

## US Meccano, 1909 – 1922

By Kendrick Bisset

The early history of Meccano in the United States is a tangled web with lots of information from many sources. In telling the story, the first question is how to present the story so that it is understandable. There are several threads in this period which need to be understood:

1. The establishment of Meccano in the US and formation of Meccano Company, Inc.
2. World War One, or The Great War as it was known at the time.
3. Competitors (there were many) and the changing toy market in the US.
4. The famous patent and copyright litigations against Wagner (maker of American Model Builder) and Wanamaker (a large Philadelphia and New York department store which sold AMB).
5. The people involved. Frank Hornby, of course, but several others were involved in the Meccano Company, Inc. and later the Meccano Company of America, Inc.
6. The US version of the *Meccano Magazine*, originally called *The Meccano Engineer*.
7. The products, including outfits and manuals.

Each of these threads gets tangled in the others, to a greater or lesser extent. It seems that telling one story at a time would cause difficulty in relating to the other stories. Thus, this narrative will (to the extent practical) be told chronologically, trying to cover all parts as they appear.

This period starts with the beginning of Meccano in the United States and ends with the opening of the Meccano factory in Elizabeth, New Jersey.

### 1909 – 1913

During this period, Meccano was imported into the United States by The Embossing Company of Albany, New York. This company was very active

in producing toys with an educational value. Some of their products included dominoes, building blocks with embossed letters and animals, anagram letter sets, and architectural blocks. They used the slogan “Toys That Teach”. The company had been in business since the 1860’s.

The earliest evidence of Meccano in the United States is twofold. The first is the 1909 Meccano Manual that has an overprinting on the cover. The English version of this manual has “Copyright by MECCANO LIMITED, LIVERPOOL, throughout the World” in one line, at the bottom of the front cover. The US version has a line added above the copyright line, reading: “American Agents: THE EMBOSSING COMPANY, ALBANY, N.Y.”. This line seems to have been printed at the same time as the rest of the cover; if not, the ink appears to match the other printing exactly. There is also overprinting, apparently using a rubber stamp, obliterating (but not totally) the “Copyright by” and “throughout the World” on the original printing. This manual lists prices in dollars and cents, Outfits 1 – 6 and 1a – 5a are listed on the last page (page 52).

The second evidence of Meccano in the US at this time is a letter on The Embossing Company letterhead, dated October 18<sup>th</sup>, 1909. The letter is “TO THE TRADE”, and transmits an undated Embossing Company booklet and a Harbutt’s Plasticine circular. The letterhead includes ‘American Agents / “Harbutt’s Plasticine” / “Meccano” / and Other Specialties’. The booklet accompanying the letter has four pages on Meccano.

Boxes for outfits 1 through 4 up through about 1911 were “matchbox” style; that is, the parts tray slides inside a sleeve. A bit later, the box lids of these outfits were hinged, though often the hinge (a piece of cloth-like material) has torn. Later still, the familiar separate lift-off lid was used, and this continued through at least 1929 for outfits 1 through 4.

The parts range was rather limited (at least when compared with later Meccano production). It should be noted that there were no plates, flanged or otherwise, until 1911. There were no set screws to hold the wheels and gears to the axles until 1912; a key was used which has a tongue fitted into a rounded groove in the wheel. Because of this shape, it is known as a “tunnel” groove, to distinguish from the earlier slotted groove using a “feather” key. (The feather key was out of use before 1908.)

There appear to be differences between the “US” outfits and those sold in England during this period. First, the manuals are different, as described above. Second, there seems to have been a label pasted on the box, usually on the outside in the lower right corner. It reads “PATENTED IN UNITED STATES 16th JANUARY, 1906” and is often very hard to read. This label has also been found glued inside the wooden boxes of the larger outfits. These labels were not used for very long; it apparently was pointed out that the subject patent only claimed the early feather key fixing, and was no longer being used (see Judge Hollister’s decision in 234 Fed. 912). Also, the contents differed from those sold in England, especially after 1915, when electric motors were included in “X” outfits as well as 4, 5, and 6 outfits.

The above cited lawsuit contains a description of early Meccano activity in the United States, including sales figures: 1909 – \$7000; 1910 – \$24,000; 1911 – \$49,000; and 1912 – \$114,000. The growth is remarkable, but we can’t appreciate the magnitudes because of the change in value of the dollar since 1909. During this time, a No. 3 outfit sold for \$6.00, and a No. 4 sold for \$10.00. Assuming an average of \$8.00 per set at retail, the above numbers would translate to: 1909 – 875 sets; 1910 – 3,000 sets; 1911 – 6,125 sets; and 1912 – 14,250 sets. Small wonder that several companies took notice and began making similar construction toys.

## Competition

From 1910 through 1915, at least nine other metal construction toys (henceforth ‘systems’) were introduced in the United States. In many instances, the year of introduction is not well documented.

Of these, the best known is Erector, which continued in production through the late 1980’s. Other fairly common systems are American Model Builder (henceforth AMB) and Structo. It appears that the only systems which continued after around 1920 were Meccano and Erector – all of the others seem to have disappeared.

There were also two early Canadian systems: Castle Builder and Structomode, but those were not directly affected by US patents or lawsuits. A system called Bill Deezy was introduced in the US around 1914, but it used rods and slip connectors, and no nuts and bolts; it was a very different concept, and will not be further considered here.

These systems were all similar to Meccano in their basic principle: metal strips and other shapes with holes are fastened together using nuts and bolts. Most included perforated plates, some with one or two flanges, and some with no flanges. Most of these systems used round holes, but a few used other shapes. Modelit made a major change in the design of their system during this period (more on that later), so we have to consider two systems under that name. Describing ten systems in text complicates comparisons, so the chart will summarize the important (for this discussion) characteristics for all of them.

Unless one is very familiar with the details of these systems, it is generally very hard to identify the manufacturer of a particular part. In some instances, parts can only be identified by careful measurements of thickness, hole diameter, thread size, or other characteristics. Occasionally, the finish can help identify the source of a part. Meccano (in this period) used nickel plating, as did AMB, Erector, Modelit, and some Sterling Toy Builder outfits. Engineer, Master Builder, and

most Structo used tin plating. When new, tin plating is shiny and a bit ‘cooler’ than nickel, but similar enough that many people would not be able to distinguish them unless they were next to each other. Over the years, tin usually turns a dark gray, and so is now usually very readily identified.

**American Model Builder (AMB)** was a fairly blatant copy of Meccano. By 1913, they were advertising their product fairly heavily. Based on the number of AMB outfits still available in 2019 (via on-line auction sites for example), AMB had been selling fairly well. AMB used flanged plates, both rectangular and tapered (“sector”). Around 1915, grooves were added to the plates, making them easier to distinguish from Meccano parts. In 1917, the sector plate was replaced by a pair of plates, each with one flange, which could be bolted together to make a theoretical equivalent to the sector plate. (As a side point, mentioned briefly in the decision, AMB had produced dealers’ display cabinets for separate parts which were very similar to those made by Meccano.)

**Structo** was introduced in 1912 and would have been known to Meccano by 1913. Structo used plates with only one flange, and so did not infringe the Meccano patent. Otherwise the Structo sets would have appeared similar to those of Meccano, and later court decisions may have been used by Meccano to put pressure on Structo. Structo started making toy constructional vehicles in 1917. Meccano bought the construction toy line (not the constructional vehicles) in December of 1919 – more on that further on.

**Erector** had only just come on the market in 1913; the trademark “claims use since on or about the 15th day of February, 1913”, though not filed until January 14, 1915. Perhaps Erector had not yet made much of an impact on Meccano sales in 1913. Erector also did not infringe on the Meccano perforated plate patent; Erector plates of the time had no flanges, and an irregular hole spacing as well (though the spacing was on multiples of 1/2 inch). Finally, the main Erector ‘strips’ were single-braced girders, a bit more than

1 inch wide, with small flanges on each long side. These flanges allowed four girders to be assembled into a box girder. With these unique parts available in three lengths, an Erector set appeared quite different from a Meccano set. Erector did have perforated strips 1/2 inch wide with holes on 1/2 inch centers, but they were treated as subsidiary parts. Even the smallest outfits had the wide girders prominently displayed. A. C. Gilbert claimed that the design of the girders was based on the structures used for the electrification of the New Haven Railroad; he would have seen the work as he went to and from New York City. I wonder if that may be true, but not because he liked the look of the structures, but because the design would appear quite different from Meccano.

**Struktiron** was made by Ives, of toy train fame. It appears in Ives catalogs from 1913 through 1915, and in a separate booklet in 1916. The 1913 parts list includes flat plates, but in 1915 rectangular plates with two flanges were added, with holes in the flanges. Struktiron used odd hole spacings: 5/8 inch in the plates, 1-9/16 inch in the strips (with long slots between), and 5/16 inch or 5/8 inch in the smaller connectors. The strips are 3/8 inch wide. All of the plates, strips, and connectors are painted black. Of all of the systems under discussion here, Struktiron parts are the most readily identified. Struktiron does not appear in the 1917 Ives catalog.

The **Master Builder** logo was trademarked in 1914. Plates have two flanges; the segment plate can be identified by the two slotted holes in the top portion.

**Sterling Toy Builder** parts can be identified in the “antique copper” finish, but they also offered nickel finish. Many nickel Sterling parts may well be mixed with AMB parts, as they are very similar. Again, dates are difficult to define well. Sterling does not seem to be a common system, so little information is available. However, Sterling is an early system, known in 1915. The plates had either a single flange, or no flanges.

Name; Manufacturer		Rectangular Plate number of flanges	Tapered Plate number of flanges	Shape of Holes	Finish of strips, plates, etc.	
Meccano; Meccano Ltd., Liverpool, England	1909	2	2	round	Nickel	
American Model Builder; American Mechanical Toy Co., Dayton, OH	1912	2	2	round	Nickel	
Structo; Thompson Mfg, later Structo Co, Freeport, IL	1912	1		round	Nickel (very early), Tin	
Erector; Mysto Mfg, later A. C. Gilbert, New Haven, CT	1913	0		round	Nickel	Girder-like 'strips'
Struktiron; Ives Mfg Corp. Bridgeport, CT	1913 – 16	2		round / slot	Black Paint	
Master Builder; Acorn Mfg, New York, NY	1914	2	2	round	Tin	
Sterling Toy Builder; N. N. Hill Brass Co., East Hampton, CT	ca. 1914	1		round	Antique Copper or Nickel	
Modelit [a]; Watrous Manufacturing Co., East Hampton, CT	1915	0	0	round	Nickel	
Modelit [b]; Watrous Manufacturing Co., East Hampton, CT		0		round / square	Nickel	7/16" spacing
Engineero; Engineero Co., New York NY	ca. 1915	2		diamond	Tin	notches in side of strips
Toy Planner; Hadley Smith Manufacturing Co., Moodus, CT	1916?	0		round / diamond	Brass finish	

Blank means no such parts in system

Finding the dates of **Modelit** has been a challenge. I have found only one advertisement for the system, from Popular Science Monthly in December 1915. It is listed in Hendricks' Commercial Register for both 1917-18 and 1918-19. The issue is complicated by the two systems with that name, both made by the Watrous Manufacturing Company. Modelit [a] used round holes on 1/2 inch centers. The plates (both rectangular and segment) had no flanges, but appropriate angle girders were provided, even in the small outfits, to add flanges to the flat plates. My collection includes such an outfit, and the angle girders are bolted to the flat plates. One wonders if the outfit was sold with the parts assembled. It appears that the system was changed at some point, perhaps to deflect legal action from Meccano. Modelit [b] changed the hole spacing to 7/16 inch, and for most parts, used alternate round and square holes. The segment (or tapered) plate was dropped; only rectangular and gusset plates were included. The changes included set and part numbers. Original sets were numbered (1 through 5, with supplemental 1-A through 4-A sets); the

apparently later system sets were lettered (A through G, with supplemental A-S through F-S sets). Part numbers changed, too, from 1 through 66 to 101 through 162, with a very different order.

**Engineero** is another system which is hard to date, but is known in 1915. It uses square holes in most parts, set diagonally, which I am calling "diamond" shape. Edges of strips and angle girders have triangular notches between the holes, providing a distinctive appearance.

I know of only one example of a **Toy Planner** outfit. Based on that small outfit, it appears that only that size outfit was made. The five hole strips (the only size strip in the system) has three round holes separated by two elongated diamond holes. No axles are included, and the sheet metal wheels have to turn on bolts. A small 3 x 9 hole flat plate is included.

To help identify the various systems, a separate document has photographs of the ten systems, and another document has the parts illustrations and lists for the ten systems. However, nearly all of the

systems changed in some way over this time frame. In many cases, parts were added to the systems. Understanding these changes requires more information than appropriate for a discussion of US Meccano. Tony Knowles' *Other Systems Newsletter* was a wonderful source of information, but Tony passed away in 2022. His newsletters live on at Timothy Edwards' website <https://www.meccanoindex.co.uk> (at least in 2025).

The *Dry Goods Reporter* magazine had an article in the May 29, 1915 issue about a "retailer in Wisconsin" who ran a structural toy construction contest. There had been comments in other issues of that magazine pointing out the sudden increase in interest in construction toys, but this article named some of the manufacturers represented in the contest. Included were Structo (two models), American Mechanical Toy Company (American Model Builder, two models), Master Builder, N. N. Hill Brass Company (Sterling Toy Builder), and Engineero. Tinkertoy was also represented, but not relevant to our discussion because it is wood, and does not use nuts and bolts. Significantly, neither Meccano nor Erector were mentioned. Struktiron, Modelit, and Toy Planner were also not mentioned, the last not surprisingly.

A surprise for me is the number of other systems which arose so quickly in the USA. Certainly, the success of Meccano in these early years encouraged a number other manufacturers to enter the market. With this dramatic proliferation, one would expect a big "but..."; and indeed that did occur. Near the end of 1913, Meccano brought suit against American Model Builder in the person of Frank Wagner for patent and copyright infringement.

Before we go there, though, we need to return briefly to Meccano.

### **1913 The Meccano Company, Incorporated**

Records of Frank Hornby's visits (as well as other people involved) to the US are available from the

Statue of Liberty – Ellis Island Foundation, and are listed in the US Meccano Timeline. By 1913, Mr. Hornby had visited three times: once in 1911 and twice in 1912. A brief note in *Toys and Novelties* magazine for October 1913 mentions the incorporation of Meccano in the United States. The full portion reads:

"Meccano Company, Inc., Of New York City, has been incorporated with a capital stock of \$10,000 for the purpose of dealing in mechanical toys.

"The Embossing Company, of Albany, N. Y., American distributors of Meccano write in reply to an inquiry as to the effect which the formation of this new corporation will have on the present distributing organization, as follows: 'It was considered advisable to open up a branch of Meccano, Ltd., in New York City, to look after some special phases of the business on this side. The New York branch will be in charge of George Jones, formerly connected with the Liverpool, England, office, and will not affect the organization of The Embossing Company, the branch office at 377 Broadway still being maintained'

"Guy D. Hills, who heads the list of incorporators of the new company, is secretary of The Embossing Company. Andrew Thompson, another of the stockholders, is vice president of the same company, and Mr. Jones, the third incorporator is from the home office and will have charge of the New York office"

George Jones, from Birkenhead, England arrived in New York in February, 1913 along with Frank Hornby on a short (about a month) visit. On August 8, 1913 he arrived again with his wife Alice L. L. and son George R. on the steamer Adriatic. He was 39 years old. Birkenhead is across the River Mersey from Liverpool. On August 30, 1913, Henry Hudson Dobson arrived in the US from England; he was 22 years old at the time. His home address was Wallasey, England, also across the River Mersey from Liverpool. He apparently came to the US to help form the Meccano Company, Inc., and had a long

time association with Meccano Limited and the Meccano Company of America, Inc.

The Meccano Company, Inc. was registered on September 8, 1913. The directors listed in the incorporation papers are Frank Hornby, George Jones, and Ralph Underhill (who, I think, was a lawyer). The shareholders are listed as mentioned in the Toys and Novelties article; but the Embossing Company employees only had one share each, while George Jones held 1998 shares. The purposes of the corporation include the right to manufacture "...mechanical and other toys of every kind and description...".

There seems to have been an increase in advertising at this time, based on the number of ads found. Through 1914, The Embossing Company continued as "special agents", but there is no mention of The Embossing Company in Meccano literature after 1914. There has been much speculation that Joshua Lionel Cowan (of the Lionel trains) was an important part of the Meccano Company. It appears that there was some sort of connection, as the 1916 Lionel Trains catalog features a Meccano bridge across the center pages. Also, the first low voltage Meccano electric motors were made in the United States; based on the construction, these bear a very strong resemblance to Lionel motors of the time. I am not sure of the requirements in 1913, but in 1980 I learned that a US company could only be formed by a citizen of the United States, so it is possible that Frank Hornby had to work with a US citizen to form the company (in this case, George Jones apparently was not a US citizen, but Andrew Thompson and Guy Hills were. These were the incorporators.). However, as this is being written, no documents have appeared to support any formal involvement by Joshua Lionel Cowan in the Meccano Company, Inc.

During this period, one finds US Meccano addresses of Masonic Hall or 71 West 23<sup>rd</sup> Street. The latter is the delivery address of Masonic Hall in 2010; the "front" address is 46-54 West 24<sup>th</sup> Street; the building extends between 23<sup>rd</sup> and 24<sup>th</sup>

Streets, with entrances on both streets. It is in the block between 5<sup>th</sup> and 6<sup>th</sup> Avenues, and closer to 6<sup>th</sup> Avenue. All of these addresses (Masonic Hall, NY; 71 West 23<sup>rd</sup> Street, NY; and 46 West 24<sup>th</sup> Street, NY) are used in various Meccano documents over the years. The location is significant, as many toy companies used (and still use) 200 5<sup>th</sup> Avenue as their headquarters; that building is now known as the International Toy Center. 200 5<sup>th</sup> Avenue is between 23<sup>rd</sup> and 24<sup>th</sup> Streets, very close to the Masonic Hall.

### **Meccano Patents**

Meccano applied for a US Patent on July 22, 1901. Presumably, this was originally similar to the British patent, covering the basic Meccano principles. The patent was not awarded until January 16, 1906, but the only claims were for the so-called "feather-key" fastening for wheels and axles. This method required a thin longitudinal slot in both the axle and the wheel, a difficult feature to make. Meccano used this method only from 1901 to about 1907, and was replaced by the so-called "tunnel-key" fixing. This used a smooth axle, and a rounded (hence tunnel-like) groove in the wheel; this was not patented. Some early US outfits had a small label added with the 1906 patent date. However, by around 1907, the feather-key fixing was no longer in use. My guess is that the delay between application and award was due to issues with the original application, related to equally spaced holes in strips and other features included in the British "original" patent. The patent inspectors, I think, rejected a number of claims, and Meccano had to revise the application, possibly more than once.

The other US patent was for the flanged plates, both rectangular (parts 52 and 53) and segment (part 54). This was applied for on October 14, 1913 but not awarded until November 18, 1913. Again, the important parts of the patent are the claims; in this patent, the claims call for equally spaced holes in the flat plates, and two flanges, also with equally spaced holes. Unfortunately, the available copies of the patent have a blank page

where the second page of text should be, and all but the tenth claim are missing. When the patent was published in the *Official Gazette of the United States Patent Office* (Volume 196, page 754), claims 1 through 5 were included. In the Circuit Court of Appeals for the Sixth Circuit, Wagner et. al. sued Meccano, and Judge Warrington included claims 1, 7, 8, and 10 as a footnote in the record (246 Fed 603; 158 CCA 573). The available claims have been transcribed into a single document.

The fairly long time from application to award for this patent is not unusual. George Jones was one of the witnesses, and appears to have signed the drawings as witness, also. Frank Hornby does not seem to have signed himself, but his ‘signature’ was by an attorney.

Meccano won several more patents, the next issued in November 1915, but the above 1913 patent was an important factor in the lawsuits.

### 1913 – 1920 The Lawsuits

Sources used here include legal records (Federal Reporter [Fed. or FR], Circuit Court of Appeals Reports [CCA], United States Reports [US], and Supreme Court Reporter [Sup. Ct.]) obtained online. James Mietlicki, a lawyer, wrote an article “Debunking a Meccano Myth” that discussed some of the patent issues. Other sources are two books found in on-line auctions. Apparently published by Gale in their “The Making of Modern Law (MOML)” series, these books are records of pleadings and supporting documents before the U. S. Supreme Court. One is a small booklet with Meccano’s ex parte (by themselves) pleadings; the other contains pleadings from both Meccano and Wanamaker (as prepared by Wagner) in Meccano’s case against Wanamaker. This last has 330 pages, and includes a timeline of all of the actions in the various related lawsuits, as well as some details that I found quite interesting. For brevity, this book will henceforth be called MOML2.

Meccano Limited (the British firm) filed suit against Francis A. Wagner, trading as the American Mechanical Toy Company, and the Stobel & Wilken Company (Wagner’s distributor), in the District Court for the Southern District of Ohio. The American Mechanical Toy Company made American Model Builder (AMB), a close copy of Meccano. The suit was for copyright and patent infringement, and for unfair competition. This court had jurisdiction because the American Mechanical Toy Company was in Dayton, Ohio. The legal reference is 234 Fed 912, which means the Federal Reporter, volume 234, page 912. Per the timeline in MOML2, the suit was filed on December 24, 1913, shortly after the flanged plate patent was issued on November 18, 1913. The decision was handed down on June 12, 1916. Judge Hollister wrote a lengthy decision which included a history of Meccano in the United States through 1912 (as mentioned in the 1909 – 1913 discussion above).

Very briefly, the court agreed that Meccano’s copyright for the manuals was infringed, and that AMB was in unfair competition. The Meccano patent 1,079,245 was valid and had been infringed with regard to the sector plate, but the patent was declared not valid for the rectangular plate.

Why did Meccano choose AMB for the formal suit, and not the other competitors? Without documentation, the answer must be speculation, but based on the documentation we do have, some pretty good guesses can be made. AMB did infringe on the Meccano patent, but others did so, also: Master Builder (for both rectangular and sector flanged plates), and Stuktiron and Engineero (for rectangular flanged plates). AMB also infringed on Meccano’s copyright for the manuals, while other systems do not seem to have done so. Based on the number of surviving outfits, AMB seems to have sold quite well, and was carried by some of the large mail order catalog houses (Sears and Roebuck, for example). The other two infringing systems, Struktiron and Engineero, seem not to have been as popular as AMB.

Section 2, 1909 – 1922

Wagner filed suit in the Circuit Court of Appeals, Sixth Circuit (235 Fed 890; 149 CCA 202), asking that the Appeals Court direct the District Court to reopen the case. The decision handed down on October 11, 1916, authorized the District Court to extend the period for filing the record on appeal. I am not clear what this case means. As far as the overall picture, it does not seem to have had much effect.

Meccano filed suit in the District Court, Southern District of New York against Wanamaker, a major Philadelphia department store (241 Fed 133). The suit sought an injunction to prevent Wanamaker selling Wagner’s AMB products because Wagner had been found in violation of patent and copyright, and was in unfair competition. This court had jurisdiction presumably because Meccano’s US address was in New York City. The decision was handed down on January 9, 1917. The preliminary injunction was granted, and required the complainant (Meccano) and the defendant to file a bond of \$3000 to allow continued sales while the cases were appealed.

As an aside to this discussion, a completely separate suit may shed light on the apparent popularity of Meccano in this period. Outside of

the courts involved in the Meccano cases, the Circuit Court of Appeals of the Third Circuit heard a case of Neill vs. Kinney (239 Fed 309). This involved litigation regarding design of oil wells and drilling rigs. A quote from the decision, handed down on January 25, 1917 has an interesting statement relating to Meccano:

“Its simplicity is its chief claim to excellence, though it was its undoing in the court below. In design it is simpler than a child's Meccano, and in assembling and putting together its parts, less thought is required than in putting together that toy. The parts are so formed in shape and size that they fit only their proper places and cannot be put together wrong. In this respect they are fool-proof.”

Wagner filed suit against Meccano in the Circuit Court of Appeals, Sixth Circuit (239 Fed 901; 153 CCA 29), attempting to enjoin Meccano from prosecuting the suit against Wanamaker. On February 6, 1917, the decision was handed down, denying the suit.

Again Wagner filed suit against Meccano in the Circuit Court of Appeals, Sixth Circuit (246 Fed 603; 158 CCA 573), appealing the decision of the

		venue	date		
234 FR 912		DC, SDO	June 12, 1916	Meccano v. Wagner	
235 FR 890	149 CCA 202	CCA, 6th Dist	October 11, 1916	Wagner v. Meccano to reopen	
241 FR 133		DC, SDNY	January 9, 1917	Meccano v. Wanamaker, injunction granted	
239 FR 901	153 CCA 29	CCA, 6th Dist	February 6, 1917	Wagner v. Meccano appeal denied	
246 FR 603	158 CCA 573	CCA, 6th Dist	November 16, 1917	Wagner v. Meccano	
		rehearing	January 14, 1918		
250 FR 250	162 CCA 386	CCA, 2nd Dist	March 24, 1918	Meccano v. Wanamaker	
250 FR 450	162 CCA 520	CCA, 2nd Dist	April 15, 1918	Meccano v. Wanamaker	
	248 US 554	39 Sup Ct 10	USSC memo de	October 28, 1918	Meccano v. Wanamaker certiorari granted see 250 Fed 450
	249 US 465	39 Sup Ct 317	USSC argue	March 17, 1919	Ex parte Wagner et. al.
			USSC dec	April 14, 1919	(denied)
	249 US 594	39 Sup Ct 390	USSC memo de	May 5, 1919	Ex parte Meccano (denied)
	250 US 647	39 Sup Ct 495	USSC memo de	June 9, 1919	Meccano v. Wanamaker certiorari denied see 250 Fed 450
	253 US 136	40 Sup Ct 463	USSC argue	January 26, 27 1920	Meccano v. Wanamaker
			USSC dec	May 17, 1920	

FR	Federal Reporter	DC, SDO	District Court, Southern District of Ohio
CCA	Circuit Courts of Appeals Reports	DC, SDNY	District Court, Southern District of New York
US	United States Reports (Supreme Court)	CCA, 6th Dist	Circuit Court of Appeals, Sixth District
Sup Ct	Supreme Court Reporter	CCA, 2nd Dist	Circuit Court of Appeals, Second District

District Court for the Southern District of Ohio (234 Fed 912, mentioned above). There are two dates listed in the report: November 16, 1917 and Rehearing January 14, 1918. In a fairly lengthy decision, Judge Warrington voided the remaining portion of the Meccano patent but sustained the remainder of the decision. The rehearing asked for instructions to the lower court, which was denied. Several further suits and counter-suits were heard. I have not been able to understand what they all mean. Nor have I seen any formal record of the final result or closure of the lawsuits, even though several of the lawsuits were heard in the United States Supreme Court.

The listing above includes all of the formal legal documents which I have been able to find. The ex parte cases are brought by only the one party, with other parties not represented. Yellow highlights are on the documents I have reviewed.

Unfortunately, all of the details of all of the cases are not available on line. James Mietlicki mentions that the Meccano suit against Wanamaker also included Curtis Publishing Company (publisher of *Ladies Home Journal* and *The Saturday Evening Post*, among other magazines). That company is not mentioned in the documents I have seen, but was apparently named in Meccano's briefs in the case. A brief in the ex parte Meccano case in the Supreme Court is not in the formal records that I have seen, but that brief appeared on eBay; it specifically mentions Structo, asking if the previous cases included Structo as well as AMB.

One excerpt from the formal record caught my eye, as a possible 'weapon' that Meccano might have used against some of the competitors:

241 FR 133, *Meccano v. Wanamaker*, January 9, 1917:

"[2] It seems quite apparent that the patent is infringed, and that diagrams and directions as to construction have been borrowed by defendant from complainant's copyrighted catalogues, and that the system of construction adopted by the defendant is in direct imitation

of complainant's system. The spacing of holes in, and general appearance of, the mechanical parts, seem to be practically identical. I do not think the books containing plates, or the covers or other ornamentations of the catalogues of the defendant, are sufficiently similar to those of the complainant to mislead the public; but the appearance of the plates themselves and the system of construction have been so deliberately taken by the defendant from the complainant that they are misleading, and come within the decisions of *Enterprise Mfg. Co. v. Landers, Frary & Clark*, 131 Fed. 240..."  
– Augustus N. Hand, District Judge

As I interpret this part of the decision, even a similarity to Meccano could be considered a possible reason for a lawsuit against the other system.

Documentation on the decline and end of the "other systems" is very difficult to find; usually, one can only guess what happened. As mentioned, only Erector among the early competitors seems to have continued past around 1920. Copyright records for American Model Builder seem to offer a partial clue. AMB copyrighted 13 documents from 1912 through 1916, and on September 1, 1916 they received a copyright (not a patent) on their "Universal Plate", their replacement for the sector plate. On June 12, 1916, the District Court for the Southern District of Ohio had declared that AMB infringed on Meccano's Sector Plate patent. There are no copyrights for AMB after the Universal Plate. F. A. Wagner applied for a patent on March 20, 1916 (1,361,937 for a switch to start, stop and reverse a universal electric motor), which was granted on December 14, 1920. After March 1916 there are no records of any patents filed by Wagner. Wagner's patents were claimed by Meccano in 1924 and later manuals.

Based on AMB outfits that I have seen, the Universal Plate is not nearly as common as their sector plate. This is certainly not hard evidence but perhaps is an indication of the decline in AMB sales after around 1917.

Structo's line of construction toys was purchased by Meccano in December of 1919, according to Joe and Sharon Freed in their *Collector's Guide to American Transportation Toys*. On June 28, 1919, Meccano filed papers (with the approval of both Wanamaker and Structo) to transfer "liability" from Wanamaker to Structo, including a statement that Meccano and Structo had reached an "amicable settlement". On May 17, 1920, the US Supreme Court denied the transfer of liability, but by this time, Structo was no longer making construction toys. One would suspect that the court filings encouraged Structo to sell to Meccano. Structo continued making their constructional toy automobiles and trucks. Presumably, these toys became the well known Structo pressed steel vehicles which are still collected.

An article appeared in the US Meccano Magazine for March-April 1918 touting the court's decisions in the Meccano v. Wagner lawsuit. Although obviously biased, the article does explain some of the Court's actions. The entire article is transcribed in an appendix to this paper. In short, Meccano states that "we warn the public that any one who manufactures or sells a constructional toy in unlawful imitation of Meccano...is liable to an action for injunction and the recovery of profits and damages." This pretty strong language was met with a reaction from an outside source.

While not apparently a formal legal action, a complaint was filed with the Federal Trade Commission. It was reported in a book prepared for the National Association of Manufacturers in 1919, titled *Operations of the Federal Trade Commission*. The complainant is not identified, and the resolution (if any) is not recorded.

"Complaint No. 127 / Against Meccano, Ltd, and the Meccano Co., Inc. / Cause: Unfair methods of competition in the sale of "Meccano" mechanical toys by vague and indefinite threats, not made in good faith, to institute legal proceedings against their competitors and their competitors'

customers for alleged unfair and unlawful competition with the Meccano outfits and books of instruction."

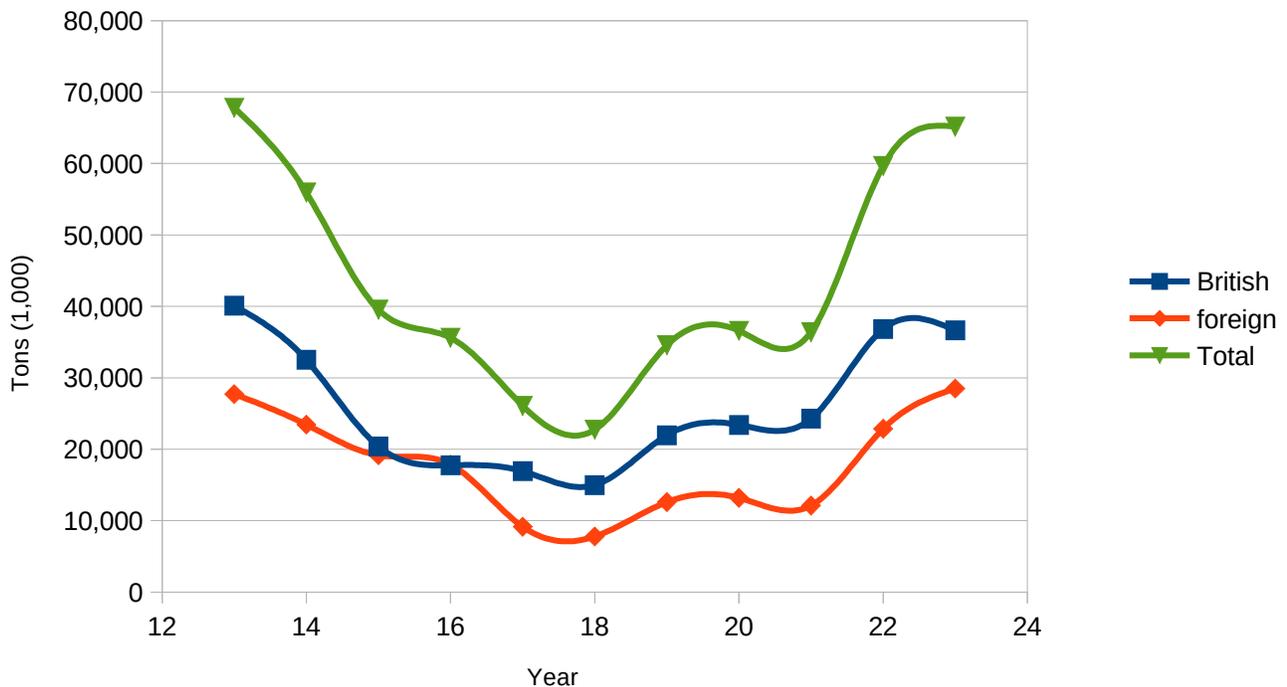
It is tempting to guess that the complainant was the A. C. Gilbert Company.

American Model Builder did seem to copy Meccano. Meccano, though, seems to have copied American Model Builder as well. In late 1912, Meccano started using set screws in their wheels, gears and other parts to secure them to axles. AMB had been using set screws from its introduction in 1912. An electric motor was available from AMB in 1912 and from Erector by 1914; Meccano added an electric motor in 1915 (though clockwork motors were available earlier). AMB had introduced sprocket wheels and chain in 1913, Meccano added these in 1915. These features were not patentable, so American Model Builder could not claim infringement.

### **The US Meccano Magazine**

The first issue of the magazine was dated August-September 1916, and was titled *The Meccano Engineer*. The first UK issue was dated September-October 1916; it was titled *The Meccano Magazine*; "The" was dropped from subsequent issues. After five issues, the name of the US magazine changed to *Meccano Magazine*. US publication seems to have been a bit sporadic. There are 32 issues known through 1927, and perhaps a half dozen others which may exist but have not been seen. The UK magazines are well known, and available on line on multiple websites. US magazines are not well known and many issues seem to be fairly rare. Some issues are in my collection only through photocopies, a few of the front page only. There were two issues in 1916, three in each of 1917 and 1918, a December 1919-January 1920, two more in 1920, and two in 1921.

Early issues were newspaper size, 12 x 18 inches, and only four pages (one sheet). At the end of 1918, the size changed to 10 x 14 inches, still four



pages; and again changed at the end of 1921 to 8 x 11 inches but eight pages.

The magazine included, as in the UK version, notes on newly introduced parts, though often the notes appeared some time after the part was actually made.

### The Great War

While the lawsuits progressed, Europe (from July 28, 1914) and eventually the United States (from April 6, 1917) became embroiled in the “War to End All Wars”, now known as World War I. Much can be (and has been) said about the socio-political effects of the war, but we will focus on the impact on Meccano in the US. There seem to be few books on WW I compared to the Civil War and WW II. One which provided an interesting analysis of the effect of the war on shipping is *The War and the Shipping Industry* by C. Earnest Fayle (1927), Volume 4 of a series of books titled *Economic and Social History of the World War*. A chart is included on page 425 showing shipping levels in thousands of tons clearing (leaving) British ports.

In 1918, shipping from England was about one third of that in 1914. Germany had declared

unrestricted submarine warfare on February 1, 1917, which may explain the severe dip in 1917 and 1918. The demand for military shipping would have further affected non-essential shipments, such as toys.

*The August-September 1917 issue of the Meccano Engineer (the US Meccano Magazine at the time) announced a new address for Meccano: Building 10, Bush Terminal, Brooklyn, NY. Bush Terminal was an industrial development on the East River, across from lower Manhattan, New York City. As I see it, the primary benefit for Meccano was direct access to piers for ocean-going ships, but also space for light manufacturing and warehousing. Bush Terminal encouraged tenants to work together, and also provided some common facilities. Perhaps boxes were made here, and possibly other items, too.*

### Outfits, Parts and Manuals

Meccano outfits were made in various sizes, the main outfits designated by numbers 1 through 6. In all cases, higher numbered outfits included all of the parts in the next smaller outfit, plus a quantity of additional parts. Meccano also sold supplementary outfits, containing the additional

parts. Thus, a No. 2 outfit plus a No. 2a had the same contents as a No. 3 outfit, for example. A No. 0 outfit was introduced in 1911, and No. 00 outfits were sold 1917 through 1919 and again 1924 through 1927, at least in the US. The No. 7 outfit was introduced in England in 1922, but was not sold in the United States, based on US Meccano price lists.

In 1915, Meccano introduced the Inventor's Outfit, which included newly introduced parts: Braced Girders (originally called Girder Strips), 3-inch wheels, 2-inch pulleys, sprocket wheels, and others. At first, these seem to have been shipped to the US in their boxes (there is no mention of a US address, only Liverpool on the boxes) but soon the boxes seem to have been made in the US. These outfits included a Prize Models 'manual'. There were two versions, one dated 1914-15 and the other 1915-16. The former lasted only a short time, but was sent free on request, so there seem to be many in circulation. The latter continued in use until 1922, and so was modified by removing pages and adding new parts and price lists.

There were some early differences between US and British Inventor's Outfits. Yes, the early outfits were the same as UK versions. Soon, British outfits removed a number of parts, but the US contents seem to have remained fairly constant. Further, in 1921 through 1923, the contents of the Inventor's Outfit were included in the so-called 5x outfit, and apparently at no additional cost over the previous years' 5 outfits. It may be that a very large number of Inventor's Outfit parts were sent to the US, and the US company found it difficult to get rid of them all. The Inventor's Outfit was not listed in price lists after 1922.

In 1920, another Inventor's Outfit was introduced, called the Inventor's B Outfit. This version did not include any manual. At the same time, the earlier Inventor's Outfit had an "A" added to the name, though no US outfits have been seen with an Inventor's A Outfit label. The Inventor's B seems to have been less successful than the A version,

based on the number of outfits seen of each type. The US B Outfits did have labels with the New York address. The Inventor's B outfits were not listed after 1922.

At this early stage, it appears that contents of outfits in the US were not quite the same as in the UK, but very close. For example, regular US outfits in 1916 and 1917 (and perhaps a year later) included 5-1/2" and 12-1/2" Braced Girders (parts in the Inventor's Outfits), even though British outfits did not include them until 1921. The US No. 0 outfits contained two 12-1/2" strips from 1917 through at least 1922; that size of British outfits did not contain these strips. Small variations in contents seem to have occurred in many varieties over the years, but I have not tried to make a complete comparison.

In 1920, supplementary Electrical Outfits were introduced in two sizes in England. The larger X2 outfit included an electric motor and an accumulator (two cell lead-acid battery; acid was not included). Only the smaller Electrical Outfit, with no number but the same contents without the motor and accumulator, was exported to the US. It appears that the outfits were sent to the US as complete boxed outfits. Many of the US versions have a label added stating "This is not a commencing Outfit, and should only be purchased for use with a regular Meccano Outfit.", even though similar information is on the basic label. These Electrical Outfits came with their own manual, printed in England, but not the same as the UK version. The US version includes a complete parts listing, not included in the UK version, as well as a few changes in the early pages.

US Meccano had introduced low voltage (around 3 volts) electric motors in 1915; but these were apparently made by Lionel, based on similarity to some Lionel motors. I would suspect that the motors were made in Lionel's factory, not in Bush Terminal. The Lionel made electric motors were added to US outfits in 1915, two years after Erector had electric motors. These motors were

exported to England for at least a couple of years, and then Liverpool started making their own. US outfits used the US motors, in various versions, until 1929.

The newly introduced motors were included in the larger outfits (4, 5, and 6) nearly as soon as the motors were available. New versions of the 1, 2, and 3 outfits were also introduced with a motor added; these were numbered 1x, 2x and 3x. The 1, 2 and 3 outfits, without motor, continued to be available. There was also a 5x outfit from 1917 through 1923. These had a motor, like other No. 5 outfits, but here the “x” was used to identify outfits which included the parts of an Inventors Outfit in addition to the usual No. 5 Outfit parts.

A surprising discovery is that, at some point, the US Meccano outfits started using #7-32 nuts and bolts, while British manufacture used 5/32” BSW nuts and bolts. The first mentioned screw thread was an SAE thread, number 7 diameter (0.151 inch), 32 threads per inch, and a 60 degree angle. The latter is British Standard Whitworth, 5/32” diameter (0.15625 inch), also 32 threads per inch, and a 55 degree angle. Note that the diameters mentioned are maximum diameters; the actual measure of a bolt will always (in theory) be slightly less. These two thread sizes are very close, but a 5/32” BSW bolt will not quite fit a #7-32 tapped hole. My suspicion is that US Meccano started running out of nuts and bolts, due to the shipping problems, and started using a close US equivalent. When these started appearing has not been determined, but outfits which can be dated to 1920 do have #7-32 bolts. More detail on this discovery is available at [www.usmeccano.com](http://www.usmeccano.com), under parts. Interestingly, Engineero is reported to have used #7-32 nuts and bolts, but round head bolts, not cheese head as Meccano used.

Around the same time, Meccano part 27a, the 56 tooth (at the time) gear, seems to have been made in the US. It is a thin stamped steel gear, with a (probably) zinc alloy boss (and tapped a loose #7-32). In British production, this part changed to 57 teeth in 1921. The ‘standard’ British version

returned to the US within a few years. Dates for the thin gear are not clear, since outfits containing them cannot be accurately dated.

US Meccano apparently also started running out of angle brackets (part 12), and some sizes of strips. In December 1919, Meccano acquired the Structo construction toy line (Structo continued making constructional toy automobiles and trucks, which led to their famous pressed steel toy vehicles). Three forces may have combined to make this occur. The first would be the lack of parts from England due to wartime shipping problems. Second would be to eliminate a competitor. Third would be the pressure from the lawsuits, even though Structo was not named in any of the formal court records. Out of court settlements are not uncommon, and hard to document. In this case, though, Structo was named in a submission to the Supreme Court in June of 1919, including a statement that they and Meccano had come to an “amicable settlement”, so was not mentioned in formal court records. In any case, 1920 and later US Meccano outfits are found with Structo parts. The angle brackets are fairly easy to identify; Structo strips are tin plated, and they now (after having turned gray) are also fairly easy to identify in comparison to the nickel parts sent from England. This is a bit complicated by the tin plated parts made later in Elizabeth when that factory opened, but at least the angle brackets are of a different shape, so they are fairly easy to spot. I came close to removing Structo angle brackets and strips from my US Meccano outfits, until a Canadian friend showed me an outfit similarly “contaminated”. I finally associated the acquisition of Structo with the appearance of Structo parts in US outfits. When Structo strips are used, they seem to be used for all of a size of strip, not mixed with nickel strips of the same size. So, one outfit might have Structo 2-1/2 inch and 12-1/2 inch strips, with all others nickel; while another might have Structo 5-1/2 inch strips, and all others nickel. Remember that new tin plating is shiny and not too different from nickel plating, so the difference would not have been obvious when first purchased.

Most US manuals seem to have been printed in the UK, though usually with US prices. A version of the 1913 manual is marked as printed in Albany, New York. It appears that no main manual was printed in England in 1915, but a version of the 1914 dated manual with information on the new 1915 US motor appears to have been printed in the US. The typeface used in this manual is different from the British manuals both before and after.

Frank Hornby made eight more trips to the US from 1914 through 1920: three in 1914, arriving in February, September, and November; April and November of 1915; December 1916; July 1918; and June 1919.

James P. Porteus arrived in March of 1916 (at age 41) to become the Vice President (under Frank Hornby) and, after publication started in August, Editor of the US *Meccano Engineer* and later *Meccano Magazine*. His wife Lavinia and children Gladys, James, and Ida joined James at some point, but I have not found any record of their arrival. The 1920 US Census lists Mr. Porteus as “Vice-President, Construction Toy Co”, living at 891 Kenmore Place, Brooklyn, New York, where he owned his home. Lavinia and their children are living with him. That house is a bit more than three miles from Bush Terminal. On October 1, 1920, Lavinia arrives from England alone; I wonder if she went to England for a short trip.

H. Hudson Dobson arrived in the US on August 30, 1913, age 22. Though still a British citizen, he registered for the US draft in June, 1917. He temporarily left the Meccano Company, Inc. on October 2, 1917, to enlist in the Royal Flying Corps in Toronto, Canada, and then to the Royal Air Force. He returned in 1916, and again on April 22, 1919, this latter possibly after his service in the RAF. Mr. Dobson was involved with Meccano in the US at least through 1960.

Frank A. Atzert was the Secretary, according to a listing of officers in the August-September 1917 issue of the *Meccano Engineer*. A record of a

person by that name indicates that he may have been born in 1897, making him only about 20 years old at the time of that magazine. H. H. Dobson is listed as Secretary, replacing Frank A. Atzert, in the September-October 1920 issue of the *Meccano Magazine*.

## 1920 – 1922

Frank Hornby made three more trips to the US during this period: January and September 1920; and August 1921. During the January trip, Mr. Hornby signed paperwork to increase the capital stock of the Meccano Company, Inc. from \$10,000 when formed in 1913 to \$100,000. The paperwork was filed February 19, 1920. This change may have been in anticipation of a major increase in manufacturing capability. The (old) shareholders were listed as James Paul Porteus (one share) and Meccano Limited (1999 shares), at \$5.00 per share. Frank Albert Atzert is listed as the Secretary of Meccano Company, Inc., and certified that the shares were distributed as above. There is no indication of the new distribution of shares.

Meccano continued using Structo parts in their outfits during this period. The Masonic Hall address had been listed in some literature earlier in 1918 as well as the Bush Terminal address. The last mention of the Bush Terminal address in Meccano literature is in the November-December 1918 issue of the US *Meccano Magazine*. This does not necessarily mean that Meccano left Bush Terminal, just as the notice of the new Bush Terminal address in 1917 would not have necessarily meant that Meccano had left the Masonic Hall. The December 1919 acquisition of Structo prompted Meccano to prepare a letter to send to Structo customers; the letterhead includes the 71 West 23<sup>rd</sup> Street address as well as “Factory / Building No. 10 / Bush Terminal”.

It does appear that outfit boxes were being made in the US after around 1916; the parts mounting cards for the wheels and other parts was a deep red or maroon, while British boxes used green card. US outfit contents were similar to British outfits,

except the Braced Girders were added to US outfits in 1916 and 1917.

In 1920, Meccano introduced an “Electrical” outfit. This contained wire and parts to make electromagnets, as well as light sockets and lamps. The English version included an electric motor and an accumulator (lead-acid battery), though these latter parts were not included in the US outfits. The US version of the electrical manual showed a transformer instead of the accumulator, though the accumulator did appear in several models. The US manual also included a complete parts and price list, not just the electrical parts. This outfit was apparently sold in the US in 1921 and 1922.

Questions still remain regarding the operations up to 1922. Did Meccano continue using Bush Terminal to make boxes and perhaps other parts, as well as warehousing? Did Meccano have parts manufactured elsewhere (other than the motors, which probably were made in the Lionel factory)? The #7-32 nuts and bolts were still included in outfits – were they made by outside contractors, or was the Meccano Company (US) able to make them? Were there connections with Canadian sales of Meccano (a number of US advertisements include a Toronto address)?

What happened to all of the competitors? Erector survived, and we know that American Model Builder seems to have faded pretty quickly after about 1918. Structo became part of US Meccano at the end of 1919 – but what of the others?

These other systems seem to have faded away by around 1920, leaving Meccano and Erector as the nearly sole manufacturers of metal constructional systems. Meccano seems to have been pretty aggressive in threatening lawsuits, even though Meccano’s patents had been declared invalid. Perhaps the other manufacturers were not interested in possibly protracted and expensive legal actions.

Several other systems arose in the early 1920s, but most of them were quite different from Meccano. Examples include Metalcraft (makers of Spirit of St. Louis aircraft sets), Handy Craft, and Bilt-E-Z for making buildings. (It needs to be mentioned that the latter is pronounced “built easy”, not “built ee zed” as most countries outside the US would say it.)

The first chapter of Meccano in the US closes in 1922, when the Meccano Company, Inc. opened their own factory in Elizabeth, New Jersey. Frank Hornby arrived in New York on June 5, 1922 presumably to formally open the new factory, which had been announced in the April-May 1922 issue of the US *Meccano Magazine*.

## Appendix

From the US Meccano Magazine, March-April 1918

**Meccano Wins!**  
Meccano, Limited

vs.

Francis A. Wagner (trading as The American Mechanical Toy Company) and the Strobel and Wilkin Company.

This suit was brought by Meccano Limited to enjoin the manufacture and sale of the constructional toy known as “American Model Builder”.

The District Court of the United States, for the Southern District of Ohio, Western Division, under date of June 12, 1916 [234 Fed 912], handed down an opinion wherein it spoke of Meccano as a “toy of great utility, of educational value, stimulating the imagination, appeals to a boy’s creative faculties, and not only gives enjoyment, but is highly instructive.”

And the same opinion characterizes the American Model Builder as  
“not only a fraud on the public, but also a fraud” on Meccano Limited.

Thereafter a Decree was entered holding the defendants guilty of unfair competition with Meccano, and also holding them guilty of infringement of the copyrighted Meccano manuals.

The defendants then appealed to the United States Circuit Court of Appeals, for the Sixth Circuit; and under date of Nov. 19, 1917 [November 16, 1947; 246 Fed 603], the said Court of Appeals handed down its decision saying that it approved of the conclusions of the lower court upon these questions of unfair competition and copyright infringement.

Following this decision by the Court of Appeals, on Feb. 11, 1918, there was issued a writ of injunction, perpetually enjoining and restraining the said defendants from directly or indirectly competing unfairly with Meccano Limited by making or causing to be made, selling, offering for sale, and causing causing to be sold, or using or causing to be used, any model builder or toy outfit such as the American Model Builder or any parts or units such as contained therein, - and from copying or imitating any trade circular, advertisement, or other printed matter, - and from using and invading the business of Meccano Limited, - and from directly or indirectly infringing the registered copyrights of Meccano Limited, - and from committing any acts whatsoever in violation of the exclusive rights of Meccano Limited.

This writ of injunction was duly served by the United States Marshal on said Wagner and his company, the American Mechanical Toy Company, and also on the Strobel & Wilken Company.

The defendants have already been directed to pay certain costs in connection with the litigation, and

there has been ordered a reference to a Master to ascertain the amount of profits realized by defendants, and the damages suffered by Meccano Limited.

This case has now been definitely decided on the merits in favor of Meccano Limited, and the United States Courts have fully recognized the originality and merit of “Meccano”, and have upheld the rights of Meccano Limited therein.

We, therefore, again assert that “Meccano”, invented by Frank Hornby in 1901, is the original metal constructional toy, that it is based on true mechanical and engineering principles. And we warn the public that any one who manufactures or sells a constructional toy in unlawful imitation of Meccano, or in unfair competition therewith, or in infringement of its copyrights, is liable to an action for injunction and the recovery of profits and damages.

## **Supplement to US Meccano History, 1909 – 1922 Meccano and Erector**

This little story relates a discovery of a connection between Meccano and Erector.

David Gilbert pointed out that the recent (2021) revision of Bill Bean’s *Guide to Gilbert Erector Sets, 1913-1932* contains some revised information on the beginnings of Erector. While not mentioned in the revision, David indicated that the original source of some of the information is *MYSTO! A Conflict of Dreams* by Nelson C. Nicholson, privately published in 2004. I was able to obtain a copy of this latter book – from England. David, the grandson of A.C. Gilbert, had not seen this book; it seems to be pretty hard to find.

The dedication in Mr. Nicholson’s small book provides details on his main source. Dr. John Henry Grossman, a medical doctor and apparently a very serious magic enthusiast, had researched

the Mysto Manufacturing Company. He had interviewed John Petrie as well as other friends and employees. Mr. Nicholson's story is based on Dr. Grossman's collected information, and includes A. C. Gilbert's and John Petrie's early life. The Mysto Manufacturing Company was started by A. C. Gilbert and John Petrie in 1908. Much of that story is in the revised version of Bill Bean's book, so will not be repeated here. Mr. Nicholson's book does provide another view of A. C. Gilbert and the rise and fall of the Mysto Manufacturing Company.

Petrie had been making and repairing magic equipment since around 1892<sup>1</sup>. A. C. Gilbert was introduced to Petrie when Gilbert wanted some small simple magic kits made to sell, with Gilbert's instructions, to his classmates at Yale Medical School. Mysto quickly became quite successful, opening an office in Toronto in early 1910. On his visit there, Gilbert bought a Meccano set and brought it back to New Haven. Gilbert had been visiting toy and department stores selling Mysto Magic sets, and had noticed the large market for other toys. Mysto was doing well by this time, but as A. C. Gilbert tinkered with the Meccano set, it became an obsession, according to John Petrie<sup>2</sup>.

Gilbert was 26 years old in 1910, and Petrie was 40. The magic business was imbued with secrecy, often implied, but sometimes in writing. The motto of The Magic Circle, a leading magician's organization based in England, is "indocilis privata loqui", roughly "not apt to disclose secrets"<sup>3</sup>. Perhaps the magician's respect for confidentiality colored Petrie's concerns about imitating Meccano.

By the fall of 1911, Gilbert wanted to start manufacture of what became Erector. He was able to outvote John Petrie at a Director's meeting of the Mysto Manufacturing Company on November

23, 1911. Mysto would lease the Kirchoff Carriage Works factory, allowing installation of the heavy machinery needed to make Erector. The old Mysto factory could not support this machinery<sup>4</sup>. That building was sold on May 18, 1912, to help pay for the new equipment. It was leased back for long enough to finish production for the 1912 Christmas season. By the fall of 1913, Mysto Manufacturing was entirely owned by Frank and A. C. Gilbert. Frank, A. C.'s father, had loaned \$5000 to A. C., and he had received shares in Mysto to secure that loan.

Petrie formed the Swastika Magic Company and struggled until January 1916, when he joined with Thomas C. Lewis to form the Petrie-Lewis Manufacturing Company. They acquired the old Mysto factory on Valley Street in Westville, with all of the equipment<sup>5</sup>. Petrie-Lewis remained in business manufacturing magic equipment until 1968, though Lewis left in the 1920's and was replaced by John Petrie's son, J. Walter Petrie<sup>6</sup>.

### **Meccano and Erector – Side Stories**

John Petrie did not want to make Erector, apparently at least in part because of possible patent infringement. Gilbert had apparently done his homework, as Erector did not infringe on the one patent Hornby had in effect in 1913 (applied for in 1912). Hornby's 'original' British patent of 1901 did claim to patent perforated strips, but the US patent (applied for in July 1901 and finally granted on January 16, 1906) did not include those claims. The 1913 Hornby patent, for perforated plates, called for two flanges and regularly spaced holes. Erector plates had no flanges and the holes were irregularly spaced (though on multiples of 1/2"). Erector used a lattice girder as the main structural element, and thus did not look like Meccano.

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<sup>1</sup> *MYSTO! A Conflict of Dreams* pg 16

<sup>2</sup> *Ibid.* pg 43

<sup>3</sup> The Magic Circle: <https://themagiccircle.co.uk>

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<sup>4</sup> *MYSTO! A Conflict of Dreams* pg 46

<sup>5</sup> *Ibid.* pg 50

<sup>6</sup> Magicpedia, [https://geniimagazine.com/wiki/index.php?title=Petrie-Lewis\\_Manufacturing\\_Company](https://geniimagazine.com/wiki/index.php?title=Petrie-Lewis_Manufacturing_Company), retrieved Nov 2022

Section 2, 1909 – 1922

Nelson Nicholson's book mentions the story of A. C. Gilbert's observation of the New York, New Haven and Hartford Railroad electrification project, and how that influenced the design of Erector<sup>7</sup>. Pictures of that project strongly support that tale, in my opinion. The Erector connection with the New Haven Railroad is evident in the design of the overhead wire support structures as shown in the picture. Early so-called 'Type 1' Erector "Girders" look much like the cross members seen in the picture.



*New Haven Railroad Electrification, from the Library of Congress Historic American Record 1980 (?) cropped from <https://www.loc.gov/pictures/item/ct0380.photos.022810p/design>.*



*For those not familiar with early Erector girders, above is a rough model based on New Haven Railroad electrification structures, supporting the claimed source of the Erector*

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<sup>7</sup> *MYSTO! A Conflict of Dreams* pg 43

## Appendix

A. C. Gilbert

History of Petrie-Lewis Manufacturing Co.

As indicated near the beginning of this supplement, the source of much of Nelson Nicholson's information was Dr. John Henry Grossman. Dr. Grossman was a magician as well as a surgeon, and had been elected to the highest honor in The Magic Circle, the premier magician's organization based in England. His obituary lists the award as "life MIMC with Gold Star", which means life Member, Inner Magic Circle. The Gold Star is awarded to performing magicians. Dr. Grossman had collected the *Sphinx Magazine*, and had identified every reference to the Mysto Manufacturing Co. He was born on August 17, 1914, and died September 8, 1992.

Nelson C. Nicholson, though not as deeply involved in magic as Dr. Grossman, was himself quite the magic enthusiast. He was also a member of The Magic Circle. The email newsletter *The Daily Nutmeg*, New Haven, had an article titled "Magic Bond", talking about Mr. Nicholson, including his long time contacts with Dr. Grossman. The article was written December 15, 2015. Mr. Nicholson was born on January 9, 1933, and died November 2, 2015, a month and a half before the article.

Sources:

1. *MYSTO! A Conflict of Dreams* by Nelson C. Nicholson, 2004
2. *Guide to Gilbert Erector Sets, 1913-1932*, by Bill Bean, revised 2021
3. The Magic Circle: <https://themagiccircle.co.uk>
4. MagicPedia website:  
[https://geniimagazine.com/wiki/index.php?title=Main\\_Page](https://geniimagazine.com/wiki/index.php?title=Main_Page)

Biographies for:

Dr. John Henry Grossman  
John Petrie

5. Obituary for Nelson Nicholson from <https://www.tributearchive.com> and New Haven Register, November 3 and 4, 2015

6. Obituaries for John Henry Grossman  
From New York Times, September 12, 1992  
From [prabook.com](http://prabook.com)

7. Article "Magic Bond" from the email newsletter *The Daily Nutmeg*, New Haven, December 15, 2015 <https://dailynutmeg.com/2015/12/15/nelson-nicholson-new-haven-history-magic-bond/>

Revision 7, Electrical outfits and others, 9 December 2025

Revision 6, 26 December 2022

New 5 November 2022

Revision 5, September 2022: added David Gilbert info.