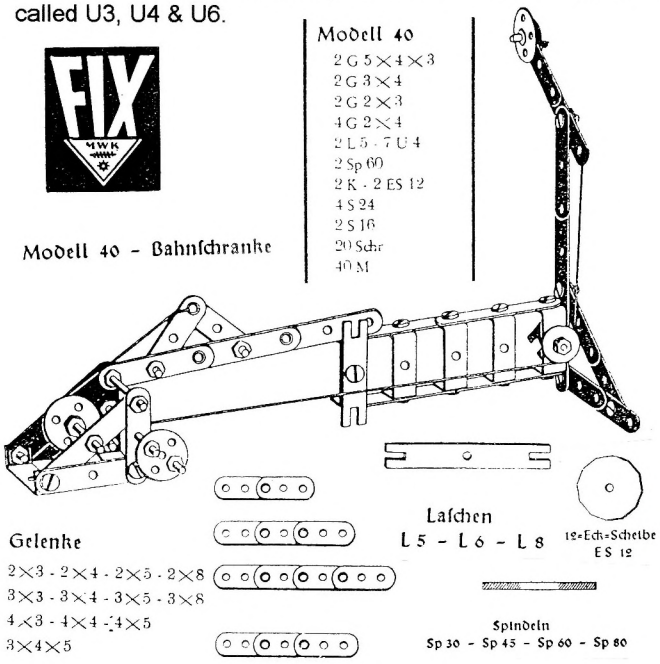
ends, see below. These parts were numbered L5, L6 & L8 and no doubt the numbers indicate the lengths; they also came with their ends bent up to form DAS and were then called U3, U4 & U6.



4 Axles were listed, from 30 to 80mm long and are shown threaded at each end to allow Discs (16,24,48mm Ø) to be nutted on; also a Crank Handle threaded along most of its shank. Another, 12-sided, Disc is shown, labelled ES 12, and it scales at about 20mm Ø, but its purpose isn't known. Finally a hex Nut, and a Bolt that's shown with a hex head in the Illustrated Parts and a cheesehead in the model.

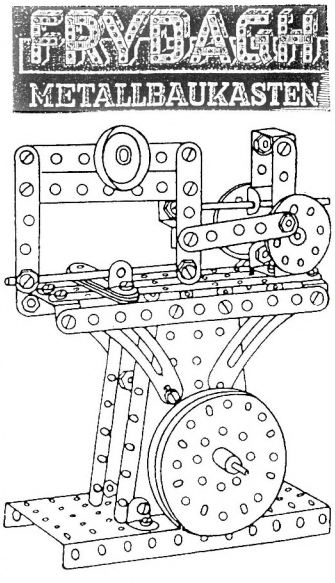
A box lid in Pl.60 of EZ shows a much larger model of an Excavator, but the illustration is too small to see any detail.

Jeannot gave the hole pitch as 15mm and this seems to be for the holes in the '3h' strip element. The holes are 4.3mm and the Strips scale at approximately 10mm wide. All the parts were of steel, tin plated.

FORMATOR This early system is well illustrated in MCS Part 5 and it must be one of the earliest to make extensive use of long slotted holes in Strips, A/Gs and Plates. Another unusual feature is that as well as the normal 3½mm Axles, thin-walled Tubes with split ends were provided which could take wheels and other fittings. EZ gives the diameter of the Tubes as 5mm, and the period in production from 1913 to at least 1915.

FRYDAGH Another simple system from East Germany, made by the Metallwaren division of Frydagh Maschinen und Gerätebau, of Haldensleben. A date of 1946 is known.

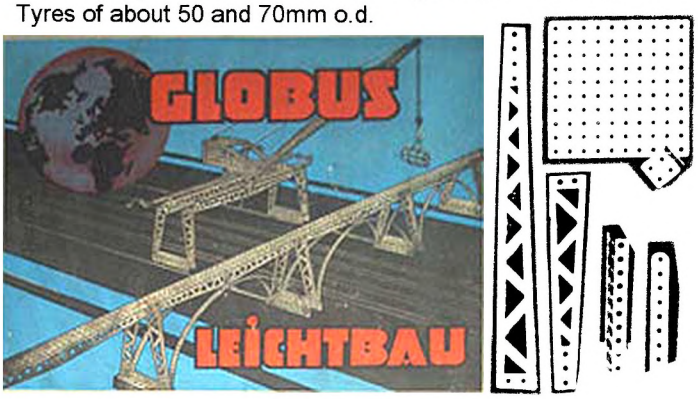
In all there were about 40 different parts and as can be seen from the model opposite, some had a MÄRKLIN look to them. However the holes were smaller at 3.5mm and their pitch a little greater at 13.0mm. The thread and Axles are given in EZ as 3mm. The manual cover has a slightly larger model on it and 25h A/Gs with square corners, and a Flanged Wheel with Pulley Groove, like a MECCANO #20, can be seen. Some parts were aluminium, others steel, brass plated or with a black metallic finish.



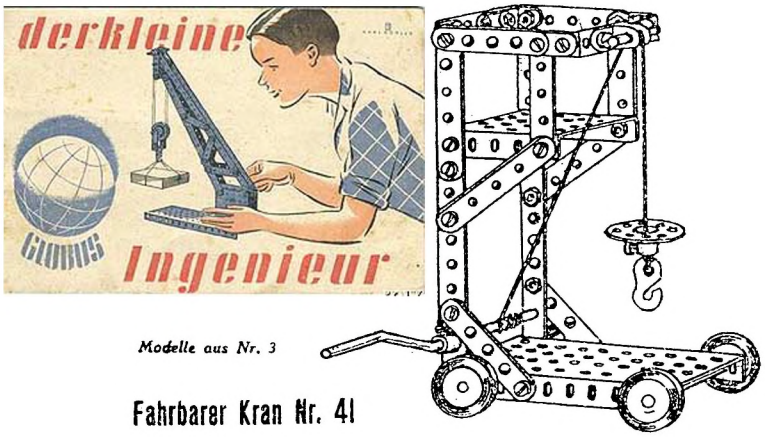
33. Säge

GLOBUS LEICHTBAU This rather unusual system, also from East Germany, in 1948, had about 34 different parts, all made of aluminium. The holes were at a pitch of 10mm and look about 3mm Ø in a photo of some actual parts (below). That would correspond to the 3mm thread mentioned in EZ but Jeannot gives the hole diameter as 4.1mm. It's not impossible that I'm getting confused with the different GLOBUS described below.

This GLOBUS had 2 sizes of Tapered Braced Girders which allowed some nice looking models - a bridge and crane can just be seen on the manual cover below. Other parts included Strips up to 30h long; 5 & 10h A/Gs; Perforated Plates 2,3,6 & 10h wide from 2*2 to 10*10h, some with a flange on one end. Also large Road Wheels with Tyres of about 50 and 70mm o.d.



GLOBUS der kleine Ingenieur This was made from about 1947 into the 1950s by, from EZ, Fleischmann of Nürnberg. (There's a small 'R' in the top right corner of the manual cover, below, with what looks like 'KARL KÖWLER' underneath, but its significance if any isn't known.) The 40 or so parts were steel, with a black metallic or cadmium finish, and had 3.3mm holes at 10mm pitch. A Set No.3 model is shown below. The larger Flanged Plate looks to be 4 holes wide but in other models it appears to match the width of the 5h wide smaller one. Notice though that the long (18h) Flanged Plate in the Crane on the manual cover below is also 4h wide. It also seems to have a 14h Strip in it, but apart from that the longest Strip shown is 10h, and there's also a Double Strip of the same length (ie a 2*10h Plate). *Bauklötze Staunen* says that the Strips were yellow and the Plates and Wheels zinc plated.



[In passing there may be at least one other system with the name **DER KLEINE INGENIEUR.** EZ mentions an East German one that owes much to STABIL, and a small box is shown in Pl.60, but all that can be seen is the name, tiny pictures of fair sized models, and a logo that may in-

FRYDAGH A brief note on this early post-WW2 East German system appeared in 15/414, mainly taken from Baukästen. This account is based on 9 sets that have been seen on Ebay since then, a manual that has come to hand, and, principally, thanks to Urs Flammer, notes about & photos of his set, and a copy of the manual with it.

FIG.1

HISTORY FRYDAGH was made in Haldensleben, 20km north-west of Magdeburg, by the Frydagh Maschinen- und Gerätebau GmbH. The company's name was changed in 1948 and all the known material relating to the system carries the Frydagh name.

Baukästen speaks of a basic and an add-on set, and a website calls them Set A & B. But the manual refers to only one outfit and lists its contents. Also all the sets seen have the same size & type of box with, as far as is known, no indication that any of them are other than the manual outfit. And although none of the sets are actually complete, no pattern can be seen in their contents which would point to there having been two sets.

Apart from the finish of the parts the only obvious difference in the sets is in the lid labels & manual covers. All are similar to the cover in Fig.1 except that: its orange areas are light blue in all the lids, and there are changes to the bottom left corner. The latter, dated from their PRs are: (A) April 1946, as left (ABTLG. = DEPT.); (B) Feb. 1947, as Fig.1; (C) March 1947, as left.

FIG.2

FIG.3

The full PRs are (A) 1116 Dr.1 446 10000; (B) 376 Dr.1 247 10000; (C) 655 Dr.1 347 10000.

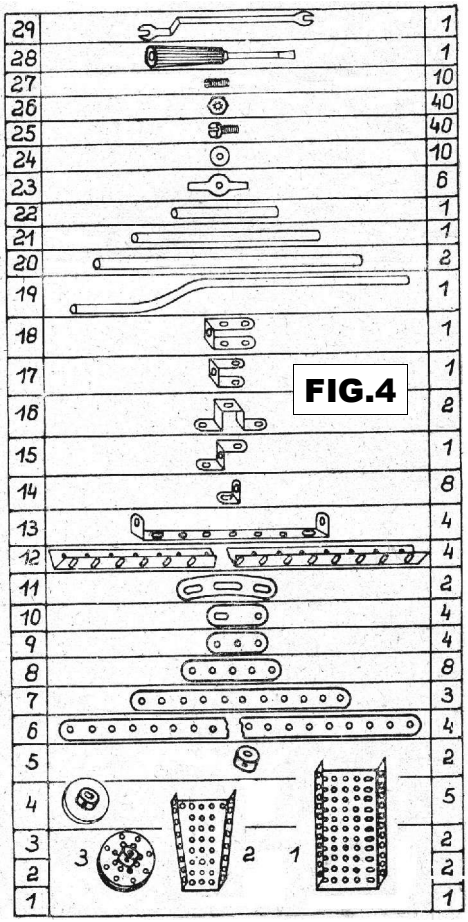


FIG.4

The PARTS Fig.4 is the Illustrated Parts from the manual (compressed and omitting the German names of the parts). Most of the actual parts are as drawn but among Urs' parts in Figs.5-8 (all roughly to scale) the Curved Strip is rather different.

Some points of interest about the parts follow. Most of them are blackened steel. **Holes** are 3.3mm Ø at 13.0mm pitch. The only elongated holes are in #1 (not in the flanges), and #11-14 (#13, not in the lugs). **Axles** are plain steel, 3.0mm Ø. They scale at 5, 11½, & 13cm long; the Crank Handle at 18cm. The **thread** is M3. The **Bolt** is dull silver looking with a cheesehead; the **Nut** is square, 6mm A/F with a brass look. **Bosses** are 10mm Ø, the **Collar** 12mm. All have a 3.5mm bore and are single tapped. **Strips** are 10.5mm wide, & .75mm thick. #6 is 25h long; also the #12 A/G, and it has 10½mm wide arms. The **Pulleys** look to be turned. **#23**'s use is unknown, it is flat, .5mm thick, and has a standard hole, not tapped.

Aluminium and brassed steel parts were mentioned in Baukästen, as well as blackened steel. Some of the Ebay sets contain parts that look silvery, quite likely aluminium. In 6 they are the Pulley Wheels, plus many of the Strips in 3 of them. No particular pattern can be seen in relation to the different labels/covers.

In one of the sets the short Strips are blue and in another the Flanged Plate is orange but this paintwork may not of course be original.

Most of the Ebay sets had un-expected parts in them, many obviously foreigners but a few, as described below, had a generally similar look to the genuine parts. A 4h Wheel Disc or Bush Wheel in 2 of the sets, the latter a part needed in a number of the manual models. Likewise a 5h long DAS in 2 other sets. And 3 of the sets, all the (C) type had a large and a small Gear in them, the large about the size of the Large Pulley, the small about a third the diameter. Two of the pairs had 12 & 40 teeth, the other pair 10 & 30.

The SETS Urs' box, 38*26*3cm, is green inside and out with partitions to give 1 large, 2 medium & 6 small bays. The label is the Type A (Fig.2) and nearly covers the lid. The nominal contents are given in the last column of Fig.4. The set contains most of the different types of part but not the Tools nor the Flanged Sector Plate.

Other boxes are the same size but are red or blue as well as green. Some are white inside but the partitioning is always the same. The label always nearly covers the lid, but only the Type A label has a PR (in the edging bottom left). Of the 7 sets seen which have a manual all but one have the same type of label & manual cover. The exception is Urs' which has a Type A label and, for whatever reason, a Type C manual.


FIG.5


FIG.6

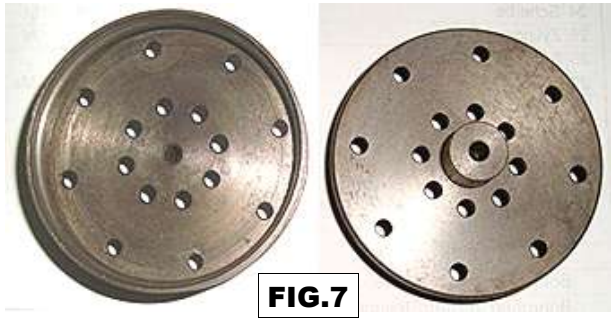


FIG.7

The MANUALS The Type B to hand will be described first. It has 16 pages, 207*142mm, plus covers and the front is shown in Fig.1. The C2-4 covers are pink


FIG.8

and totally plain. p1 is the title page and includes the address as Postfach 15. p2 has the Illustrated Parts/Set Contents; p3 an Introduction. p16 is blank except for the PR & the name of the printer: Kreisdruck+erei Halbensleben. The 34 models are on pages 4-15 and run from 1. Schubkarre [Wheelbarrow] to 38. Presse [(Eccentric) Press]. They are a good selection of the usual small models plus a few larger ones including a Slewing Crane and several machine tools. For each one line drawing, usually adequate though a Parts List would have been interesting because a number of the models need more of some parts than are in the Set. But the main problem is that many of the models need a Bush Wheel and/or 5h long DAS. In some cases the Large Pulley could replace the Bush Wheel but not always, and it would usually look clumsy; likewise the use of alternatives to the DAS. The models 19 & 20 (Figs. & 10) show the problems. The models were clearly not created for the Set and in fact I found most of them in a prewar MÄRKLIN manual, though they had been redrawn without their original shading.

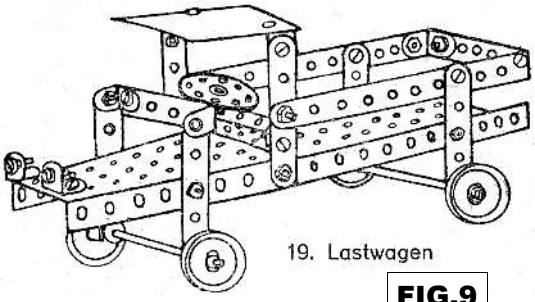


FIG.9

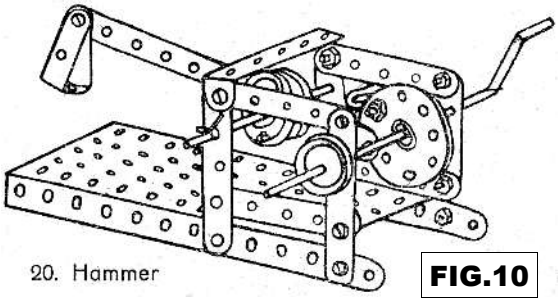


FIG.10

Figs.9-11 are full-size but 11A (from a MÄRKLIN manual) is only 60%.

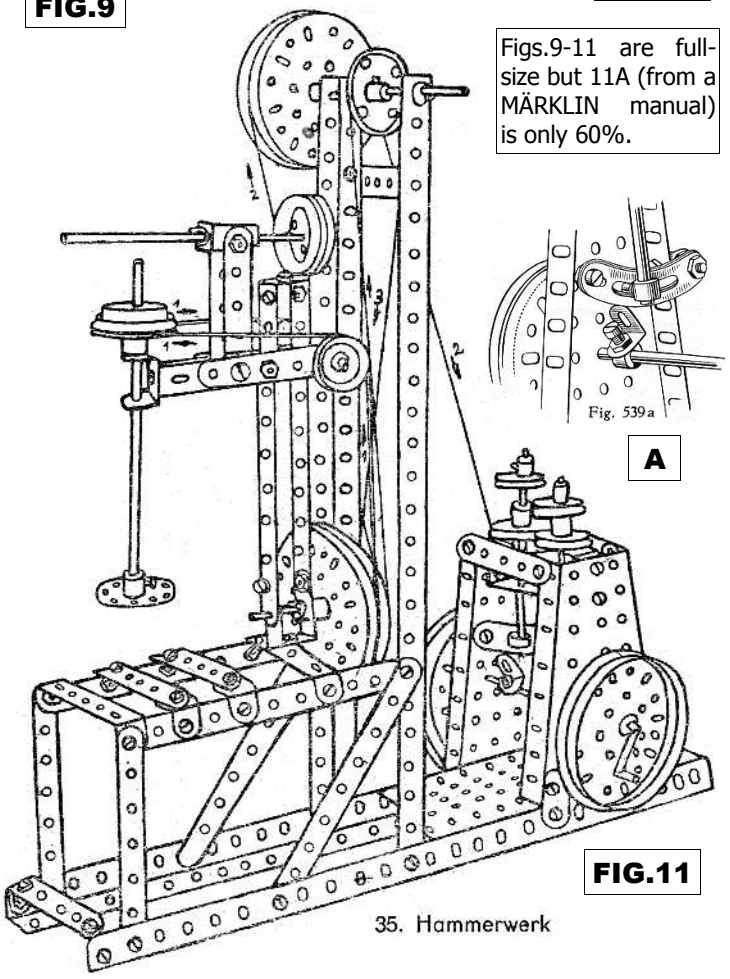


FIG.11

A

Fig.11 is one of the most complex models and needs more Pulleys than are in the Set. Its Märklin name of Dieselmotor mit Schnellbohrmaschine [Diesel Engine with High-Speed Boring Machine] is more apt. The Märklin manual has text explaining that there is: a cord drive 2 from the Large Pulley on the Crank Handle to the top Large Pulley on the cross shaft; a crossed cord drive 3 from the Small Pulley on the cross shaft to another behind the lower Large Pulley; and a cord drive 1 from that Large Pulley to the boring spindle. A scrap view is also provided (Fig.11A) to show how the engine's pistons are moved up & down.

I wonder why Frydagh didn't include a Bush Wheel, a much simpler part to produce than the Large Pulley. And why the 7h long DAS? Could it have been a mix up due to Märklin's practice of describing a 5h long DAS as 'Nr.60/7, 7 Loch', counting all the holes including those in the lugs?

The contents of the Type C manual are identical except for the PR & minor changes to the title page. The Type A has the same number of pages & the 3 model pages seen are identical. But the PR is on the front cover, as on the Type A lid.

FRYDAGH: S2 **OSN 46/1418**

<u>The MAC-SICCAR Big Wheel Set</u>

These notes are based on a photo of the lid right (the label & one end), kindly sent by John Evans; a photo of parts in their box, Fig.2, courtesy Malcolm Hanson; and a set seen on Ebay, far from complete.

FIG.1

The box measures about 16½*6". The small print above the Mac-Siccar name on the label reads REGISTERED TRADE MARK. And along the bottom 'Made by Hunter Bros., High Street, Bordesley, Birmingham. The set has parts to build just the one model. In that it is similar to the KELMAR P'WER HOUSE Ferris Wheel outfit (see 20/587 & 21/618) but much less elaborate. Most likely it was also produced soon after WW2. No other Mac-Siccar sets are known.

The blue Base Sides are joined by substantial Corner Brackets. The bottom of each A-frame bolts onto the base and to a Joint Plate at its apex. The A-frames look to be made from the green parts in the box, and they scale at about 12" long. They have a narrow stiffening flange, or possibly they are a shallow U-section. The Joint Plate is also flanged and is probably the red part marked 'A' in Fig.2. The wheel's Axle has one end cranked and carries the hubs for the wheel, most likely permanently attached. The yellow Radial & Outer Wheel

MAC-SICCAR: S1 **OSN 46/1418**