucent handle,



though the 'plate' type is shown in the Model Leaflet. The finish on the parts is matt rather than the earlier shiny look.

SETS All the outfits except the 200 are packed in cardboard boxes with the parts attached to a backing card – often orange, but red, green, & yellowish ones have also been seen. In the 600 manual a wire hook is shown, made by 'twisting one of the clips you'll find holding the parts fastened to the Buildo box'. The parts are laid out attractively in all the boxed sets, with many individually mounted.

The 45 lid, 423*283mm, is shown below, yellow with red & black print. No set number but note the 'Steel Toy' top right.



The first 400 lid is similar but with 'Standard' under Buildo, a very small 'Model 400' bottom centre, 'Metal' instead of 'Steel' Toy at the top of the panel, and the cover of a 45 manual at its bottom. A later lid has the Model 400 in larger letters, and what may be an open manual instead of the 45 cover. The 400 lid shown in the 200 Leaflet is similar to the first type with the 45 manual at the bottom, but not all the lower lid is visible.

The 600 box is a little larger, scaling at 46½*30cm. The lid below is again similar but with 'Electrified' under Buildo,



and the boy at the bottom has a Motor-driven Windmill. The panel surround is a pair of twisted electrical wires, and at the bottom is the old 45 manual cover. '#600 ELECTRIFIED' is on the side of the lid.

Set 200 is in a cardboard tube (right) with a metal bottom & screw on lid, both brass. The overall dimensions are 80mm Ø & 192mm high. The wrap round label is yellow with red & black lettering, and 11 of the Leaflet models are printed on it in B&W. 'Buildo' is at the top front & back, with underneath 'No.200' in tiny letters under the 'Bu'. The company's address is around the bottom.

The contents of the '45' have already been given and the main parts are 1 each of the 9*5h Plate and the two Flanged Plates; 2 each of the 3*5 & 5*5h Plates; a Flanged Disc; 10 Pulley Discs & 5 Hubs; and an Eccentric. The contents of the 400 & 600 sets are only known from the models & the photos of the Sets in the manuals.

The No.400 is broadly similar to the 45 but with 2 Flanged Discs but no 5*9h Plate. There are also 6 DAS against 4 of each type in the 45. In the photo of the 400

set in the 200 manual only 4 DAS are shown. The layout of the parts in the 400 is similar to the 45 in MCS but with the 5*9h Plate replaced by the second Flanged Disc. In the photo of the 400 in the 200 leaflet, the second Flanged Disc and the circle of 4 DAS have changed places.

Extra parts in the No.600 included another of each Flanged Plate; Chain, a Sprocket, & 4 Chain Quadrants; and the Motor parts of course. The layout of the parts in the box is completely different to the 400 and a photo of it is available if anyone needs it.

From the models in the 200 Leaflet and the parts found in the Set, its likely contents are: a Flanged & 2x 3*5h Plates; 4,6,10,6 of 11,5,3,2h Strips, and 4 DAS; 8 Pulley Discs, 4 Hubs, 2 each of Long & Short Axles, and a Crank Handle; 2 Double Brackets, and 4 each of A/Bs & T-Brackets; about 24 N&B, and 4 Axle Stops. Only 3 or 4 of the 3h Strips, and none of the 2h are needed in the models.

THE MANUALS & MODELS In this section models illustrated are asterisked. For clarity the illustrations are taken from a 600 manual.

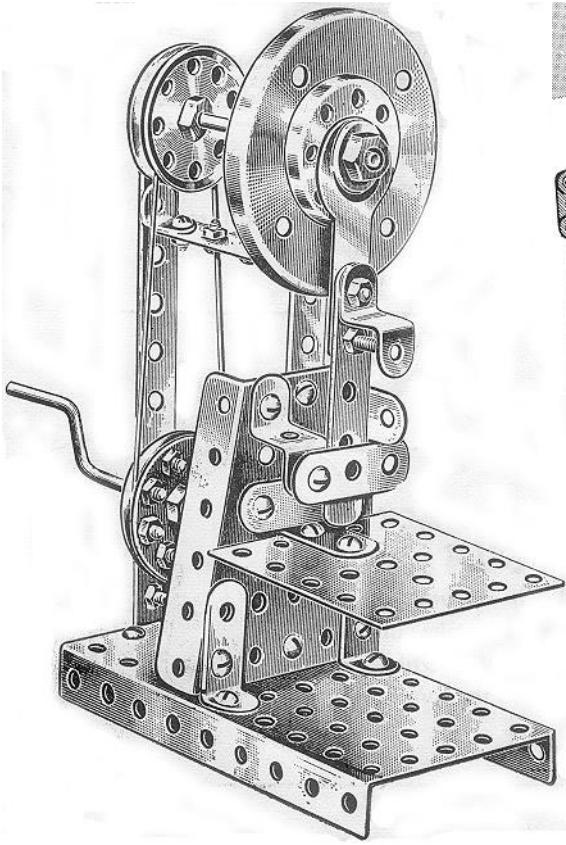
SUMMARY OF 'Set 45' MANUAL •Name: The BUILD BOOK. •Details of maker: The Buildo Company, Foshay Tower, Minneapolis 2, Minn. •Dates &/or Ref Nos: Copyright 1945. Fifth Edition, 40,000 Copies. •Page size: 228*152mm. •No. of pages: 36 inc covers. •Language: English. •Printing: B&W ½-tones; red, yellow, black cover (below). •Page No. of Parts List/Set Contents (no PNs): 34. •Sets covered: No.45. •No. of models: 58*. •Name, Page No. of first & last model (no Model Nos.): WINDMILL, 2 & 10; STEAM SHOVEL, 32. •Other notes: •details from photocopy, *pp4,6 missing. •Notes by Buildo Bill on pp3,8,14,15, and Basic Constructions on pp5,10,35. •Picture of Set on p34.



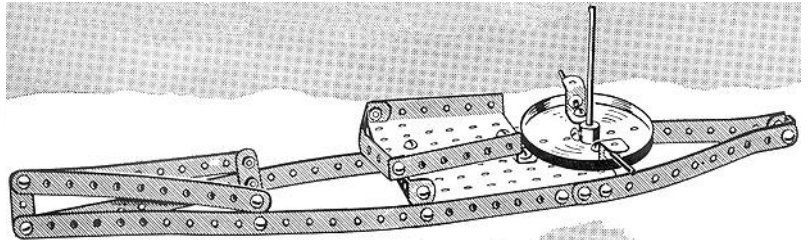
There is a halftone of each of the 60 or so models, with no Parts Lists but auxiliary views & brief constructional notes in some cases. As would be expected given the size of the Set, the models are not that large; and they are fairly basic in appearance and, with one exception, in function. But there is a good selection of the usual favourites, with machine tools and fairground models to the fore, but also cranes, windmills, an engine or two, domestic items, etc. Good use



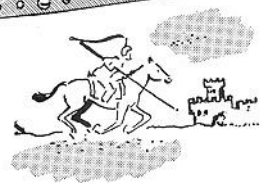
is made of the Eccentric to give reciprocating motion in a number of the models, and it can be clearly seen in the Punch Press* on the opposite page (the Eccentric Disc is held by the 17mm Disc outside it). The most up-to-date model is the Helicopter*, with the correct step-up drive to the tail rotor. Other models to catch the eye are a neat Sewing Machine, and a Clock* (overleaf). The latter doesn't keep time and in the 45 manual this is to be deduced from the title – 'The Buildo Clock is Cuckoo, but it makes time fly'. The escapement is interesting but getting it to work is challenging. The exception mentioned above is a Steam Shovel* (from the 45 manual) with what seem to be pulley winches for the shovel arm & slewing,



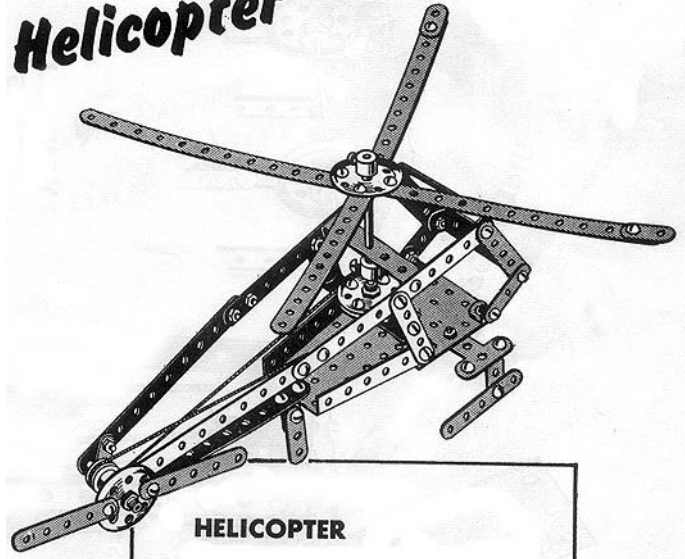
JUST LIKE THE STAMPING PRESS THAT MAKES BUILD O



DESTROYER . . . Bridge is amidships, gun turret has two cannon made with short rods attached with fibre washers. Or use brass collars.

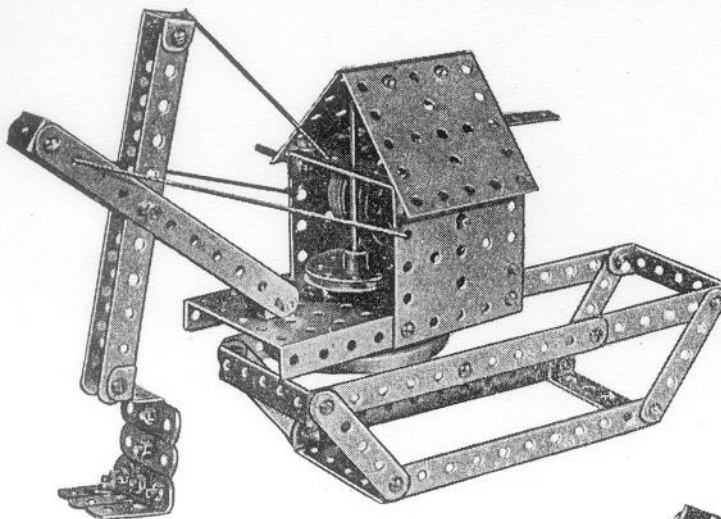


Helicopter



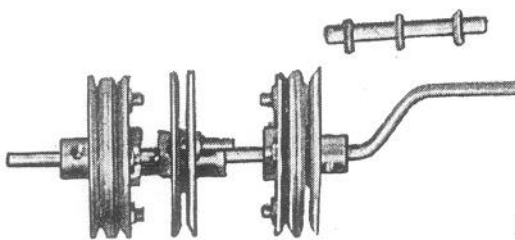
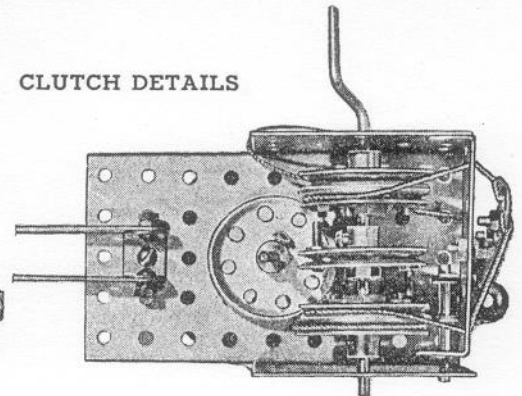
HELICOPTER

STEAM SHOVEL HAS CLUTCH FOR RAISING SHOVEL, TURNING TABLE

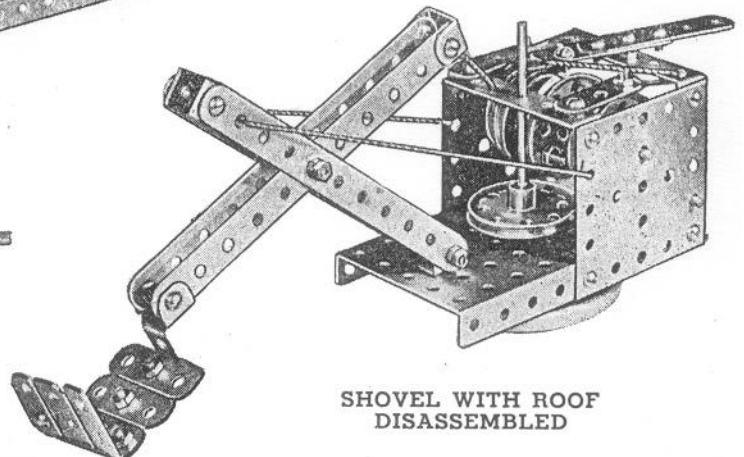


STEAM SHOVEL

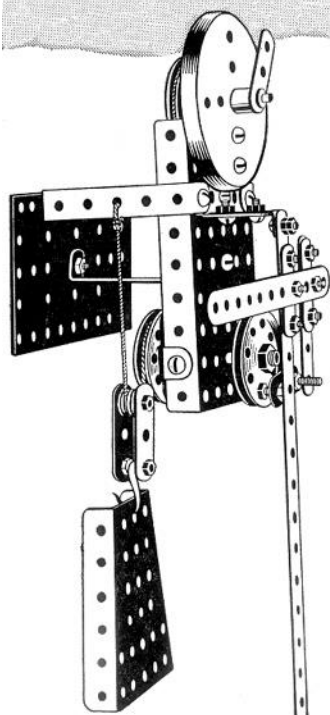
CLUTCH DETAILS



CLUTCH DETAILS



SHOVEL WITH ROOF
DISASSEMBLED

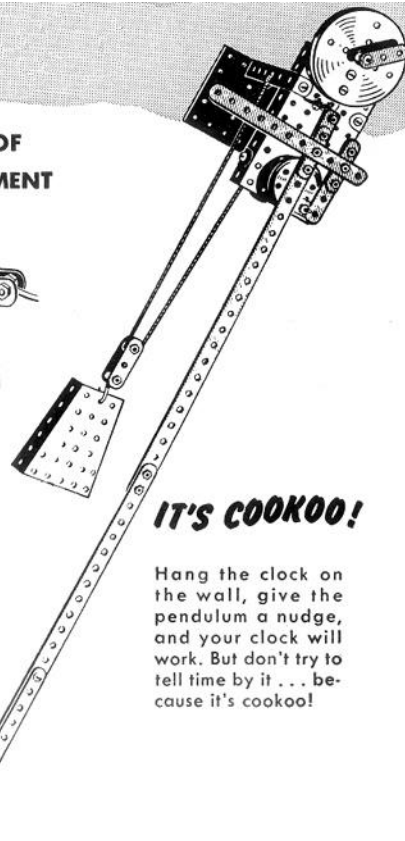
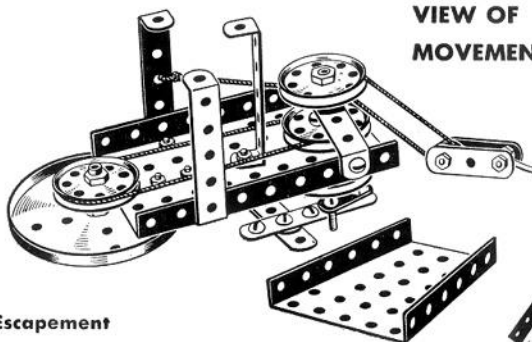


SIDE VIEW

← **Escapement**

Amaze your friends with a clock that runs! With each swing of the pendulum the escape dial wheel lets the weight drop, turning the hand on the clock. Rewind when weight reaches end of string. Escapement is shown at left. Use lock nuts as indicated, and make trip from long bolt. Use one of box staples to form a hook.

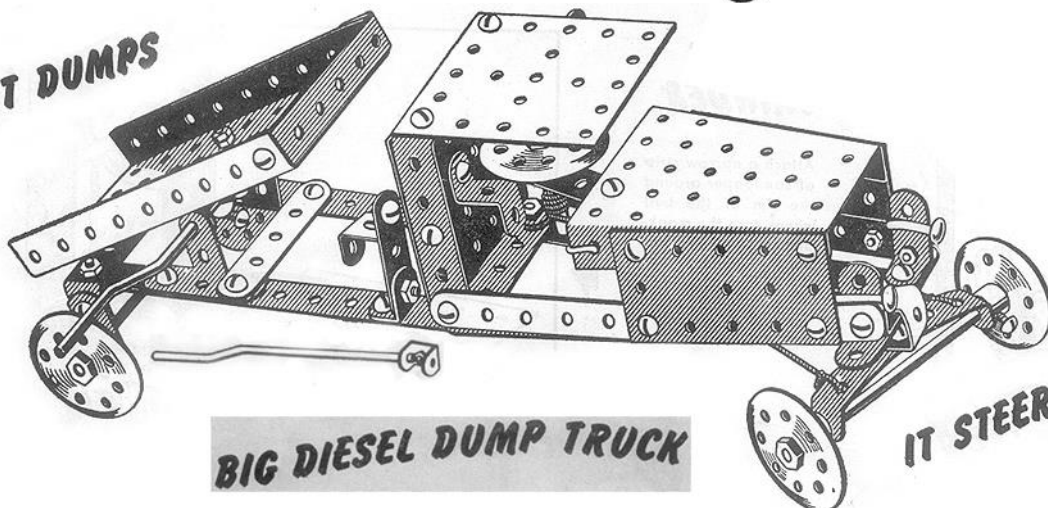
**VIEW OF
MOVEMENT**



IT'S COOKOO!

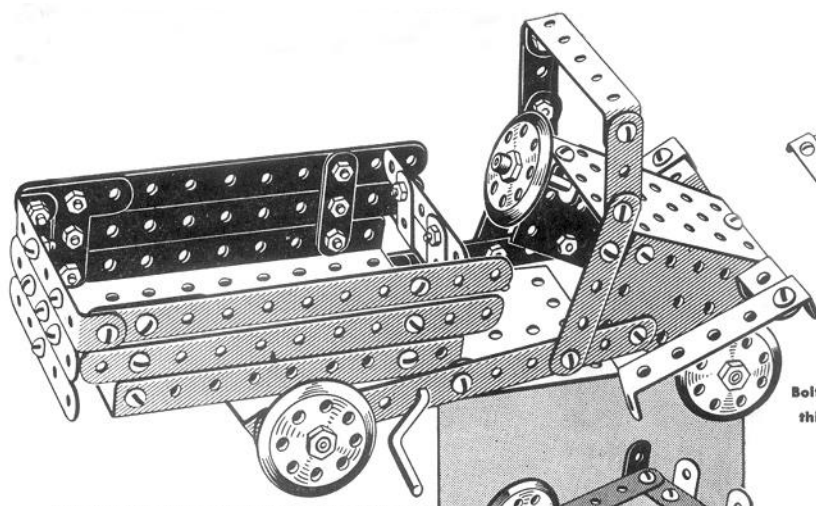
Hang the clock on the wall, give the pendulum a nudge, and your clock will work. But don't try to tell time by it . . . because it's cookoo!

IT DUMPS



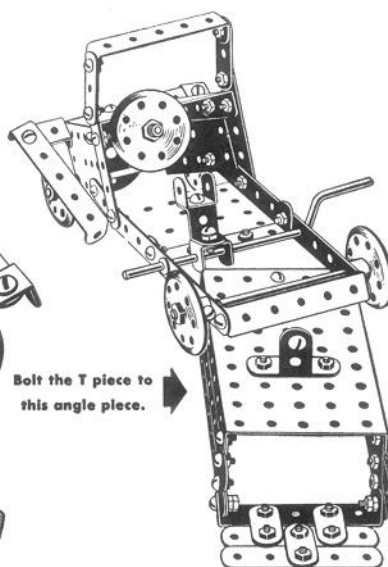
BIG DIESEL DUMP TRUCK

IT STEERS



TRAILER

Haul boats, lumber, or doll house furniture.



Bolt the T piece to this angle piece. →

Note that U piece has nut above and below, so you can fasten this part firmly to the crank rod. Turning crank lifts front of dump section. Note that the bent T piece on the dump section is bolted to the angle piece at the rear axle. Use lock nuts on this angle piece and on the tail gate.

engaged by a lever-operated clutch in between them (Bolts in the centre pulley engage those is the pulley winches). I can't quite see the run of the cord for the slewing. The inner pulleys at each side seem to be brakes operated by the lever at the back of the cab. Noticeable in the Manual is the almost complete lack of motor vehicles, and, apart from an Ice Boat, the only ship is a rather rudimentary Battleship*. It is called a Destroyer in the later manuals.

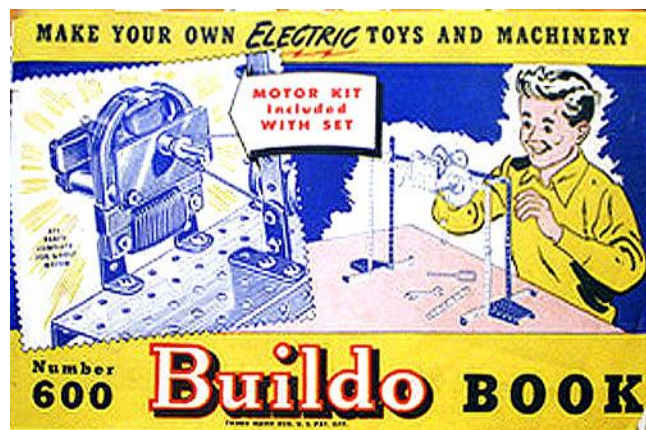
One of the several introductory pages by 'Buildo Bill' is about patents, and a novel way of getting ideas for new models. Instead of the 'valuable prizes' offered by some makers in model building competitions he offered a 'Buildo Patent' to anyone submitting the design of a model considered worthy of being included in a subsequent manual. The 'patent' was a photo of the model as reconstructed by Bill, 'mounted on a printed board stating that you, a Buildo Engineer, have invented this particular model.'

SUMMARY OF 'Set 400' MANUAL •Name: Number 400 Buildo BOOK. •Details of maker: probably on the missing p1*. •Dates &/or Ref Nos: Copyright 1946. •Page size: about 228*150mm. •No. of pages: 32+covers. •Language: English. •Printing: B&W line drgs; red, yellow cover (below) similar to '45' but different boy with yellow shirt, & no black background (as MCS/FB p2). •Probably no Parts List/Set Contents*. •Sets covered: No.400. •No. of models: 53. •Name, Page No. of first & last model (no Model Nos.): ARMY SEARCHLIGHT,3; BOAT,32. •Other notes: •details from photocopy, *p1, & BC missing. •Basic Constructions on p2,4. •Picture of Set on IFC.



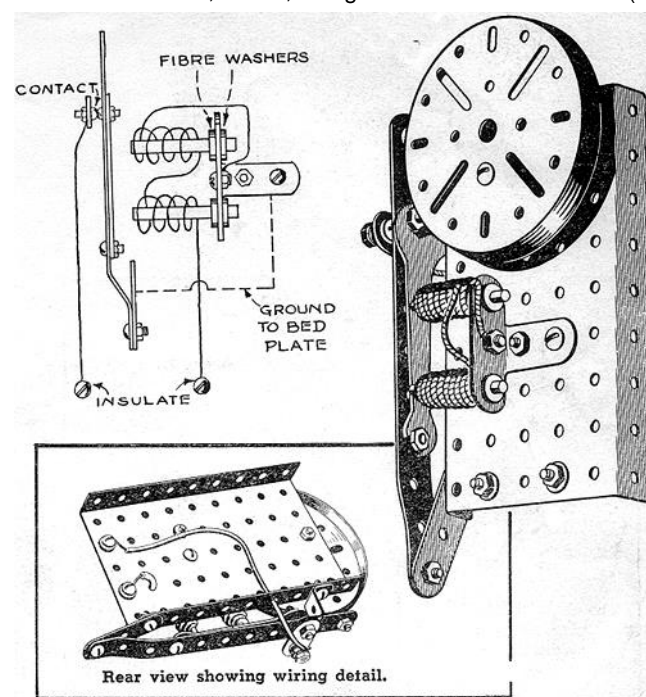
The Set No. is now on the cover and many changes have been made inside. The pages of Buildo Bill's 'chat' are gone, along with most of the very small models, but 10 or so new, mostly better, ones have been introduced, including several vehicles. Another improvement is the replacement of the halftones of the models by much clearer line drawings, with more additional views where warranted. The new models include a nice Jeep, a Bulldozer, a Hand Car using the Eccentric, and the tipping Dump Trucks* opposite. The only retrograde step is that the Steam Shovel has been much simplified with only one winch, for the shovel arm, and no clutch or brake. None of the models use the extra Flanged Disc included in the 400 outfit, and even in the new models the early pattern is shown. The Formed DAS is no longer shown in some of the redrawn 45 models, but it is still used in one of the new models, the first Dump Truck.

SUMMARY OF 'Set 600' MANUAL •Name: Number 600 Buildo BOOK. •Details of maker: The Buildo Company, 209 Foshay, Minneapolis 2, Minn. •Dates &/or Ref Nos: Copyright 1946. •Page size: 230*152mm. •No. of pages: 32+covers, +centre inset of 8 unnumbered pages. •Language: English. •Printing: B&W line drgs + some 1/2-tones in insert; insert on blue paper; yellow, blue, pink cover, in next column (as MCS/NZ p1 but the top & bottom lettering there has disappeared). •No Parts List/Set Contents. •Sets covered: No.600. •No. of models: 53 '400' models + 4 '600'. •Name, Page No. of first & last model (no Model Nos.): the '400' models as above, on the same pages; the '600' are ELECTRIC BUZZ SAW,5; CHAIN DRIVE GANTRY HOIST,8. •Other notes: •BC missing. •Apart from the 8 page insert, this manual is identical to the '400' except for the covers & p1. •Photo of Set 600 on IFC & p'1' of insert. •The insert has building instructions for the Motor on pp'2' & '3', & notes on the



Chain parts on p'4'.

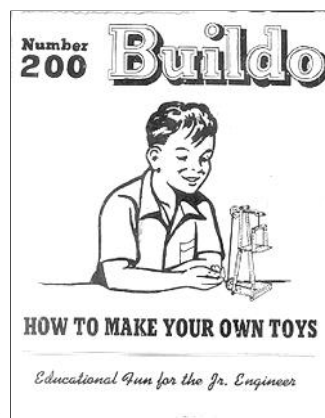
Apart from the covers and the first page, this manual is identical to the 400 except that it has a centre 8 page supplement on blue paper. This shows the assembly and uses of the Motor, how to use the Chain parts, and 4 models on pp5-8. These are • An Electric Buzz Saw with a rubber band drive from the Motor Pulley to 4 Chain Quadrants mounted between Pulley Discs as the saw. • A Jib Crane with the Motor pivoted so its weight tensions the cord drive to the winding shaft. There is also a brake with cord around a pulley made by a pair of Flanged Discs back to back (forming quite a nice flywheel), and a (tortuous) cord drive for slewing from a Crank Handle to a Pulley Disc pulley. • An Electric Door Bell*, below, using the wire from the Motor (or



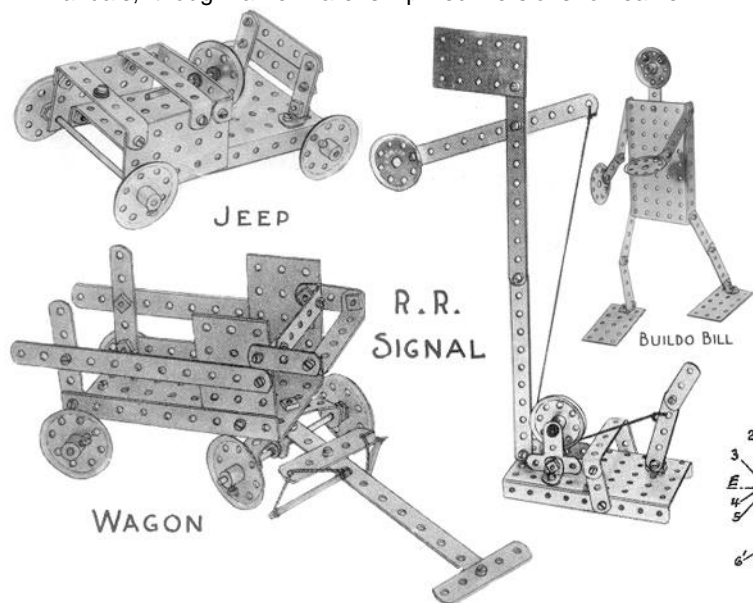
'a 10c skein of wire at a dime store'), and the steel Spanner which is attracted to the Short Shaft cores of the coils. The Flanged Disc gives a nice sound when struck. • A simple Gantry Hoist with a Chain reduction to the winding shaft, as on the manual cover.

The 200 Model Leaflet.

This is a sheet 22*7" folded into 4, printed in blue with a single halftone for each model. The front 'page' is shown right & 2 other panels have adverts & order blanks for the 400 set (it is said to have a 34 page manual), & for the parts in the 200 outfit. The address is the same as on the container. 32 models are shown on the rest of the leaflet, from COASTER to WIND MILL on the 'front' side, and TEETER-TOTTER to



ELEVATOR on the reverse. None are taken from the other manuals, though a few are simplified versions of earlier

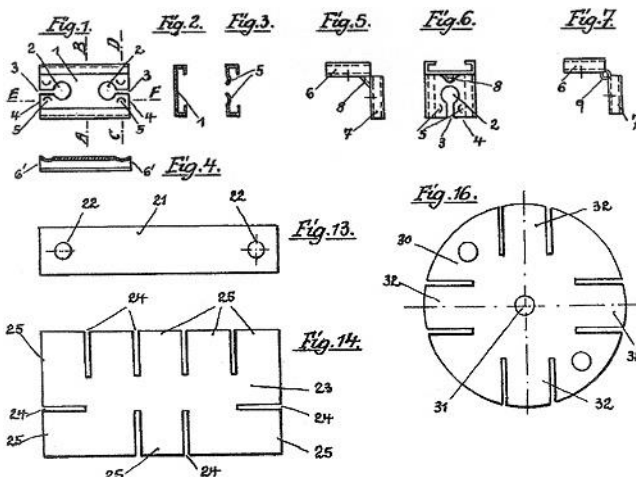


models. On the whole they are rather better than previous small models and some examples are shown above. The wheels on the models are a single Pulley Disc on a Hub, though 8 are used to make 4 pulleys in an Elevator.

PATENTS 'U.S. and Foreign Patents Applied For' appears in the 45 & 400 manuals, while in the 600: 'Buildo sets are manufactured under one or more of the following U.S. Patents: 2410409; 2042007; 2027885; 1974838. Other patents pending.'

The first of these was granted to Earl Weston Farmer, Wayzata, Minn. on Nov. 5, 1946, with an application date of Sept. 27, 1945. It covers the Hub & all the parts that fit on it, including the Eccentric. It also shows (top right) how 2 Pulleys Discs with tubular spacers between them, could act as a gear wheel, but this idea was not used in BUILD O. The

other patents are not in Weston's name and his interest in them is not known. At least on the surface they do not seem to relate to BUILD O. All three are American versions of German patents, with U.S. acceptance dates of 1934 to 1936. 1974838 (UK 378359) is for the 'Matchbox' set (see 13/345), & 2042007 (UK 434838) is for TUBA (15/419). I can't place 2027885 but, in case anyone knows it, the main illustrations are shown below. It's about 'C' section connectors (Figs.1-7) joining other parts by pushing onto the end of various length bars (Fig.13) or the tongues of plates (Figs.13-16).



THANK YOU to all who have contributed material for this account, including Kendrick Bisset, Don Redmond, Richard Symonds, and Dan & John Farmer.

SNIPPET: GORDON This East German system was mentioned in 15/415 but with no details. The box right, No.10/5, is red with a white label printed in blue & red, and the bottom is partitioned into 16 sections. The set is said to be incomplete but the parts that can be seen are described below. There is no firm indication of hole pitch but it is most likely to be in the 12.5 to 13mm range. None of the parts look as if they are the brass plated ones mentioned in 16/458. A similar set is shown in *Baukästen*, p120.

• **Blue parts.** A STABIL-style 5*11h Flanged Plate, & the 3*7h Perforated Plate from its centre. All corners are square or very nearly so. 2 MÄRKLIN-like Flanged Sector Plates (8h long with 3 rows of holes). 2 MÄRKLIN-style Flanged Disc Pulleys, but with no slots in the inner ring of 8 holes.

• **Bright looking parts.** 3, 5, & 11h Strips, which may be slightly narrower than the hole pitch. The ends of the 5 & 11h are semi-radiused, but those of the 3h are more rounded. 1*5*11h DAS, which appear to have lugs with slotted holes.

2x 8h Bush Wheels. 2h Ø Pulleys, Fast & Loose. A slightly larger Pulley but it is suspect because its boss is larger in diameter than the quite small ones on the Bush Wheel & 2h Ø Pulleys. Another Pulley is about 3h Ø and looks as if it might be aluminium or painted silver; its boss can't be seen and it is fitted with a black Rubber Ring. In the BK set the only bright Pulleys are the 2h Ø, and they are fitted with black Rubber Rings.

Axles. A Crank Handle with an offset a little larger than normal, 2½h perhaps. A part of which only a U-shaped rod with tight bends can be seen - it might be a Crankshaft with a crank pin about 1¼h long.

Additional parts that can be seen in the **BK set** are an 8h Wheel Disc; longish Flat Brackets, like STABIL, & corresponding A/Bs; a Gear (or Sprocket) Ring similar to STABIL



#29, but with only 4 mounting holes; a matching coarse-toothed Gear or Sprocket of very approximately 3h Ø, with no face holes; and small hex Nuts. All these parts have a bright, nickel look.

Electrical outfits were noted in OSN 15, & one is shown in BK. Its box is again red & the lid again whitish, but it carries only the stylised 'Gordon', in blue 'TECHNIK' outlined in red; and, in tiny letters, Nr.16. The parts are mainly Wire, Clips, Plugs & Sockets, Bulbs & Holders, and a Bell Unit. There are no 'constructional' parts.

An ebay item claimed '2 sets, Gordon 1963'. The parts in them are broadly similar to the above, though one includes a Hammer. The lid of this one is red & yellow with, in B&W, a boy playing with a set. The wording is ELECTRIC preceded by a blurred word in script which is no doubt 'Gordon'. The lid of the other is red with only COMJOU ELECTRIC on it in gold. The parts are on a backing card joined by lines indicating a circuit diagram. The card in another, virtually identical, ebay set has the stylised 'Gordon' & '5/15' on it.

EDITORIAL First, my thanks to everyone who sent comments on the proposed changes to the N/L. I've tried to incorporate as many as possible of your suggestions but the result is inevitably something of a compromise, especially as it is often a question of trying to get a quart into a pint pot. Let me know your reactions.

On 'admin' matters - details of subscription rates, etc, and your credit balance, are now given overleaf. Please note that for simplicity all prices are now per Issue, and that in future the next N/L will not be sent unless the credit balance is sufficient to cover its cost. To make this clear the minimum you need to send to receive the next Issue is given, but as before you can send more to avoid having to make frequent payments.

With the experience gained from printing this Issue I can give an indication of the prices likely due to the use of colour, and printing single-sided. For the usual postal zones the price per Issue will probably be about £6.50/£7/£8. The final figures will be given in OSN 29. As explained in OSN 27 this Issue and the next (OSN 29) will be at the existing rates (given overleaf) for current subscribers, and the new rates will apply to OSN 30 and thereafter.

A note on the page numbering. As well as the normal page numbers each item has an 'S' number for those who want to file OSN material in MCS. For each system the first item about it will be 'S1', the second 'S2', and so on.

FROM READERS

1. **FERMO** (see 27/784) came from the British Zone of Germany rather than from East Germany, as stated in the Extra MCS Sheet. Thank you to Jacques Pitrat for this correction.

FERMO: S1

[28/813]

2. The **MERKUR M8** was mentioned as possibly the largest general purpose set now available, but Alan Blake & other readers have drawn attention to the **METALLUS** Berlin outfit. According to the Metallus web site (now much improved & much faster) it costs €599 and has 2462 parts (the old **MÄRKLIN** No.1015, see below, has 990 + 558 N&B). By my count the M8 has 1384 parts (652 + 366 N&B), plus a Motor.

In passing, Metallus has a range of 12 outfits including 5 Gear sets. The 7 constructional outfits are said to be equivalent to the old **MÄRKLIN** Sets 1009-1015, & each is named after a German town, from Berchtesgaden to Berlin. Details of the **MÄRKLIN** sets are in MCS (the 1015 is the 1014+1034), and they all seem to have slightly fewer parts than the **METALLUS** ones. From the web photos the latter still include a few **TEMSI** parts. A **TEMSI** manual is included but it is suggested that the old **MÄRKLIN** manuals be used.

At the time of writing, October 2002, Dave Taylor has the Berlin listed at £329.95. The Dutch site mentioned in 27/790 has the M8 at €140.50.

METALLUS: S1

[28/813]

3. Thomas Morzinck wrote that Karl Debik has opened his

building toy museum in Germany. The address is Baukasten-Museum, Hartmannstraße 4, Löbau/Saxonia.

[28/813]

4. From Alan Blake. The Maplin catalogue includes 17 **CONSTRUCTION** sets, from a set with 116 parts at £3.99 to a 1482 part outfit at £49.99. No Set Nos. are given. Maplin shops have very few, if any, of them, but one shop had two sets that weren't in the catalogue.

CONSTRUCTION: S1

[28/813]

5. From Jacques Pitrat. 'On **BUILD** (27/798) I have an unused #400 set and the lid is the one with 'Standard' under Buildo. The contents are almost the same than those of the #45 set, but there only 6x 5h Strips, 6 DAS, no 5*9h Plate, & 3x 98mm Shafts. The Flat Plates are not fully perforated. There is a plate Screwdriver with a centre cutout in the handle. The Eccentric Strap is anodised red, and the upper two Pulley Discs are anodised orange. The disposition of the parts is slightly different from the photo in the manual. On page 1 of the manual there is the address of the maker and the description and the price of the four sets: 400, 600, 900, 1500.' [Jacques also sent a photo of his open box, showing all the parts and their layout.]

BUILD (1): S1

[28/813]

6. Some notes from Don Redmond on **BUILD** following the article in 27/796. His No.45 includes Flat Brackets with one hole slotted, and A/Bs made from them. The Bolts in the set are steel, mostly mushroom head but with a few, 6 & 9mm, RH. The 6mm hex Nuts are chamfered on one side. The wire Screwdriver is distinctive with a narrow, 5mm, tip. The Strips are rather inaccurately stamped. The finish appears to be cadmium plate or similar, soft and susceptible to fingermarks, and easily polished with 0000 steel wool.

The glassine tube of N&B in a No.400 set contains chiefly truss head Bolts (very flat round heads tapering to a sharp edge), but with some fillister heads, chiefly on the longer ones. The Nuts are 7.5mm hex brass. The Screwdriver is the flat style, and likewise in a No.600 outfit.

The Gear Quadrants in the 600 are the 13-tooth type, and they mesh well with a 30cm bronze plated, steel Chain - pitch 4.65mm and 4mm wide.

BUILD (1): S2

[28/814]

7. From Jacques Pitrat. On **SPIROU** (27/783), the word is the name of a well known hero of a Belgian comic, who has the uniform of a page boy in a hotel. There is still a 'Journal de Spirou' published in Belgium and in France. Temsi chose this name for a metal construction system because many Belgian boys liked his adventures, the same reason that there is a Mickey Mouse set.

SPIROU: S1

[28/813]

8. Clive Weston has found a **VOGUE** catalogue dated January 1957. As would be expected, Sets 1, 2, 3, 5 are listed, with B&W photos, and named Junior, Standard, Major, & Super. This is the first positive date for the No.5