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Lionel Standard Gauge: 1906-1940 by Bruce C. Greenberg, Ph.D

First Period: 1906 Trolleys and Steam Engines



Lionel Early Standard Gauge trolleys: Top left, No.1, top right No. 2 and bottom No. 3

Joshua Lionel Cowen was an extraordinary entrepreneur. In 1900, he and Harry Grant founded what became one of the world's greatest toy train companies. In 1901 they produced their first trains. In new industries most new businesses fail within five years. In the personal computer industry, for example, hundreds of small businesses competed in the 1980s. Only one early business, Apple, retains major market share today. Of Lionel's many early American competitors, only American Flyer survived until the 1960s. Lionel became the nation's largest seller of toy trains. Lionel introduced Standard Gauge trains in 1906. These were a completely new product. They replaced Lionel's 1901-1906 line of trains running on two rails which were spaced 2-7/8 inches apart. Standard Gauge trains ran on three rail track with an insulated center rail; the distance between the outer rails was 2-1/8 inches.

In the 1906 catalogue, Lionel offered trolley models in three sizes – small, medium and large. Lionel focused on trolleys since they were the most important form of urban transit. Lionel had done well selling a 2-7/8" gauge trolley model from 1901 through 1905.



Lionel also added steam locomotives to its catalogue in 1906 although these were not sold until 1907.

Lionel offered two steam locomotive models, the No. 5 with an 0-4-0 wheel arrangement, and the No. 6 with a 2-4-0 wheel arrangement. Lionel made continuing small mechanical changes to these locomotives through the early 1920s although the exterior appearance changed little.



Top: Lionel No. 5 circa 1907. Bottom: Lionel No. 6, circa 1907.

Second Period: 1910 Innovation



In 1910, Lionel produced its first three models of the New York Central S-2 locomotive based on the New York Central S-2 prototype which had gone into service only four years before. Lionel offered three sizes: the small No. 1910, the medium No. 1911, and the large No. 1912. For the first time on its locomotives, Lionel used the elaborate *New York, New Haven and Hartford* italic logo. Lionel had moved its factory to New Haven in 1909. In 1910, Lionel introduced three new product lines consisting of eight distinct items: three New York Central S-2 electric locomotives, three Summer trolleys and two smaller freight cars. The New York

Central S-2 electric locomotives were based on actual New York Central locomotives introduced in 1906. The No. 1910 model was the smallest, the No. 1911 model was larger and the No. 1912 was the largest. Lionel's use of four-digit catalogue numbers – 1910, 1911, and 1912 -- which represented calendar years created confusion then and now! Lionel also added three Summer trolleys.







One of Lionel's best selling 2% inch gauge items was the Converse Summer trolley. Nevertheless, from 1906 through 1909, Lionel produced only closed-in trolleys. In 1910, Lionel reintroduced Summer trolleys in three sizes. Each size was produced in a motorized and a non-motorized version. The motorized versions shown are No. 101 top left, No. 202 top right and No. 303 bottom.

Third Period: The Revolution of 1923

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Another key component of the Revolution of 1923 was the single, large brass insert on each side that created the windows, door and two

letter-number boards. Lionel put "LIONEL"

rather than a real railroad roadname as the key

identifier. With this change, Lionel altered a

No. 402 was one of the first Lionel locomotives constructed from large sheet metal sections primarily fastened together with tabs and slots. The locomotive also had a heavy steel frame which added to its tractive power. These construction changes were applied to all of the Classic Electric Locomotives created in the 1920s.

In 1923, Lionel introduced: two new locomotives, Nos. 402 and 380; and three new passenger cars, Nos. 418, 419 and 490. All five were built primarily using a new method of body construction -large stamped components assembled with tabs and little soldering. The new construction method required elaborate and expensive tooling and larger presses to stamp and fold metal parts. Previously, Lionel had built all of its trains by soldering together relatively small pieces of metal. From 1923 on, all Lionel's new sheet metal locomotives and rolling stock models were built with large stamped components assembled by tabs.

To be profitable, volume was key. Lionel enjoyed greatly increased sales, presumably due to the enhanced visual appeal of the new trains, while the major manufacturing change gave Lionel significant cost advantages over its competitors Ives and American Flyer. Electric Lopart of its traditional concept of model train realism. Lionel also made an important change in locomotive markings in 1923 by adding both the word "LIONEL" and the locomotive number "402" or "380" on brass plates on the locomotive sides. Previously, locomotives and rolling stock were rubber stamped with accurate reproductions of real railroad logos and numbers for the New York Central, Pennsylvania; New York, New Haven & Hartford; Lake Shore etc.

Lionel used a cost efficient method when they added the brass plates. One large plate was inserted on each side of the locomotive cab. Punched openings in the locomotive cab fitted the window, door and letter board sections of the brass plates.

The shiny brass plates attracted customers and were an excellent merchandising tool. Retailers also gained with easy-toread model numbers.

Fourth Period: Classic Era Steam 1929-1939



The 1937 No. 400E locomotive was a spectacular sight with two-tone blue paint finish and bright nickel trim. Because of revived demand, Lionel reproduced this locomotive in 1990.

Ives, Lionel's most important Standard Gauge competitor, introduced new improved locomotives in 1927 and 1928. As a consequence Lionel offered a completely new Standard Gauge locomotive the No. 390 in 1929. In 1930, Lionel introduced its first No. 390E Blue Comet locomotive with a two-tone blue paint and copper trim. In 1937, Lionel's No. 400E Blue Comet had a bright blue boiler and nickel trim.

The new steam locomotive family grew to six locomotives: Nos. 384 /384E, 400E, 392E, 385E and 1835E, which are known as Classic Era Steam. These Classic Era Steam locomotives were a complete break with the manufacturing techniques used for previous Lionel steam locomotives.

The Classic Era Steam locomotives had heavy, one-piece diecast frames. The diecast steam chest and smoke box front (boiler front) and heavy sheet metal boiler added weight. Initially the new Lionel locomotives had bright brass and copper trim that distinguished them from the early Lionel steam locomotives. Later, Classic Steam locomotives had nickeled trim. Real-world locomotives by 1900 were no longer festooned with copper, brass or nickeled trim since their operating environment was dirty. Lionel designers had concluded that highly interpretative designs emphasizing massive proportions and bright trim would increase sales.

Because of the Great Depression, in the 1930s Lionel's sales fell precipitously. As sales of the premium priced Standard Gauge equipment declined, Lionel shifted its emphasis to O Gauge. Lionel offered new O gauge models in 1934 and continued to offer Standard Gauge sets in its catalogues through 1939. The last individual items were offered in 1940.

The marketing emphasis on highly interpretative models peaked in the early 1930s. Subsequently, Lionel began to move back towards realism with its new O gauge models. The emphasis shifted entirely towards realism in 1937 with the No.700 Hudson Scale Model (with the exception of the 1937 Blue Comet).

In the 1950s collectors and operators rediscovered Standard Gauge trains. They needed replacement parts; many locomotives would not operate because their cast-metal components deteriorated due to impurities in the casting alloys. With time, new small businesses began making Standard Gauge parts; then in the 1970s reproductions were made. Today Mike Wolf and his company, MTH, manufacture Standard Gauge trains for Lionel under the Lionel Corporation Tinplate trademark. As a result Standard Gauge equipment is a vibrant part of the toy train market again.



Bruce C. Greenberg, Ph.D.

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