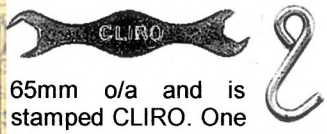
CLIRO This was a small UK aluminium system from the late 1940s, in which frameworks were made from Rods joined by Clips, with one Plate to provide infill. The notes below are based on a small lot of parts with a No.1 Model Sheet, and the remains of a No.1 Outfit. Thanks to David Hobson for lending me the Set, & a copy of the relevant patent; also to Jack Little for sending the corresponding Australian patent. The MCS entry shows nearly three-quarters of the Model Sheet, and a list of most of the parts.

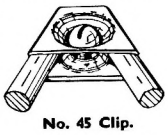
History. Patent No.614246 was granted to John Lee Schofield of 3 Eyre Street Hill, London, E.C.1 in Dec. 1948, following his application in May 1946. The similar Australian patent, 137941, was accepted in 1950. The only known ad for CLIRO was from Schofield & Schofield, 3 Eyre St. Hill, London, E.C.1, in the Nov. 1949 *G&T*. 3 sets are mentioned in it but only examples of the No.1 have ever been found.

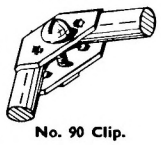
The No.1 Set. The plain card box measures 7*8*⅝" & the lid is covered by a superb solid colour label, in rich red, blue & yellow. It is a colour version of the ad picture above, but with 'CLIRO No. 1' printed ten times around it on a ½" wide grey border. The N&B are in a card box 2*1½*⅜", with a yellow label, but none of the other packaging has survived.

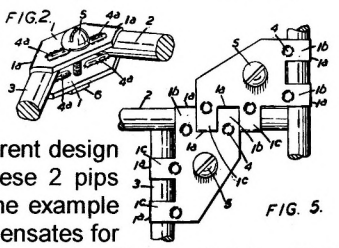
The Parts. All, except as stated, are aluminium. • The **Rods** are 5/32" Ø, ⅞,2,3½,4½, & 8" long, with sheared ends. There are also 3 preformed rods: an Oblong, 4⅜"*1 9/16" o/a, with a butted break in one long side; a 'U', probably about 1 9/16" wide & high; and a Crank Handle, not seen, but shown in the models with square bends. • The **Clips** (right) clamp the Rods at 45 & 90°, and their sideplates, held together by a N&B, are pressed from 16g (.064") sheet, flat but with each angled edge slightly curved to locate one side of the Rod. The other side the Rod sits against a pressed through pip in the 90° Clip, and the sloping side of a pressed through 'mound' around the hole in the 45° type. Both types are shown in the Patent, together with the two variations right. Fig.2 has a long pip, though why this is better isn't explained, and Fig.5 shows 2 parts of different design being used together. In these 2 pips locate each Rod, and in the example shown, the split edge compensates for the part's increased length. • The **Plate**, of thin, .017", aluminium, painted red, is 4½*1⅛" with ¼" chamfers on each corner. These are to allow the part to fit between the sideplates of the Clips, at each corner of a suitably sized rectangular frame, without fouling the shanks of the Bolts. In other models Plates are held by bending their ends around Rods, or by wedging them over & under alternate cross Rods &/or the edges of Clips. The Patent says rather loosely that 'plates, strips, or boards can be gripped in the clips, or one part only of a clip may be used secured to a strip, board, or the like so as to secure a rod or tube to the strip, board, or the like.' It would seem that to use only one part of the Clip, the plate, strip, or board would need to have a corresponding hole, but no plates, etc are actually shown in the Patent. • A 1½" long, commercial steel 5/32" **Split Pin**, bore 4.3mm, held in a Clip, is used to provide a bearing for Rods & the Crank Handle. • The **Wheel** is the tinplate balloon type, about 1" Ø & 5/16" wide, painted red. The centre hole, about 3.5mm, is not large enough to accept a Rod, & so Long Bolts are used as axles. • The ⅛" BSW, commercial **N&B** are plain steel. The square Nut is 6.4mm A/F (hex ones are shown on the Model Sheet); Bolts are ⅜" & 1" u/h, with 5.6mm round heads. • The nickel plated steel **Spanner** below is



65mm o/a and is stamped CLIRO. One of its hex end openings is 6.7mm wide and the other 8.0mm. • The **Hook** (above) is made from the Rod material & is 40mm o/a. • **Other Parts**. MCS mentions orange Cord. No Screwdriver is known, and the Pulleys that can be seen in the models on the lid are not used in any on the No.1 Model Sheet.


No. 45 Clip.

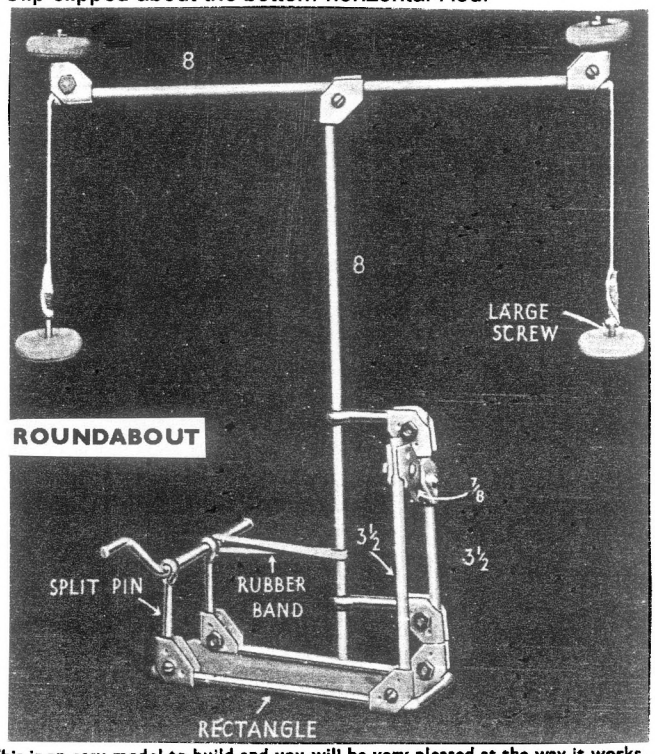

No. 90 Clip.



The **Model Sheet** is 19¾*14¾", folded into 4, and is printed on one side only in blue & white. It has a single, good, white on blue photo of 12 models, from CRANE to RAKE, with a few words of advice under each. The box lid label gives a fair idea of the models, except that the actual Wheels are smaller than those shown, and the Crane & Cable Car need more parts than those used in the No.1 models. (At a rough count the part count of the latter include 4,4,3,2,2 of the Rods, ⅞" to 8", plus 2 of the 'U', & 1 of the Oblong; 14 & 2 of the 90 & 45° Clips; 2 Plates; 4 Wheels; & 4 Split Pins).

In the Roundabout below and one other model, rubber bands are used to transmit drive from the Crank Handle to a Rod. Split Pins are used as bearings for the Crank Handle and the vertical Rod.

David had enough parts to make the Handcart on the lid. The parts seem to be accurately made and the Clips, though somewhat fiddly to use, hold the Rods securely, once the N&B has been well tightened. The body & handle were surprisingly rigid, and the single vertical Split Pin supporting the Wheel withstood a fair force at the axle end before the Clip slipped about the bottom horizontal Rod.



This is an easy model to build and you will be very pleased at the way it works. When putting on the clips at each end of the long rod which carries the wheels use the long screws. The wheels are held in place by the nuts. Use the large screws also for the wheels on the end of the strings.

A CLIRO No.2 Manual Notes on the No.1 set & model sheet were given in 26/775, and now David Hobson has kindly lent me a No.2 manual he has found. It has 8 pages including covers, 248*184mm, all printed in blue, like the Model Sheet, and the front is shown below. It was probably printed after the

FIG.1 Model Sheet because it has 'British & Foreign Patents' at bottom right instead of 'Patents Granted & Pending'. Also 'Conversion Sets', not heard of before are mentioned on the cover.

The other pages are devoted to 17 models, from TRAILER to BREAKDOWN CRANE. As on the Model Sheet there is one photo and brief constructional details for each, but in addition line drawings of tricky constructional details in a few cases.

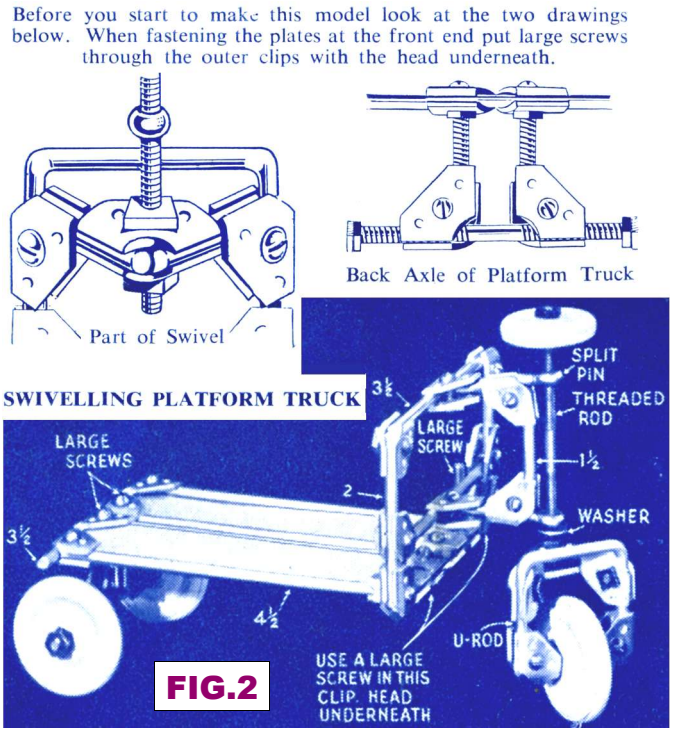
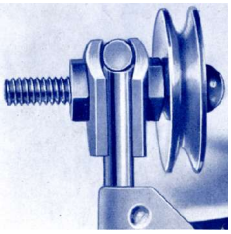


FIG.2

New parts that can be seen in the models are the Loose Pulley & Long Screw right; a 3½" Threaded Rod; and, probably, a larger Road Wheel of about 1½" Ø. One of the models, a Log Truck on p5 is identical to one on the Model Sheet, and many of the others are similar but a little more elaborate to



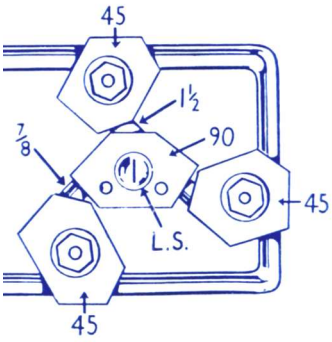


FIG.3

reflect the greater number of parts in the No.2. There is a second Plate for instance. The most interesting innovation is a swivelling movement which can be seen in two of the better models, the Mobile Swivelling Crane above (on p6 & the cover), with a luffing movement too, and the Swivelling Platform Truck, left (on p8). Both are shown here about 30% larger than in the Manual.

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Snippet. 'New' Italian System: UFSA This Ebay set was said to be from the 1930s. The box measures 18*23*3cm and 'UFSA' on the lid (Fig.1) is presumably the name of the maker. The words underneath translate as 'mechanical engineering technology for children'. The 'No.1A' in the bottom right corner reminds one of the German system of numbering TRIX Units, though as will be seen not all the parts are TRIX-pattern and the quantities often differ.

Scaling the parts (Fig.2) from the size of the box, the pitch of the holes came out to be very near 7.8mm, so probably the TRIX value. The parts that can be seen are as follows with the holes counted along the outside edges, and the non-TRIX parts in red: • **Strips** with 4, 6, 12, & 14h. • **Brackets**. Angle & Double Brackets. A 2*1h A/B at 'a' • **DAS** with 4, 6, 8h bases. • **Circular Parts**. 8h Disc and the one at 'b' which looks to be dished and could be a Pulley Disc (TRIX has a quite different Pulley Disc). A Loose Pulley (2½h Ø) with 4 face holes, or perhaps it is a smaller Pulley Disc. A Tyre or Rubber

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