

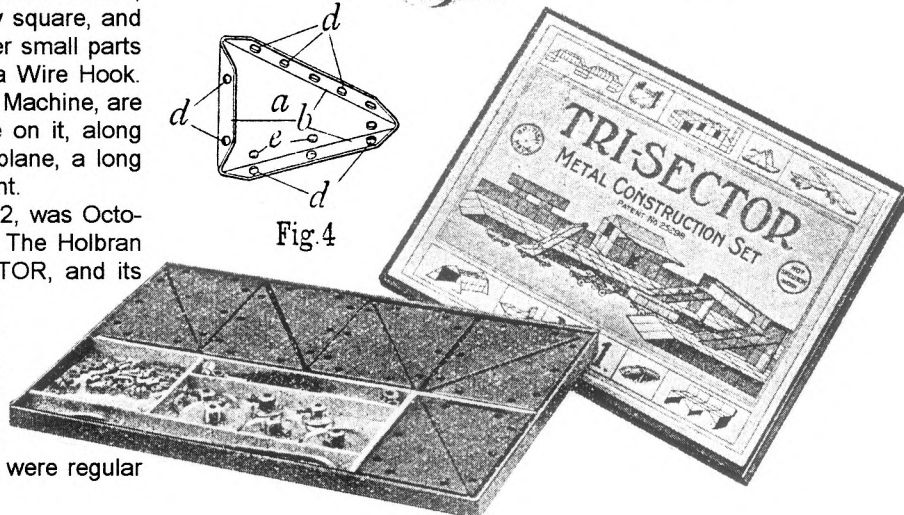
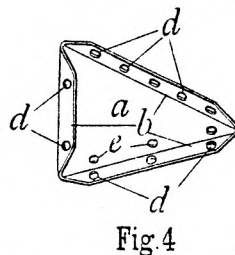
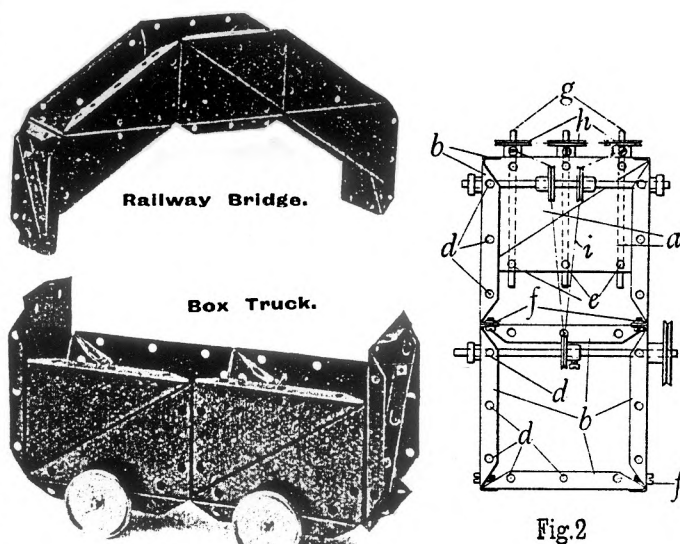
**New System (in 1921) - TRI-SECTOR** David Hobson came across ads for this rather unusual small system in some 1921 issues of *The Toy and Fancy Goods Trader* (T&FGT) monthly, and kindly sent details, together with a copy of the relevant Patent.

The only set mentioned in the ads is the No.1, and 2 of the models that could be made from it are shown opposite, plus Figs.2 & 4 from the Patent. The only structural parts are right & lefthand versions of a Flanged Triangular Plate, and in the models they look similar to Fig.4 except that there are 2 holes in the face along the short side, and the holes in the flange along the hypotenuse are not equispaced: the middle 3 have the same pitch as those on the other flanges, and the outer 2 something like half that spacing. From the dimensions given in one of the ads, the sides measure about  $2\frac{1}{2}$ ,  $3\frac{3}{4}$  &  $4\frac{1}{2}$ ", and the basic hole spacing may be  $1\frac{1}{4}$ ".

Other parts that can be seen are Pulleys of about  $\frac{3}{4}$  &  $1\frac{1}{2}$ "  $\varnothing$ , both with tapped bosses; a Collar, 2 lengths of Axle to suit the 2 sides of the Triangles; and a Crank Handle; The Set opposite also contains Nuts, probably square, and Bolts, probably cheeseheaded, and a few other small parts that can't be identified, though one may be a Wire Hook. (The Collars in Fig.2, the end view of a Drilling Machine, are shown shouldered.) The lid has British Made on it, along with a selection of models including an Aeroplane, a long Bridge, and various items of Railway Equipment.

The Application Date of the Patent, 154042, was October 1919, and the claim was in the name of The Holbran Engineering Co. Ltd., the maker of TRI-SECTOR, and its Manager, Algernon Feltham Morgan, both of the Shelsley Works, Bilston Road, Wolverhampton. It mentions that the building pieces could be other than triangular in shape and should preferably be made from tinned plate.

The first mention of TRI-SECTOR in T&FGT was in February 1921 and then there were regular ads until the autumn. After that nothing.

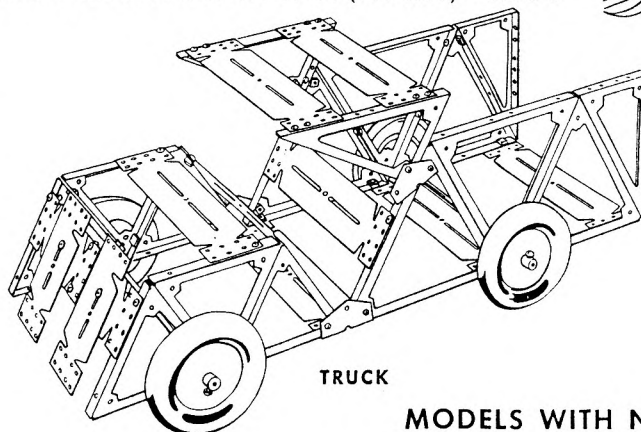
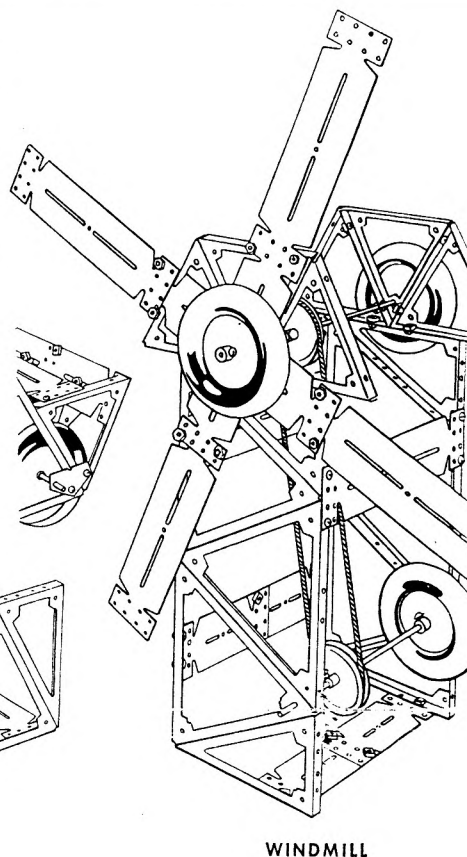


**New 1950s System - TRIANGLE** Jeannot Buteux/Constructorama kindly sent a copy of what appears to be a page from a manual belonging to this American system, and noted that it was from the 1950s; it shows 4 models that could be made from a No.1 Set.

Most of the parts can be seen in the models and inset opposite:- 2 sizes of Flanged Equilateral Triangular Frames; a Flanged Right-Angled Triangular Frame; 2 lengths of Cross Plate (the shorter one has only one centre slot and two of them are bolted across the front of the Truck); a Trunnion; what looks like a small Triangular Plate (in the inset); a Pulley; a Road Wheel; & an Axle. Roundheaded Bolts are shown and most Nuts are square but a few are hex.

As can be seen the structural parts are assembled by bolting through the holes in the flanges of the Frames. The only holes in their faces are at the corners, and even then there isn't one in the acute corner of the Right-Angled Frame. There's no indication of size but from the diameter of the bosses the Wheels are probably at least  $2\frac{1}{2}$  or 3"  $\varnothing$ .

The idea of making structures by combining triangles wasn't a new one of course, and METALLO TRIGON had used it before WW1 (see 5/90) - there 6 Triangles were used, but with no flanges on them. Flanges are the obvious way of joining such parts, witness TRI-SECTOR above & (see 16/449) STEEL WORKER of the late 1920s. The latter is quite similar in concept to TRIANGLE, again with 3 Frames, though they are much larger, and meant for a different type of model.

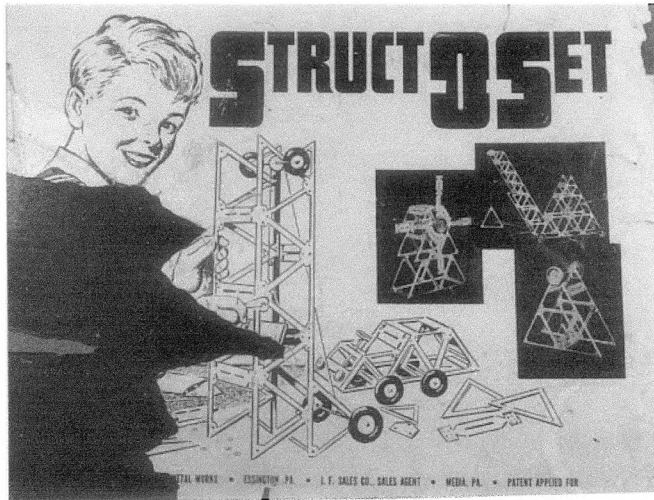


MODELS WITH No 1 TRIANGLE SET

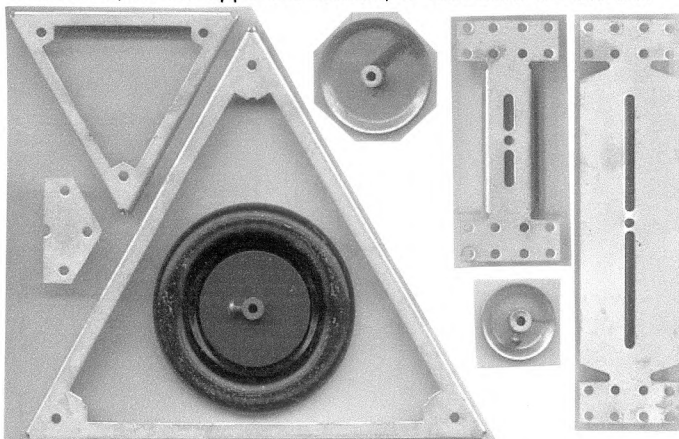
**STRUCT-O-SET & TRIANGLE** Some TRIANGLE models were shown in 17/488 but now a set has been found; also a STRUCT-O-SET outfit, hitherto an unknown system, which seems to have been an early version of TRIANGLE.

**STRUCT-O-SET** Richard Symonds kindly sent sample parts and details of his set. It is nearly complete, but without a manual. With it however was a Price List of Parts which also lists the number of each in the Set. At the bottom: 'Additional Small and Large STRUCT-O-SETS, also Motors, will be available in the near future.' Also given are the manufacturer: the Essington Metal Works, Essington, PA.; and the selling agents: J.F.Sales Co., of Media. Both these towns are near Philadelphia.

The box is blue and scales at 15\*13". Nearly all the lid is covered by a (torn) white label (below), and as well as the Essington & Sales names at the bottom, is 'Patent Applied For'. Most of the parts are in 4 card trays that fill the bottom of the box, and on top of them is a box size card with a pattern of parts attached to it by 1" long split pins.



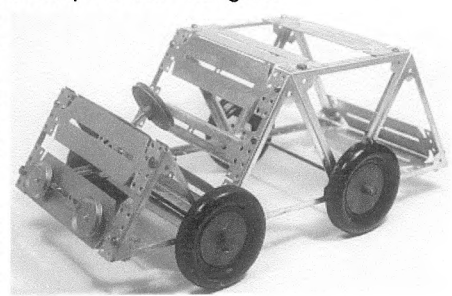
The 15 different parts are described below, and those starred are illustrated. All are steel, with a plated or treated finish, shiny once but most parts are now dull. • **Triangles** (called Angles). Large\*, Medium & Small\* equilateral, flanged triangular frames, sides (measured between hypothetical corners) of 6¼, 4½, 3½". On top there is a hole at each corner, and each flange has a hole at either end, plus 2 in between for the Medium size, and 4 for the Large. These holes are spaced to allow Triangles to be bolted together at 2 points, corner to corner. • **Plates** (called Flats), Large\* & Small. They are 1½" wide with a length overall of 5¼" & 3½". The holes at the ends are at .35" pitch and this doesn't match any of the other holes, except the outer holes of the Gusset. The end of a Plate can only be attached to a Triangles by one Bolt. • **Formed Plates** (called Formed, Long & Short). These are the Plates with the centre side portions bent into flanges, sometimes at appreciably less than 90°. The Short\* one is shown below. • **Gusset\***. 1½" wide with, for no apparent reason, a 'half hole' on the bot-



tom edge. • (Road) **Wheel\***. This part is a black disc formed around the edge into a 'half tyre', with a central red disc held by the boss. It looks very similar to the ERECTOR part but is smaller at 2¾" Ø. • **Pulleys**. 1\* & 1½" o.d. and about .17" wide at the rim. • **Shaft**. 6½" long & .124" Ø, with sheared ends. • **N&B**. Plain steel with a 4-40 thread, the pressed hex Nuts are .242" A/F, and the roundheaded Bolts are .205" Ø with .19" u/h. • The **Span'driver** (see the TRIANGLE illustration) is 3¼" long. • **Bosses**. Steel, .28" Ø, single-tapped, with the standard Bolt as set screw, and a bore of .126". Peening is a small ring. • **Holes**. Most are .120"±.002" and so the Shafts won't go through them. Some are slightly larger, typically .127", notably the apex hole in the Gusset, the centre hole (& slots) in the Plates, and some of the holes in the tops of the Triangles.

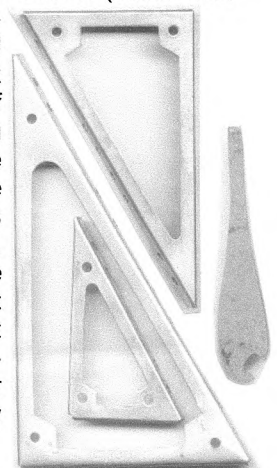
The main parts in the Set, from the Price List, are 52 Triangles, 16 Plates, 10 Formed Plates, 6 Gussets, 4 Wheels & Shafts, and 2 each of the Pulleys.

The model opposite is one that Richard made from the drawing of it on the lid.



**TRIANGLE** Kendrick Bisset has found a set, and kindly sent photos & notes. The box seems to be exactly the same as the STRUCT-O-SET (SOS from now on) one, and measures 15½\*13½\*3". The label on top of the lid is completely missing but one on its inside extols the virtues of TRIANGLE. There is no positive indication of this Set's number: the Model Sheet has models for Sets 1, 3, & 5 and the label mentions that Set No.3 has an electric motor. A motor was with the Set but as explained later it is not thought to have been part of it originally. The Model Sheet bears the name 'The TRIANGLE Co.', followed by 'Media/Penna' crossed through, and stamped underneath is 'ESSINGTON METAL WORKS, 209 SAUDE AVE., ESSINGTON, PENNA'. Also there is 'Copyright 1947'.

Many of the parts are identical to SOS though several of their names are different. The main changes are that the Formed Plates are no longer present, some extra 'Half Triangles' have been added, & the Plates are painted. In more detail: • **Triangles**. They are the same as the SOS ones. Kendrick noted that some of these parts have a small hole at the junction of the flanges at each apex, and that these have a shinier finish than the others. This is also true of the SOS parts. He also pointed out that the sizes of the 3 parts would have allowed the 'waste' from the inside of one to be used to make the next size down, but that in fact not all the parts were made from the same thickness metal. Again this is true of SOS. • **Half Triangles**. The name given to right angle Triangles, with 3 sizes, and right & lefthand versions of each. Each hypoteneuse is the same length as the side of one of the Triangles, and the depth of the flanges match too. Below right, one of each size. • **Plates** (called Side Plates). Again the same as SOS except that the Large version is painted red and the Small yellow. Kendrick remarked that these parts look as if they were designed to be something else. • **Holes**. All in the Triangles are about .120", and all in the Plates are about .125". • **Shaft**. The diameter is .120", a little smaller than in SOS, and so they just enter the holes in the Triangles. • **Crank Handle**. This part is used in some models but has not been seen. • **Other parts**. The Gusset, Wheel, Pulleys, Span'driver (right), N&B are as SOS with very



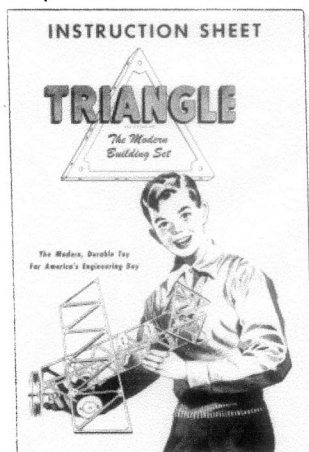


small changes in some dimensions - for example the Bolt heads are .212" Ø. On closer inspection of the model drawings it appears that the **Trunnion** mentioned in OSN 15 was a figment of my imagination.

The parts found in Kendrick's set were 36 Triangles, 12 Half Triangles, 20 Plates, 8 Gussets, and the same number of Wheels, Pulleys, and Shafts as SOS.

An illustration of a **Motor** (below) is shown on the label inside the lid and also in one of the models. The words along the top are 'TRIANGLE POWER HOUSE'. Actually in the Set was a red THE CONSTRUCTIONER Motor, with open gearbox, as shown in 9/206 & MCS, p3/4c. It was sitting in the bottom and the corner of the parts card had been cut away to accommodate it. However even on its side it is too big to allow the box to close properly, and the cutout in the card prevents the proper pattern of parts being attached to it.

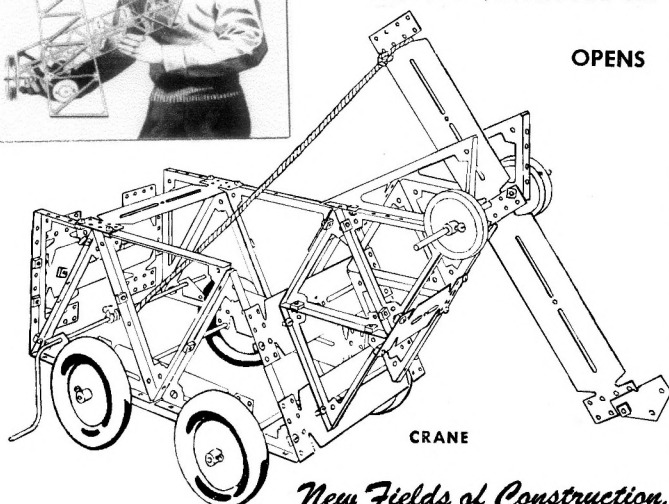
The **Model Sheet** is 18½\*25", folded 3 times to a size of about 9¼\*6", and is printed on both sides in B&W. The front panel is shown below. 8, 4, & 4 models are illustrated for



Sets 1, 3, & 5 respectively, all line drawings except that 2 for each set are photos on a black ground. Part of the Sheet showing the No.1 models is identical to the fragment that was used for the OSN 15 account. Other No.1 models include a Tank, a Pile Driver, & the 'Crane' below. The Crank Handle can be seen in it.

#### THE № 5 TRIANGLE SET

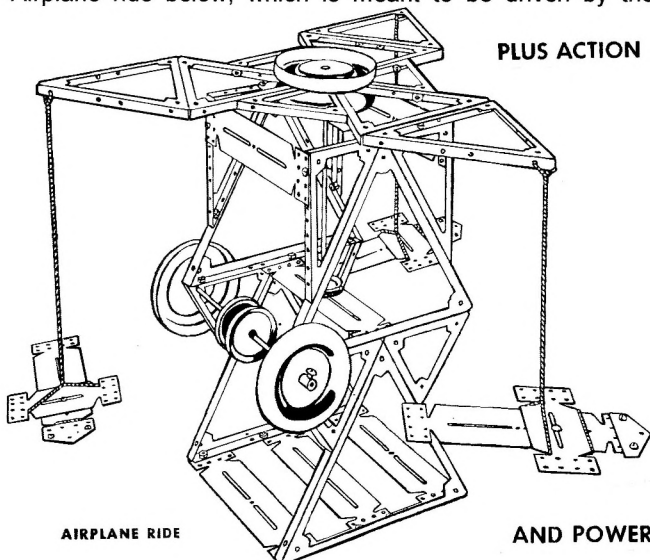
OPENS



*New Fields of Construction.*

No new parts can be spotted in the No.3/5 models. The No.3 models include a Mixer, a Wind Tunnel Fan, and the Airplane ride below, which is meant to be driven by the

PLUS ACTION



Motor. A Hay Wagon and a Boring Mill are among the No.5 models, plus a fair Bridge - the parts are quite well suited to such a model. By the look of it the Mixer & Boring Mill don't have any movement other than rotation of the main spindle.

None of the TRIANGLE models are exactly the same as those on the SOS label, but a couple are quite similar. All the rest of the SOS label models, except the large Crane, have a somewhat different TRIANGLE equivalent.

**The KARL MARX ROCKET BUILDER** Remember Mystery Parts No.29, now Kendrick Bisset has found the Set that they came from, and kindly sent some photos of it, and the following notes (with translation courtesy a friend).

'It is a rocket builder construction set from the former Soviet Union, with no separate manual, but the 14 different parts, and 8 models are shown inside the box lid.

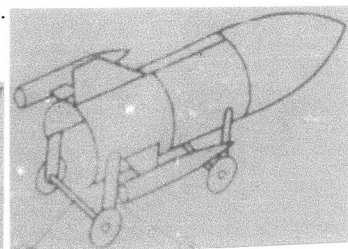
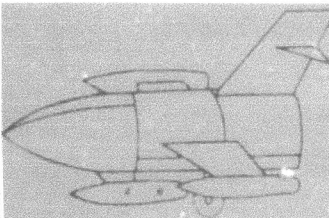
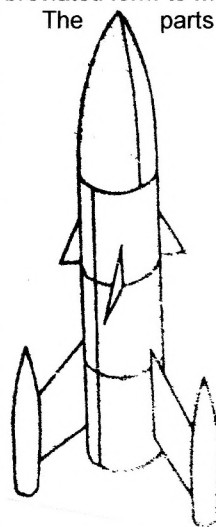


The box (above) is about 11\*16\*1½", and the top has the rocket in red & brown on light blue. The markings on the edges are the 'rocket builder' (ПАКЕТОСТРОИТЕЛЬ which transliterates to RAKETOSTROITELE) on the sides, & 'Constructor' on the ends, together with the 'KM' in a diamond logo, and details of the manufacturer. The latter translates as: 'Ministry of Machinery | for light [machinery], food processing & appliances [main><chemical><textile><machine>] | Leningrad Machine Building Company | named after Karl Marx | addr. Leningrad, K-44, K. Marx Prospect [street], 66.' There follow some standards numbers, presumably under which the outfit was manufactured, and in small letters, the price of 4 roubles.

The 'K-44' is a post office box - my friend suggests that this might indicate some more secret activities of the factory. The words translated in brackets are combined in abbreviated form to make one long word in Russian.

The parts match the description in OSN 15 except that the Wheels in this case are white plastic. Bolts are 0.115", 50 tpi, probably M3 (3mm, 0.5 mm pitch), but the fit is very poor, and many of the Nuts & Bolts do not run together. No tools were found in the Outfit.'

The main parts in the Set can be seen in the 3 models shown here: 2 Nose Sections, 9 Curved Body Plates, 3 each Large & Small Fins (though there are 5 among Dave Taylor's parts), 6 Nacelle Halves, & 4 Wheels. The model on the box lid shows some artistic licence, with the parts incorrectly coloured, and tapered body sections.





4. **Snippets. TRIANGLE Update** Four sets have been seen on Ebay since the account of this early post-WW2 American system in 23/664. All have the same 2-layer box as the OSN 23 outfit and the lid label below, not seen before, was shown for



two of them. In the top right corner is 'SET No.5' & 'MADE IN USA', while in the small black circle under the model is 'FOR BOYS FROM 7 TO 11'.

As far as can be seen the parts in the sets match those described earlier, and the Motor in three of the sets (it was missing in the fourth) was the red THE CONSTRUCTIONER type, as in the OSN 23 set. So it seems that it was a bought-in item and it remains to be seen if the TRIANGLE POWER HOUSE Motor illustrated in OSN 23 ever actually existed.

#### TRIANGLE S1 [41/1229]

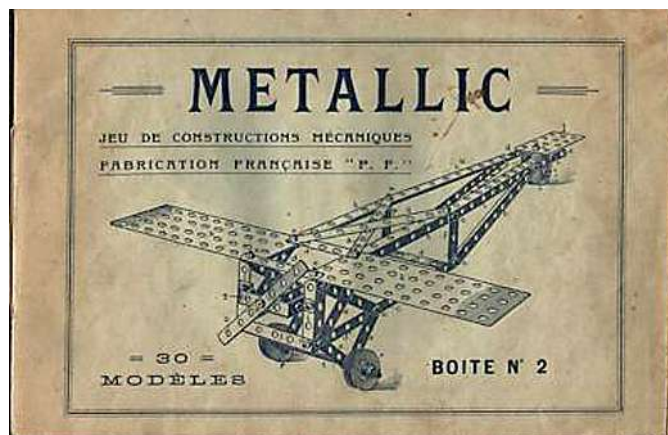
5. **Snippets. METALLIC** A 1913 catalogue illustration of this little known French system was shown in 1/7. Since then two new pieces of information have appeared.

The first is the entry in Encyclopédie des Jeux de Construction métalliques (JCM, see 37/1108) which gives dates of 1910-1918+/-, and shows a No.1 set. It is in a blue box with a blue on white lid label as in OSN 1 but the area under the arch can be seen – it has 2 boys standing behind a table with models on it, and along the bottom 'JEU DE CONSTRUCTIONS MÉTALLIQUES'. It is said in JCM that there are 24 different parts in the No.1 and the holes are 2.65mm Ø at 10mm pitch. The parts are strung onto a yellow card and look a darkish grey. They include Strips, A/Gs, & 4h wide Perforated Plates, all up to 10h long; probably a 1\*5\*1 DAS; a 2h high D/B and probably several other Brackets; a 2h Ø Pulley; the large Fan of about 7cm Ø, as in OSN 1; and 2 single-ended Spanners, one cranked. The manual covers are dark blue on white and the front shows a Garden Bench Seat with under it 'BOITE No.1' and '15 MODÈLES'. On the back cover is a Wind Turbine similar to the model in OSN 1 but with a smaller pylon. The text beside it repeats that on the front cover & the lid label but plus 'FABRICATION FRANÇAISE P. F.', and so perhaps the 'P. F.' is the manufacturer. There is a PR '5994 Imp. Henri Meyer fils. Paris' at the bottom, printed twice, once in blue and once in red.

In the OSN 1 1913 ad METALLIC was described as 'nouvelle construction en métal' and was for 2 sets, a No.1 for 15

models at Fr.2.90 and a No.2 for 20 models at Fr.5.90. The set shown was quite large and was presumably the No.2. Parts in it not so far mentioned are a wire Screwdriver, a Hook, and, from the Wind Turbine model, probably a wire Handle Crank, and possibly a longer A/G. The Fan in this model reminded me of the similar STABIL part (shown in 13/352) and likewise the Handle Crank, and that led to the thought that probably Screwed Rods were used as axles, as in STABIL. With a little imagination the parts in front of the box in OSN 1 could be Screwed Rods with Nuts on them.

The second new item is the 26 page manual for Set 2 below. It was said to perhaps date from 1919-20 because it



was found with a MECCANO manual of that date. 30 models are claimed against the 20 in the 1913 ad. The front cover has "P. F." on it this time.

If METALLIC appeared in 1910 that was about the time that STABIL was launched, and so it's perhaps unlikely that one was influenced by the other. But WALTHER'S INGENIEUR (see 7/164) would definitely have preceded METALLIC and it too included the unusual, large 12-bladed Fan, Screwed Rods, & a Handle Crank. It also had a hole pitch near to 10mm. So perhaps METALLIC was inspired by W I on the one hand and MECCANO on the other (for, notably, the use of N&B instead of the W I 'Paper Clips'). But in any case METALLIC must have been the first system, or at least one of the first, to contain a range of Plates (though W I had a few small ones), and equally to have included Plates & A/Gs instead of Flanged Plates (though I've not actually seen any models in which those parts were used thus).

#### MÉTALLIC: S1 [41/1229]

6. **An ARWILL Outfit** Notes on the parts & a manual of this small UK system appeared in 29/856, and a box lid was shown in 37/1102. Now thanks to David Hobson I've been able to examine an unused outfit. The box measures 26\*18½\*2½cm, the lid looks like the one in OSN 37 except that it is green, and the label is identical.

The instructions are in the form of a Model Leaflet, a sheet 315\*175mm folded into three, rather than the Manual in OSN 29. But the front face including the sloping name, the text, the Contents of Set No.1, and its price, 12s 2d, are identical, as are the photos of the models (though they are not in the same order – they run from SEE-SAW to SWING).

The box's base is plain cardboard and as can be seen in the

**OSN Subscription Rates** The price per Issue, including postage, at Printed Paper Rate where available, is £5.50 for UK; £6 by air to Europe & surface anywhere; £6.50 by air outside Europe. **Back Issues** For the zones above : OSN 1: £1/£1.30/ £1.50; OSN 2,3: £2.30/£2.70/£2.90 each; OSN 4-27: £3.60/£4.10/£4.50 each; OSN 28 on (in colour): £6/£6.50/£7. (All colour & some B&W issues are on loose sheets.)

**Payments** Please make cheques etc payable to P.A.Knowles. Remittances must be in Pounds Sterling (GBP) or, as cash, in Euros or US Dollars (£1=€1.10=\$1.50). Payments from overseas may also be made using PayPal (in Sterling please).

**Small Ads** Short ads are free to subscribers; insertion guaranteed in OSN 42 if received by the end of January (but repeats may not always be possible, please ask).

#### OSN – Your Credit Balance:

was £	after OSN 40
was £	after your remittance of £
is £	after this Issue

Please send at least £ if you wish to receive the next Issue.