HOLMES HINKLEY

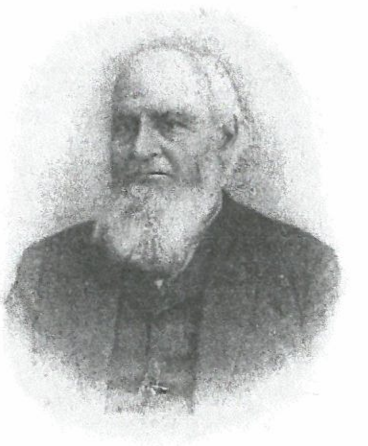
From a photograph taken in 1860

Growth of the Locomotive.

BY ANGUS SINCLAIR.

(*Continued from page 62.*)

After making a fair start in railroad construction, the people of New England displayed vigorous enterprise in pushing the work of providing means for quick land transportation. Statistics show that in 1850 there were 8,589.79 miles of railways in operation in the



WILSON EDDY.

United States, of which 2,507.48 miles were in New England. The State of Massachusetts alone had 1,035.74 miles, being exceeded by only one State of the Union, New York.

GROWTH OF LOCOMOTIVE BUILDING IN NEW ENGLAND.

The New England States being the principal seat of manufactures of a metallic character at that time, it was natural that the people should expect that their mechanics would secure the greater part of the business of building locomotives for railroads throughout the whole country. A good start was made in this industry and it prospered for years, but its glory has now departed, and New England has now ceased to build the locomotives needed for operating its own railroads.

The loss to New England of its locomotive building business is a curious illustration of trade vicissitudes. Within the first three decades of the railway era thirteen or fourteen different works had built locomotives in New England and some of them were for a time among the most prosperous establishments of the kind in the world. One or two of the first locomotives built in New England were turned out of a shop on the Mill Dam, now South Boston, and then came the Locks & Canal Company of Lowell. After them came Hinkley & Drury, followed by John Souther of Boston, Seth Wilmarth of Boston, Taunton Locomotive Works of Taunton, Amoskeag Locomotive Company, Manchester, N. H.; Mason Locomotive Works of Taunton, McKay & Aldus of Boston, Lawrence Machine Works of Lawrence, Mass.; the Manchester Locomotive Works and the Portland Locomotive Works, Portland, Me.; and the Rhode Island Locomotive Works, Providence, R. I.

LOCKS & CANAL COMPANY'S WORK.

The first concern to establish any mark as locomotive builders in New England were the Locks & Canal Company, Lowell, Mass., which afterwards became known as the Lowell Machine Shops Company. They began building locomotives in 1834 owing to prostration of their canal operations due to the depression in that kind of business through the growth of sentiment in favor of railroads. The Locks & Canal Company took the Stephenson's Planet type of locomotive for their model, and built quite a number of them for different new England railroads. These engines had a single pair of driving wheels in front of the fire box inside connected and one pair of carrying wheels under the smoke box. As the proportions of these engines became for a time the prototypes followed by the early New England locomotive designers, their dimensions will be of interest to people interested in locomotive development.

THE MODEL PIONEER LOCOMOTIVE OF NEW ENGLAND.

The cylinders were 11x16 inches, the driving wheels 5 feet diameter outside of the tires, and the leading wheels were 3 feet diameter. The boiler had a slight wagon top with dome on top and was 34 inches diameter, containing 66 copper tubes 2¼ inches outside diameter, and 82 inches long. The fire box was 22 ins. long inside, 42 ins. wide and 37½ ins. deep, the grate area being 6.4 square feet. There was about 37 square feet of heating surface in the fire box and about 262 square feet in the tubes, making a total of about 300 square feet of heating surface.

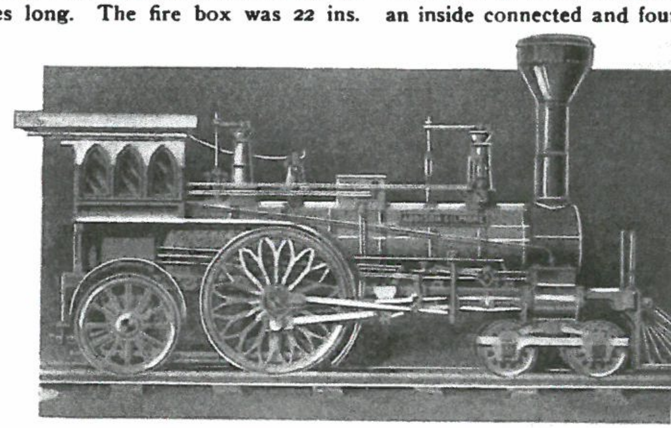
The engine had drop hook valve motion operated under the smoke box. The steam ports were 1¼x6 ins., and the exhaust port 1½x6 ins. There were two nozzles each 1½ ins. diameter. The engines weighed in working order about 23,000 pounds, of which 14,500 was on the driving wheels. The fuel burned was wood.

The Lowell Machine Shops suspended locomotive building after they had turned out about twenty engines, but in 1847 they tried that line of work again and built two engines for the Boston & Lowell Railroad, which displayed some development, for they were four wheel inside connected with a four wheel truck in front. The cylinders were 15½x18 ins., the driving wheels being 66 ins. diameter. That ended the work of the first locomotive building company in New England. Their engines never were popular and made little mark on the art of locomotive building.

HINKLEY & DRURY'S START IN LOCOMOTIVE BUILDING.

In 1839 Hinkley & Drury began locomotive building in Boston, their first engine being the "Lion," which was carried on four wheels connected and had outside cylinders. That engine resembled the De Witt Clinton, belonging to the Mohawk Valley Road, but had a slightly larger boiler with a small wagon top fire box and a big dome on the middle of the boiler. Hinkley & Drury engaged seriously in the work of locomotive building and eventually turned out many excellent locomotives that compared favorably with the productions of the best shops in the country. In their second engine they yielded to the popular trend of New England practice, introduced by the Locks & Canal Company, and made an inside connected and four wheel connected engine which had, however, a four wheel truck in front. This practice of building inside connected engines was followed by Hinkley and Drury for about ten years, until the demand of railroad companies for outside cylinder engines induced the builders to conform to the popular taste and do away with the necessity for a cranked axle.

It is curious how wedded some men become to the idols of their own con-



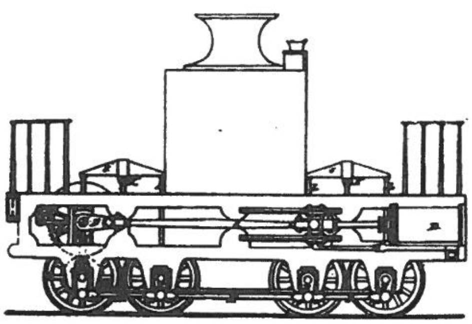
ADDISON GILMORE, EDDY'S FIRST ENGINE, 1851.

struction. Isaac Hinkley, the head of the Hinkley Locomotive Works, reluctantly consented to build outside connected engines; yet it is said that on his death bed he expressed the belief that the most serious mistake of his life was changing from the making of inside to outside connected locomotives.

The Hinkley Locomotive Works built up a good business very rapidly and some of their engines became famous. The "Antelope," built for the Boston & Maine in 1845, had a single pair ot drivers 6 ft. diameter, a four wheel truck in front and a single pair of carrying wheels under the foot plate. This engine was noted for fast running, but was too much given to slipping to hold popularity. Express engines with a single pair of large driving wheels were then becoming popular in Europe and many of them are still to be found at work there; but they have never been successful in the United States, although many of them have been tried at various times.

LARGE DRIVING WHEEL ENGINES.

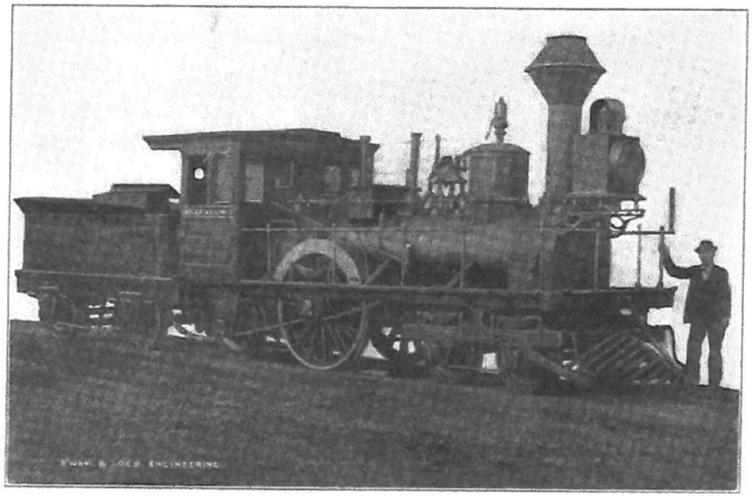
The early locomotive designers the world over made a common mistake of imagining that the size of driving wheels, instead of the size of boiler, controlled



ROSS WINANS' ENGINE. FOR WESTERN RAILROAD OF MASS., 1848.

the speed capacity of a locomotive, and American designers did not keep clear of the fallacy. This sentiment was what led to the building of the Steven's Crampton engine for the Camden & Amboy Railroad with driving wheels 8 ft. diameter, illustrated and described on page 544 of our 1903 volume. A few others noted for the large size of their driving wheels and the small capacity of their boilers were built, and provided object lessons that were not soon forgotten.

The "Stevens" already mentioned was the first engine conspicuous for its great size of driving wheels. In 1849, the year that the Stevens was put to work, Edward S. Norris, of the Schenectady Locomotive Works, built the "Lightning" for the Utica & Schenectady Railroad, with a single pair of driving wheels 7 ft. diameter, cylinder 16x22 ins., boiler 42 ins. diameter, with 116 2 in. tubes 10 ft. 3 in. long, providing about 670 sq. ft. of heating surface. About one year's service proved the engine to be a failure. The "Mameluke," built by the Amoskeag Company in 1849, had inside cylinders

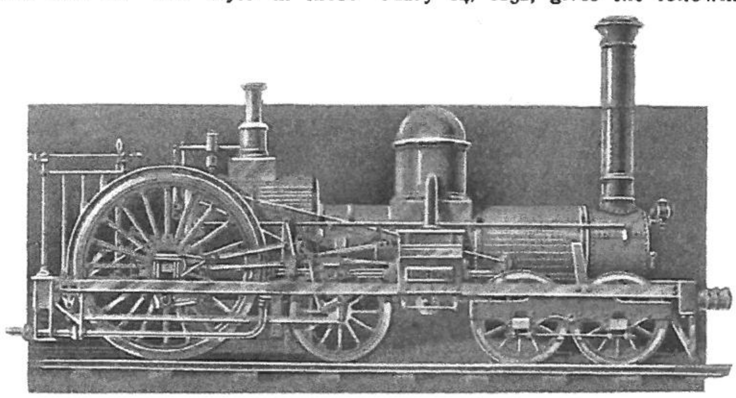


LOWELL ENGINE, BUILT ABOUT 1837, REBUILT 1846, BELONGED TO STONINGTON RAILROAD. JAMES M. ANDERSON, MASTER MECHANIC OF ROAD, IN FRONT.
Photograph from which engraving was made loaned by Mr. Orman L. Pratt, Providence, R. I.

15x24 ins. and two pairs of coupled driving wheels 7 ft. diameter. The "Carroll of Carrollton," made by Ross Winans in 1852, had a single pair of driving wheels 7 ft. diameter, and had four wheel trucks in front and rear.

Winans tried to strengthen the weak point of previous single driver engines, viz.: deficiency of adhesion, by providing the "Carroll of Carrollton" with a traction increaser shown in the engraving of the engine, but it did not secure success, for the engine never did any regular work.

The Philadelphia & Reading, also the Hudson River Railroad, each had two locomotives built by the Trenton Locomotive Works, Trenton, N. J., with single pair of driving wheels 7 ft. diameter which seemed to be the standard size for that style in those



LIGHTNING, BUILT BY EDWARD S. NORRIS AT SCHENECTADY LOCOMOTIVE WORKS, 1849.

days, but they were soon altered When the short lived movement in favor of big driving wheels died out, the locomotive designers went gradually back to driving wheels about 5 ft. diameter, which was the popular size for many years and were quite large enough for the prevailing speed of trains. As late as 1864 the average speed of express trains in the United States was 32 miles an hour for a few of the most important lines, and 26 miles an hour on others with long mileage.

THE LOWELL LOCOMOTIVE RACES.

While the movement favoring high speed of locomotives was at its height, the New York Association of Railroad Superintendents arranged for a contest of locomotives to demonstrate both speed and hauling power. This extraordinary event took place on an unused portion of the Lowell Railroad belonging to the Boston & Maine system in October, 1851. The distance run was 8 miles 36.16 ft. A committee consisting of scientific and practical men was in charge.

The American Railroad Journal, February 14, 1852, gives the following account of the competition as being the committee's rules and findings:

"The trial of locomotive engines for

Holmes Hinkley (1793-1866) was born in Hallowell, Maine and was a carpenter by trade until he moved to Boston and set up a small machine shop in 1823. Holmes and Daniel Franklin Child (1803-1876) founded the Boston Machine Works in Boston, Massachusetts in 1831. The company was one of the first to build a stationary steam engine in the state and later became one of the largest manufacturers of reliable steam locomotives in New England. Holmes is not credited with creating the design for the engine. He based his ordinary design on other schematics. The company reorganized in 1848 as the Boston Locomotive Works to reflect the shift in their manufacturing focus. During the panic of 1859, the company fell on hard times and shut down. Towards the end of the Civil War the company reorganized as the Hinkley and Williams Locomotive Works and produced railroads for the War effort. After the Civil War the company changed it's name again to the Hinkley Locomotive Works but declining orders for locomotives forced the company into bankruptcy and the manufacturer was sold to the West End Railroad Company, which eventually became the Boston Elevated Railroad Company. The Hinkley Locomotive Works property and buildings has been used by the Boston Elevated Railroad Company's electric power plant.

From the description of Hinkley Locomotive Works shop draw ings, 1866-1883. (Harvard Business School). WorldCat record id: 741763633

The Hinkley Locomotive Works was established sometime after the Civil War, however the company went through many changes over the course of the 19th century. The company was originally found as a small machine shop in 1823 by Holmes Hinkley (1793-1866). The machine shop operated for almost a decade until Hinkley and Daniel Franklin Child (1803-1876) founded the Boston Machine Works in Boston, Massachusetts in 1831. The Boston Machine Works was one of the first to build a stationary steam engine in Massachusetts and later became one of the largest manufacturers of reliable steam locomotives in New England. Holmes is not credited with creating the design for the engine as he based his ordinary design on other schematics. The company reorganized in 1848 as the Boston Locomotive Works to reflect the shift in their manufacturing focus. During the panic of 1859, the company fell on hard times and shut down. Towards the end of the Civil War the company reorganized as the Hinkley and Williams Locomotive Works and produced railroads for the War effort. After the Civil War the company changed its name again to the Hinkley Locomotive Works but declining orders for locomotives forced the company into bankruptcy and the manufacturer was sold to the West End Railroad Company in 1889, which later became the Boston Elevated Railroad Company. The Hinkley Locomotive Works property and buildings became the home of the Boston Elevated Railroad Company's electric power plant.

Hinkley Locomotive Works was asteam locomotivemanufacturer based inBoston, Massachusettsin the 19th century.

History [edit]

The company that was to become known as Hinkley Locomotive Works got its start in Boston in 1831.Holmes Hinkleyand his partner Daniel F. Childfounded the**Boston Machine Works** and soon built the third stationary steam engine that was constructed inMassachusetts. The company's first locomotive was a4-2-0 built in 1840 that followed the roughly standard designs of the 1830s. Hinkley's early locomotives closely resembled those designed by John Souther.

An 1853 advertisement for Boston Locomotive Works

The company gained a reputation as a reliable and respectable locomotive builder and grew to become the largest manufacturer in New England within a decade. In 1848 the company reorganized as the**Boston Locomotive Works** and operated under that name until foreclosure due to the financial panic in 1859.

After reorganization under Jarvis Williams, the company became **Hinkley, Williams and Company**. Hinkley, who had been forced out in the foreclosure, returned to the company in another reorganization in 1864 as the **Hinkley and Williams Locomotive Works**. The company produced locomotives for the railroads of the American Civil War and regained some of the earlier profitability that they had enjoyed earlier in the century.

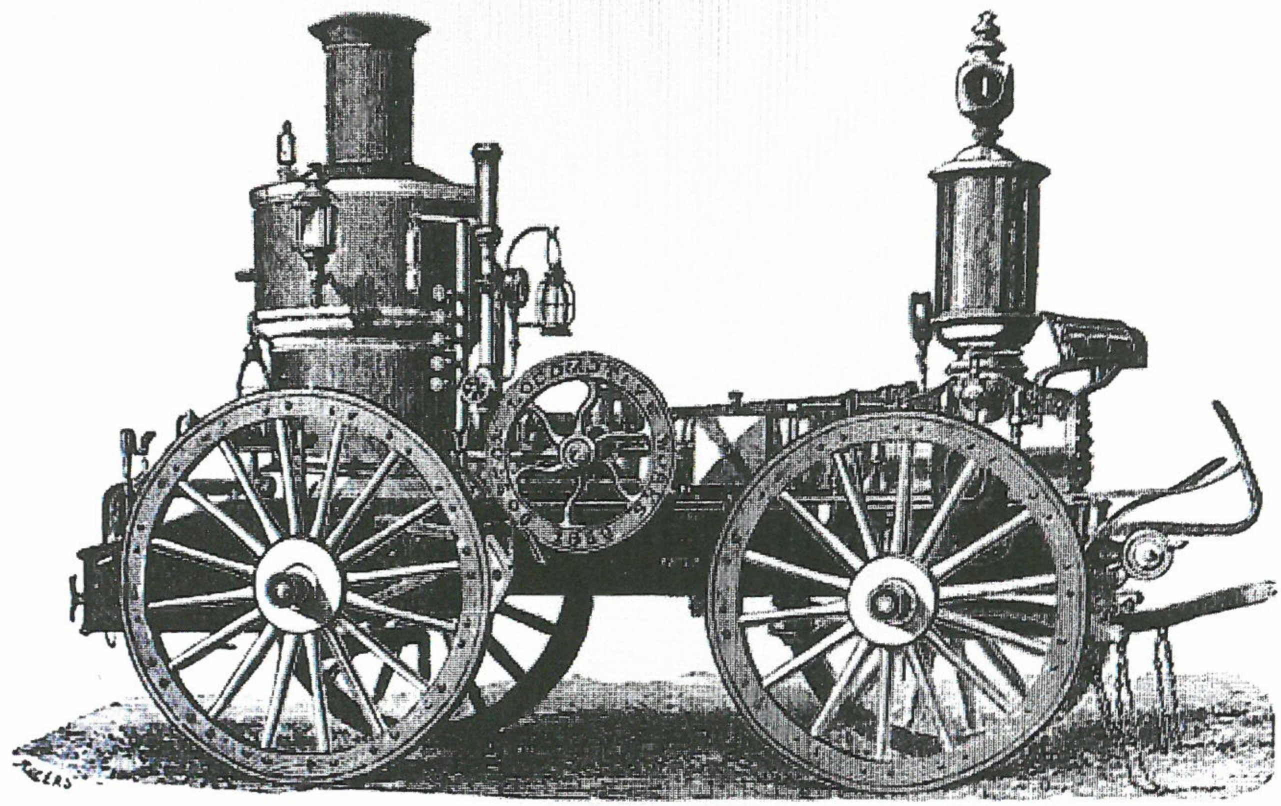
In 1872 the company was renamed to **Hinkley Locomotive Works** but soon fell into bankruptcy again by the end of the decade. This bankruptcy led to the 1880 reorganization as the **Hinkley Locomotive Company**. Orders fell off and the company was permanently closed in 1889. The only Hinkley locomotive known to be preserved is a 9-ton 0-4-0 built in 1846 as the *Lion* for the Machiasport Railroad of eastern Maine. It is preserved at the Maine State Museum in Augusta, Maine.[1]

Another Hinkley engine still exists but not in its original form. In 1879, the Hinkley Locomotive Works built a 4-4-0 named "H. C. Hardon", and numbered 73, for the Atchison, Topeka and Santa Fe. This engine was converted to a 2-8-0 wheel arrangement, now numbered 643, by the Santa Fe shops in 1897 and it served the Santa Fe until its retirement c1953. This engine, not currently in operating condition, is now located in the Oklahoma Railway Museum, Oklahoma City, Oklahoma.

HINCKLEY & DRURY — 1858.

Hinckley & Drury built their first Steam Fire-Engine at the "Boston Locomotive Works" in 1858. This engine was named the "New Era," and was designed by Mr. J. M. Stone.

The boiler was of the common tubular pattern, measuring 36 inches in diameter, with



MAZEPPA NO. 1, BOSTON, MASS.
Built by Hinckley & Drury.

241 smoke tubes $1\frac{1}{2}$ inches in diameter and 4 feet in length, which were made of brass. The frame was slightly craned so as to allow the front wheels to turn under. The pump and steam cylinder were placed horizontally and were single. The pump was double acting, 7 inches in diameter, with 12 inch stroke; steam cylinder 12 inches in diameter, 12 inch stroke. The weight was about 10,000 lbs.

The "New Era" took part in the famous trial of steam fire-engines on Boston Common on Aug. 31st and Sept. 1st, 1858, against three other builds, but was defeated by each of the competitors. On Dec. 4th, same year, she was again tried at the "South

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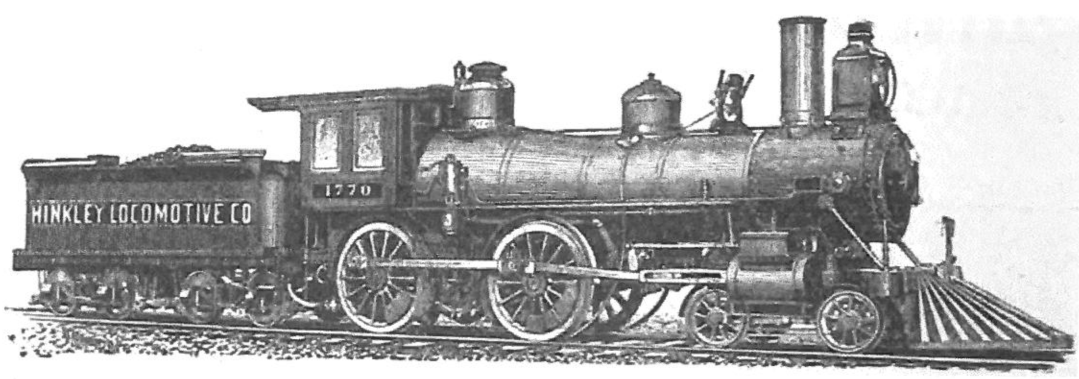

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HENRY G. ASHTON WORKED FOR HINKLEY FROM 1869-1871 BEFORE ESTABLISHING ASHTON VALVE

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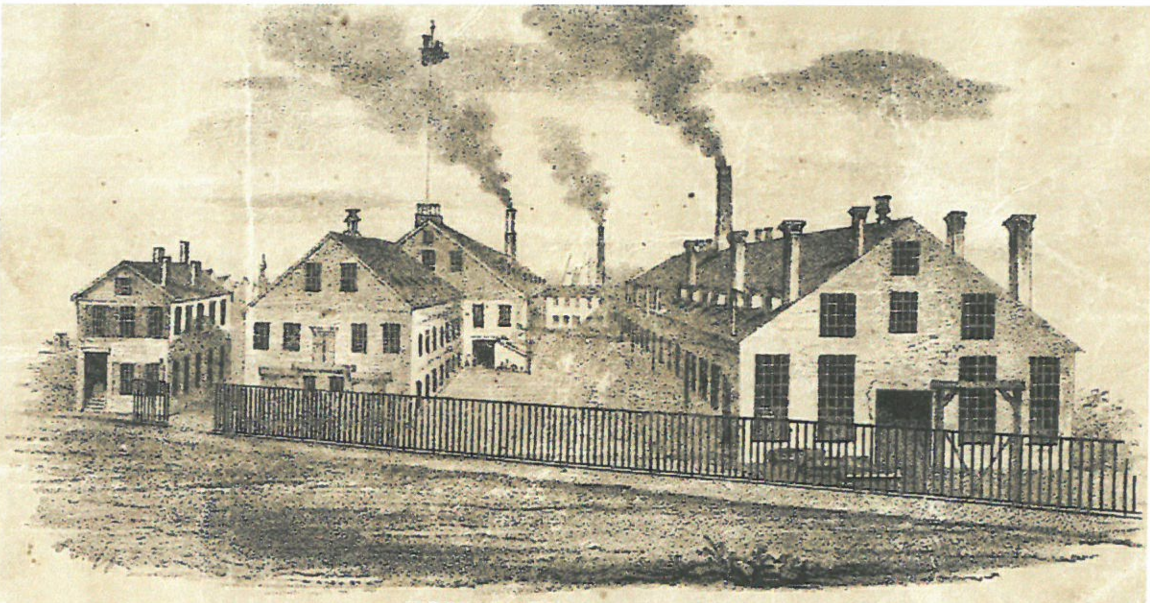

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460 HARRISON AVENUE.

HINCKLEY & DRURY

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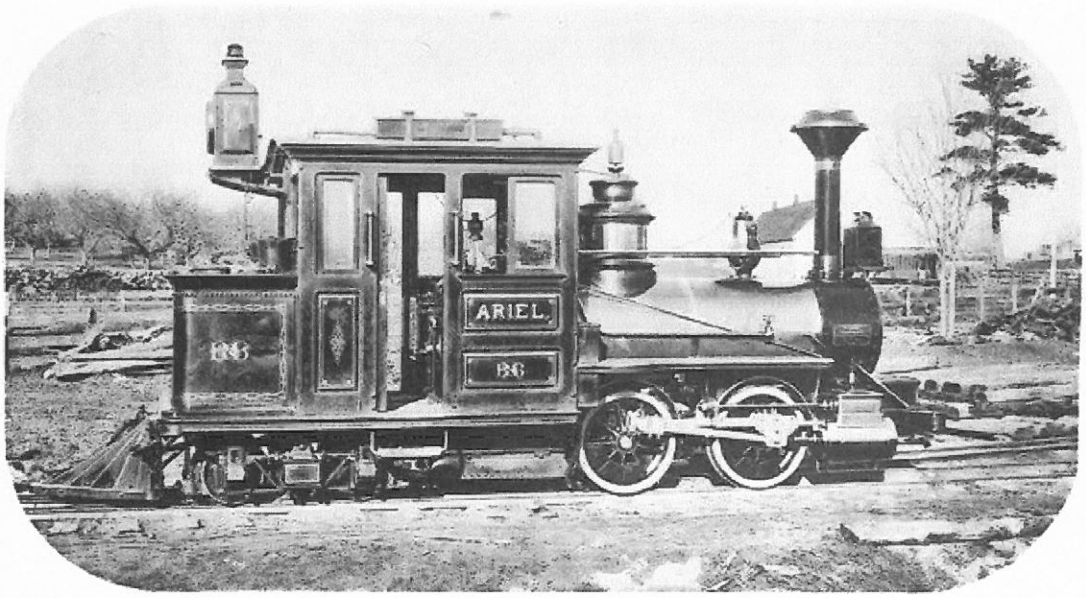

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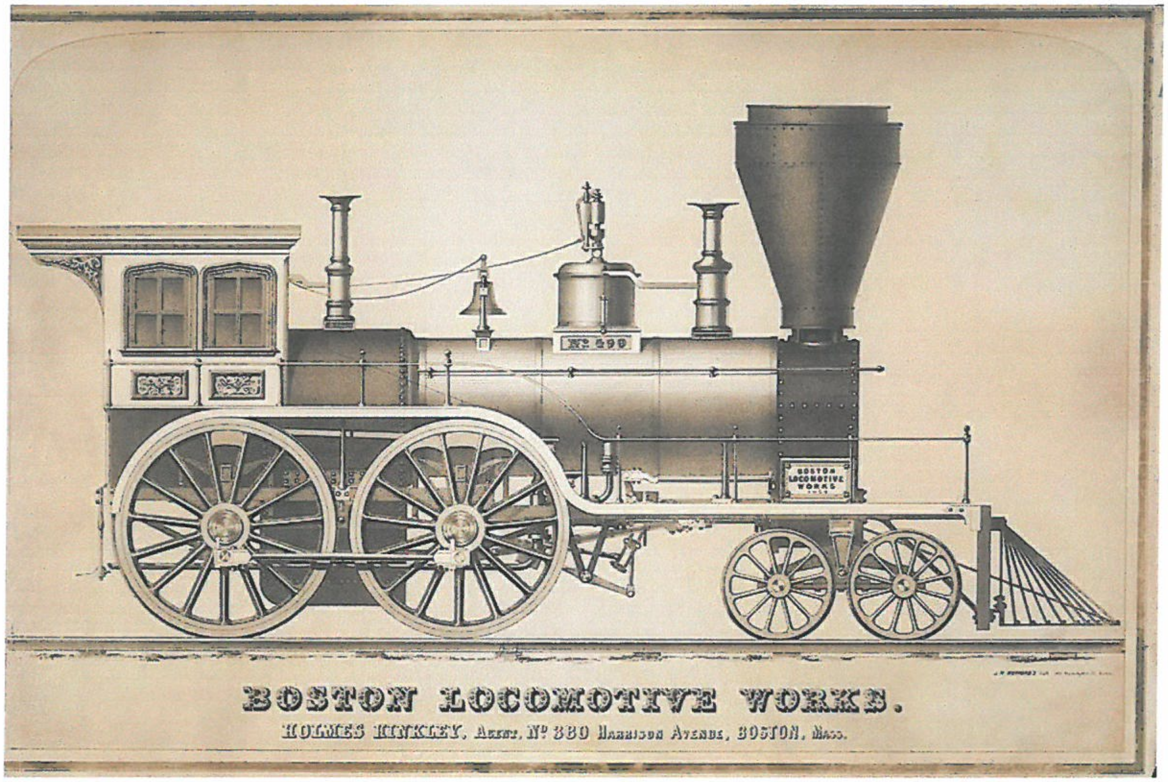
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HOLMES HINKLEY, Agent, No 380 Harrison Avenue, BOSTON, Mass.

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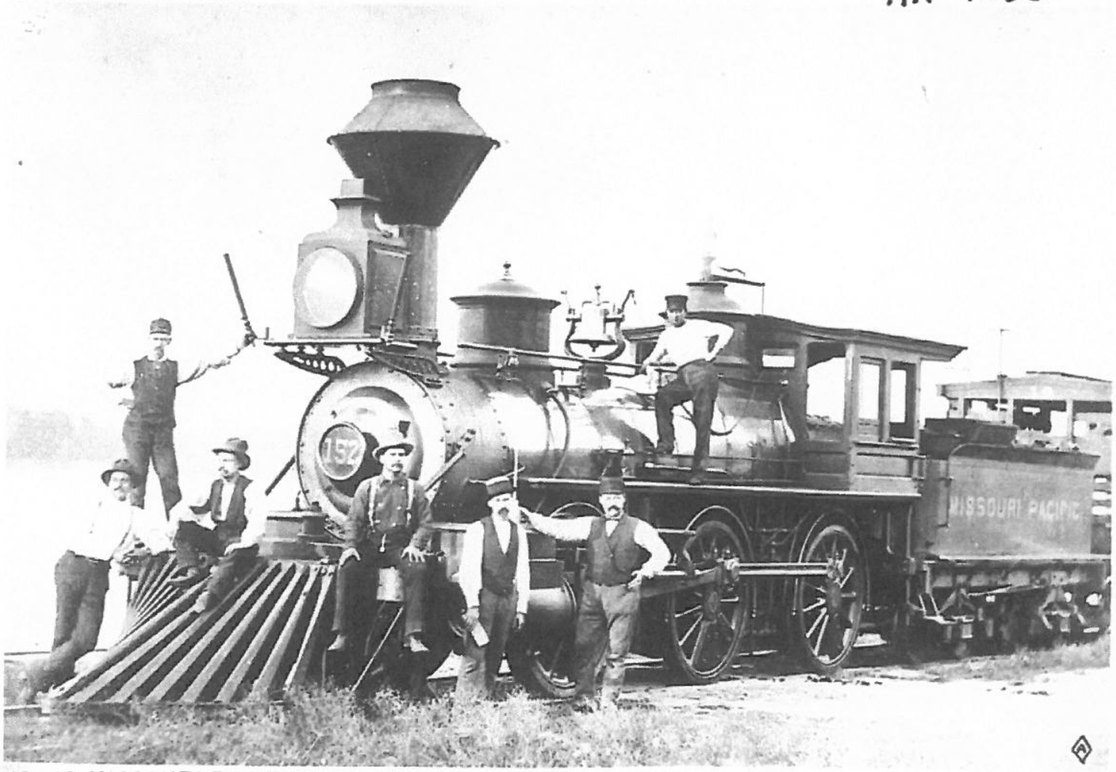

NO. 152 MISSOURI PACIFIC R.R. 17X24 HINKLEY LOCOMOTIVE WORKS 1872

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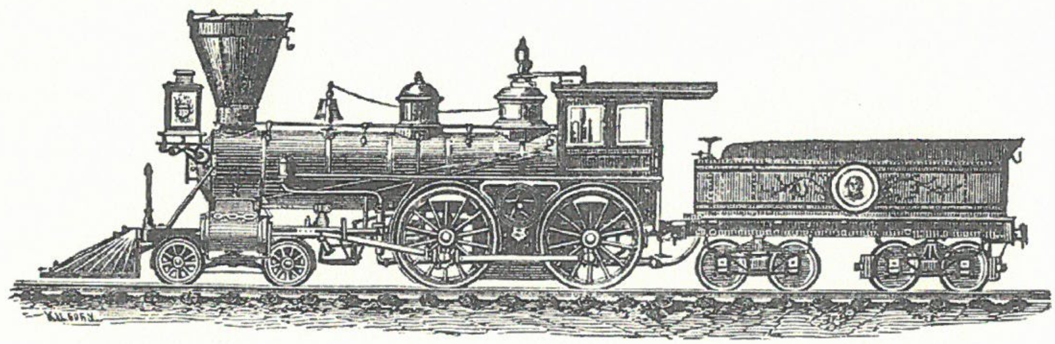
THE HINKLEY & WILLIAMS WORKS,



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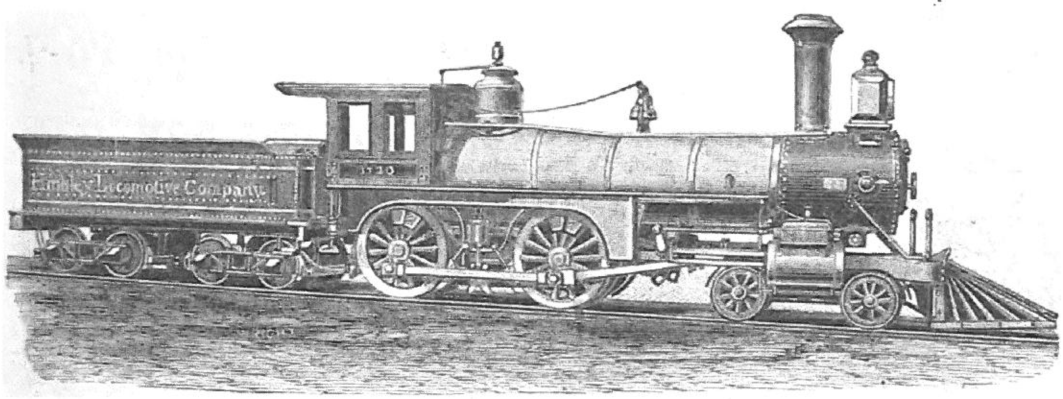

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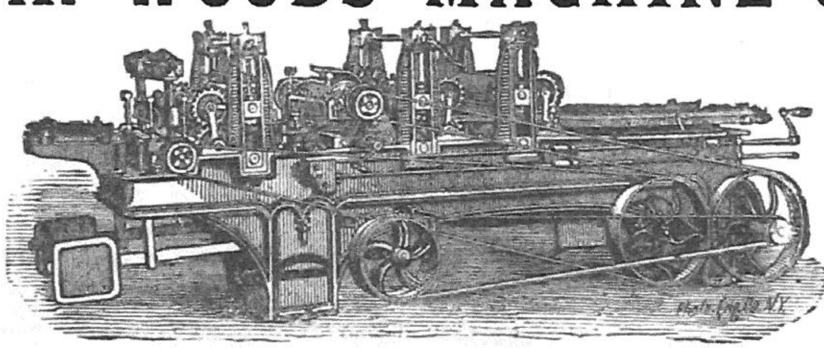

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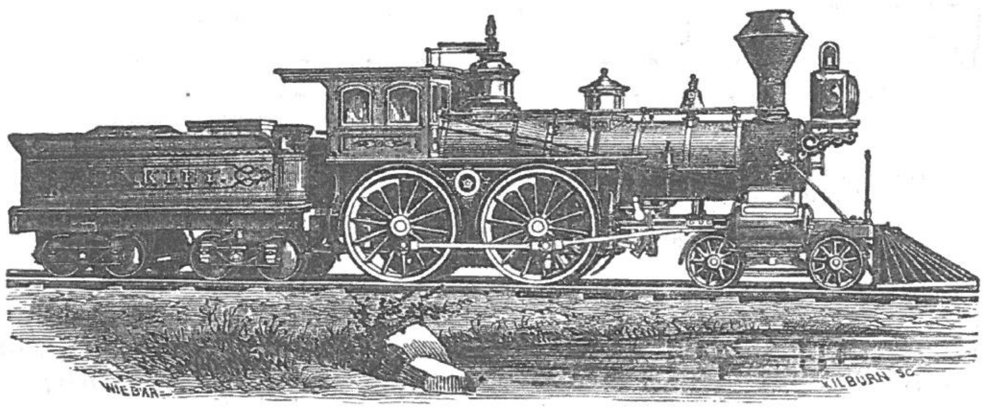

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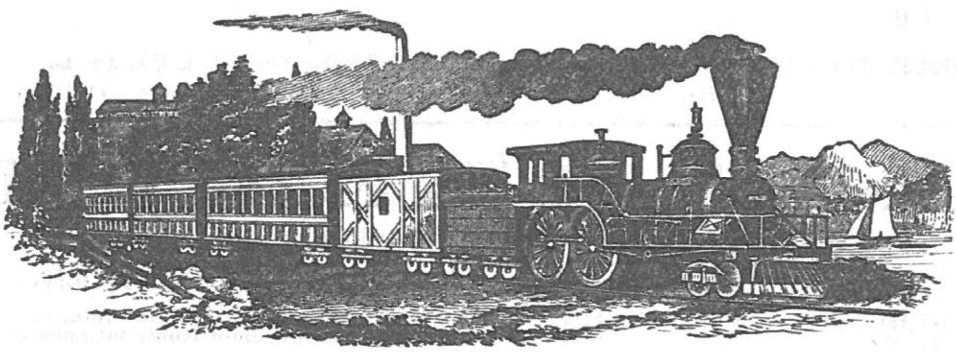

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