

Some Notes on the History of STABIL

by Werner Sticht

Introduction Leaving aside the ANKER Bridge Construction Set, Walther's metal construction sets were the first in Germany. Their main system, called STABIL, was very popular, and the name 'STABIL-Baukasten' became a synonym for every MCS in Germany. You could even say that STABIL was the German MCS, at least for a long period. Looking at STABIL, the influence of MECCANO is evident with very nearly the same size flat strips and hole spacing (12.5mm instead of 12.7), and some parts are direct copies of their MECCANO equivalents.

But there is a fundamental difference in that Walthers used screwed rods as axles, so allowing wheels and gears to be attached to them without the complexity of tapped bosses or (fragile) tongued clips. Other significant Walther developments were their patented gears, powerful clockwork motors, the 'Gewichtsmotor' (motor driven by a weight) which could be constructed with STABIL parts, and the introduction of the first gears in plastic in 1938. Also their 'Erfinderbaukästen' (Inventor's Outfits) which contained large rolled shafts running in ball-bearings, and single teeth to make gearwheels with any number of teeth. These parts were unique to Walther & Co., and they had three patents on them.

Another STABIL feature was that the outfits contained some wooden parts, a feed across from the wooden construction sets which Walthers also made.

The manuals were technically oriented and even more than with Frank Hornby, stress was laid on the use of the correct and exact technical language. STABIL was planned for junior engineers, a characteristic which was not so evident with the other German MCS.

Most of the dates given below have come from the manuals, listed at the end, that I've been able to consult, and may therefore be in error by a year or so in some cases, depending on the gap between one manual and the next. Another important source of material has been two Bank Reports on the company, kindly sent by Ansgar Henze.

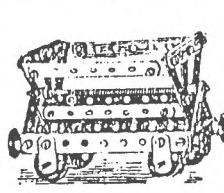
The Outfits and their Numbering STABIL outfits were numbered from 46 to 58. Standard outfits were No.49 to the largest, No.55; 56 to 58 were used for the Erfinderbaukästen. These were to intended as additions to the standard sets and the smallest, No.56, was to be used with Outfits 49 to 51; No.57 with 50 to 52; and No.58 with 52 to 55. There were also conversion outfits 46a, 48a to 54a, 56a, and 57a. They converted an existing outfit to the next larger one except that the No.46a converted a No.46 or a No.47 to a No.48.

Sets 46 to 48 were introduced in the 1930s as very small outfits and each had a special manual to itself. Nos.46 and 47 have already been discussed in OSN (11/272), so will not be mentioned further. Only No.48 survived WW2 and continued until the end in 1972.

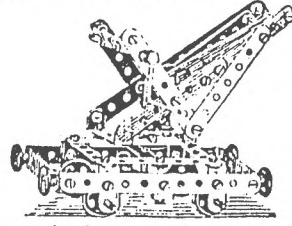
The numbering scheme for the outfits is somewhat unusual as explained in OSN 11. It may have arisen from a desire to have numbers for sets and parts that did not conflict, but certainly in the early days some numbers were used for both STABIL parts and non-STABIL sets. A 1914 price list shows, in numerical order, and leaving out linking sets and variations due to packaging in card or wooden boxes, the following:

- RECORD Sets 00-4 (all wooden parts).
- INGENIEUR Sets 8-11 (No.11 was described in 7/164, and from this List it is now certain that these sets and STABIL were both made by the same firm.)
- MASCHINEN Sets 30/1 and 30/3 (mostly wooden parts).
- STABIL Sets 49-56 (the largest, No.56, is said to be 'in preparation' and it isn't known whether it ever appeared - it is not of course the smallest of the Erfinderkästen, which were introduced in the 1920s).

- STABIL Railway Wagon Sets 59-63 (Eisenbahnwagenbau. Full details of these 'theme' sets are not available but it appears that (at least in large measure) standard STABIL parts were used. The different outfits allowed from 2 to 9 wagons to be made at the same time and it is stated that instructions were also provided to allow other types of models to be made. Two of the Wagons are shown below.



Kippwagen.



Wagen mit dreh- u. kippbarem Krahn.

- RECORD Sets 200-203 (all wooden parts).

Parts numbered from 1 to at least 35a were listed in an early STABIL manual for sets 50-52, probably dating from well before 1914. (This manual provides most of the available information on the early days, and will be referred to as the 'c1910' manual.)

Before WW1 one ARTS ET MÉTIERS outfit (see 'STABIL in other Countries' later) was numbered 81 and was nearly the same as the INGENIEUR No.11 set.

In 1925 the wooden RECORD wooden outfits were totally revised with sets numbered from 100 to 106.

The History of Walther & Co. and the Development of STABIL This outline in chronological order is based on the facts I've been able to find. More detailed information on the parts and manuals is given later.

1903 This is believed to be the year in which the firm Walther was founded by Franz Walther, who was previously in the wood trade. Other sources give 1905 but the 1903 date was from the Industrie und Handelskammer (Chamber of Industry and Commerce) in Berlin. A patent No.153854 from 4th June 1903, in the name of Walter Walther of Berlin, describes a wooden constructional toy, with steel brackets, to build houses. Franz's son was called Walter but there is at present nothing to show that the Walter of this patent was connected with the firm Walthers.

1904 On the 16th June 1904, Franz's wife Emma, née Metzel, applied successfully for five 'Gebrauchsmuster' (DRGM for short - a registered design, not a patent), Nos.248934 to 248938. These were the first of the 9 DRGMs mentioned in an advertisement in 1929. The Berlin Patent Office informed me that all details of those old registered designs have been lost and only their titles can be found in the German 'Patentblatt' (a periodical listing of patents, etc.). They covered the following metal parts, using MECCANO names: perforated strips (and probably plates); a double bent strip; a double bracket or double angle strip; a reversed angle bracket; and angle girders. Other relevant DRGMs are No.253288 and 289896 from 1905/1906, but I don't have details yet.

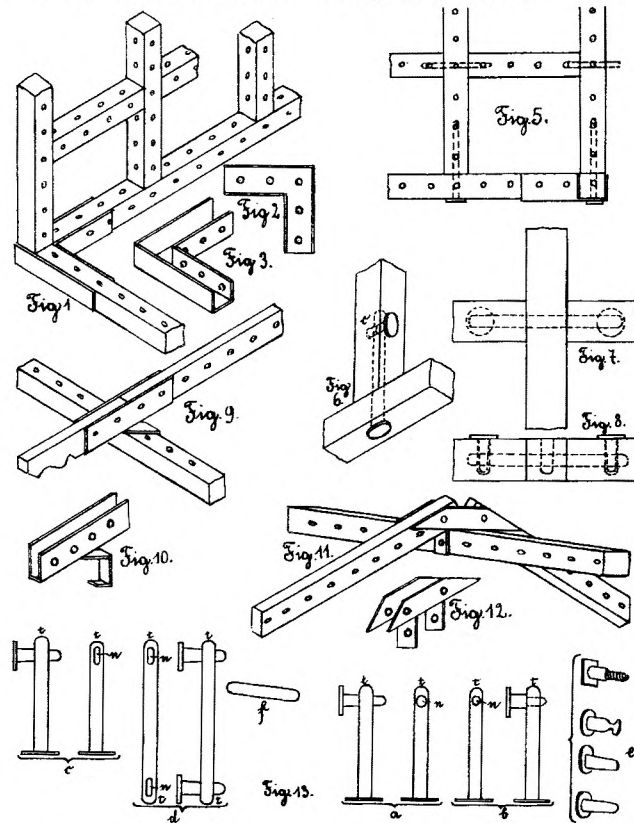
1906 1906 to 1956 are the dates given on the cover of the 50 year jubilee manual. I was told that 1906 was not quite correct when I visited the Walther offices in 1968. In 1929 they had held a jubilee model competition, thus indicating 1904, and in an advertisement at the end of 1930, it was said that they'd had 25 years of experience, and that they had been the first in the field in Germany. My guess is that they began making some wooden constructional outfits or possibly the INGENIEUR in 1904, and STABIL was first marketed in 1906.

1910 The business was not doing too well and ownership was put into Emma's name.

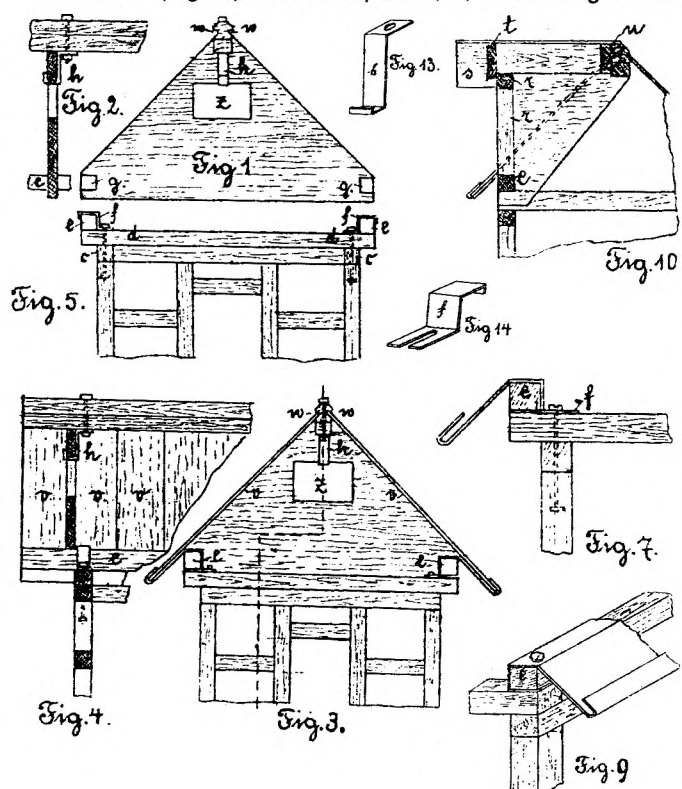
STABIL and INGENIEUR was being sold abroad but the name Walther was apparently not good for sales in some

Walther Walther's 1903 Patent This was mentioned in 13/348, and was referred to by Frank Hornby in his Life Story of Meccano (MM Feb. 1932, see 21/618). It, and an add-on patent in 1904, were all about parts to make wooden frameworks for model buildings. Wooden beams, perforated with equi-spaced holes, were to be joined by steel brackets or rods, held by a variety of pins which were locked in position by metal wedges. The 1904 patent (No.172173) was concerned with roofing elements.

Fig.1 below shows a corner of the base held by a bracket (Figs.2,3), and the uprights & cross members could be held as in Figs.5-8, by pins or rods, held by wedges, screws, or clips (Fig.13). 2 other brackets are used to hold rafters (Figs.9,10) and the roof ridge (Figs.11,12).



In the second patent Figs.1-5 below show a gable end fitting over side members, e, which are held in place by brackets, f (Fig.14). The roof panels, v, fit into a grooved



ridge member at the top (held by the bracket, h, Fig.13) and into a metal eaves section at the bottom (Fig.7 or 9). What looks like a dormer window is also shown (Fig.10).

As far as is known the system was never put into production and it is puzzling why Hornby should have mentioned this patent in his MM account, nearly 30 years after the event. When an application for a German patent is rejected the reasons have to be given, and as far as parts with equi-spaced holes are concerned presumably Lilienthal's 1888 patent would have been cited. It is not known for sure but it seems likely that Hornby's application was made before Walter's patent, but even if it wasn't the latter doesn't seem to contain anything relevant, not even a claim for the equi-spaced holes, because Lilienthal had priority there.

It would seem that Hornby still felt that he wanted to justify his claim to have invented the first mechanical constructional toy. That is perhaps understandable but why then pick on Walter's patent rather than say Korbuly's MATADOR patent, which (as explained in David Hohson's *Primus Engineering*) was much more akin to MECCANO in concept and in detail. The answer could be that Hornby was aware, and irritated, that Franz Walther was going into print (see 20/571) challenging his claim by reference to Lilienthal's patent. By 1932 Hornby was probably a busy man with many outside interests, so no doubt he had the draft of his Life Story prepared for him. But one can imagine that he discussed the project briefly with the author, & said something like 'and dig out that German patent that all the fuss is about and make it clear that it was totally non-mechanical in nature - it was to do with making buildings with wooden parts'. So the hack, who had heard the name Walther as a competitor, but doesn't know in detail what Franz Walther has been saying, and hasn't heard of the Lilienthal connection, is delighted when their patent agent finds a patent that not only fits Hornby's description but also bears the Walther name. So why was Walther not named in the article? Imagine one step further - the name is in the draft but when Hornby reads it he realises that it's probably the wrong patent - but time is short & if the name is left out what has been written is more or less true of the Lilienthal one. Voilà. Other explanations, hopefully more plausible, are invited.

Finally thank you to Werner Sticht who sent copies of the Walter Walther patents.

The ZOGEL / FG (ex GF) Metallbaukasten Following the account of 'GF' in 21/600, Jacques Pitrat has found some more about these sets in the invaluable *Baukästen*. A photo on p218 shows a box lid just like the one in OSN 21 except that in the top left corner the logo is a very narrow 'Z'. This was the mark of G. Zogel, a firm in the U.S. Zone, and the dates given are 1946-48. To the left of the lid is a photo of the open box, and apart from the Narrow Strips, most of the main parts in the Set can be seen, and they look the same as those described in OSN 21 (no short Strips can be seen, narrow or otherwise).

The 'GF' logo in OSN 21 ought it seems to have been called 'FG' because (BK, p250) it belonged to a manufacturer called F.G. No details of this firm are given except that it existed after 1945. As noted in OSN 21 another FG set is shown in EZ, and in a clearer view of it in BK, again on p218, the FDKK words can be seen clearly on the lid. These are given as the Set's name in BK, but since the model on the lid is clearly the same as on Jacques' Set, it seems best to regard the phrase as simply a slogan, or it may prove to denote some change of content. In either case both sets will for now be classified under the name FG Metallbaukasten.

As explained in OSN 21 the FDKK Set had been judged the later of the two (because its lid looks more modern), and this would fit into a sequence of first, manufacture by G.ZOGEL, then by F.G. using the original box with the FG logo pasted on (as on Jacques' Set), and finally the introduction of a new box with the FDKK slogan on it.

Corrections Under KONSTRUKTOR-MEKHANIK in 21/618, '18/566' in the 2nd line should be '18/499'.

ITEMS FROM LETTERS

1. From Werner Sticht. A complete list of all the **Walther** (of STABIL, etc. fame) **patents & DRGMs**, from 1898 through 1933, that he has compiled. In fact he was able to search to 1943 but there weren't any after 1933. Some of the points of interest: • Walther's first metal system was the **INGENIEUR** sets (see 7/164, 19/550), and a DRGM application (#253288) for the **Bifurcated Clips** that were used to fasten the parts together was made on June 16th 1904. On the same date application was made for the 5 DRGMs quoted in 13/348 but their numbers are 248034 to 248038, and not 249934-38 as given in OSN 13. • The DRGM application, #289896, for the wooden **RECORD** parts, (mentioned in 13/348) was made in July 1906. • DRGM 473572, for the use of **Threaded Rods** as axles or connecting rods in a constructional toy with Strips & A/Gs having equi-spaced holes, was made in June 1911. STABIL, which used such Threaded Rods, with Wheels, etc held on them by Nuts, had been launched some time before that, and they were used in the earlier INGENIEUR, so it is surmised that something must have alerted Walther to the need to protect his use of them. Had he become aware of MECCANO, with its less satisfactory tongued Clip method of fixing Wheels to Rods that was still being used in 1911? • March 1913 saw the application for DRGM 548483, subject a **Flanged Plate** with the centre punched out. This suggests that the transition from Period 1a to 1b (see 19/548) was in 1913.

• The date of **introduction of STABIL** is further confused by a wholesaler's catalogue, believed to be from 1911, (courtesy Tobias Mey, via Thomas Morzinck) for the 'Neu! Ingenieur-Bauspiel STABIL' with metal parts. What was new if STABIL had already been on sale for some years isn't clear - new to the wholesaler perhaps. At any rate 5 sets were advertised, with no set numbers, only the sizes of the boxes. The smallest was cardboard, and the others wood, with the largest measuring 46*29*4½cm. Also listed are 2 sets (Stabil - Spezialspiele) to build Railway Wagons. From the details given it is likely that the range was Sets 49 to 53, plus the Railway Sets 60 & 61 (Railway Sets 59-63, from 1914, were mentioned in 13/348).

• On the date of **MINIATUR** (see 17/468), it was not in a dealers' catalogue printed for the toy fair in the Spring of 1914, but it was very probably introduced before Xmas of that year, under the name STABIL MINIATUR. Thomas Morzinck has seen a box and a manual belonging to Tobias Mey, both with this name on them, and though the contents of the Set are as later, the Manual has fewer models for both Sets 20 & 21, than the © 1915 one. It is supposed that the name was changed because customers thought that, particularly because of its low price, STABIL MINIATUR meant a small STABIL set, and then found that they had bought a different system with parts that were not compatible with STABIL.

A pointer to when MINIATUR was being developed is that the DRGM for the Flanged Sector Plate was applied for on May 14th 1914. This part was not introduced into STABIL proper until 1921.

Probably production of MINIATUR ceased in the 1920s but it may have resumed in the mid-1930s. It was advertised in a 1936 brochure, possibly as a reaction to Märklin's MARBI (see 10/246). No changes were ever made to the models in the 1915 version of the manual.

2. From David Hobson. • A reply from **Trix** to an enquiry last October said that their constructional set programme had ceased but that some parts were still available.

3. Clive Weston wrote that he had obtained a copy of **Baukästen** (see 21/601) from www.Amazon.de at a total cost of about £21.

4. Kendrick Bisset wrote that he now has another **TECHNICAL TRAINER** set (see 19/528), and the label on the lid has 'F. A. M.' instead of 'TUCKER TOYS' in the white 'T' (see 10/264) with a small 'CO' underneath instead of 'INC'. And the address on the lower edge of the label is for Farmingdale Aircraftsmen instead of Tucker Toys. The corners & top edges of the FAM box are rounded, but otherwise it is similar in construction to the TUCKER one.

5. From Peter Kessler. Apart from the La Manche Set (see 21/595) **Märklin** have 10 other '**specials**' currently listed. Most are railway items but of possible interest are a 60cm long metal Zeppelin from the 1930s (#11400), and a Fire Engine with Tender (#19035). [The Zep is probably non-constructional; the Fire Engine looks like a long van with a ladder on its roof, and is said to be 'auf Basis des Auto-Baukastens'.] Peter said that delivery of these items was uncertain, and that he hadn't yet been able to order any of the cheap parts mentioned in 21/595.

6. An interesting **MECCANO X** item from Tony Press, copies of the front & back of a Liverpool X2 Model Leaflet, 13/1037/5, with the text in both English & French. On the front the top panel is the same as the LIF one in 16/446, and the text (English in the LH column, French in the right) is the same as that of a 1932 'X' one. The back shows 6 'Super Models' as on the 1932 'X' Leaflet except that the 2 additional centre models of the latter are omitted to make room for the Lists of 'X' parts in the 2 languages. [Despite Tony sending it from Australia, I suppose this Leaflet might have been for the Canadian market.]

7. Ron Michalowski wrote that the 6 page **ERECTOR Booklet** described in 21/593, did bear the reference M 973.

8. Jacques Pitrat sent a picture from ebay of a 'new' system, **PERFECTOR**.

The models above the name on the manual cover (right) are a Loco, a Lorry, a Marine Engine, and a Railway Signal, but nothing can be seen of the individual parts. The box



has a similar label on the lid. It was described as being German but *Baukästen* says that it was Austrian, made in Vienna by Kappl & Trubrig in 1948. How long it lasted isn't stated but the firm stopped making toys in the 1950s. No other details are given. [Since the above was written Kendrick Bisset has sent more details which will be included in OSN 22.]

9. From Don Redmond. • A brass Flanged & Grooved Wheel with a tread almost conical, and a very smooth curve from flange to tread, is believed to be early **AMERICAN MODEL BUILDER**. Can anyone confirm?

• After removing the nickel MECCANO & AMB parts from a **STRUCTOMODE** No.3 box, the remainder are believed to be original, and include the following. ½ & ¾" tinplate Pulleys without Boss, the ¾" with 4 peened over tabs in the centre hole, the ½" with 3. Strips erratic in their punching and in the form of the ends, with punching burrs on almost every hole. One of 4 Windmill Sail with the holes too close to the outer end. Double Brackets of heavy strip and noticeable higher than MECCANO. A bright nickel 5*11h Flanged Plate, out of square in both sheet & hole punching, with the flange holes on one side distinctly above the midline of the flange, (as in the MCS illustration). 2 bright, and one dull nickel Flanged Sector Plates, with 'slanted' or irregularly punched flange holes. However there is a possibility that the bright Flanged Plates are from a different set/system. These parts are of a much poorer standard than some other parts known to be STRUCTOMODE.