



150

*** or so ***

MOSTLY 1850S

★ AMERICAN STANDARD 4-4-0 ★

LOCOMOTIVES

Drawings and Lithographs

SCALED FOR HO

PART 1: HO LOCOMOTIVE DRAWINGS

SOURCED FROM:

E. P. Alexander
IRON HORSES: AMERICAN LOCOMOTIVES 1829–1900

E. P. Alexander
CIVIL WAR RAILROADS & MODELS

Reed Kinnert
EARLY AMERICAN STEAM LOCOMOTIVES

Richard Adams (drawings by C.H. Caruthers)
LOCOMOTIVES OF THE PENNSYLVANIA RAILROAD,
VOL. I, THE EARLY YEARS 1848 TO 1874

Angus Sinclair
DEVELOPMENT OF THE LOCOMOTIVE ENGINE

John H. White
EARLY AMERICAN LOCOMOTIVES

John H. White
AMERICAN LOCOMOTIVES:
AN ENGINEERING HISTORY: 1830–1880

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Version 6—November, 2016—156 Locomotives

MAJOR LOCOMOTIVE BUILDERS PRIOR TO CIVIL WAR

Builders of 50 locomotives or more (according to the Railway & Locomotive Historical Society)

THE BIG 4

Norris Locomotive Works (AKA American Steam Carriage Co., Norris Brothers, Richard Norris & Sons), Philadelphia, PA— started by businessman/promoter William Norris in 1832, joined by five of his eight brothers, built around 1000 locomotives by late 1860. Under the leadership of his more mechanically-minded brother Richard, the company became the biggest locomotive manufacturer in the world by the 1850s. One brother or another had a hand in starting up both the Schenectady and Portland locomotive works. Norris sold locomotives primarily to the South and Midwest. Styles of locomotive decoration often reflected Gothic architecture. The company wasn't known for a lot of technological innovation. The Norris family seems to have lost interest in the business early in the 1860s and closed up when Richard retired in 1866. A few of the brothers tried to revive the business in Lancaster, PA, taking over the old Lancaster works, but they closed their doors for good in 1868.

Rogers Locomotive & Machine Works (AKA Rogers, Ketchum, and Grosvenor), Paterson, NJ— founded in 1832 by Thomas Rogers, built 937 locomotives before 1860. Rogers championed many technological innovations such as link-motion valve gear, wagon-top boilers, horizontal cylinders, and spread pilot wheels. Innovative engineers William Swinburne, John Cooke, and Zerah Colburn all worked for the company. Rogers locomotives were popular throughout the U.S., with some railroads like the Illinois Central buying them almost exclusively. Author and master engineer Zerah Colburn said that “Thomas Rogers maybe fairly said to have done more for the modern American locomotive than any of his contemporaries.” Rogers was sold to ALCO in 1905.

Baldwin Locomotive Works (AKA M. Baird & Co., Burnham, Perry & Williams), Philadelphia, PA— Jeweler and stationary steam engine builder Matthias Baldwin started building locomotives in 1832 and sold 920+ engines before 1860. Baldwin was a shrewd businessman, buying and selling on credit, but struggled financially for many years. He was usually in perpetual second place to the other Philadelphia builder, Norris. Sold locomotives mostly to the southern states and the Pennsylvania RR, in which Baldwin owned stock. Baldwin championed many innovations, like flexible beam drivers, but they didn't always catch on. Baldwin didn't take the leading spot in the industry until after the Civil War, but eventually became by far the biggest and stayed that way until the end of steam.

Hinkley Locomotive Works (AKA Boston Locomotive Works, Hinkley & Drury, Hinkley & Williams), Boston, MA— Holmes Hinkley built his first locomotive in 1840 and the business grew to become New England's largest manufacturer. Built around 675 locomotives before the

Civil War. Hinkley never had a strong financial position and had to reorganize after bankruptcy a number of times. His company was not a technological leader like Rogers, but his engines were up-to-date and known for speed. Hinkley engines ended up mostly in New England and the Midwest. The company closed permanently in 1889, about the same time Mason and Taunton quit building locomotives.

OTHERS

Amoskeag Locomotive Works (Amoskeag Mfg. Co.), Manchester, NH— better known for building steam pumper fire engines, built around 230 locomotives between 1849–1858 before selling out to the **Manchester Locomotive Works**. Amoskeag was a conservative New England builder whose engines often had inside cylinders— a common affectation of New England engine builders.

Breese Kneeland & Co. (AKA New York Locomotive Works), Jersey City, NJ, founded 1853, became **Jersey City Locomotive Works** after the Panic of 1857 and **McKay Iron Works** in 1871. Started selling technologically up-to-date locos to the Vanderbilt roads and built the business from there. Built maybe 90 locomotives before the Civil War. Closed up shop in 1872.

Cuyahoga Steam Furnace Co., Cleveland, OH— built around 80–90 advanced locomotives for the Midwest between 1850–1855. Many ended up on predecessors of the C.C.C. & St.L RR.

Danforth Cooke & Co. (AKA Danforth Locomotive & Machine Works, Cooke Locomotive & Machine Works), Paterson, NJ— founded by Charles Danforth and former Rogers superintendant John Cooke in 1853, built around 200 locomotives before the Civil War. A cross-town rival of Rogers, Cooke kept his designs equally up-to-date. The company was renamed after Danforth in 1865 and Cooke in 1882. The machines were always called “Cooke engines.” The company became part of ALCO in 1901.

Globe Locomotive Works (AKA Souther), South Boston, MA— John Souther worked for Hinkley before starting his own works and built around 100 locomotives between 1848–1864. He built engines similar to Hinkley and Taunton, including many with inside cylinders, and they mostly ended up in the Northeast, though one became the first locomotive in California.

Lancaster Locomotive Works (AKA Norris-Lancaster), Lancaster, PA— was founded with the help of major locomotive builder John Brandt when he retired from running the New Jersey works in 1853. Maybe 70 engines were built before the company closed in 1861. The works were reopened by the Norris brothers as Norris-Lancaster in 1863 but closed for good in 1868.

Lawrence Machine Shop (Essex County Machine Shop), Lawrence, MA— built around 50 locomotives from 1853–1857. Most were pretty conservative New England machines, but Lawrence also built the Hudson River RR's first coal-burning loco.

Lowell Machine Shop (Locks & Canals Co.), Lowell, MA— was a pioneer in America's industrial revolution and built a variety of steam-powered machines, including 140+ locomotives between 1835–1854. Lowell employed designer Walter McQueen, later of the Schenectady works, and produced fairly advanced engines. Several built for the Vanderbilt roads had huge drivers for fast running.

Manchester Locomotive Works, Manchester, N.H.— was founded by locomotive designer Oliver W. Bayley, formerly of the Amoskeag works. The company bought out Amoskeag's locomotive business in 1859. After a slow start, the company became a major manufacturer after the Civil War and was eventually a part of ALCO.

Mason Machine Works, Taunton, MA— William Mason's enterprise built locomotives between 1853–1889, with 104 completed before the Civil War. Mason put an emphasis on esthetics in his designs, as well as advanced mechanical features. Consequently his machines were highly regarded and continue to be so to this day. He had a lot to do with the standardization of 4-4-0 design and proportions for the last half of the century. The main business of Mason's works was always building textile machinery, both before and after the interest in locomotives. Mason claimed to have built locomotives for sheer enjoyment of it.

Moore & Richardson (AKA Cincinnati Locomotive Works), Cincinnati, OH— built maybe 140 engines between 1853 and the Civil War, mostly for Ohio lines and southern roads like the Louisville & Nashville. Many other midwest railroads were run by eastern bankers, however, who preferred to patronize eastern locomotive builders. The Cincinnati works closed in 1868.

New Castle Mfg. Co., New Castle, NJ— built 75 engines between 1834–58. Most were for roads in Mid-Atlantic states. Surviving pictures and drawings show them to be far behind in technology.

Niles & Co., Cincinnati, OH— the Niles brothers built around 90 "progressive" locomotives between 1852–1857 for Midwestern roads. Among other things, the company experimented with Walschaerts valve gear.

Portland Co., Portland, ME— was started with the help of one of the Norris brothers, Septimus, in 1846. The company built 90+ locomotives, about half for Canadian roads, before the Civil War. Portland built a wide variety of machines after outgrowing the steam locomotive business and lasted until the 1970s.

Schenectady Locomotive Works, Schenectady, NY— was started in 1848 with the help of the Norris brothers, (Septimus and Edward) who bailed on the operation in 1851. The business reorganized and hired master mechanic Walter McQueen by 1852. McQueen's fame as a builder grew to

the extent that Schenectady locomotives were called "McQueen engines." McQueens were up-to-date in design and popular with the Vanderbilt roads and many other lines. 229 locomotives were built before the Civil War, and Schenectady went on to become a major engine builder, forming the heart of the ALCO combination in 1901.

Swinburne, Smith, & Co., Paterson, NJ— was started by William Swinburne, formerly of Rogers, in 1848. It became the **New Jersey Locomotive & Machine Works** in 1851, the **Union Locomotive Works** in 1866, and the **Grant Locomotive Works** in 1867. About 220 locomotives were built before the Civil War. The company became the New Jersey Locomotive Works (AKA Smith & Jackson) after Swinburne's departure in 1851. The remaining partners employed innovative designer John Brandt as superintendent and Zerah Colburn as chief engineer. The New Jersey works engines were called "Brandt engines" and looked a lot like the Rogers engines produced across town. Banker David Grant took over the business in 1866. Renamed the Grant Locomotive Works, A fire at the plant as well as declining business weakened the company in the late 1880s. The company attempted a move to Chicago and closed up for good in 1895.

Taunton Locomotive Mfg. Co., Taunton, MA— built 281 locomotives from the company's founding in 1849 until the Civil War. Early Taunton engines were drawn up by George Griggs, an important early locomotive designer. The conservative New England designs favored by Taunton were considered obsolete after the war. The company quit building locomotives in 1889 and closed ten years later.

Tredegar Locomotive Works (part of Tredegar Iron Works), Richmond, VA— was one of the few locomotive manufacturers in the Southern states. Starting in 1850, Tredegar produced 62 engines under the direction of designers John Souther (Globe) and Zerah Colburn (New Jersey). Almost all the engines ended up on Southern railroads. The locomotive business didn't survive the Civil War.

Union Iron Works (AKA Wilmarth), South Boston, MA— was run by machinist Seth Wilmarth, formerly of Hinkley, and built 74 locomotives between 1848–1854. Some of his engines were quite large and powerful for the era, called "Shanghais" by their crews. Otherwise, they resembled Hinkleys. Wilmarth closed his works when the Erie RR defaulted on payment.

Wm. Swinburne & Co., Paterson, NJ— was started by William Swinburne after he left Swinburne & Smith in 1851. The company started out making locos for the Erie RR, the Delaware, Lackawanna, & Western RR, and the Chicago & Alton, building 104 locomotives before failing in the Panic of 1857 and selling out to the Erie RR in 1858.

Ross Winans started by running the B&O RR shops in Baltimore, MD and later built locomotives on his own, producing 157 between 1848 and the Civil War. His designs were always revolutionary and idiosyncratic, producing the "crabs," "mud-diggers," and "camels." They were all very utilitarian machines, devoid of grace or decoration.

150 LOCOMOTIVES

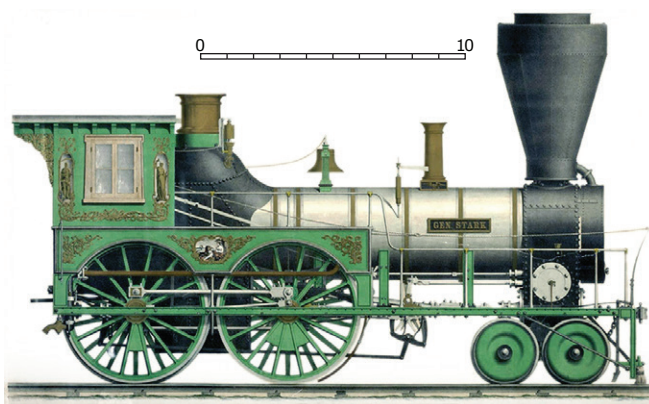
(MORE OR LESS)

SCALED FOR HO

PRINTED DIMENSIONS ARE USED WHERE KNOWN. OFTEN CONFLICTING DIMENSIONS OR JUST PLAIN ODD ONES ARE GIVEN IN SECONDARY SOURCES— GUESSWORK AND COMPARISONS TO SIMILAR LOCOMOTIVES ARE SUBSTITUTED INSTEAD.

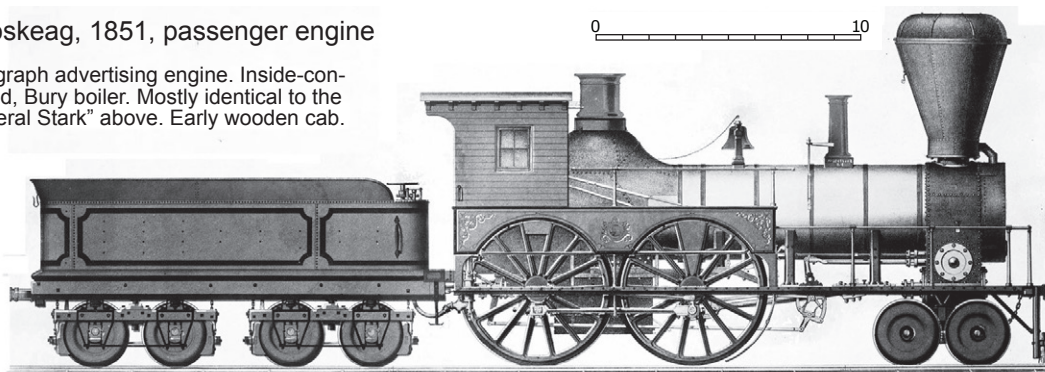
Amoskeag, 1849, "General Stark"

For the Concord RR. Inside-connected. Bury boiler. Second Amoskeag engine built. This is the most Baroque locomotive in the collection. Notice the little niches with carved figures in the corners of the cab. Apparently it had English-style sandboxes in the splashers. 66" drivers.



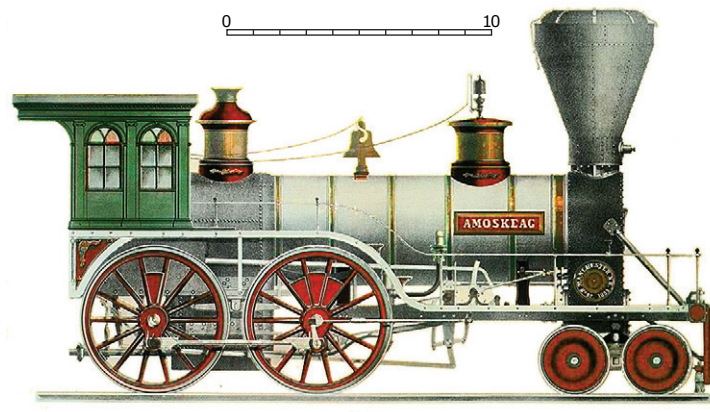
Amoskeag, 1851, passenger engine

Lithograph advertising engine. Inside-connected, Bury boiler. Mostly identical to the "General Stark" above. Early wooden cab.



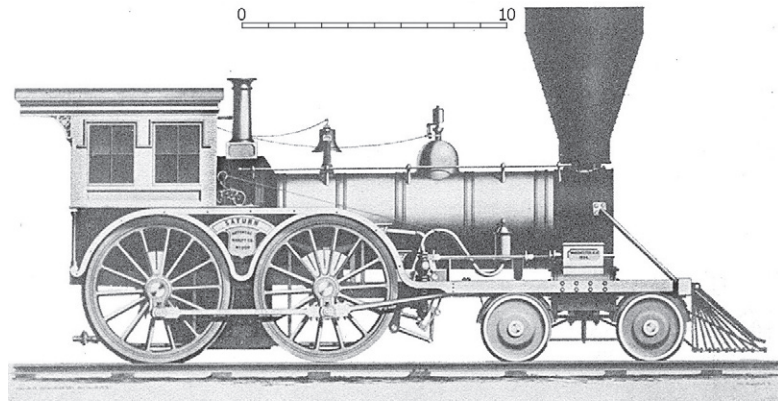
Amoskeag, 1853, "Amoskeag"

Lithograph engine patterned after the Boston & Maine RR C.W. Bailey. Inside-connected. Only the boiler has a Russia Iron jacket, not the firebox. Many other engines in this collection have this feature. 66" drivers, 15" x 20" cylinders, 24 tons.



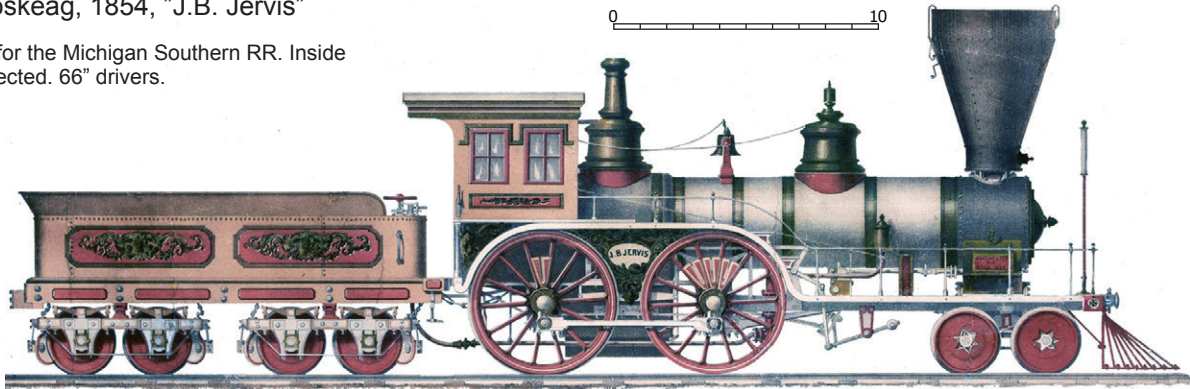
Amoskeag, 1854, "Saturn"

Lithograph engine. Amoskeag wasn't a major builder, but it issued a disproportionate number of lithographs.



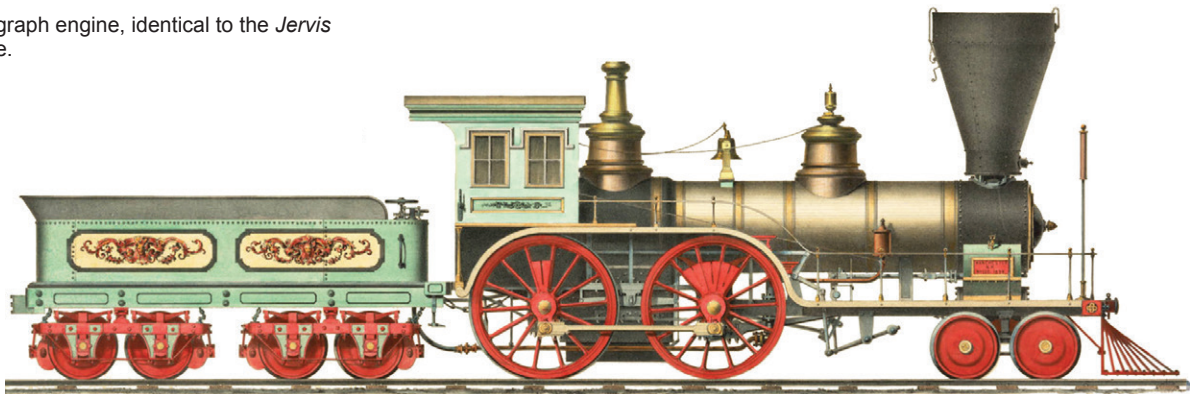
Amoskeag, 1854, "J.B. Jervis"

Built for the Michigan Southern RR. Inside connected. 66" drivers.



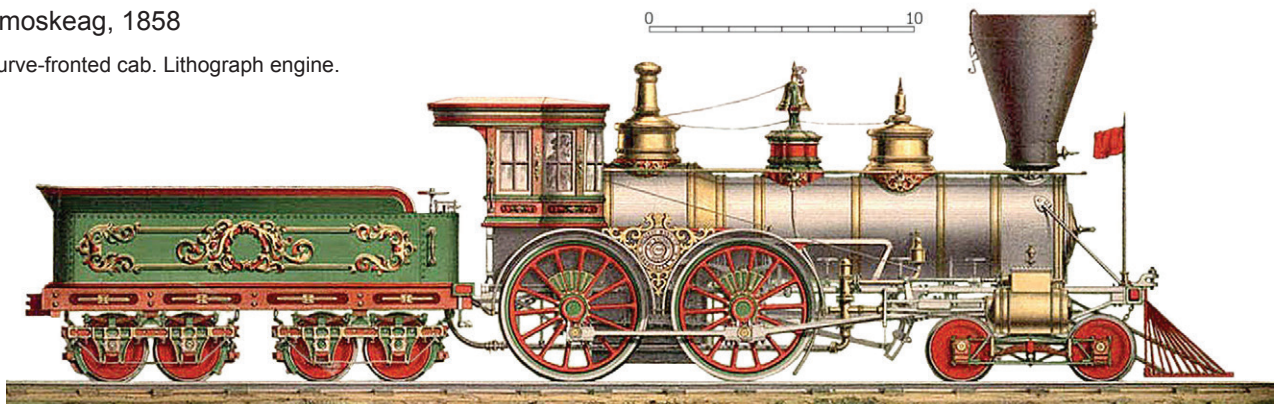
Amoskeag, 1854

Lithograph engine, identical to the *Jervis* above.



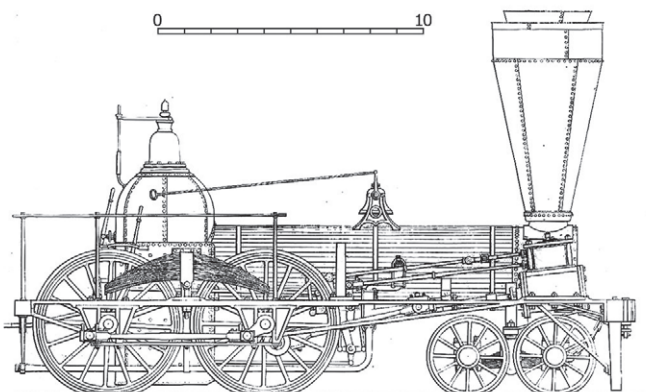
Amoskeag, 1858

Curve-fronted cab. Lithograph engine.



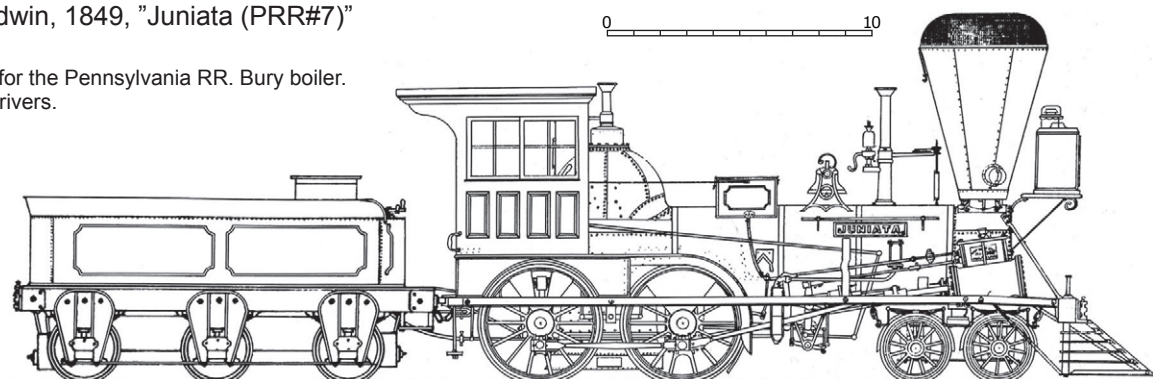
Baldwin, 1845

Bury boiler. Half-crank inside rods. Outside-frame suspension.



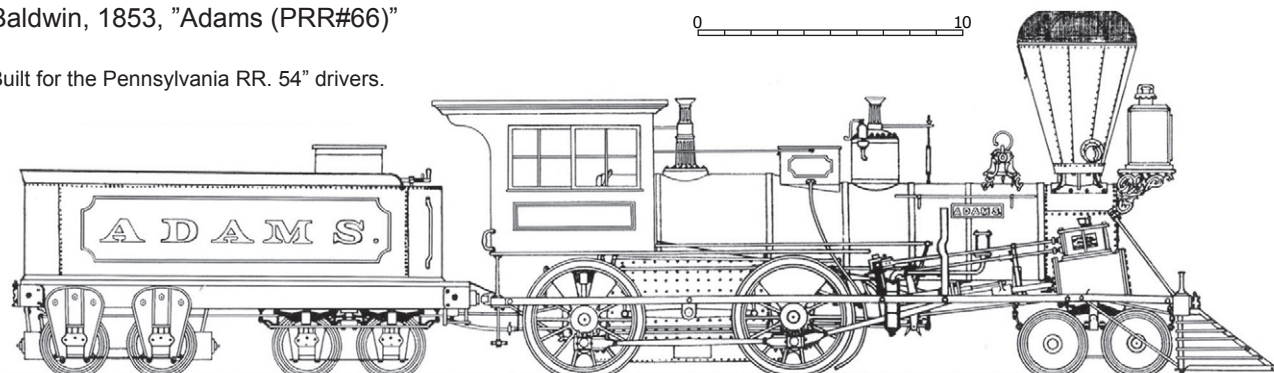
Baldwin, 1849, "Juniata (PRR#7)"

Built for the Pennsylvania RR. Bury boiler. 54" drivers.



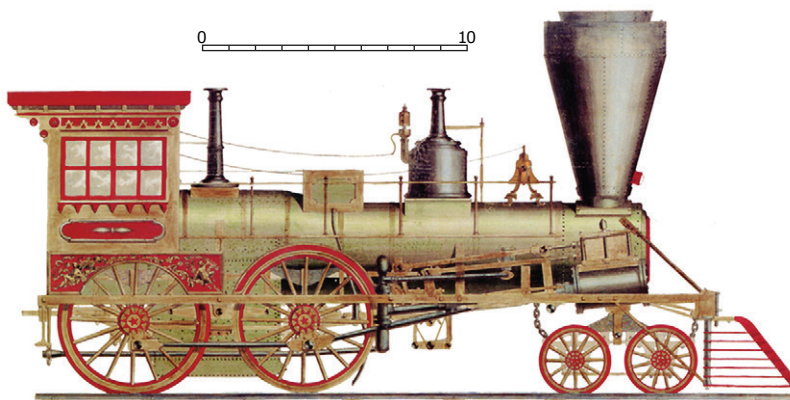
Baldwin, 1853, "Adams (PRR#66)"

Built for the Pennsylvania RR. 54" drivers.



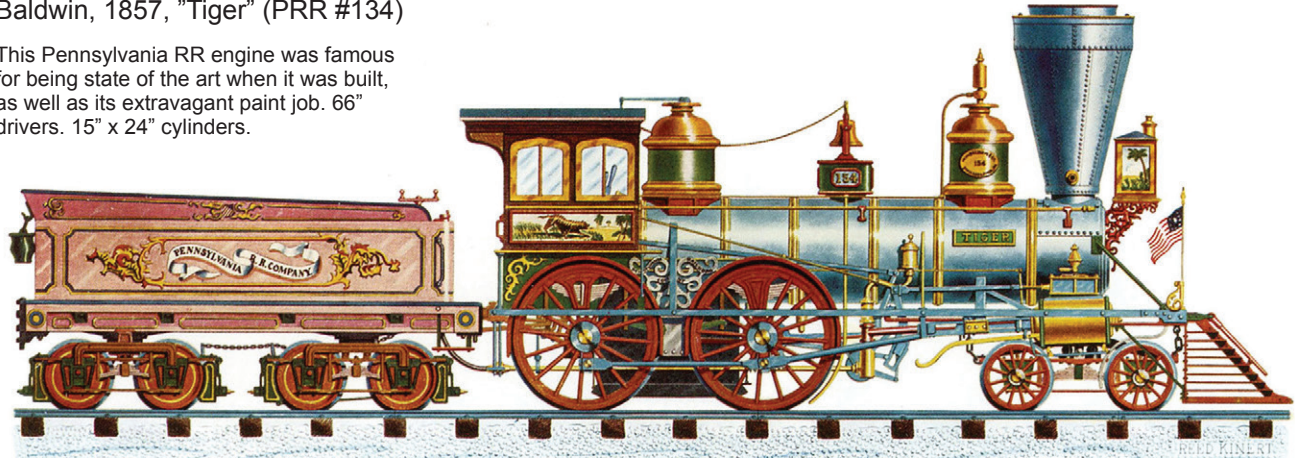
Baldwin, 1850s, "Plan C"

The PRR used about 50 locomotives built to this general plan with different fireboxes and wheel arrangements, including the "Juniata" and the "Adams" above. This lithograph engine is a high-wheeled passenger version.



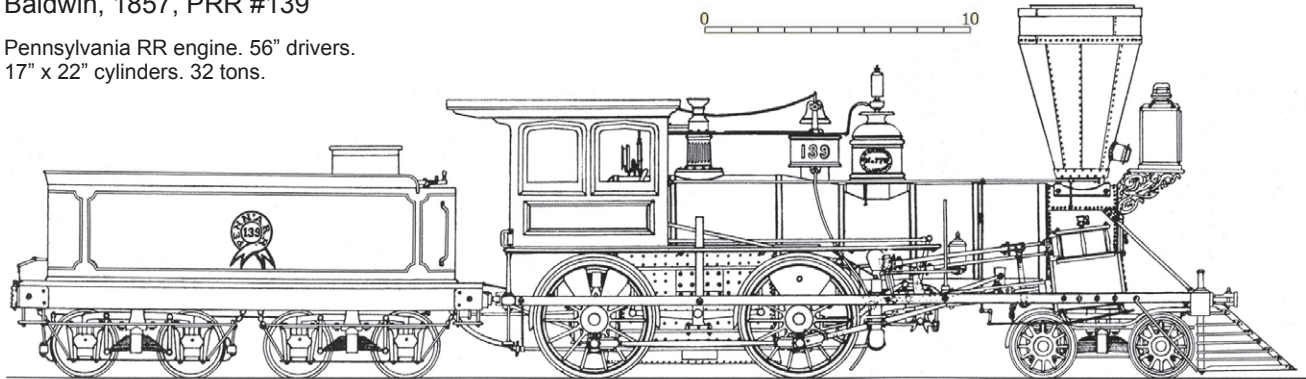
Baldwin, 1857, "Tiger" (PRR #134)

This Pennsylvania RR engine was famous for being state of the art when it was built, as well as its extravagant paint job. 66" drivers. 15" x 24" cylinders.



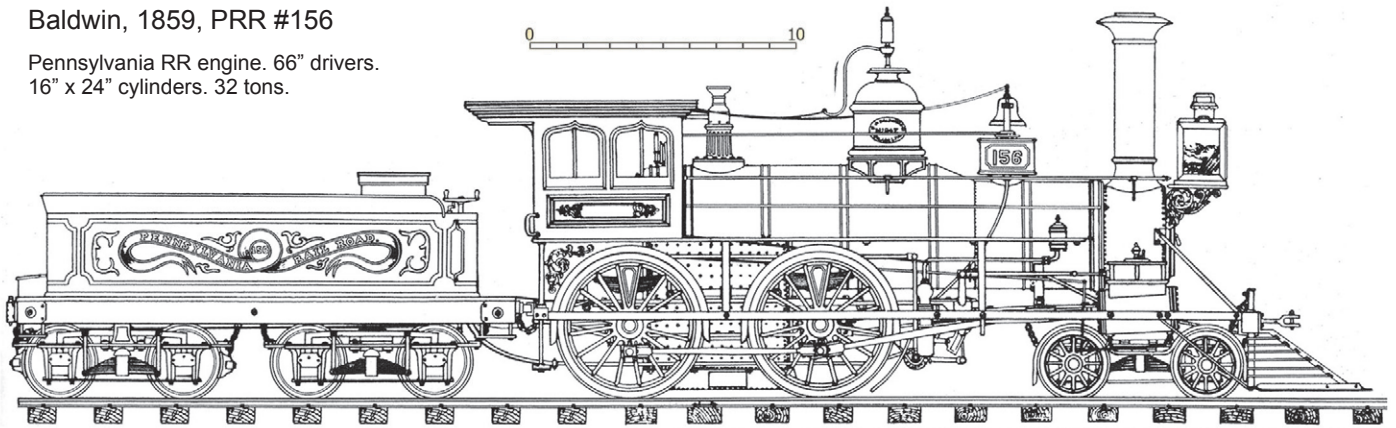
Baldwin, 1857, PRR #139

Pennsylvania RR engine. 56" drivers. 17" x 22" cylinders. 32 tons.



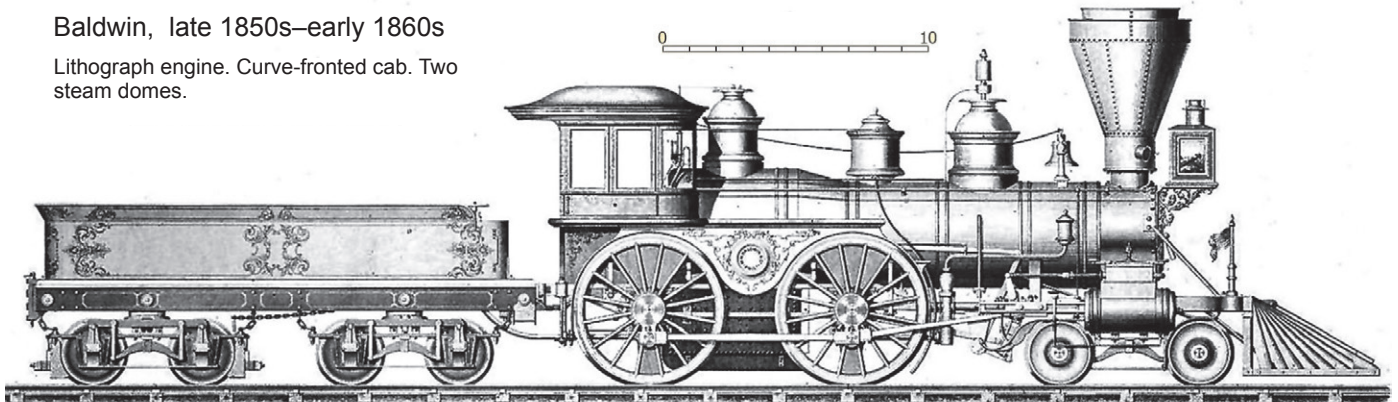
Baldwin, 1859, PRR #156

Pennsylvania RR engine. 66" drivers. 16" x 24" cylinders. 32 tons.



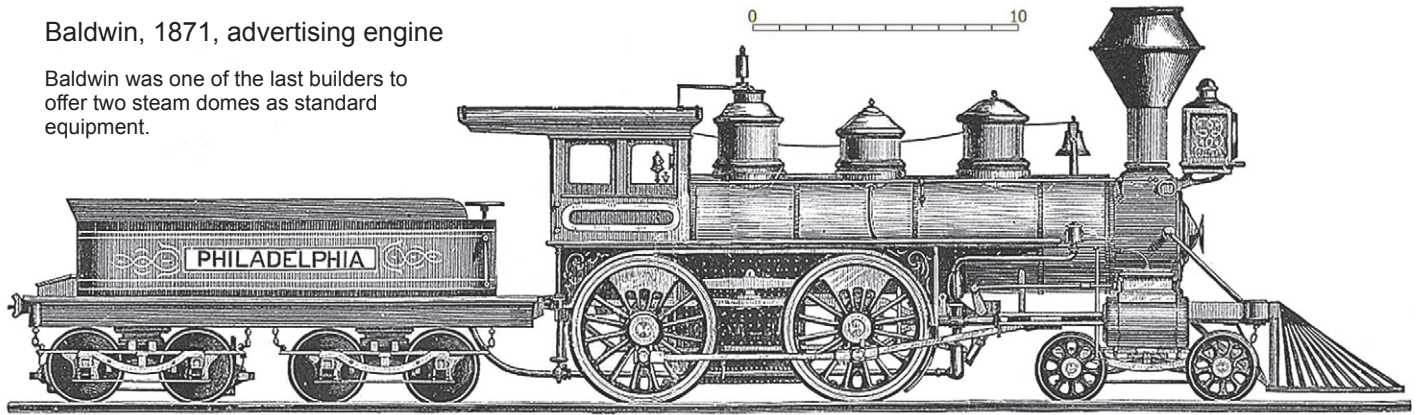
Baldwin, late 1850s–early 1860s

Lithograph engine. Curve-fronted cab. Two steam domes.



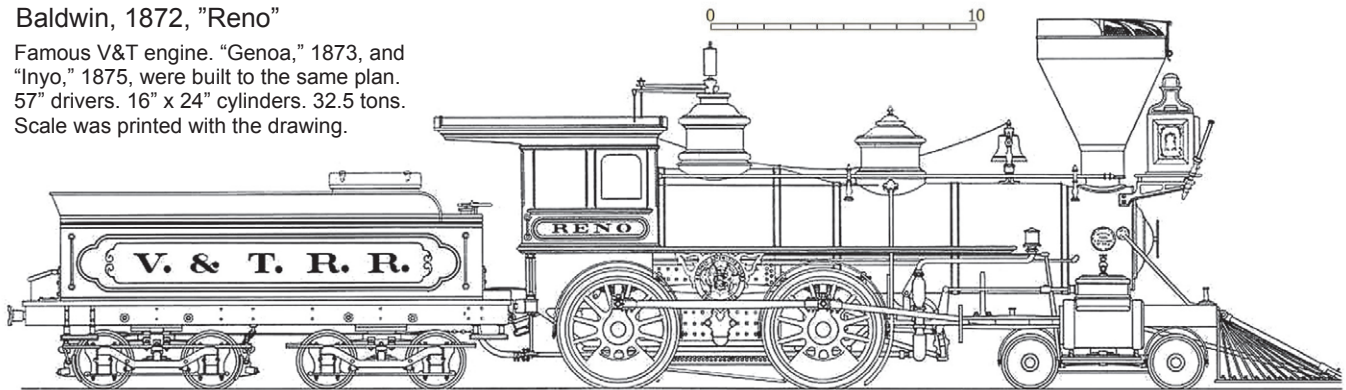
Baldwin, 1871, advertising engine

Baldwin was one of the last builders to offer two steam domes as standard equipment.



Baldwin, 1872, "Reno"

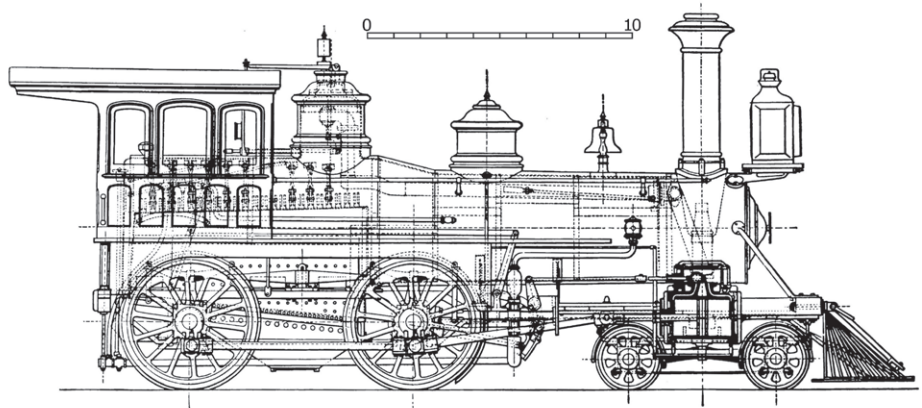
Famous V&T engine. "Genoa," 1873, and "Inyo," 1875, were built to the same plan. 57" drivers. 16" x 24" cylinders. 32.5 tons. Scale was printed with the drawing.



Baldwin, 1876, exposition engine

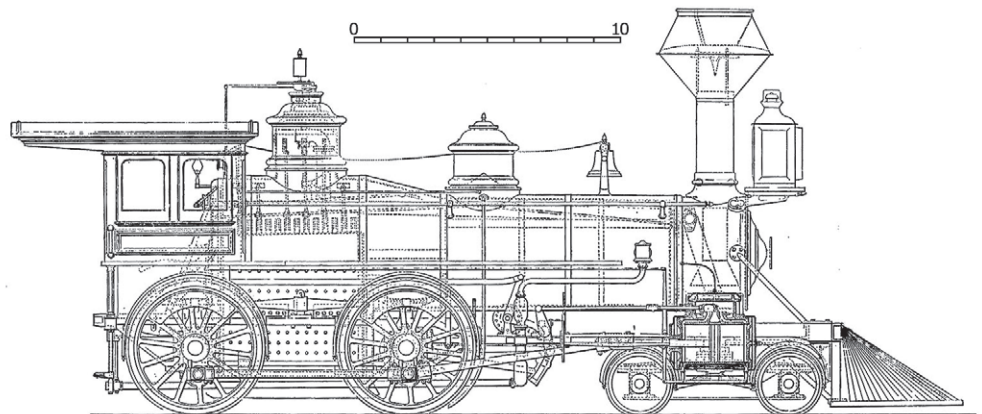
Built for the Central RR of New Jersey and displayed at the Philadelphia Centennial Exhibition.

Scale was printed with the drawing.



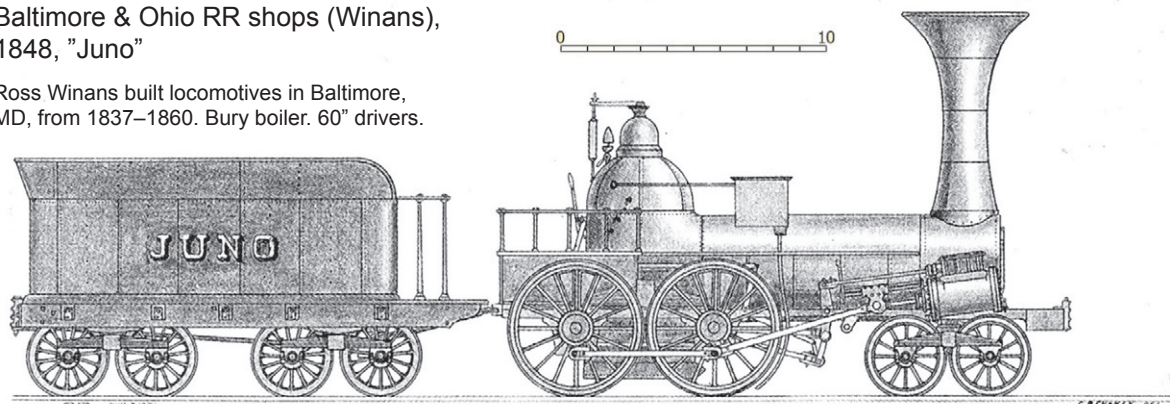
Baldwin, 1870s, catalog engine

Scale was printed with the drawing.



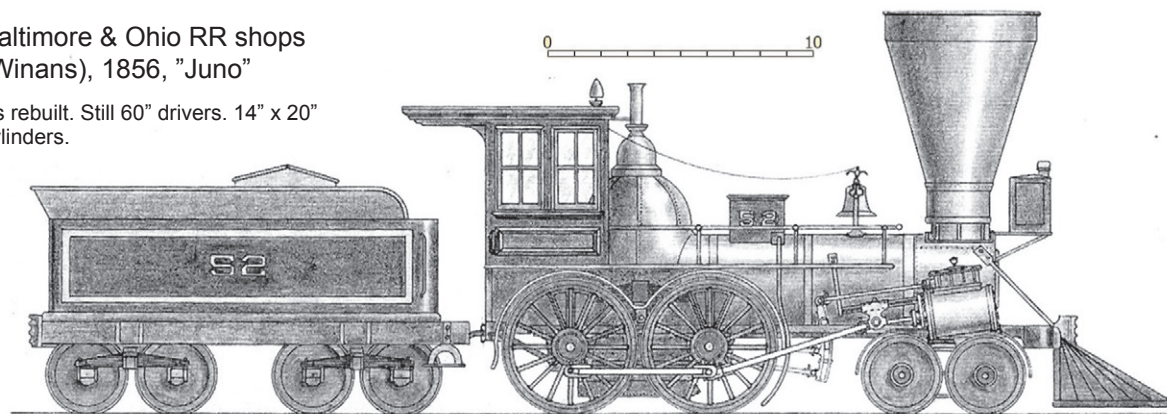
Baltimore & Ohio RR shops (Winans),
1848, "Juno"

Ross Winans built locomotives in Baltimore,
MD, from 1837–1860. Bury boiler. 60" drivers.



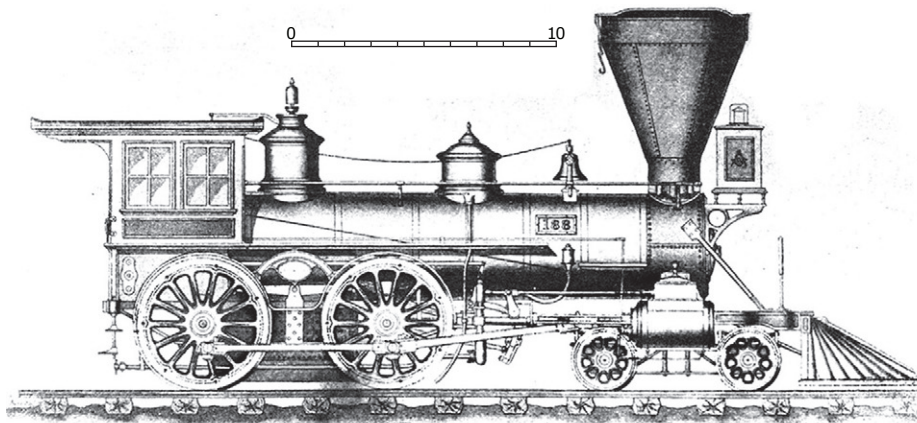
Baltimore & Ohio RR shops
(Winans), 1856, "Juno"

As rebuilt. Still 60" drivers. 14" x 20"
cylinders.



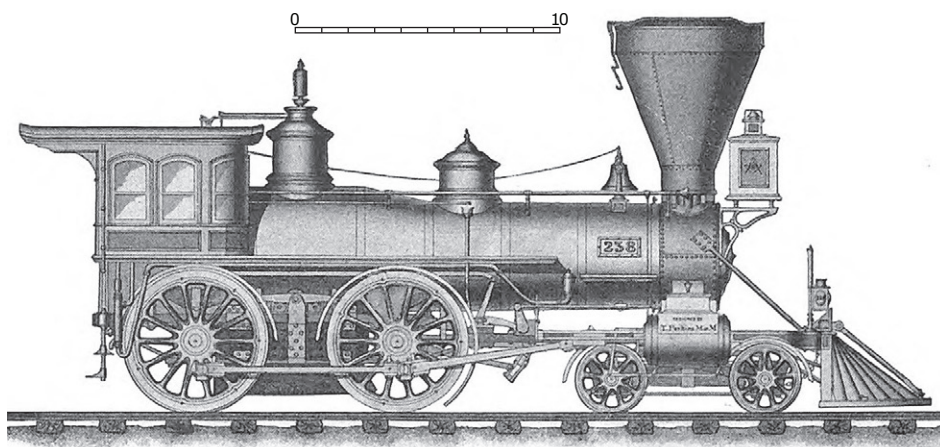
Baltimore & Ohio RR shops
(Tyson), 1858, "188"

Built by B&O's chief mechanic Henry
Tyson in imitation of Mason locomotives. This lithograph engine has been
sometimes mistaken for a Mason. 60"
drivers. 16" x 22" cylinders.



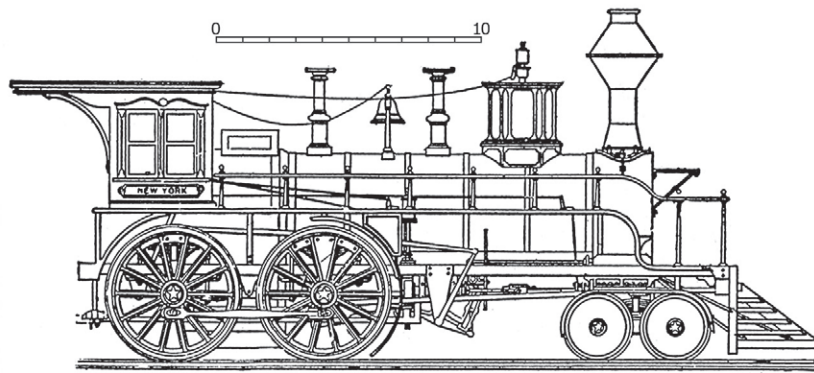
Baltimore & Ohio RR shops
(Perkins), 1865, "238"

Designed by Thatcher Perkins, B&O
chief mechanic, formerly the head of
the Virginia Locomotive Works. 64"
drivers. 17" x 24" cylinders.



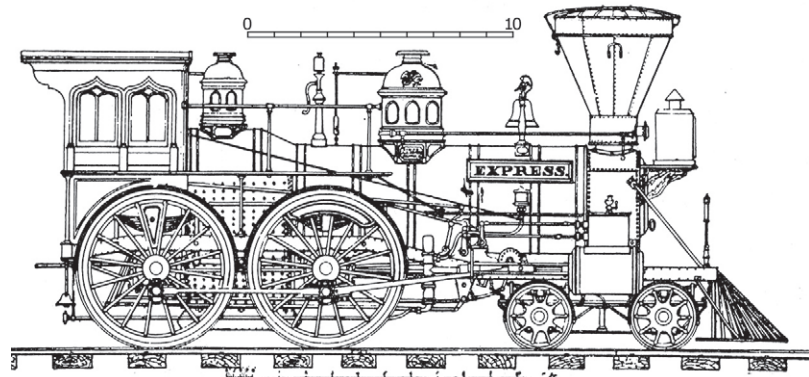
Boston & Providence RR shops, 1854, "New York"

Inside-connected. Built by George Griggs, who designed many B&P locomotives including the preserved *Daniel Nason* at the St. Louis transportation museum. 60" drivers.



Boston & Worcester RR shops, 1858, "Express"

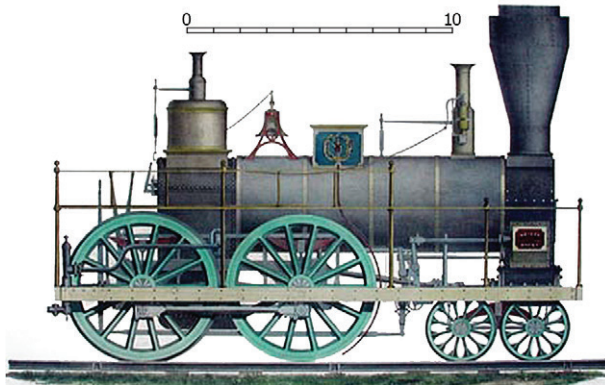
72" drivers.



Boston (Hinkley), 1846

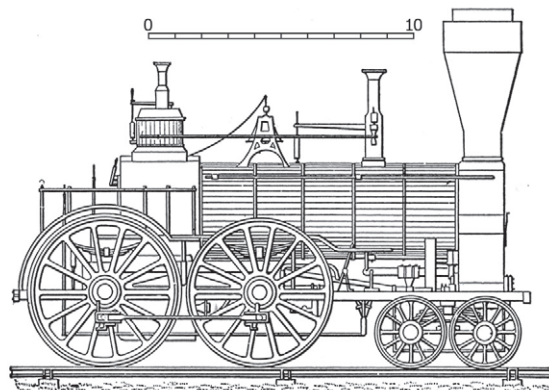
This begins a sequence showing the evolution of Hinkley's 4-4-0s over 30 years.

Early Hinkleys were inside-connected locomotives, essentially British *Planets* with an extra set of drivers and a swiveling front truck. Sold without cabs, headlamps, or cowcatchers.



Boston (Hinkley), Late 1840s

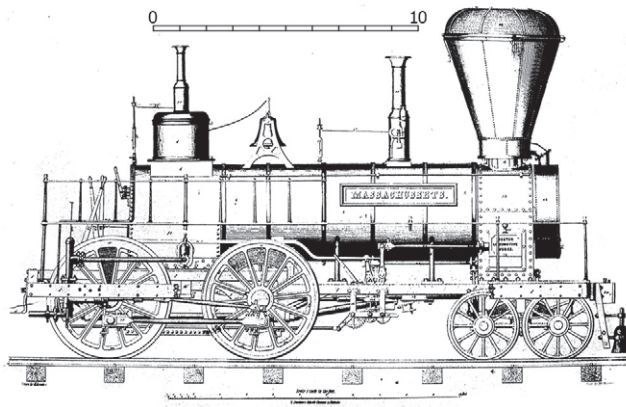
Another inside-connected locomotive without cab or headlamp, or cowcatcher. This one has no belt rail.



Boston (Hinkley), 1849,
"Massachusetts"

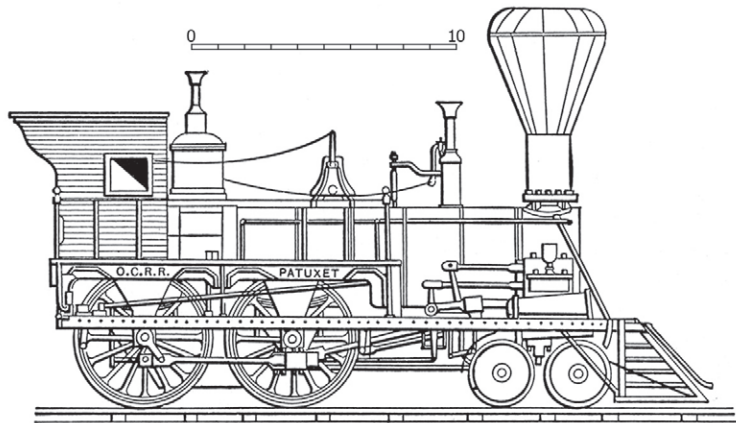
Built for Philadelphia & Reading RR. 54" drivers. 15" x 20" cylinders. Inside-connected. Notice the brooms on the pilot.

Scale was printed with the drawing.



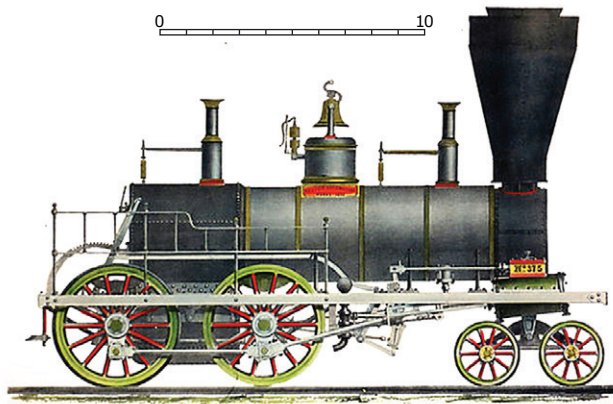
Boston (Hinkley), 1846, "Patuxet"

For the Old Colony RR. 60" drivers. 13" X 18" cylinders. 17 tons. Early wooden cab.



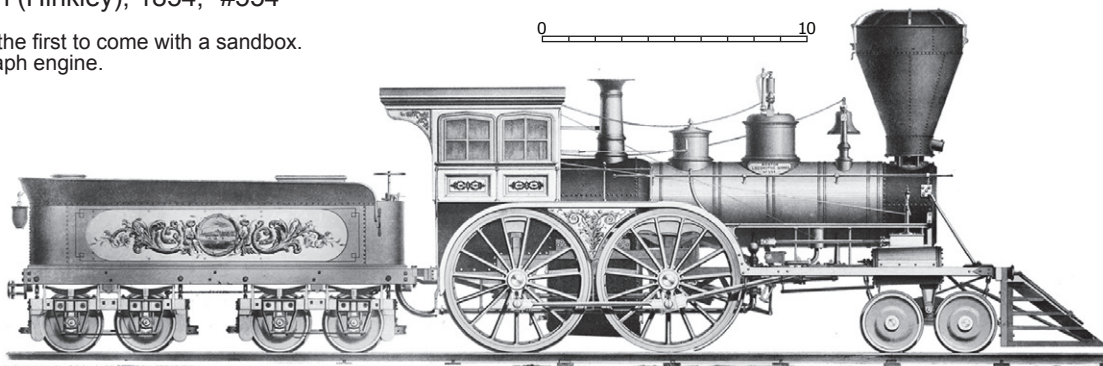
Boston (Hinkley), 1852, "No. 375"

Supposedly built for the Toledo, Norwalk, and Cleveland RR. Possibly a generic lithograph.



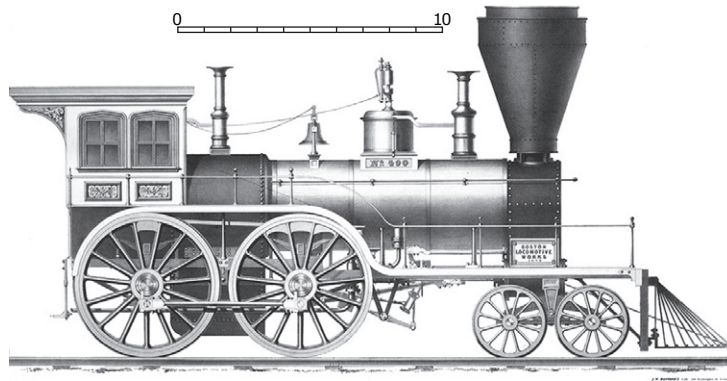
Boston (Hinkley), 1854, "#554"

One of the first to come with a sandbox. Lithograph engine.



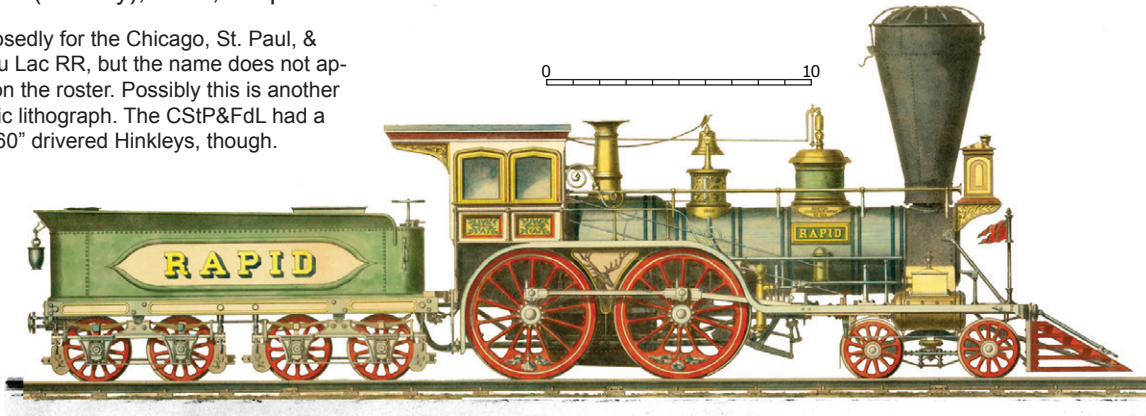
Boston (Hinkley), 1854, "No. 590"

Inside-connected. Lithograph engine.



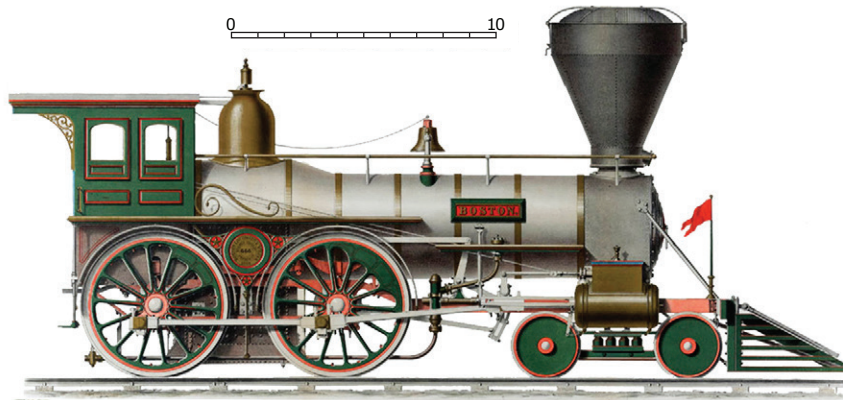
Boston (Hinkley), 1856, "Rapid"

Supposedly for the Chicago, St. Paul, & Fon du Lac RR, but the name does not appear on the roster. Possibly this is another generic lithograph. The CStP&FdL had a lot of 60" drivered Hinkleys, though.



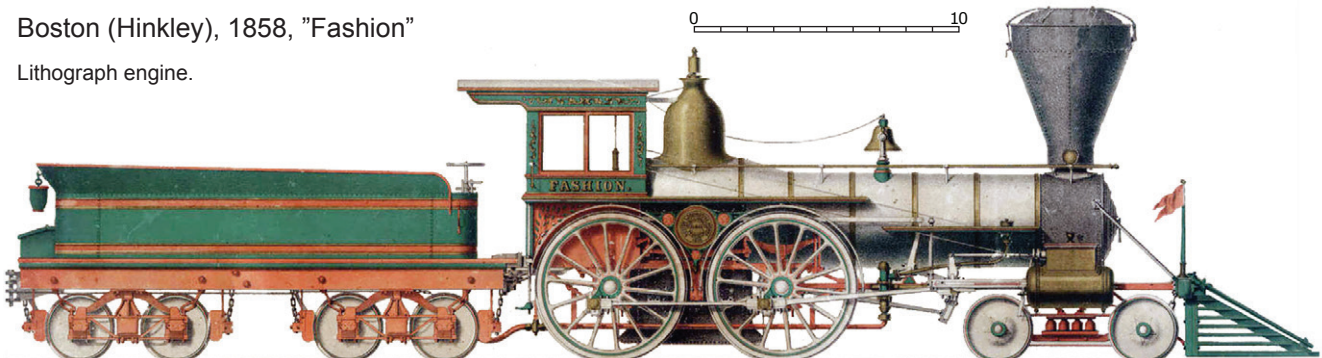
Boston (Hinkley), 1850s, "Boston"

Possibly for the Detroit & Milwaukee RR. No sand box. The clean lines of this and the following engine look almost British. 66" drivers. 16" x 22" cylinders. 28 tons.



Boston (Hinkley), 1858, "Fashion"

Lithograph engine.

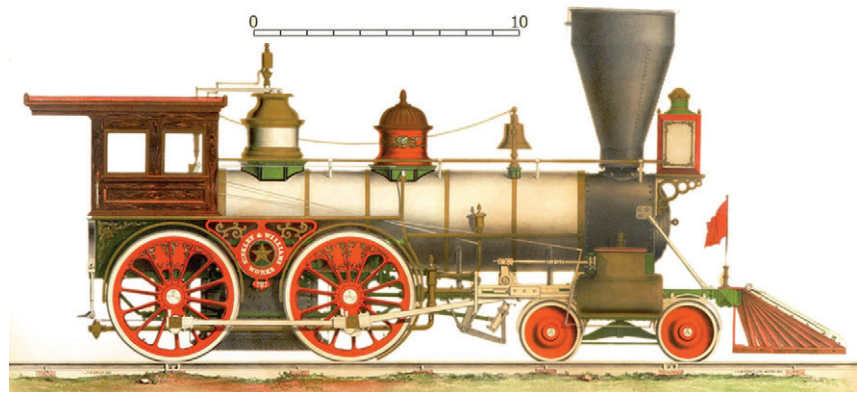


Hinkley (formerly Boston), 1864

Built for the Peninsular RR of Wisconsin.

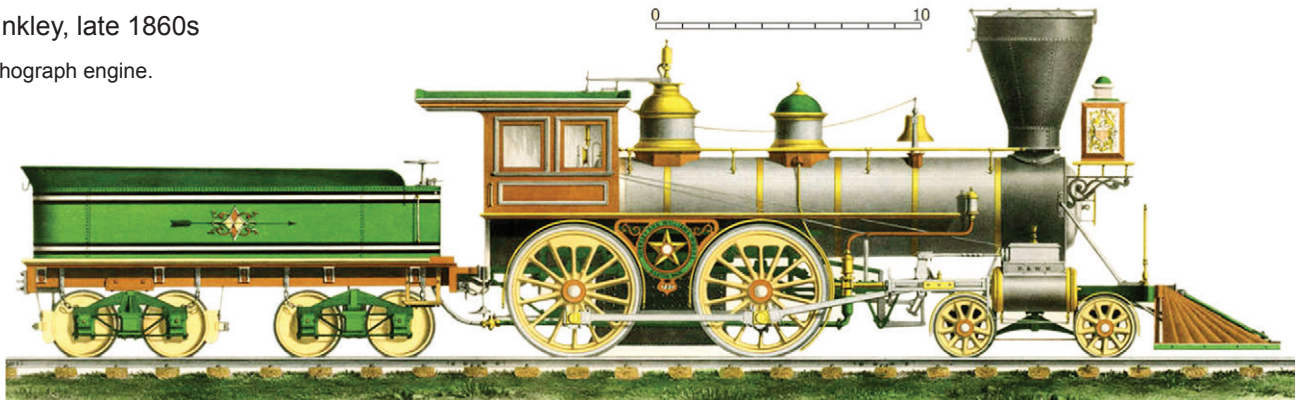
Boston Locomotive Works became Hinkley & Williams in 1859.

By the 1860s, most 4-4-0s were pretty "standardized" on the Mason plan and looking alike.



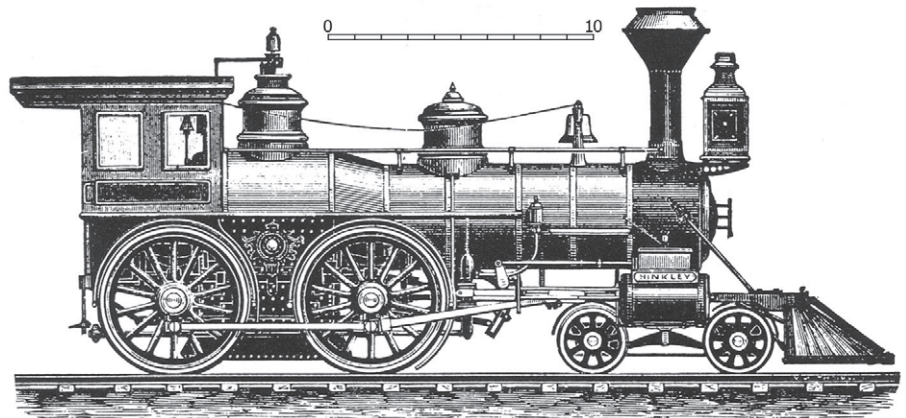
Hinkley, late 1860s

Lithograph engine.



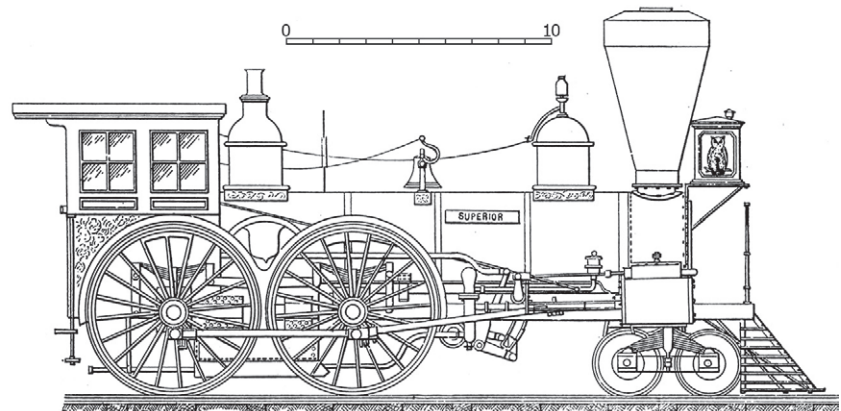
Hinkley, early 1870s

Like the other 1870s engines, has a bigger boiler and firebox. Advertising print.



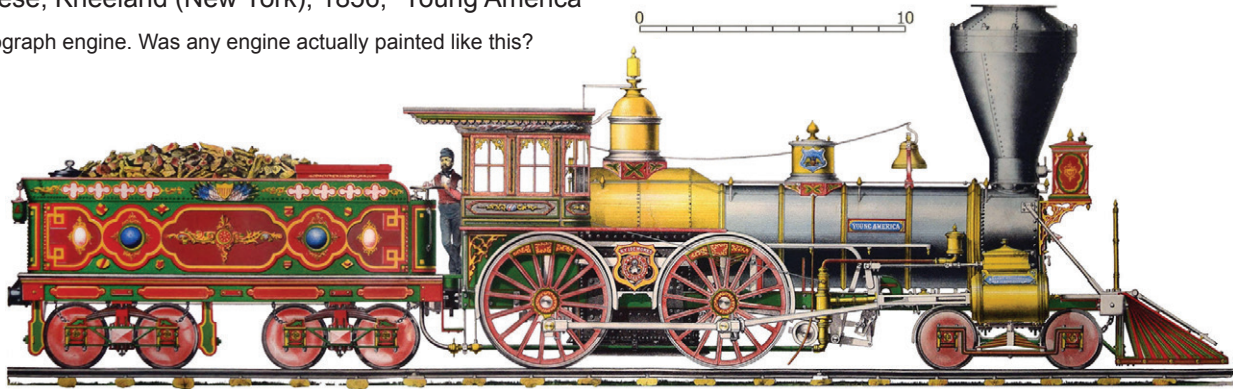
Breese, Kneeland (New York), 1854, "Superior"

First Breese, Kneeland locomotive. Built for the Hudson River RR. 78" drivers. 16" x 22" cylinders. 29 tons.



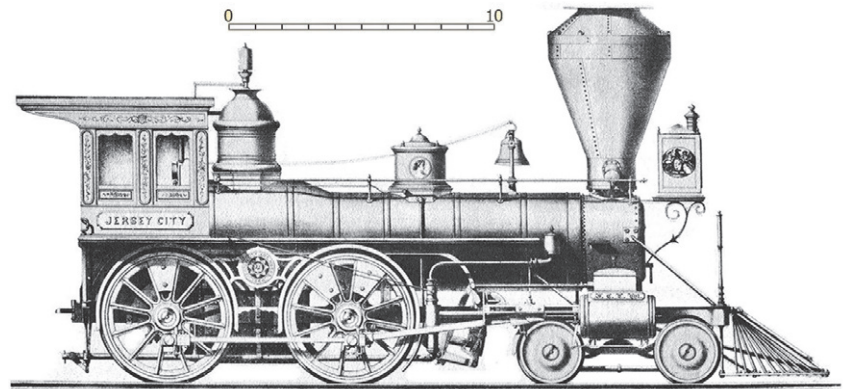
Breese, Kneeland (New York), 1856, "Young America"

Lithograph engine. Was any engine actually painted like this?



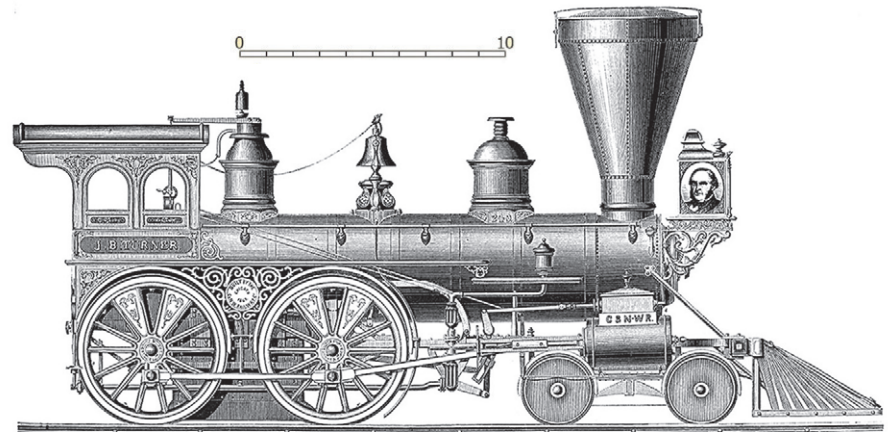
Jersey City (formerly New York), 1860, "Jersey City"

Lithograph engine.



Chicago & North Western RR shops, 1867, "J. B. Turner"

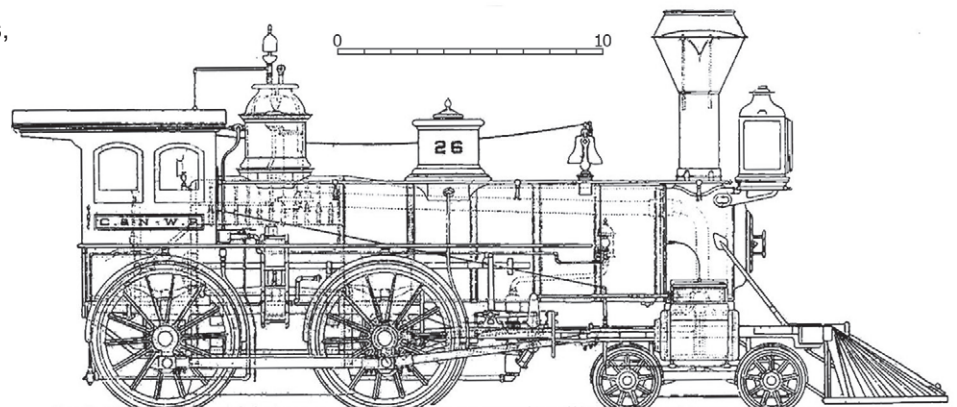
Lithograph engine.



Chicago & North Western RR shops, 1881, "#26"

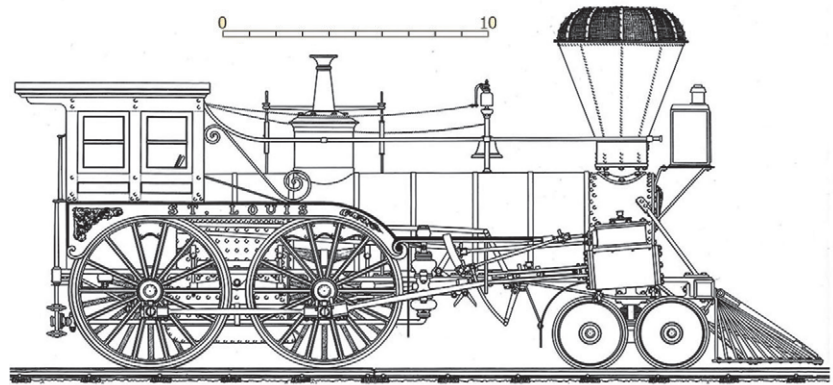
Ring-domed locomotives were getting scarce by the 1880s. Most new engines had smooth domes, much less brass, and all-black paint.

Dimensions came with the drawing.



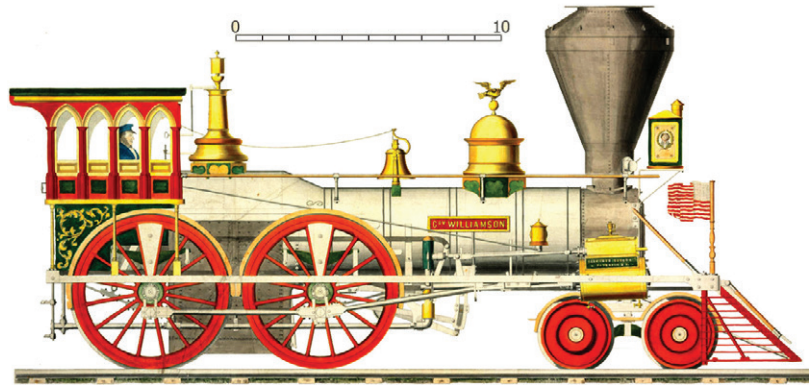
Cuyahoga, 1853, "St. Louis"

Built for the Bellefontaine & Indiana RR.



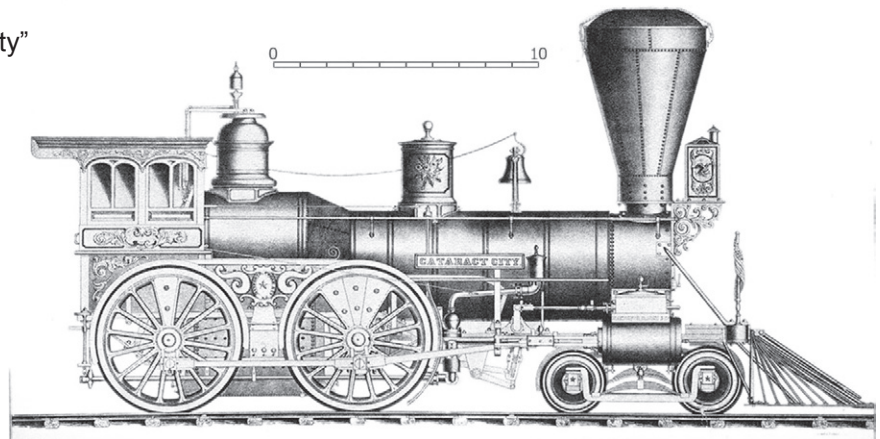
Danforth, Cooke, 1853, "Governor Williamson"

Built for the New Jersey RR & Transportation Co. 72" drivers.



Danforth, Cooke, 1855, "Cataract City"

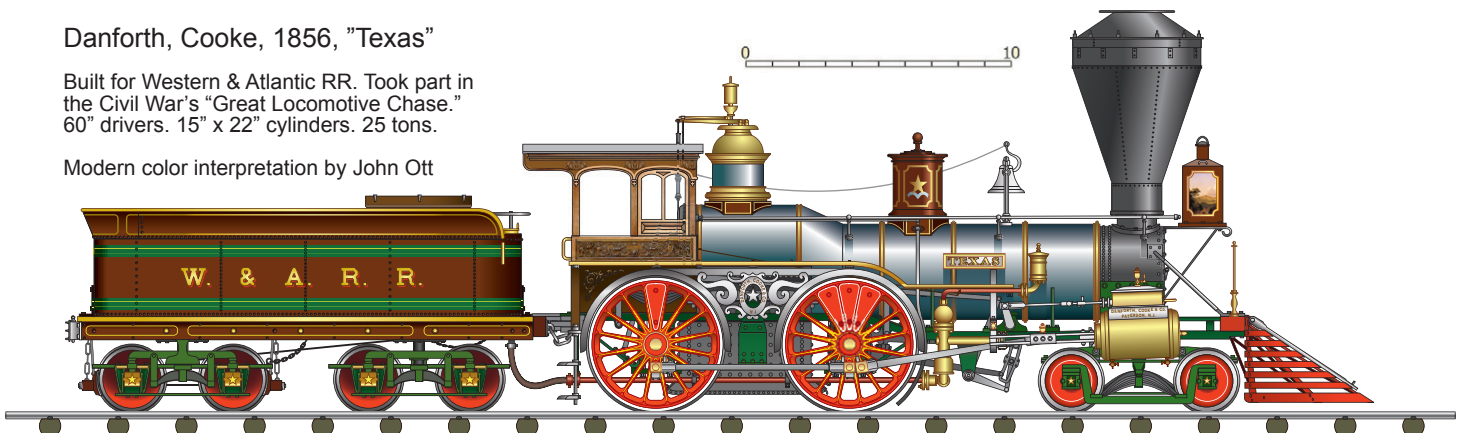
Lithograph engine.



Danforth, Cooke, 1856, "Texas"

Built for Western & Atlantic RR. Took part in the Civil War's "Great Locomotive Chase." 60" drivers. 15" x 22" cylinders. 25 tons.

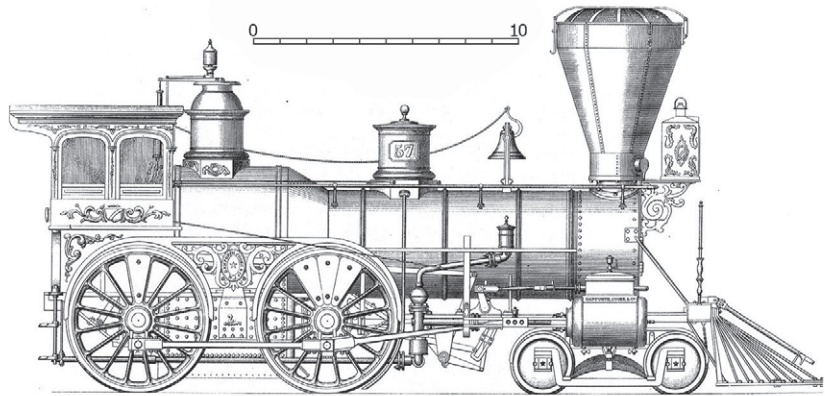
Modern color interpretation by John Ott



Danforth, Cooke, 1857, "Southport"

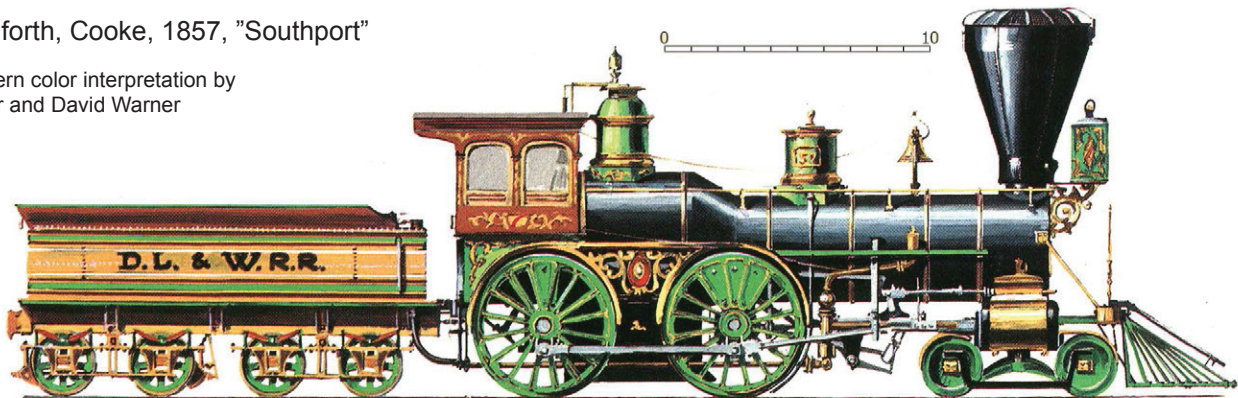
Used on the 6' gauge Delaware, Lackawanna & Western RR. 66" drivers. 17" x 22" cylinders.

Scale was printed with the drawing.



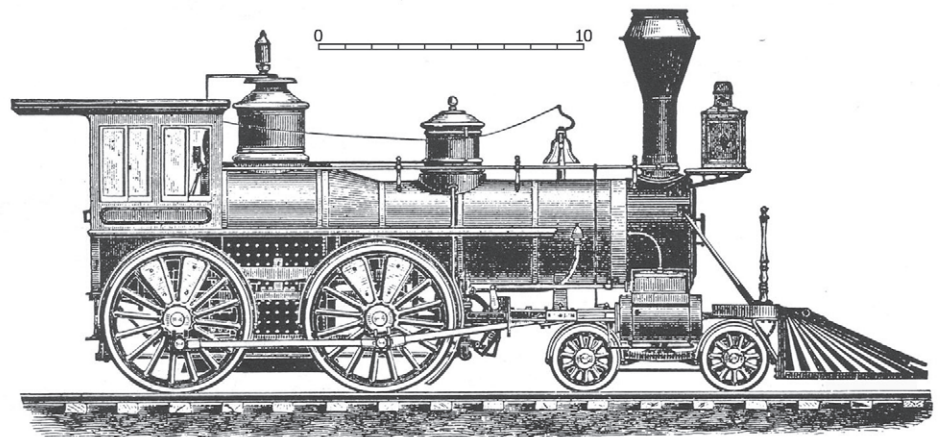
Danforth, Cooke, 1857, "Southport"

Modern color interpretation by Peter and David Warner



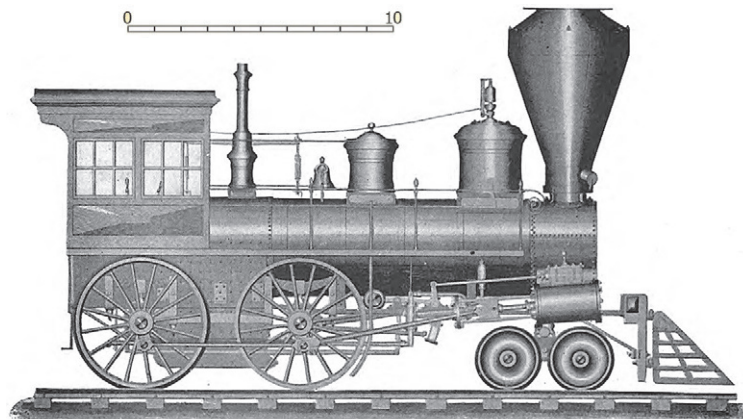
Danforth, 1870s

Advertising print.



Denmead, 1851

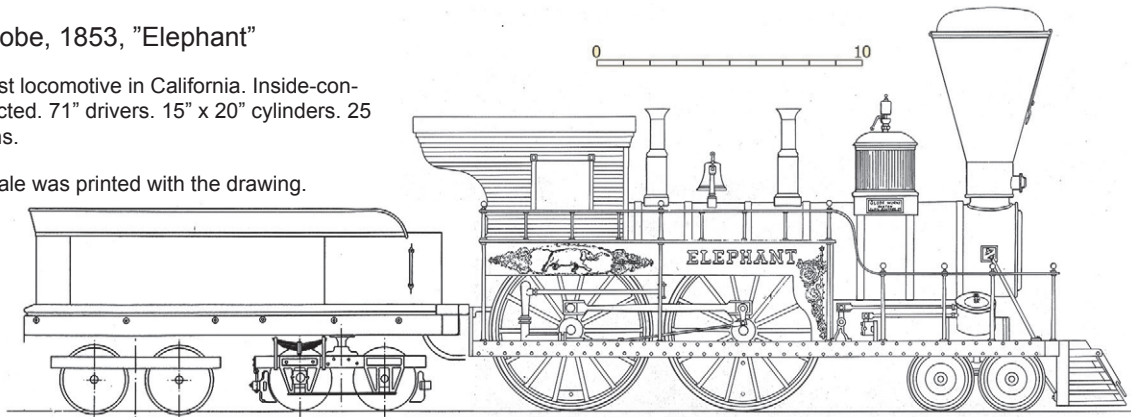
A. W. Denmead & Son, of Baltimore, was a large machinery manufacturer that built locomotives between 1851 and 1859. 60" drivers.



Globe, 1853, "Elephant"

First locomotive in California. Inside-connected. 71" drivers. 15" x 20" cylinders. 25 tons.

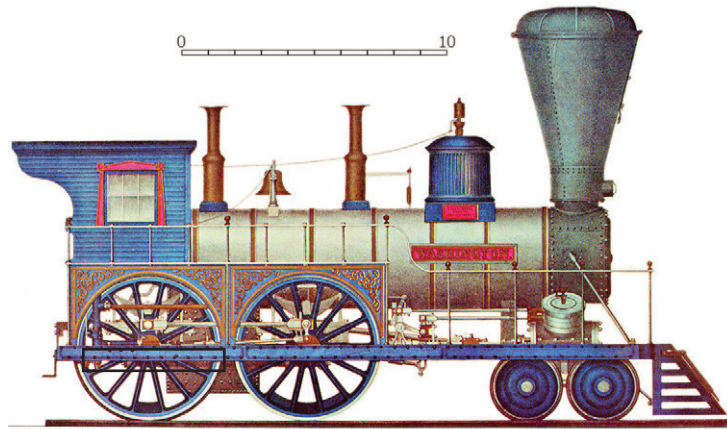
Scale was printed with the drawing.



Globe, 1853, "Washington"

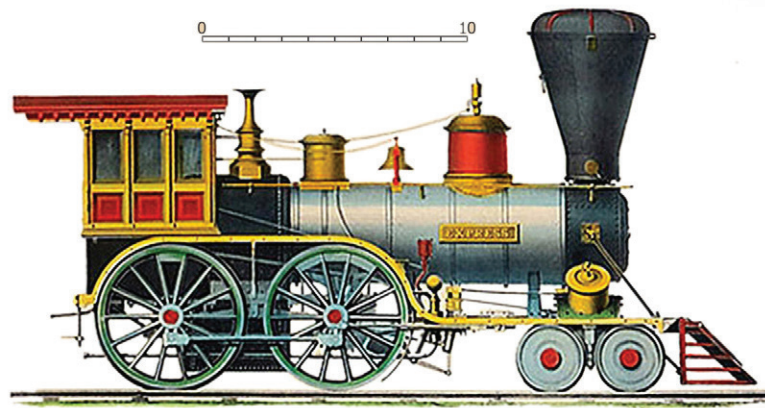
Possibly for the Marietta & Cincinnati RR., but that locomotive is listed as having 88" drivers. Not likely. Possibly 66" misread.

All the Globes on this page were inside-connected.



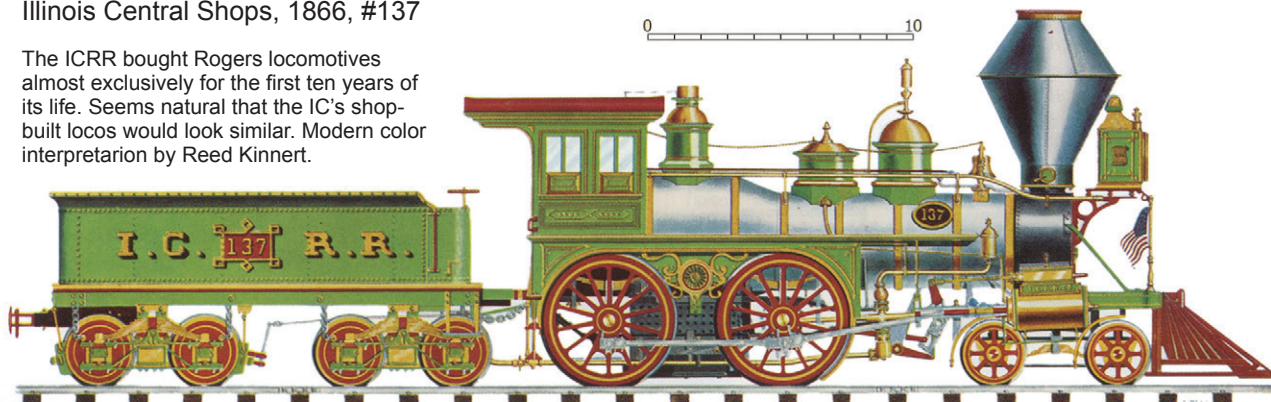
Globe, 1854, "Express"

Possibly for the Eastern RR, but that Globe locomotive was delivered in 1851. This lithograph engine is dated 1854.



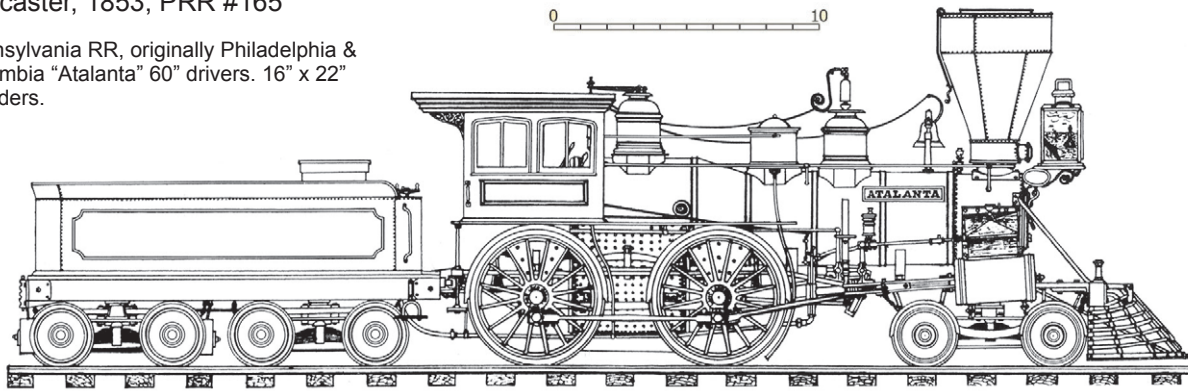
Illinois Central Shops, 1866, #137

The ICRR bought Rogers locomotives almost exclusively for the first ten years of its life. Seems natural that the IC's shop-built locos would look similar. Modern color interpretation by Reed Kinnert.



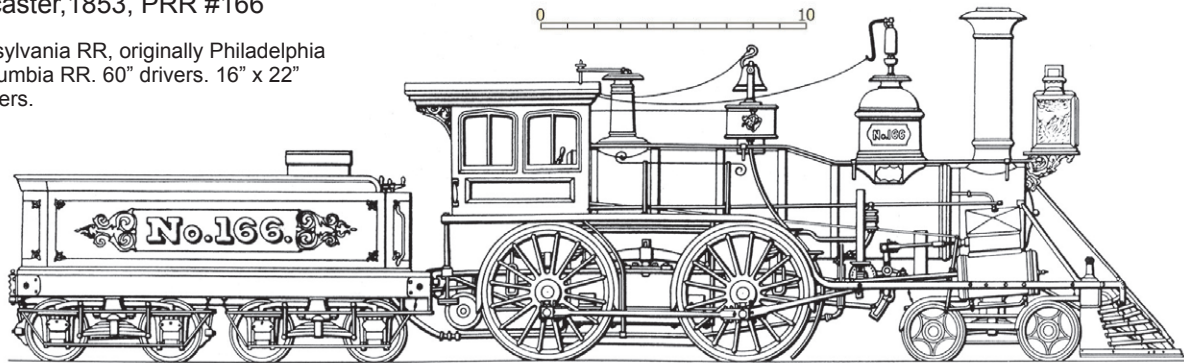
Lancaster, 1853, PRR #165

Pennsylvania RR, originally Philadelphia & Columbia "Atalanta" 60" drivers. 16" x 22" cylinders.



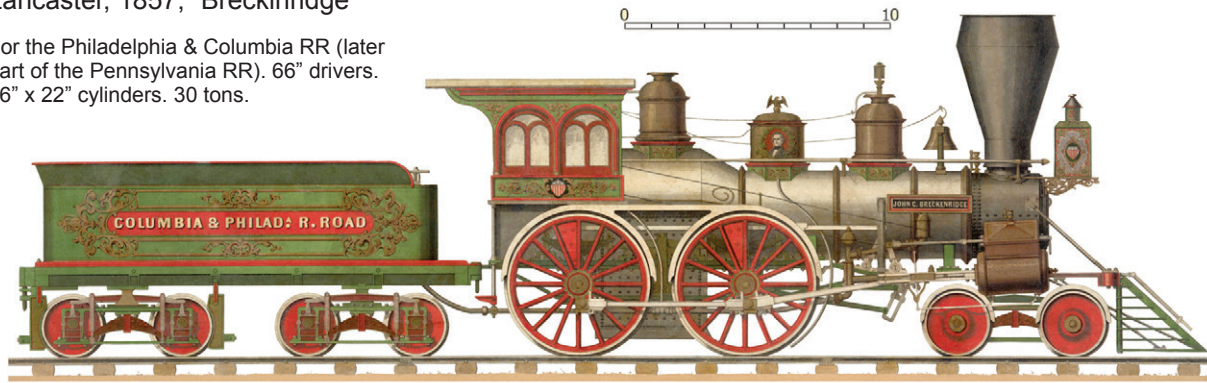
Lancaster, 1853, PRR #166

Pennsylvania RR, originally Philadelphia & Columbia RR. 60" drivers. 16" x 22" cylinders.



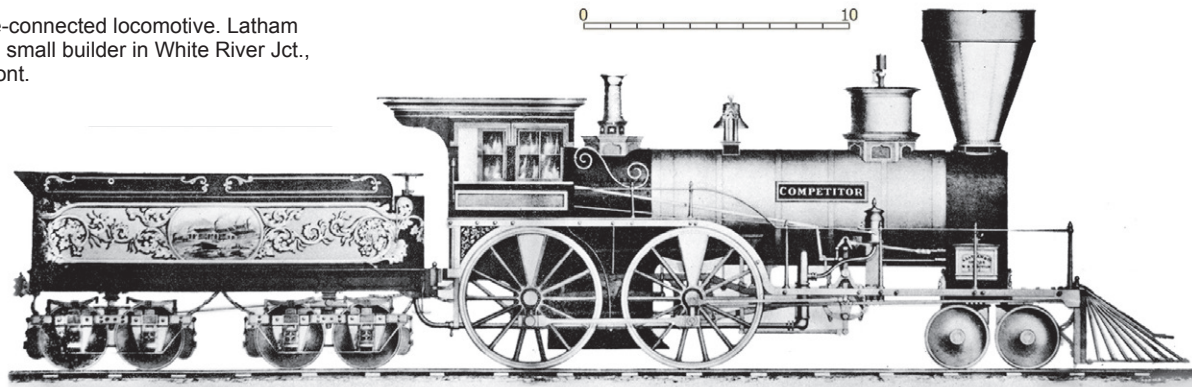
Lancaster, 1857, "Breckinridge"

For the Philadelphia & Columbia RR (later part of the Pennsylvania RR). 66" drivers. 16" x 22" cylinders. 30 tons.



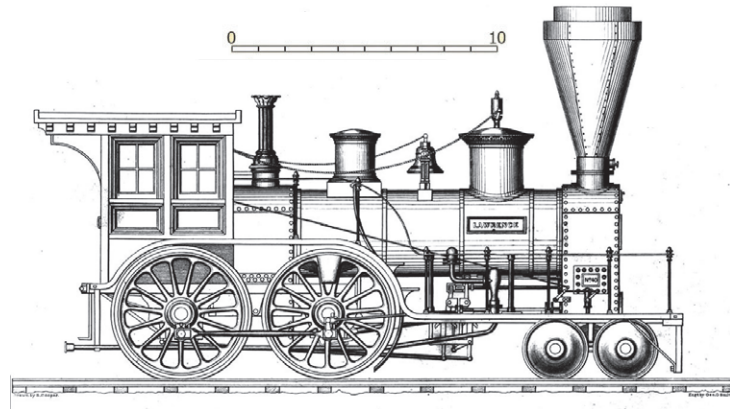
Latham, 1854, "Competitor"

Inside-connected locomotive. Latham was a small builder in White River Jct., Vermont.



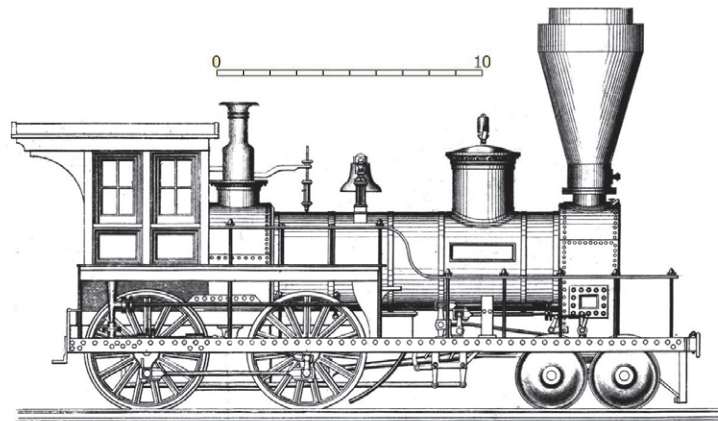
Lawrence, 1852, "Lawrence"

For the Rochester & Syracuse RR.



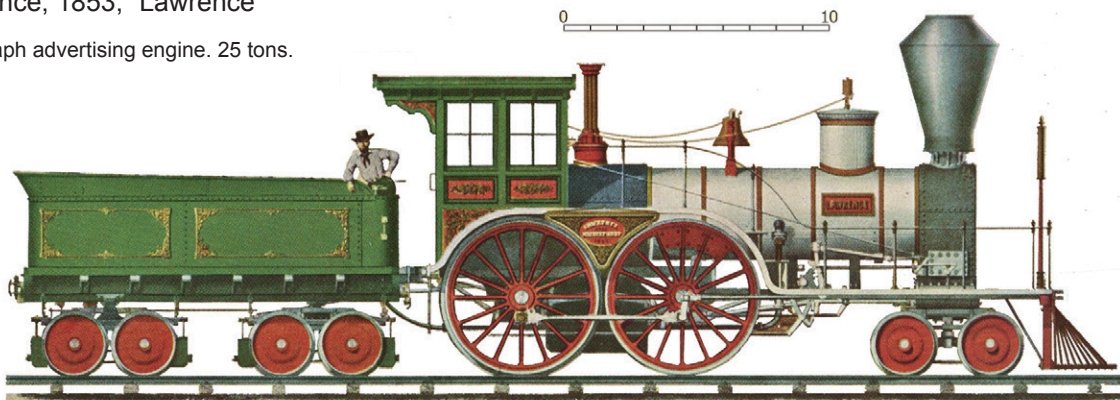
Lawrence, 1850s

Small-drivered freight locomotive.



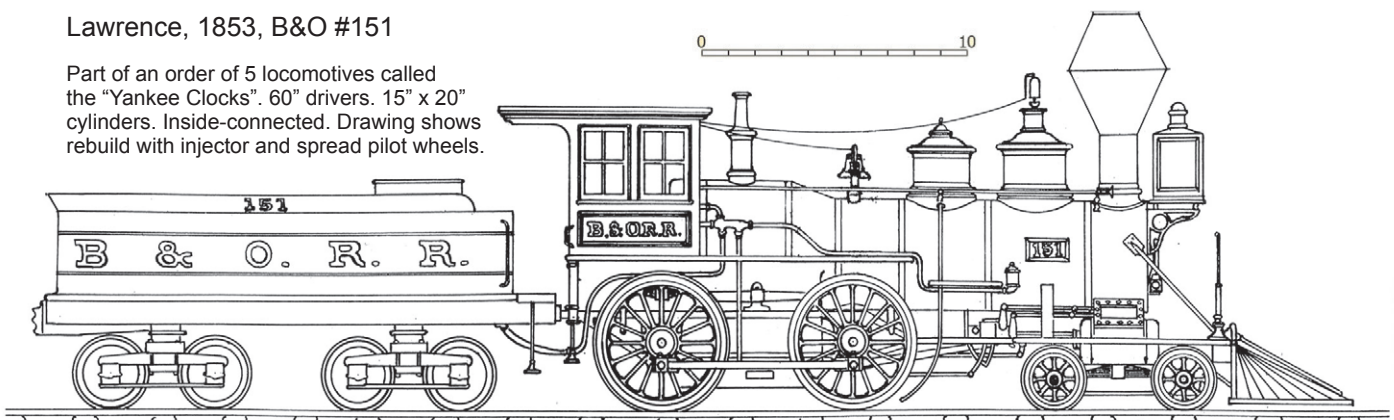
Lawrence, 1853, "Lawrence"

Lithograph advertising engine. 25 tons.



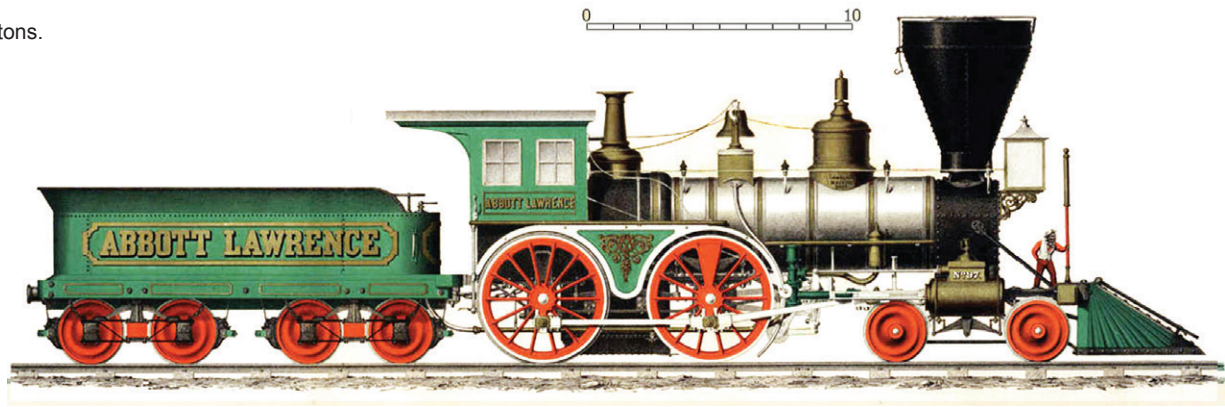
Lawrence, 1853, B&O #151

Part of an order of 5 locomotives called the "Yankee Clocks". 60" drivers. 15" x 20" cylinders. Inside-connected. Drawing shows rebuild with injector and spread pilot wheels.



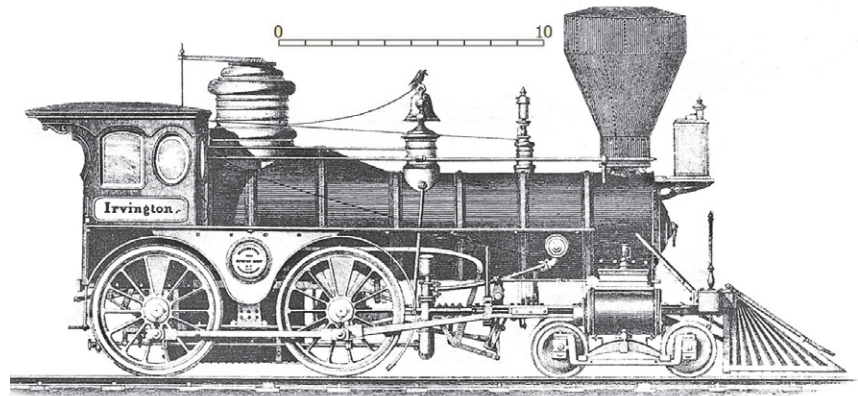
Lawrence, 1850s, "Abbot Lawrence"

22 tons.



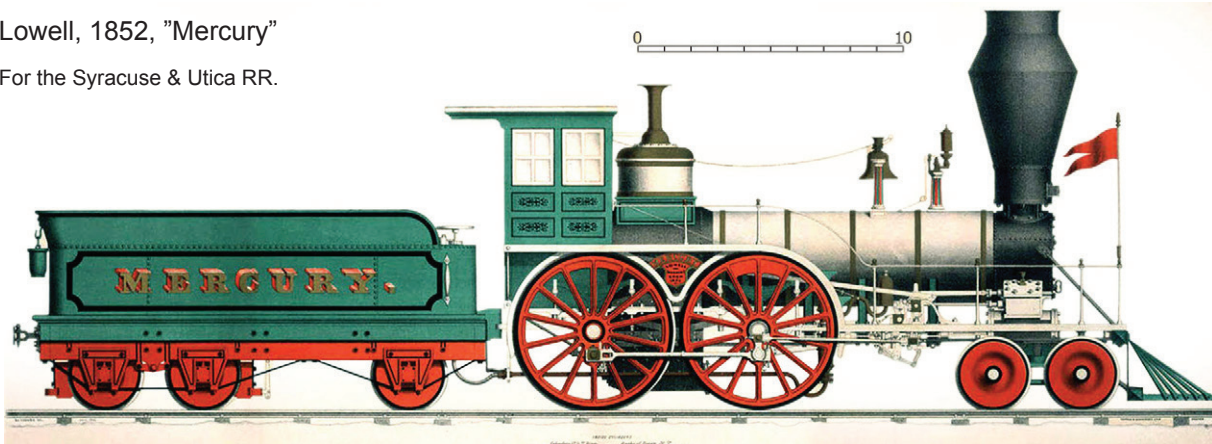
Lawrence, 1857, "Irvington"

Built for the Hudson River RR, to the railroad's specifications. 60" drivers. An early coal-burner.



Lowell, 1852, "Mercury"

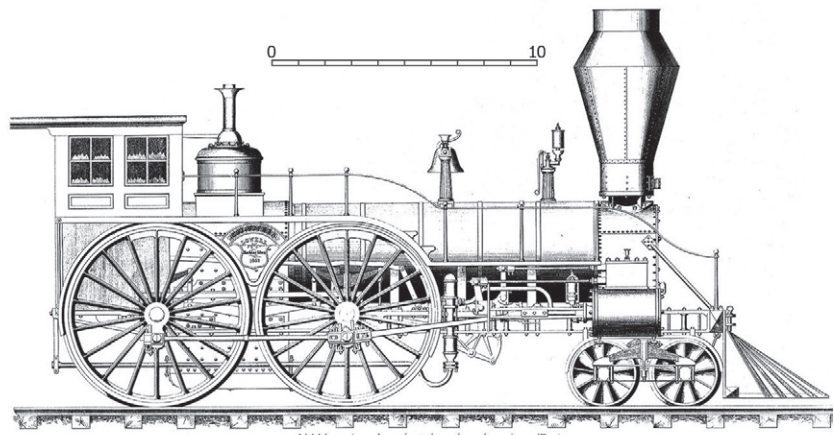
For the Syracuse & Utica RR.



Lowell, 1852, "Columbia"

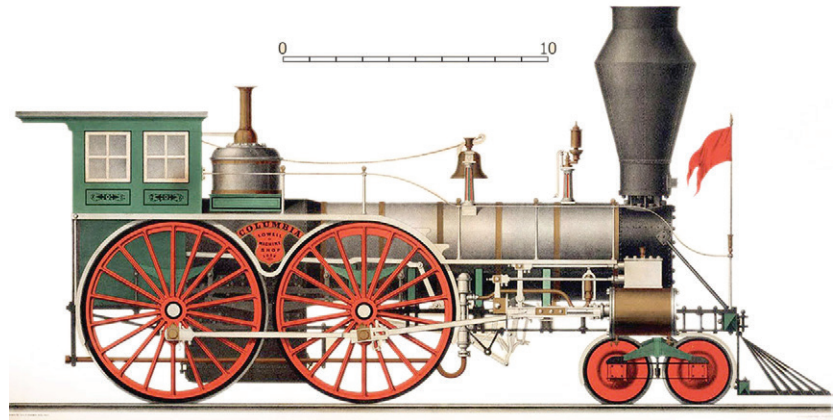
Built for the Hudson River RR by designer Walter McQueen, later the head of the Schenectady works. 80" drivers. 16" x 22" cylinders. It was meant to be a fast runner.

Scale was printed with the drawing.



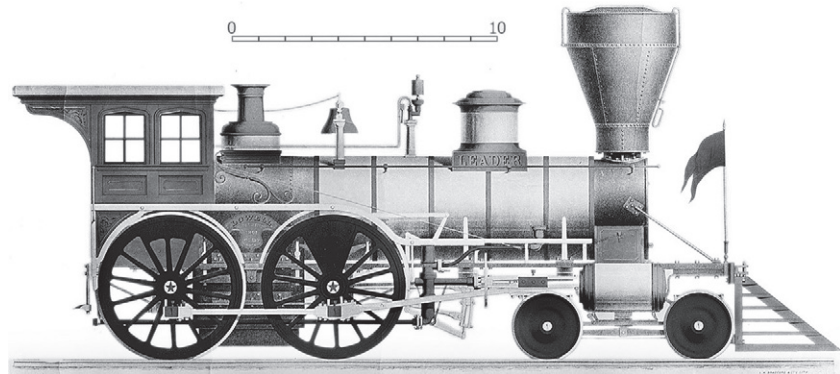
Lowell, 1852, "Columbia"

Color lithograph version.



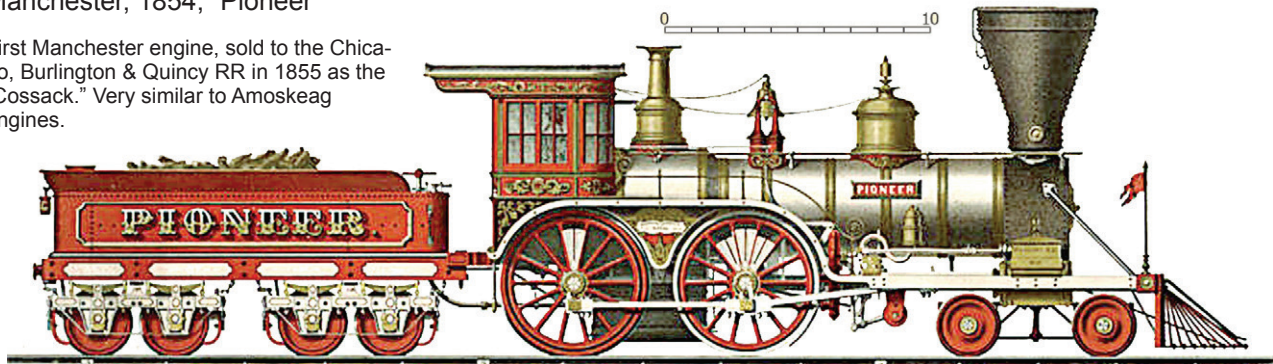
Lowell, 1855, "Leader"

Lithograph possibly patterned after the Buffalo Bayou, Brazos & Colorado RR "Austin," but that engine had 60" drivers. Too small to fit this engine.



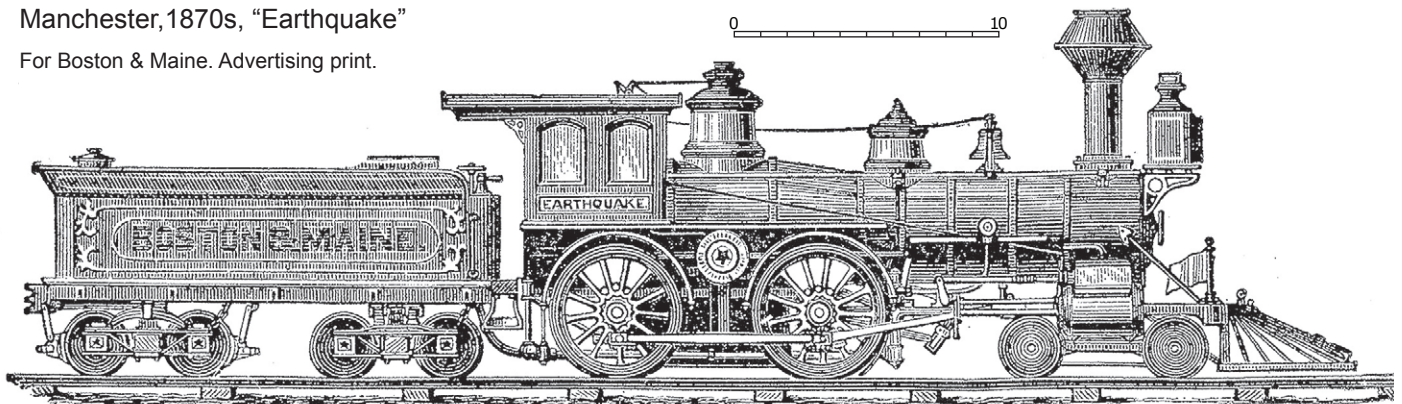
Manchester, 1854, "Pioneer"

First Manchester engine, sold to the Chicago, Burlington & Quincy RR in 1855 as the "Cossack." Very similar to Amoskeag engines.



Manchester, 1870s, "Earthquake"

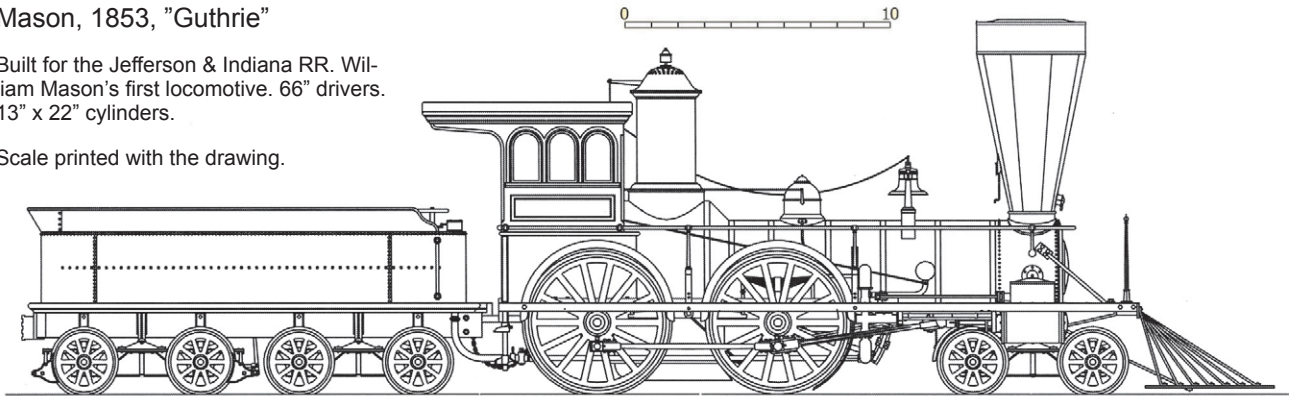
For Boston & Maine. Advertising print.



Mason, 1853, "Guthrie"

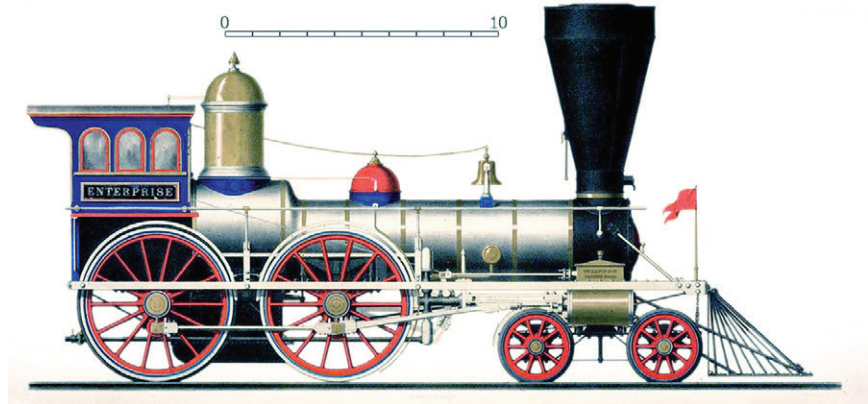
Built for the Jefferson & Indiana RR. William Mason's first locomotive. 66" drivers. 13" x 22" cylinders.

Scale printed with the drawing.



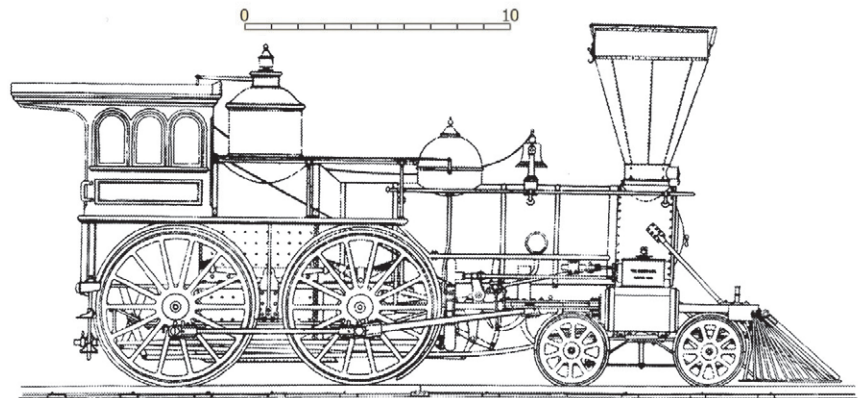
Mason, 1853-4, "Enterprise"

Lithograph engine. None of Mason's early engines were named "Enterprise." This is obviously patterned after the "Guthrie".



Mason, 1854, "Miantonomo"

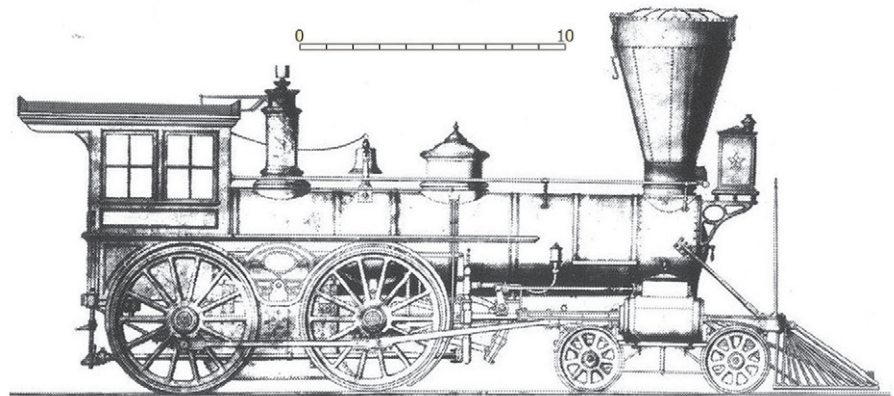
Built for the Hartford, Providence, & Fishkill RR. 72" drivers. 14.5" x 22" cylinders.



Mason, 1855, "Ariel"

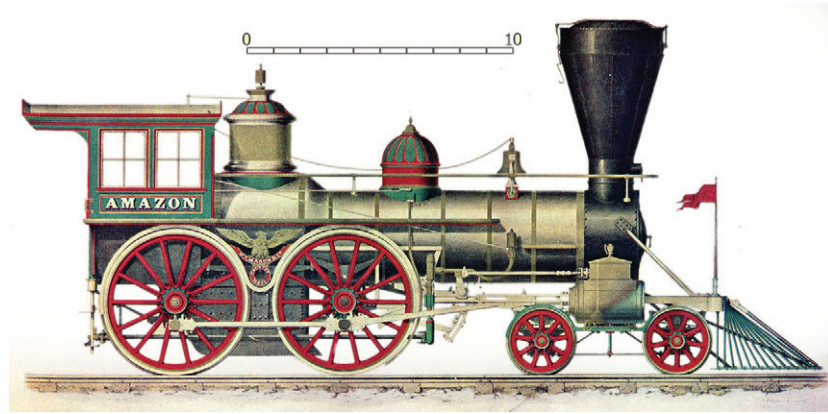
Built for the Toledo & Illinois RR. 66" drivers. 15" x 22" cylinders.

This is thought to have been a proposal drawing. the finished engine may or may not have the narrow steam dome.



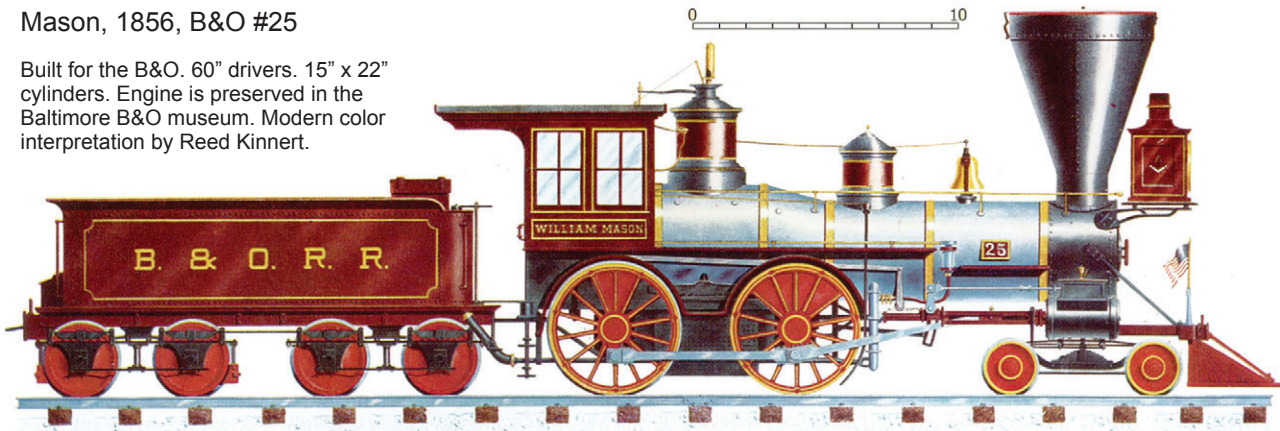
Mason, 1856, "Amazon"

Built for the Lake Erie, Wabash, & St. Louis RR. 66" drivers. 15" x 22" cylinders.



Mason, 1856, B&O #25

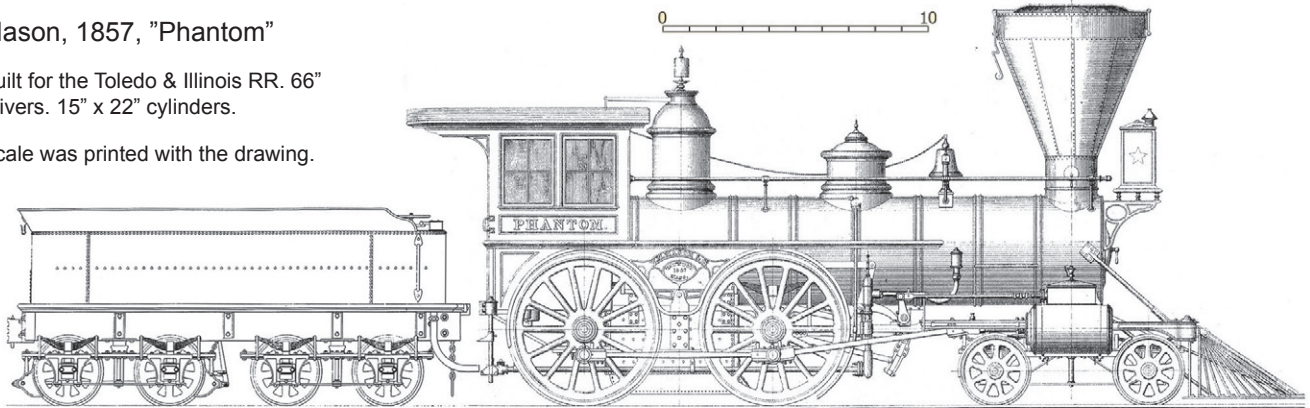
Built for the B&O. 60" drivers. 15" x 22" cylinders. Engine is preserved in the Baltimore B&O museum. Modern color interpretation by Reed Kinnert.



Mason, 1857, "Phantom"

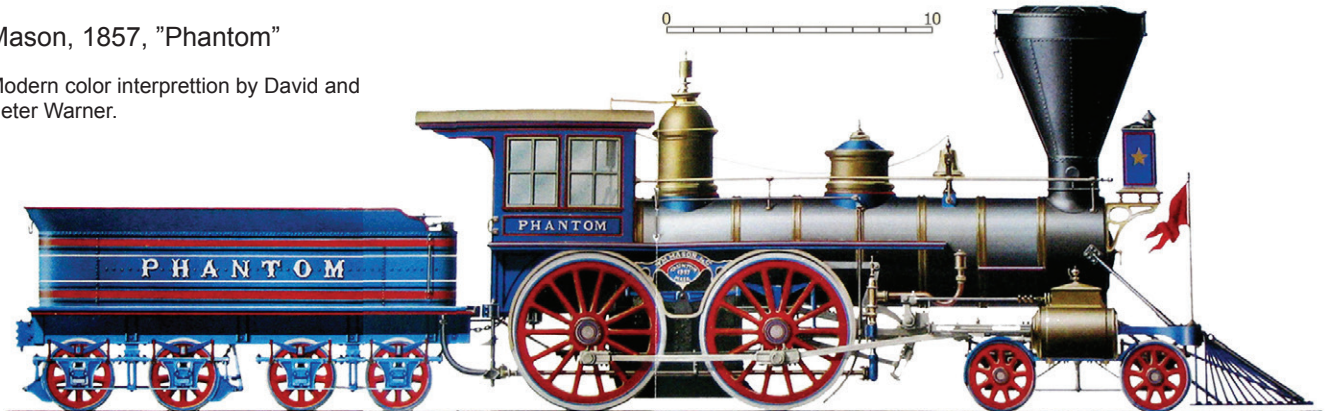
Built for the Toledo & Illinois RR. 66" drivers. 15" x 22" cylinders.

Scale was printed with the drawing.



Mason, 1857, "Phantom"

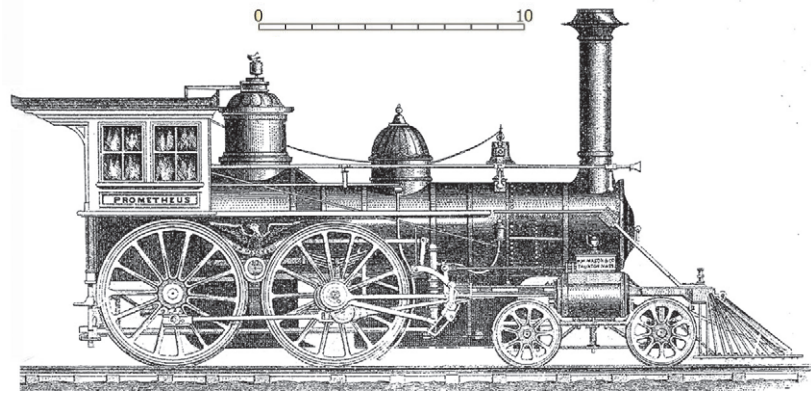
Modern color interpretation by David and Peter Warner.



Mason, 1857, "Prometheus"

Built for the New York & New Haven RR. Unusual boiler was designed by Horace Boardman and featured on several Mason engines. 66" drivers. 16" x 22" cylinders.

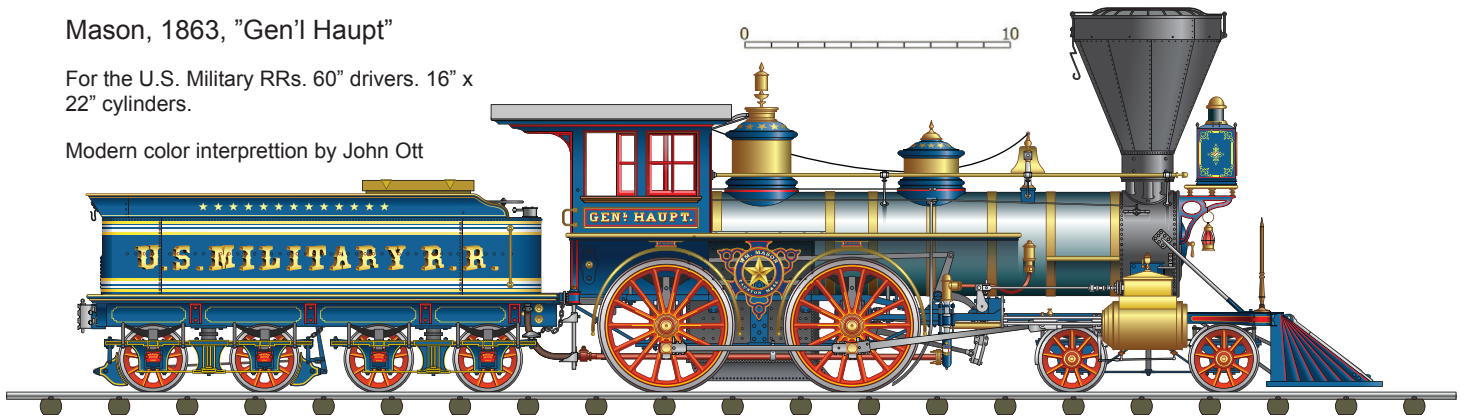
The drawing may have been based on earlier Boardman-boiler Mason engines from 1855 or 1856.



Mason, 1863, "Gen'l Haupt"

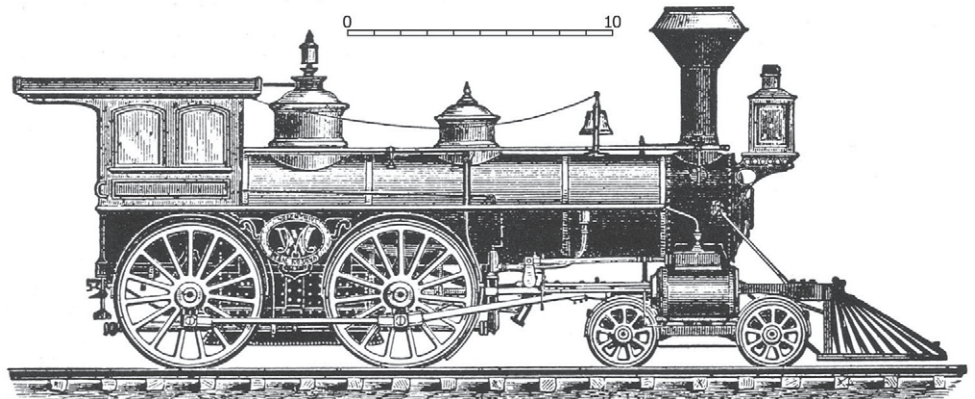
For the U.S. Military RRs. 60" drivers. 16" x 22" cylinders.

Modern color interpretation by John Ott



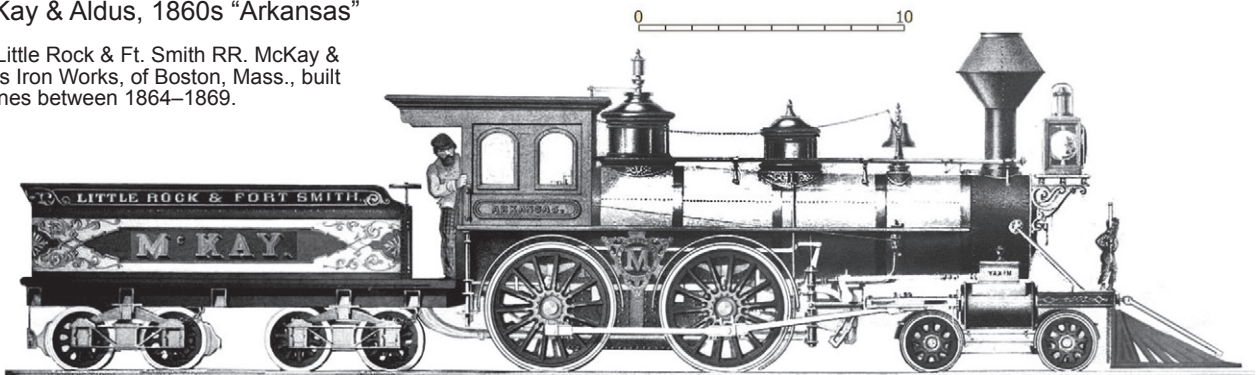
Mason, early 1870s, advertising engine

Bigger boiler and firebox.



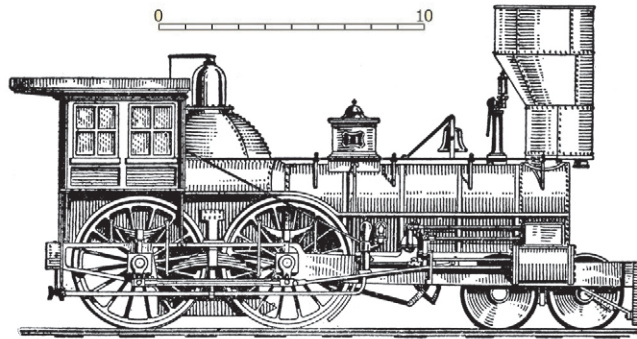
McKay & Aldus, 1860s "Arkansas"

For Little Rock & Ft. Smith RR. McKay & Aldus Iron Works, of Boston, Mass., built engines between 1864-1869.



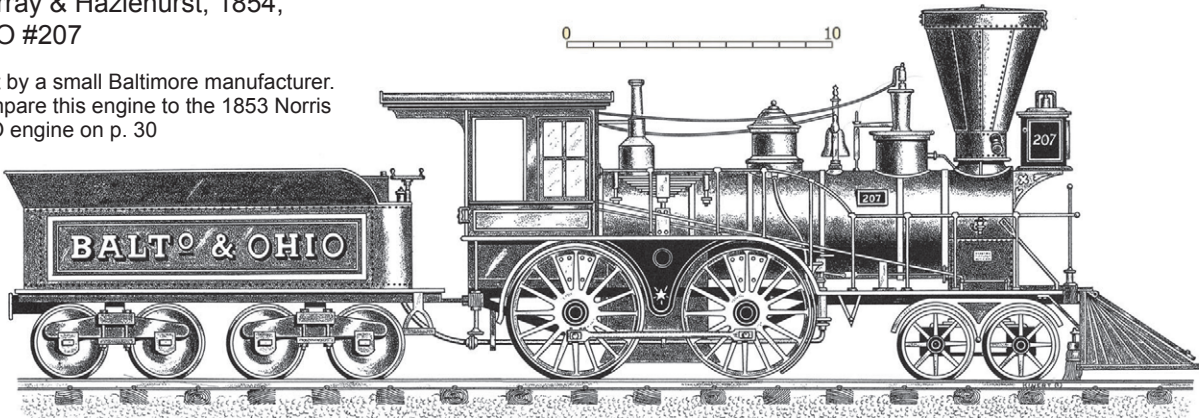
Mohawk & Hudson RR shops, 1855
(rebuilt), "Mercury"

Rebuild of an 1840s 2-4-0 locomotive originally built by David Mathews.



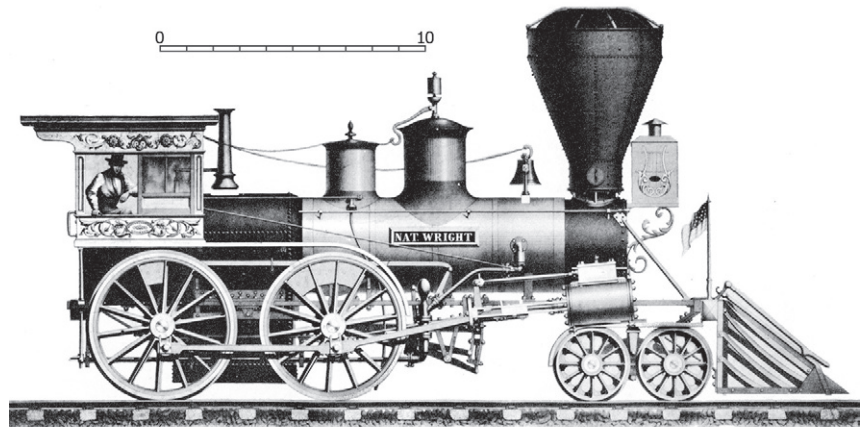
Murray & Hazlehurst, 1854,
B&O #207

Built by a small Baltimore manufacturer.
Compare this engine to the 1853 Norris
B&O engine on p. 30



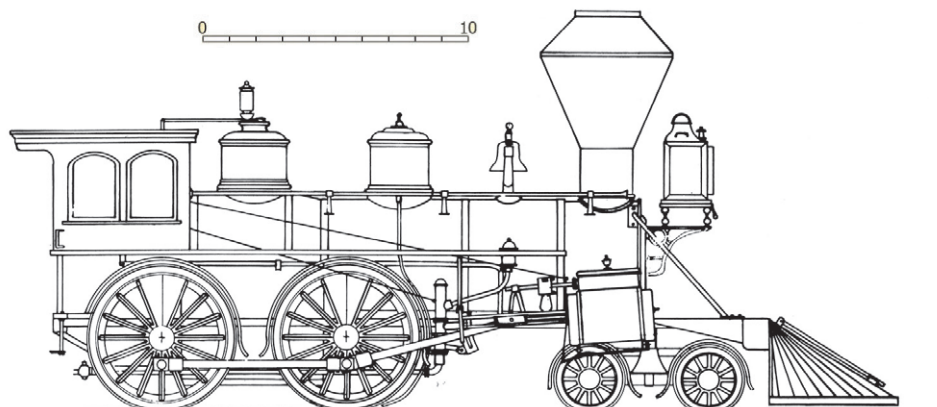
Moore & Richardson (Cincinnati),
1856, "Nathaniel Wright"

Little Miami & Columbus & Xenia RR. 66"
drivers.



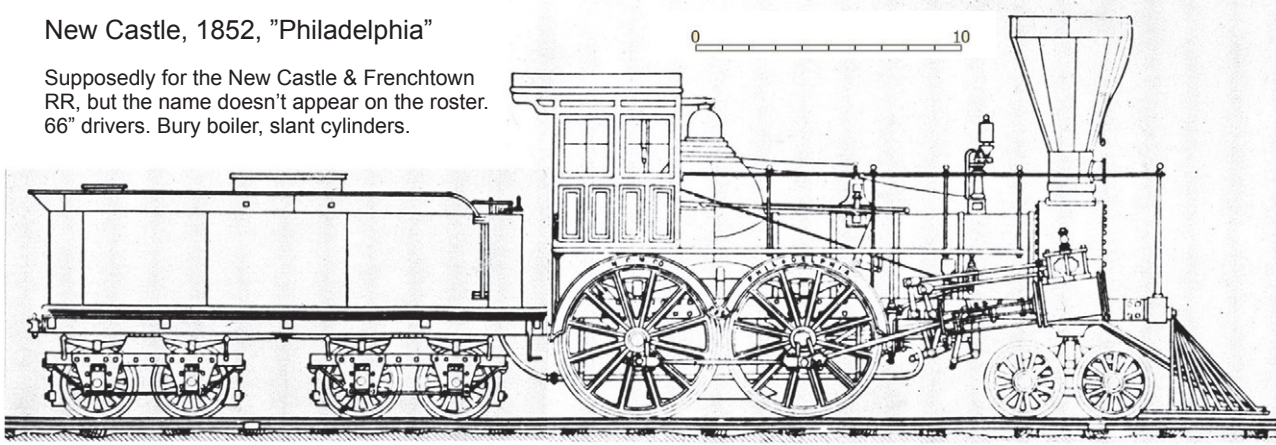
Moore & Richardson (Cincinnati),
1859, "Quigley"

For the Louisville & Nashville RR. 66" drivers.



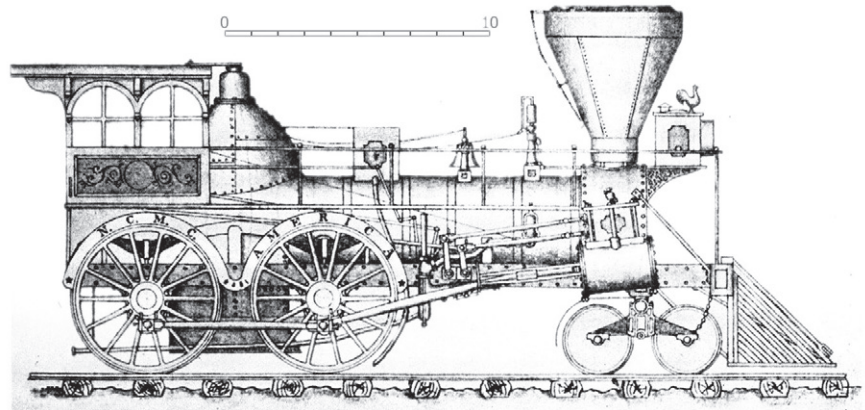
New Castle, 1852, "Philadelphia"

Supposedly for the New Castle & Frenchtown RR, but the name doesn't appear on the roster. 66" drivers. Bury boiler, slant cylinders.



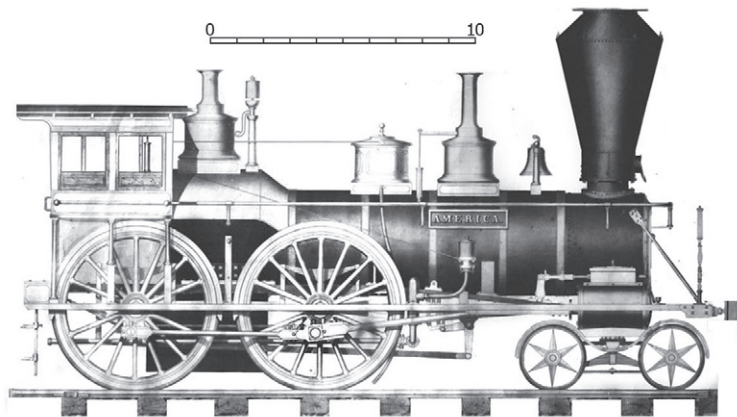
New Castle, 1854, "America"

For the Philadelphia, Wilmington, & Baltimore RR. 66" drivers. Bury boiler, slant cylinders. Design was about a decade out of date.



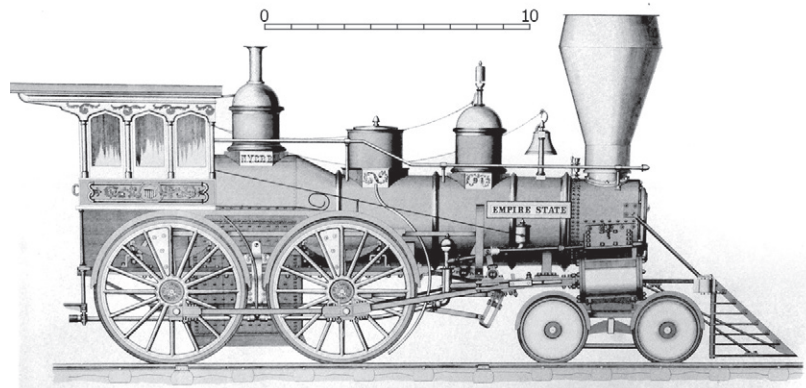
New Jersey, 1850s, "America"

Lithograph engine.



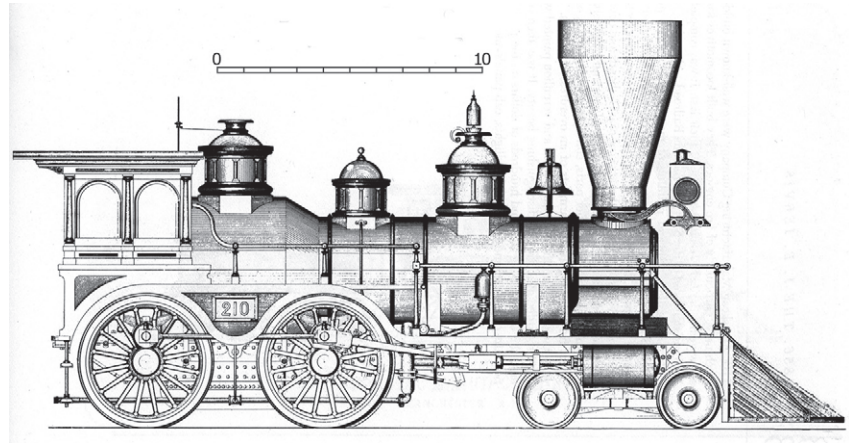
New Jersey, 1853, "Empire State"

For the New York Central RR. Like Rogers and Baldwin, the New Jersey work built many engines with two steam domes.



New Jersey, 1855, NY&E #210

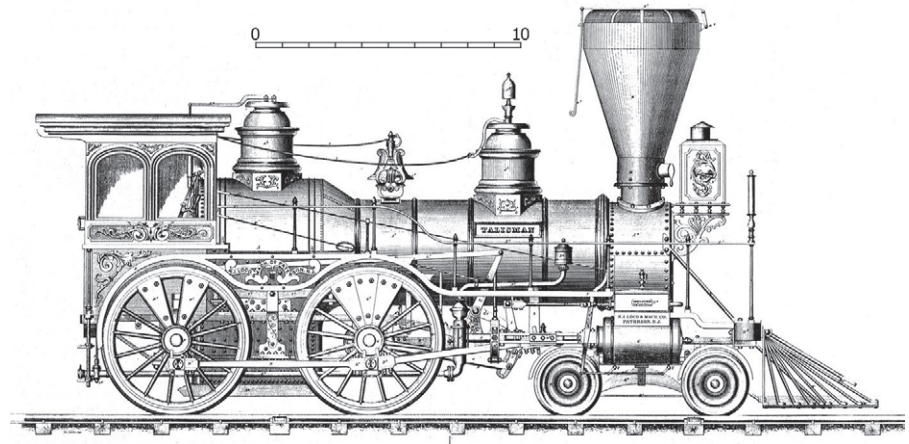
New York & Erie RR 6'- gauge locomotive.



New Jersey, 1857, "Talisman"

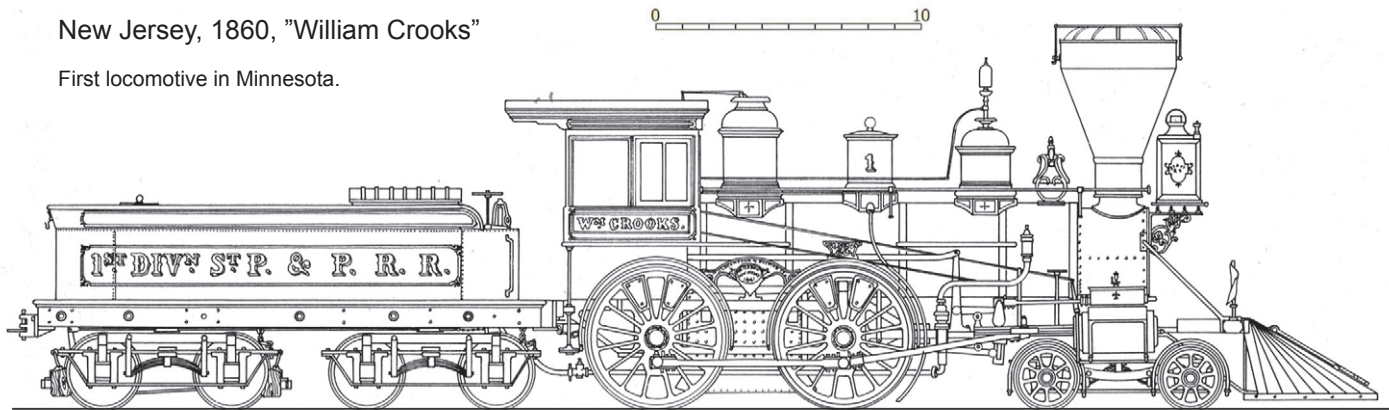
For the Saratoga & Whitehall RR. 66" drivers.

Scale was printed with the drawing.



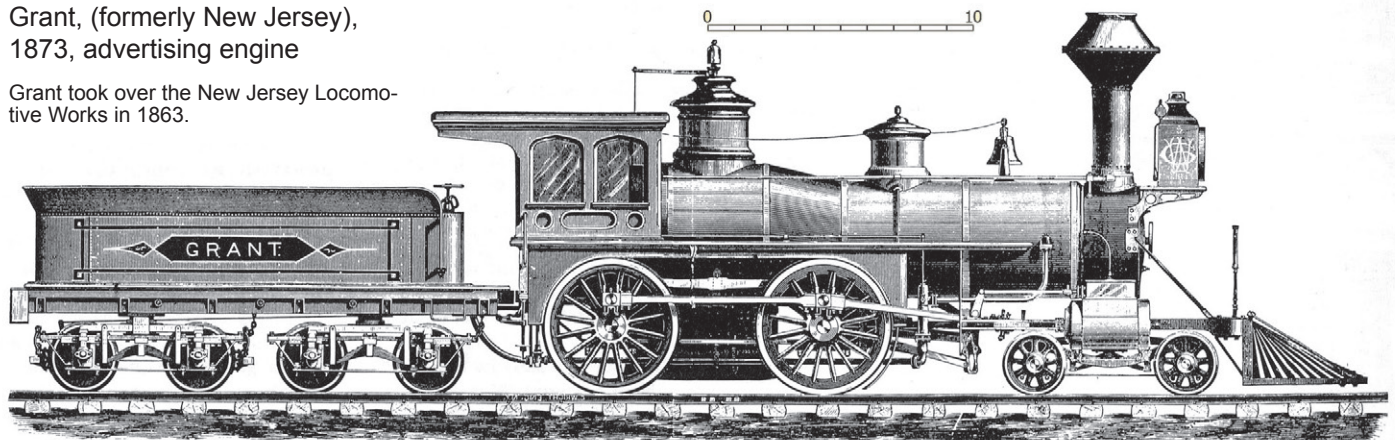
New Jersey, 1860, "William Crooks"

First locomotive in Minnesota.

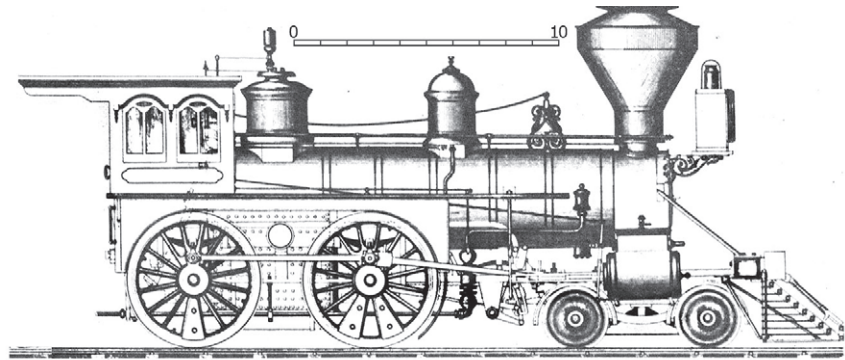


Grant, (formerly New Jersey),
1873, advertising engine

Grant took over the New Jersey Locomotive Works in 1863.

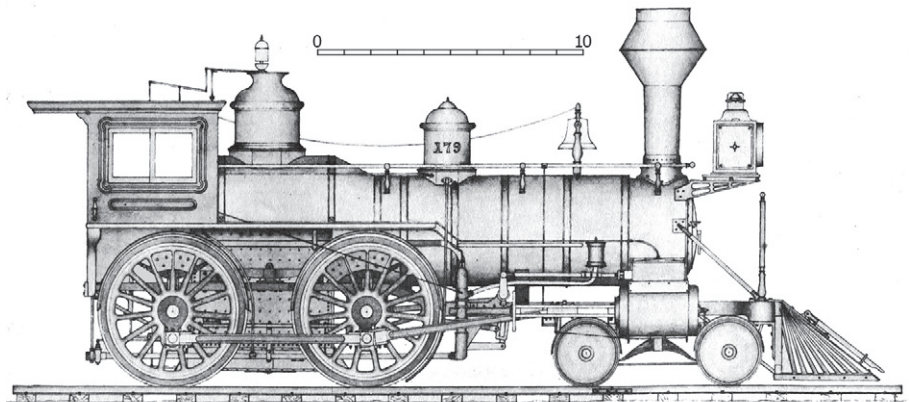


New Jersey RR Shops, 1860s,
NJRR&TCo. #44.



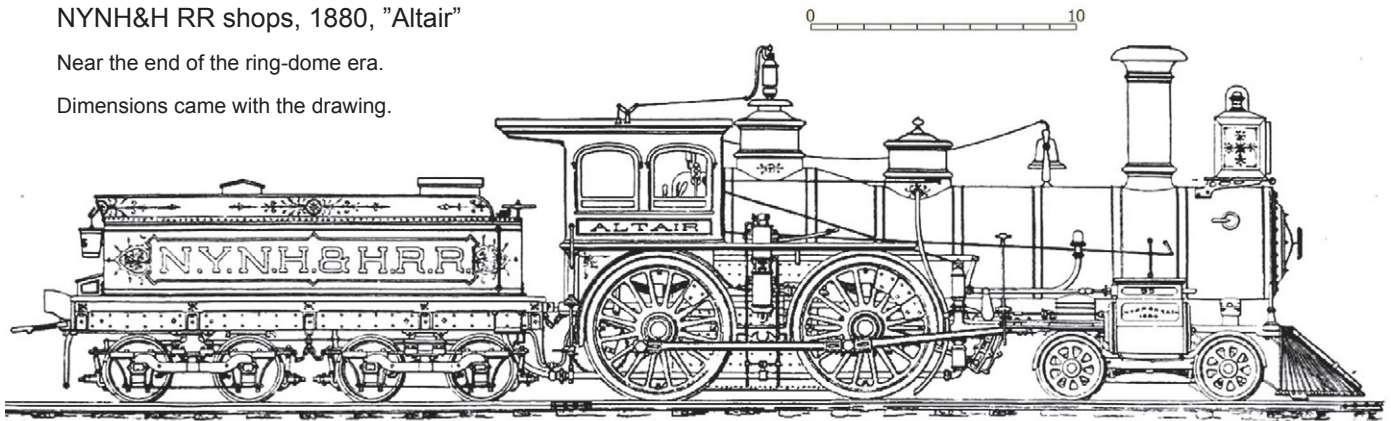
NYC&HR RR shops, 1872, "179"

About this time NYC&HR management
decreed all-black locomotives with little
or no brass or decorative elements.



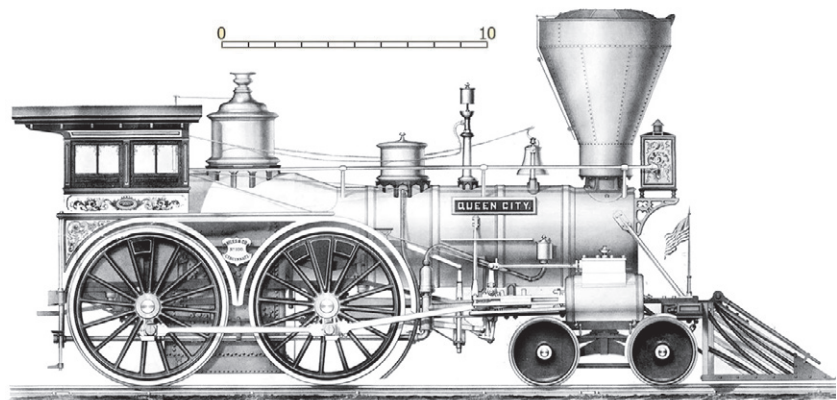
NYNH&H RR shops, 1880, "Altair"

Near the end of the ring-dome era.
Dimensions came with the drawing.



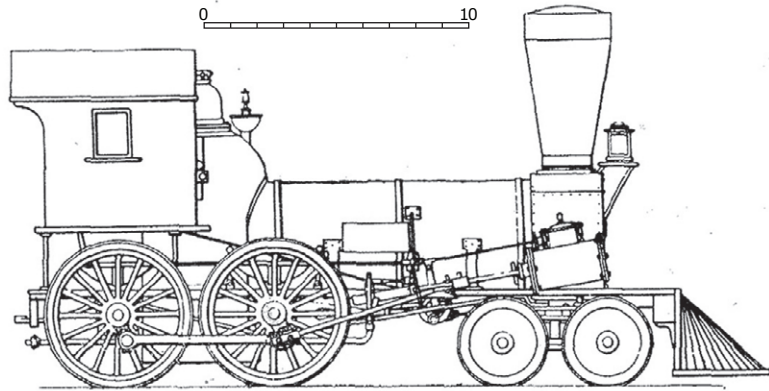
Niles, 1857, "Queen City"

Lithograph engine.



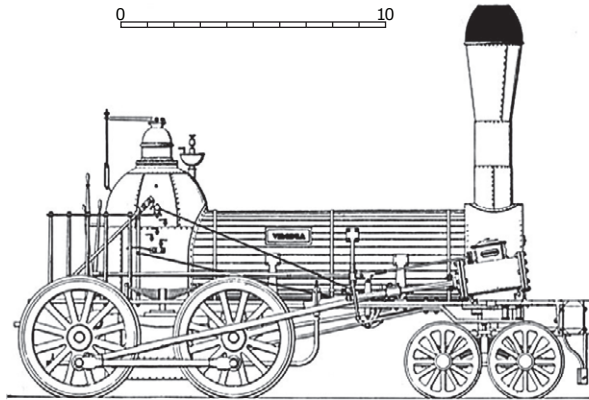
Norris, 1841, "Orange"

For the New York & Erie. 66" drivers. 6' gauge.



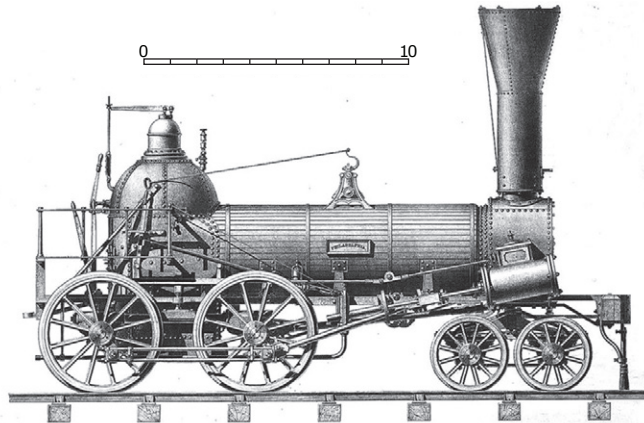
Norris, 1842, "Virginia"

For the Winchester & Potomac RR. 54" drivers. 16 tons.



Norris, 1842, "Philadelphia"

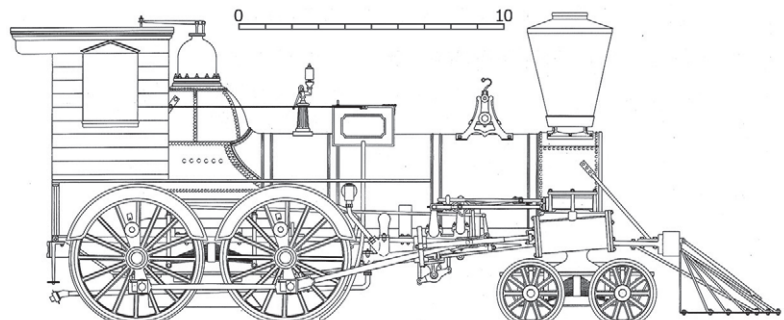
For the Western RR of Mass. Like most early Norris engines, bury boiler, slant cylinders.



Norris, 1850, "Copiapo"

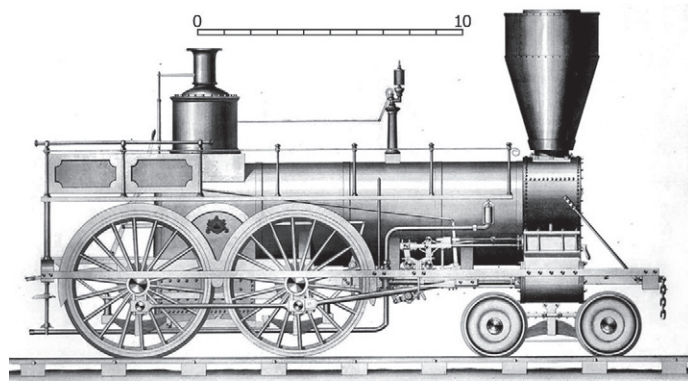
Standard Norris engine for the period. Exported and preserved in Chile. 60" drivers. 13" x 26" cylinders. 19 tons. Bury boiler, square sandbox, and slant cylinders. The cab and sandbox were later additions.

Scale was printed with the drawing.

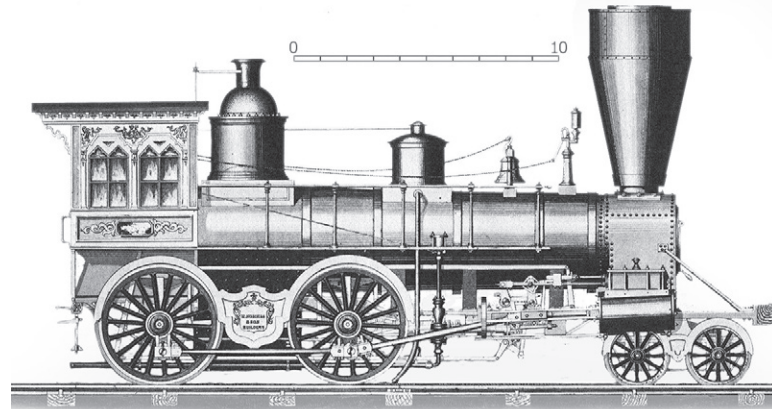


Norris, 1851, "North Star"

Passenger engine supposedly for the Syracuse & Utica RR, but doesn't appear on the roster. One of the earliest engines with flat cylinders and a spread truck.

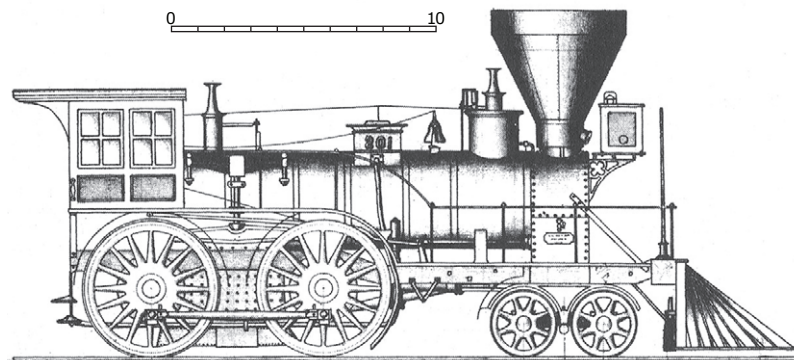


Norris, 1850s, Advertising freight engine



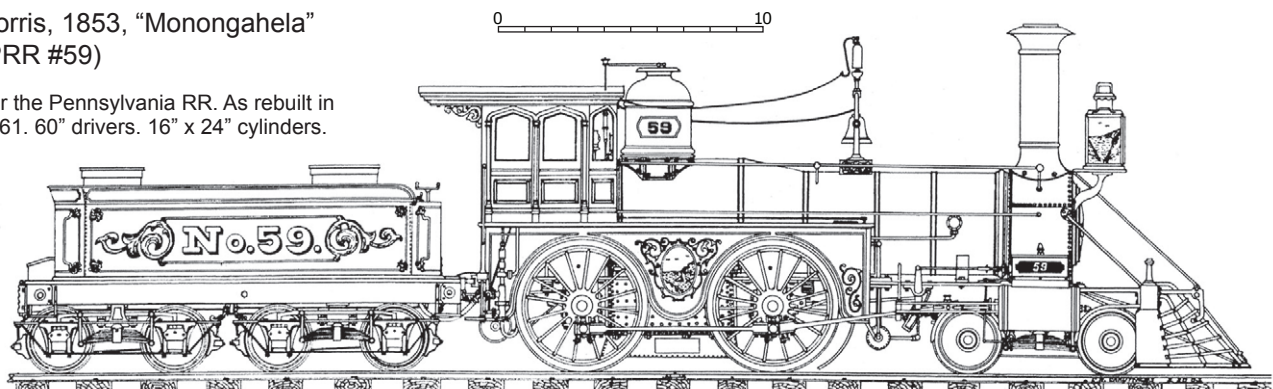
Norris, 1853, B&O #201

For the B&O RR. Inside-connected. Compare this engine to the 1854 Murray & Hazelhurst B&O engine on p. 25.



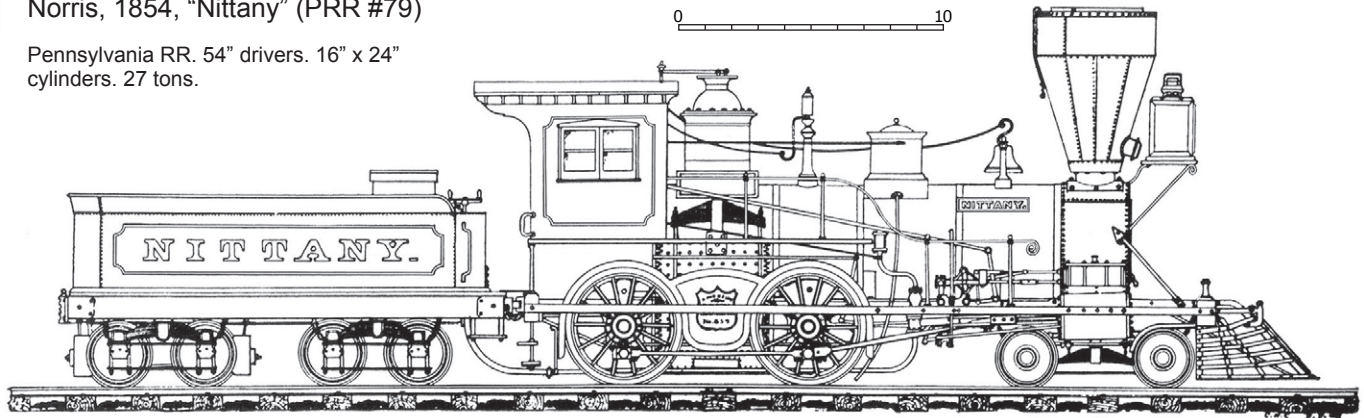
Norris, 1853, "Monongahela" (PRR #59)

For the Pennsylvania RR. As rebuilt in 1861. 60" drivers. 16" x 24" cylinders.



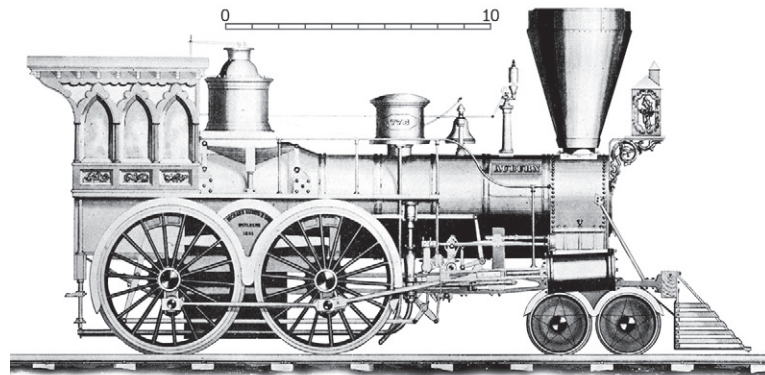
Norris, 1854, "Nittany" (PRR #79)

Pennsylvania RR. 54" drivers. 16" x 24" cylinders. 27 tons.



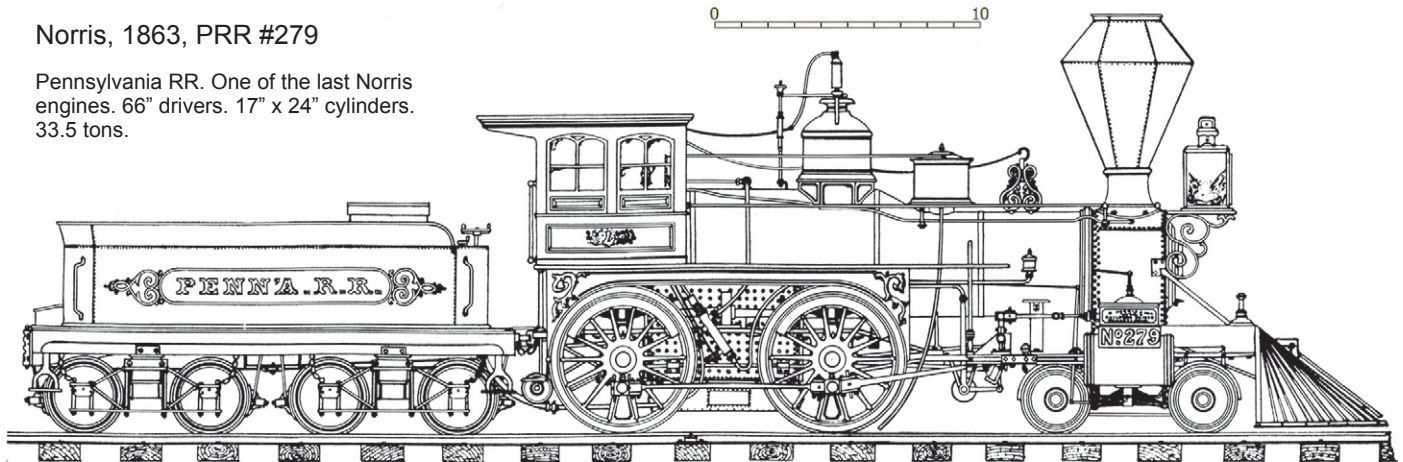
Norris, 1854, "Auburn"

For the Philadelphia & Reading RR.
30 tons.



Norris, 1863, PRR #279

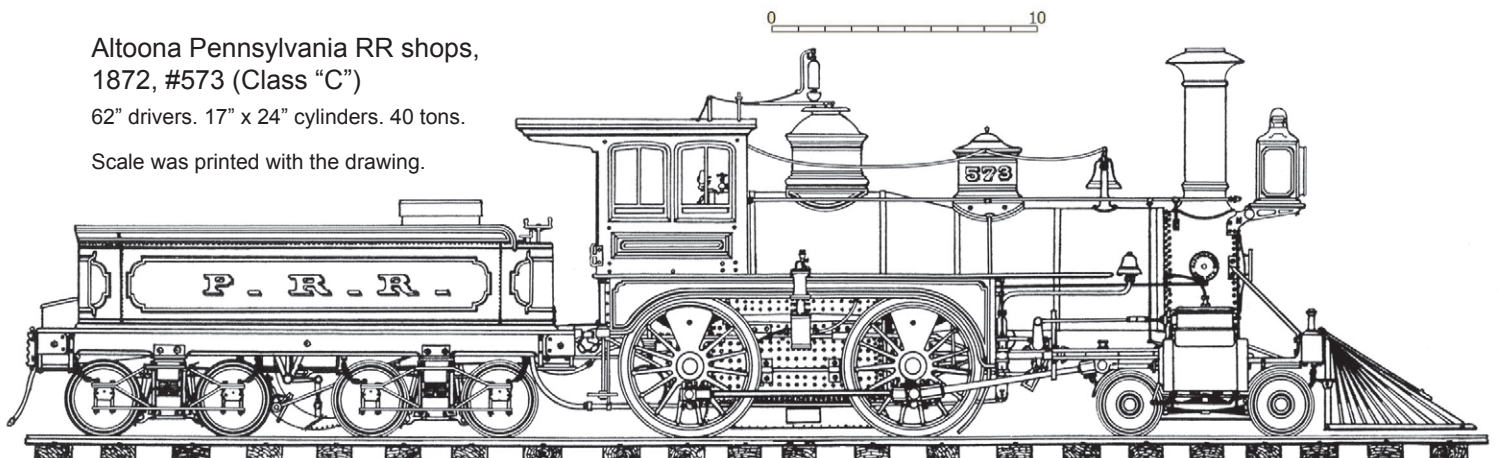
Pennsylvania RR. One of the last Norris engines. 66" drivers. 17" x 24" cylinders. 33.5 tons.



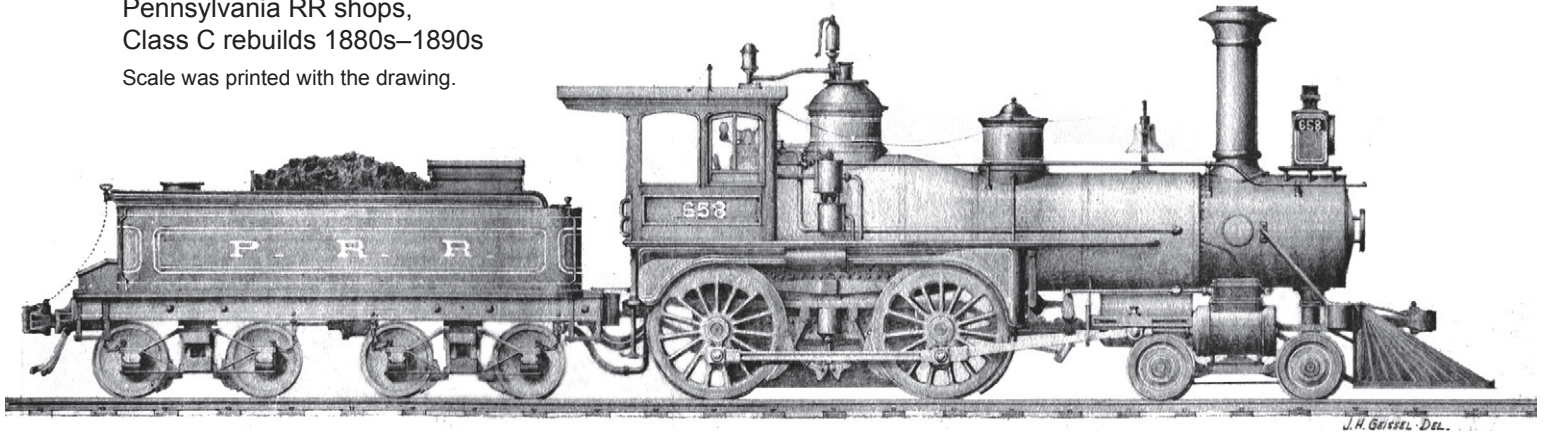
Altoona Pennsylvania RR shops,
1872, #573 (Class "C")

62" drivers. 17" x 24" cylinders. 40 tons.

Scale was printed with the drawing.

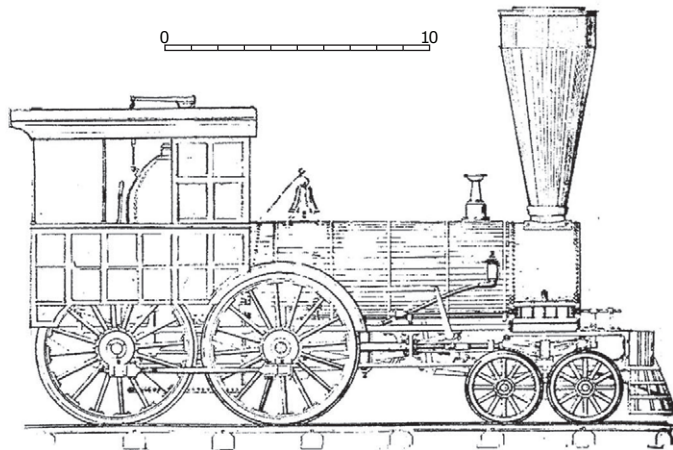


Pennsylvania RR shops,
Class C rebuilds 1880s–1890s
Scale was printed with the drawing.



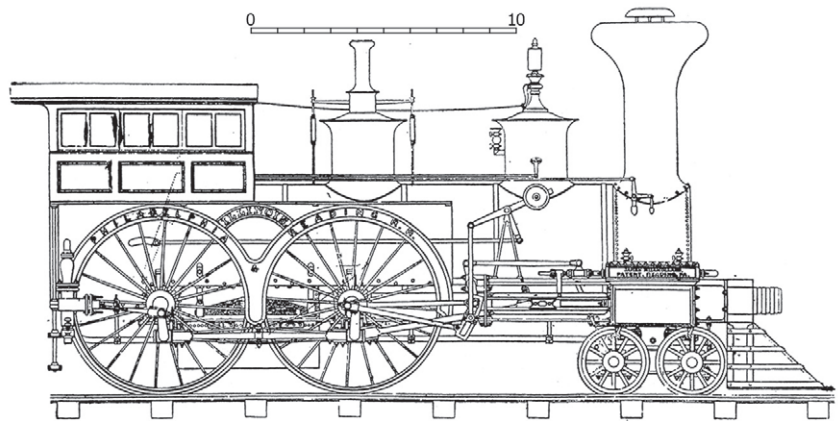
Philadelphia & Reading RR shops,
1848, "Cerro Gordo"

One of the Reading's first passenger engines built in the railroad's shops. Inside-connected. Haystack dome completely enclosed in the cab.



Philadelphia & Reading RR shops,
1858, "Illinois"

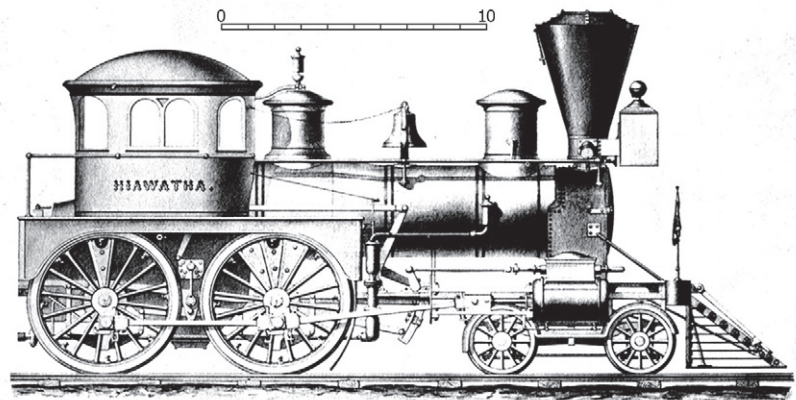
Passenger engine built by important early locomotive designer James Millholland. 31 tons.



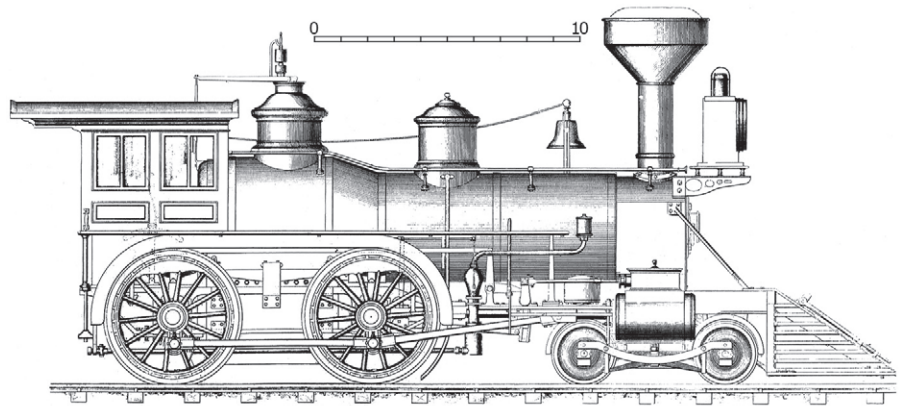
Philadelphia & Reading RR shops,
1859, "Hiawatha"

Another Millholland engine. Notice the round cab made of iron and the long, slanting firebox that extended almost to the rear of the frame. This was an early coal burner.

Scale was printed with the drawing.

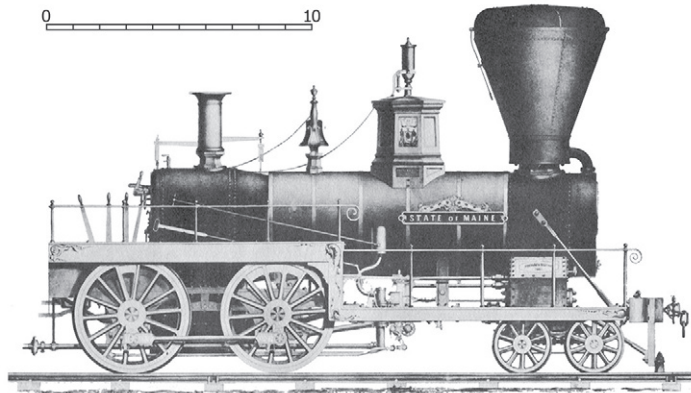


Pittsburg, Fort Wayne, and Chicago
RR shops, 1870



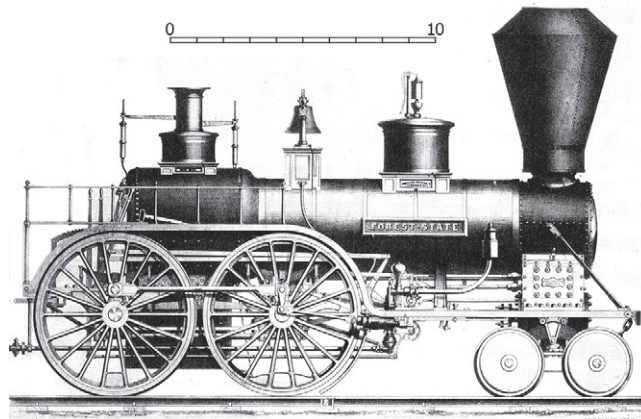
Portland, 1851, "State of Maine"

Inside-connected. Lithograph possibly
patterned after the Atlantic & St. Lawrence
RR #6, *Richland*. 54" drivers.

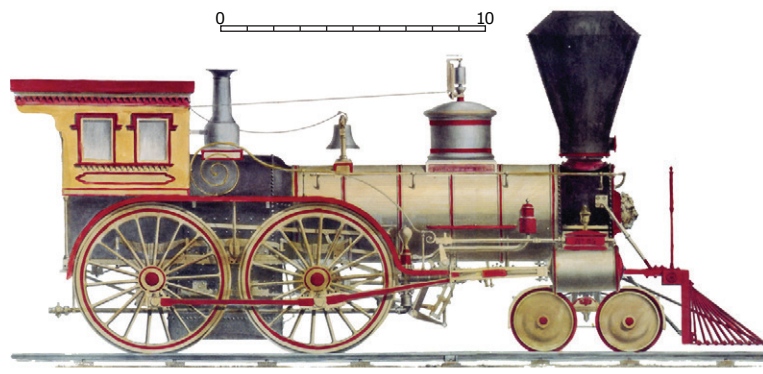


Portland, 1852, "Forest State"

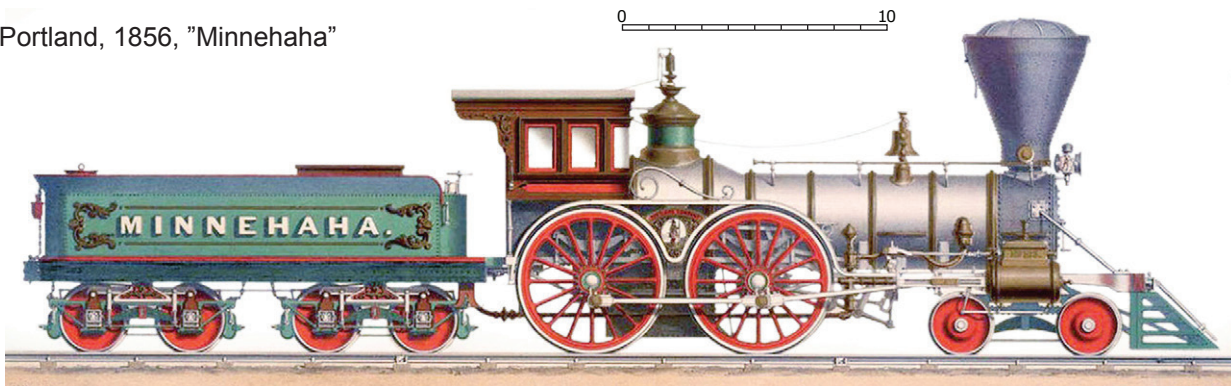
Another inside-connected locomotive.



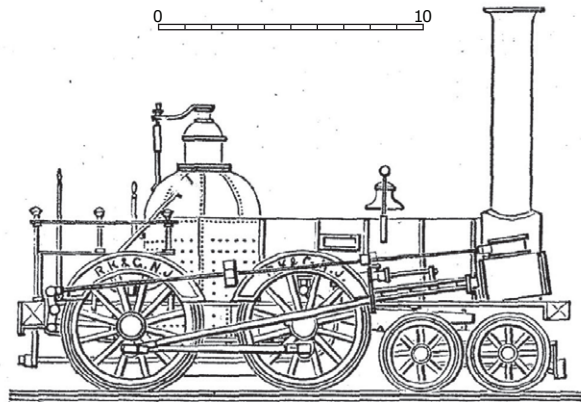
Portland, 1854



Portland, 1856, "Minnehaha"

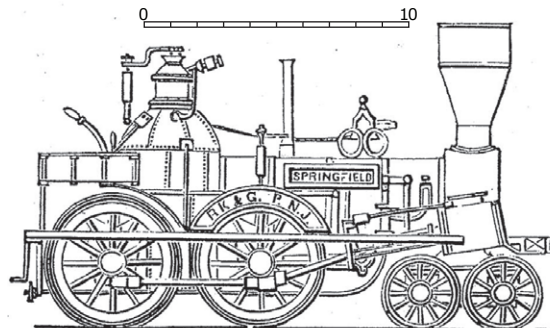


Rogers, 1844

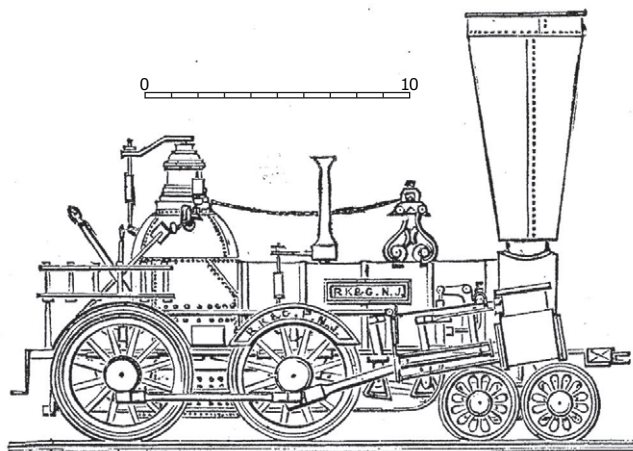


Rogers, 1845, "Springfield"

For Hartford & New Haven RR. 60" drivers.

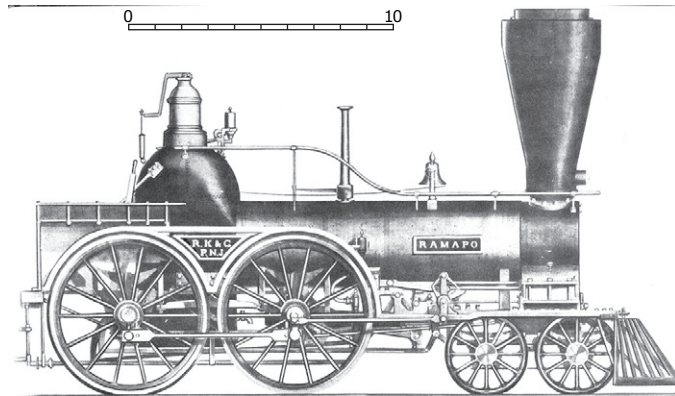


Rogers, 1846



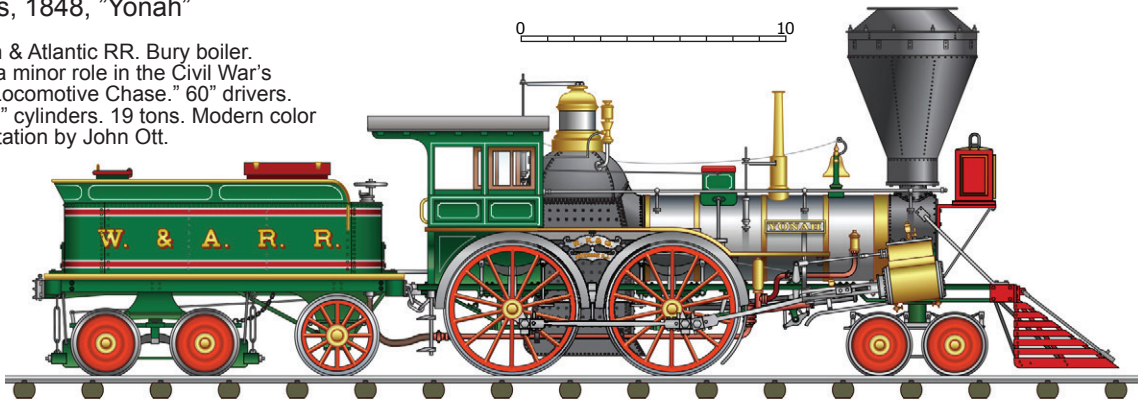
Rogers, 1848, "Ramapo"

For Paterson & Ramapo RR. Bury boiler.
Inside-connected. 72" drivers.



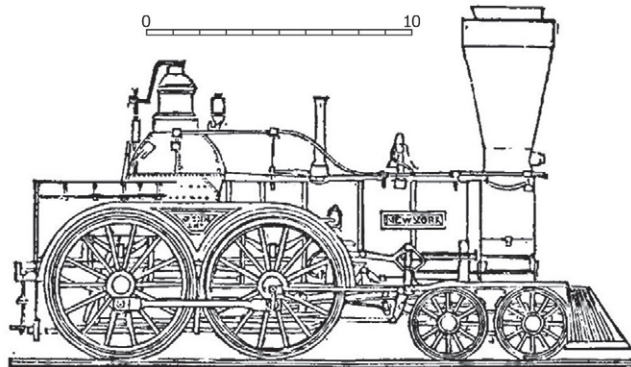
Rogers, 1848, "Yonah"

Western & Atlantic RR. Bury boiler.
Played a minor role in the Civil War's
"Great Locomotive Chase." 60" drivers.
12" x 18" cylinders. 19 tons. Modern color
interpretation by John Ott.



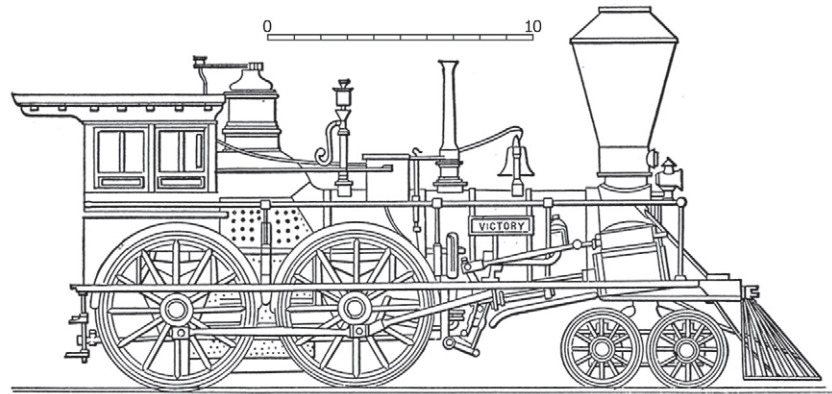
Rogers, 1849, "New York"

Hartford & New Haven RR. Bury boiler.
Inside-connected. 60" drivers.



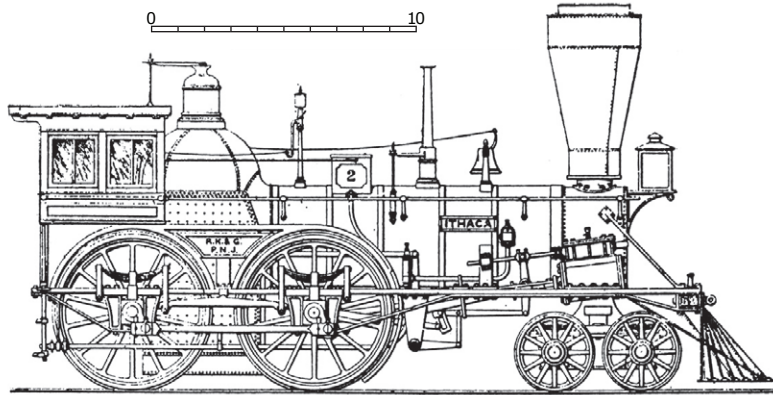
Rogers, 1850, "Victory"

For Hartford & New Haven RR. Bury boiler.
72" drivers. First engine with link motion
valve gear, which would later become stan-
dard for most engines.



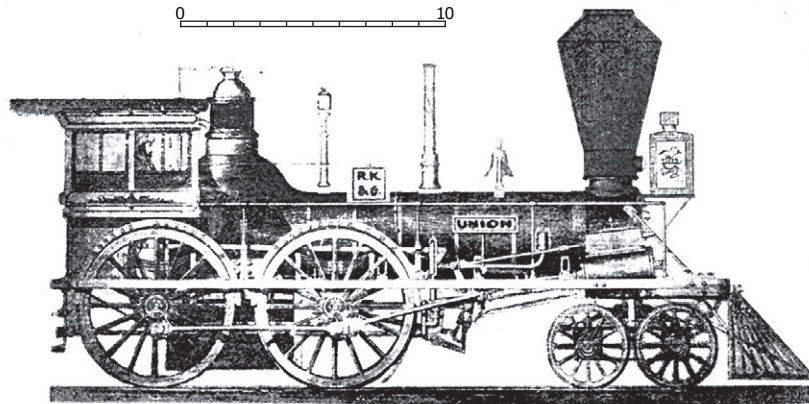
Rogers, 1851, "Ithaca"

For the Lackawanna & Western RR. Bury boiler. Outside frame driver suspension.



Rogers, 1851, "Union"

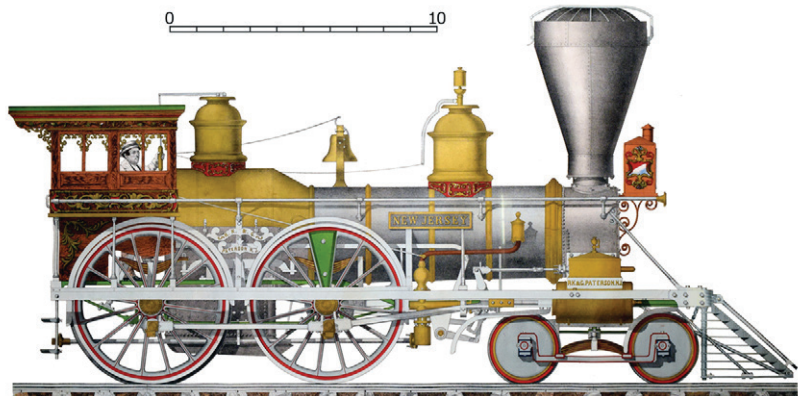
For the Paterson & Hudson River. Bury boiler. 72" drivers.



Rogers, 1852, "New Jersey"

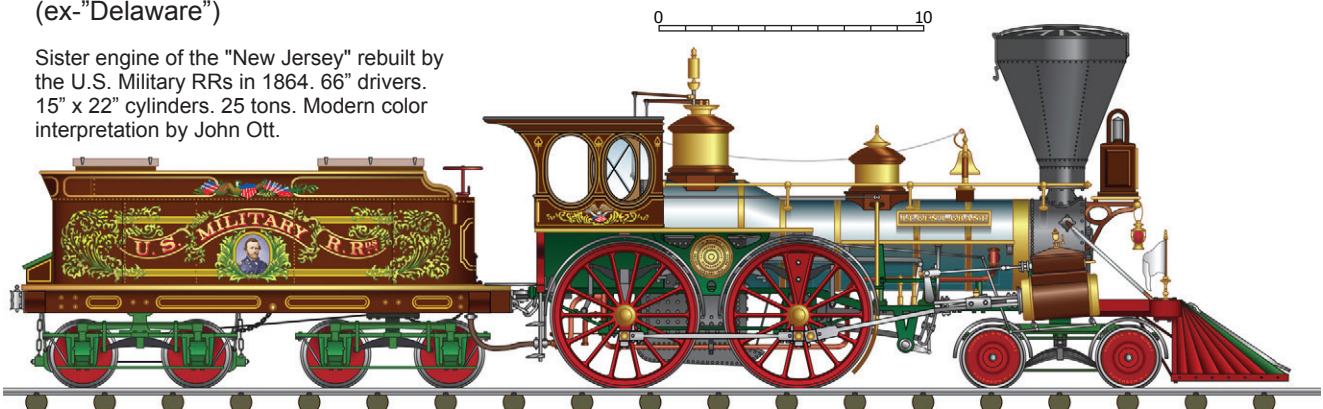
For the Central RR of New Jersey. Candidate for first engine with a wagon-top boiler. Also among the first with flat cylinders, and wide-spaced pilot wheels.

Note the octagonal dome bases and the fluted dome covers on the later Rogers engines. Like other manufacturers of the 1850s, often equipped engines with two steam domes.



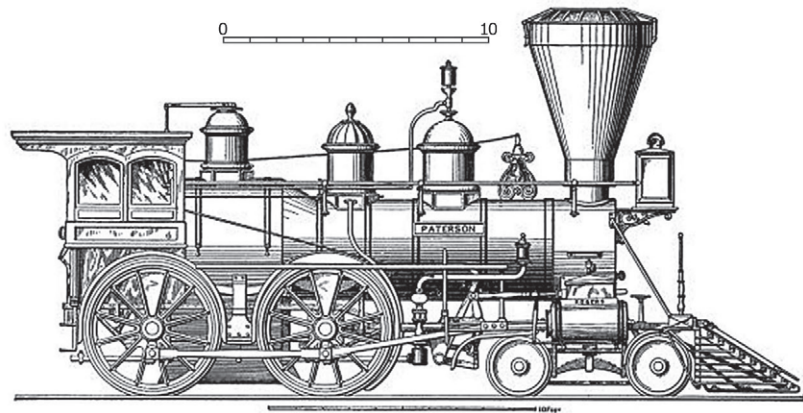
Rogers, 1852, "Lt. Gen'l Grant" (ex-"Delaware")

Sister engine of the "New Jersey" rebuilt by the U.S. Military RRs in 1864. 66" drivers. 15" x 22" cylinders. 25 tons. Modern color interpretation by John Ott.



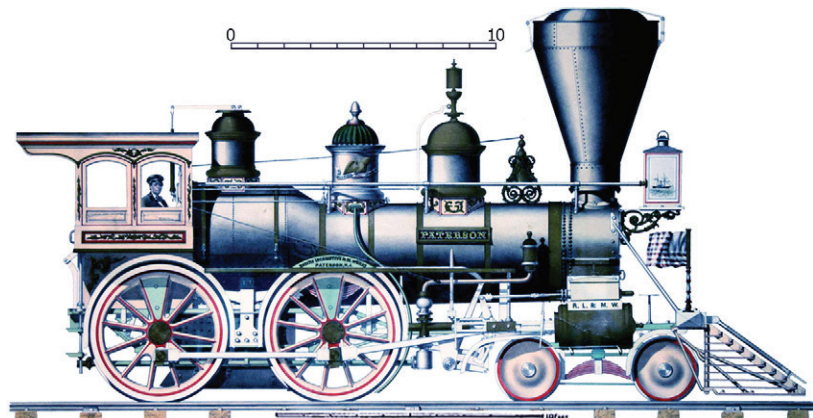
Rogers, 1853, "Paterson"

Scale was printed with the drawing.



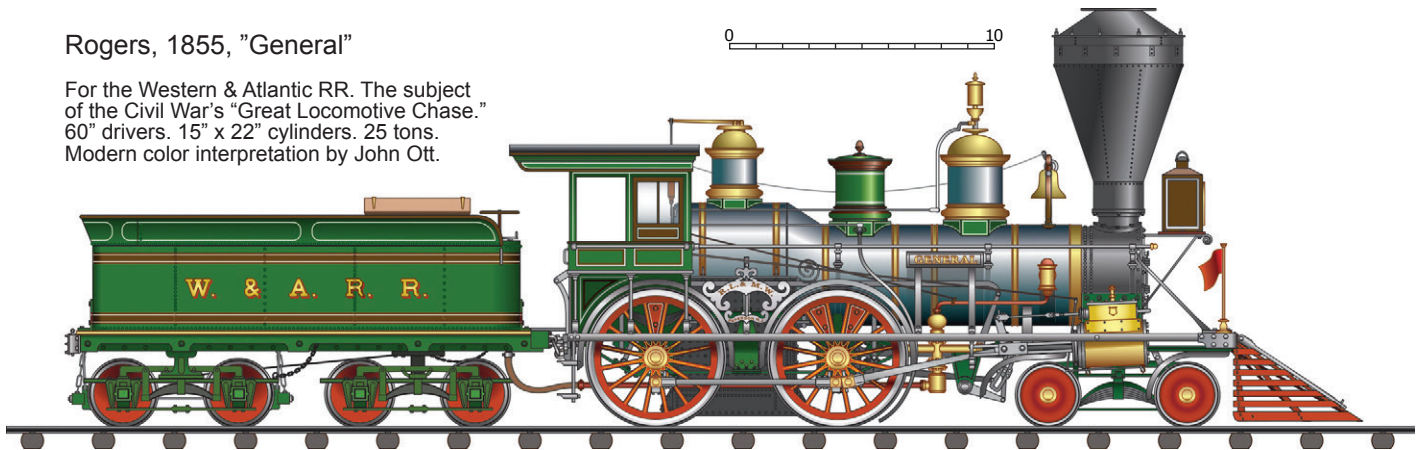
Rogers, 1853, "Paterson"

Color lithograph version.



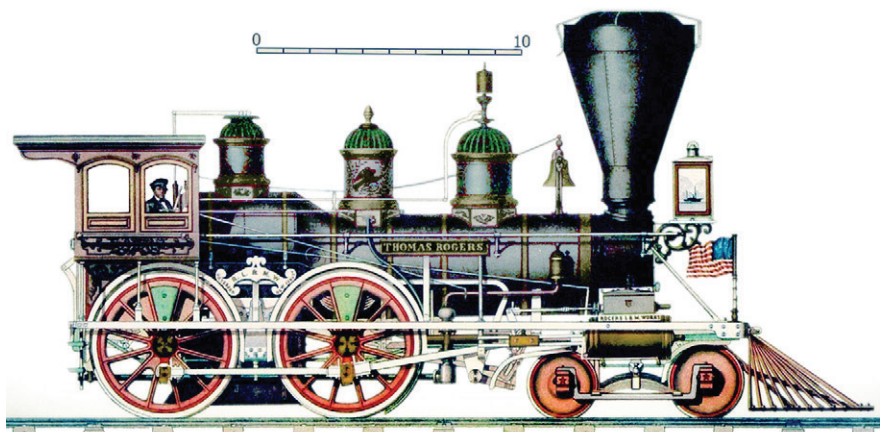
Rogers, 1855, "General"

For the Western & Atlantic RR. The subject of the Civil War's "Great Locomotive Chase." 60" drivers. 15" x 22" cylinders. 25 tons. Modern color interpretation by John Ott.



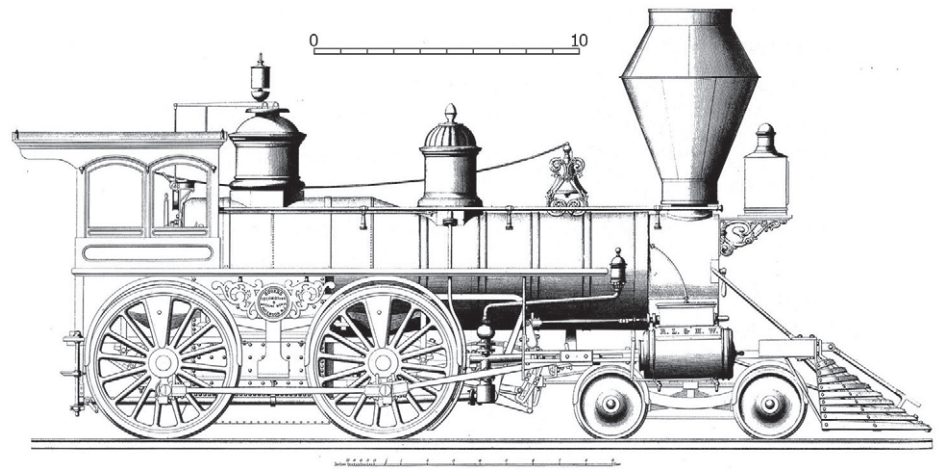
Rogers, 1860, "Thomas Rogers"

Scale was printed with the drawing.



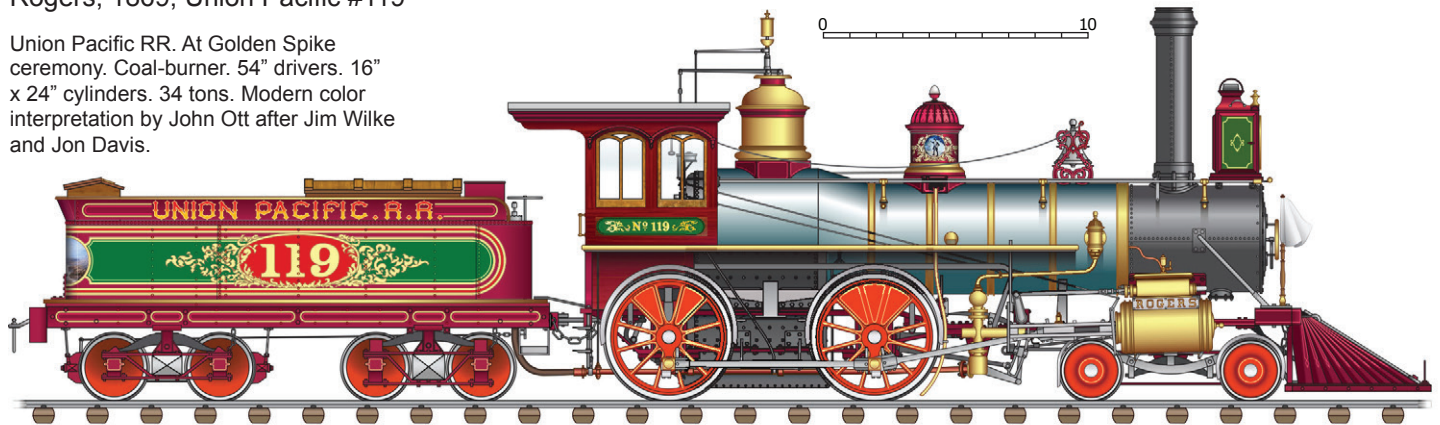
Rogers, 1865, advertising engine

Scale was printed with the drawing.



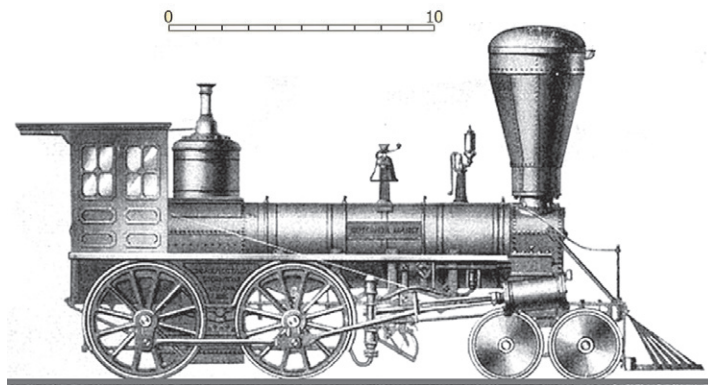
Rogers, 1869, Union Pacific #119

Union Pacific RR. At Golden Spike ceremony. Coal-burner. 54" drivers. 16" x 24" cylinders. 34 tons. Modern color interpretation by John Ott after Jim Wilke and Jon Davis.



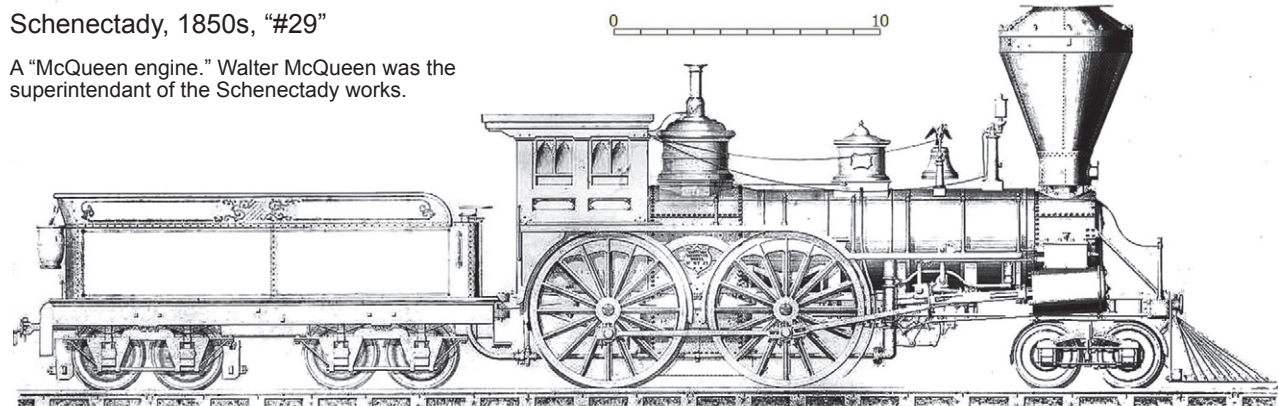
Schenectady, 1851, "Governor Marcy"

Schenectady's fifth engine, built for the Michigan Southern RR. 54" drivers.



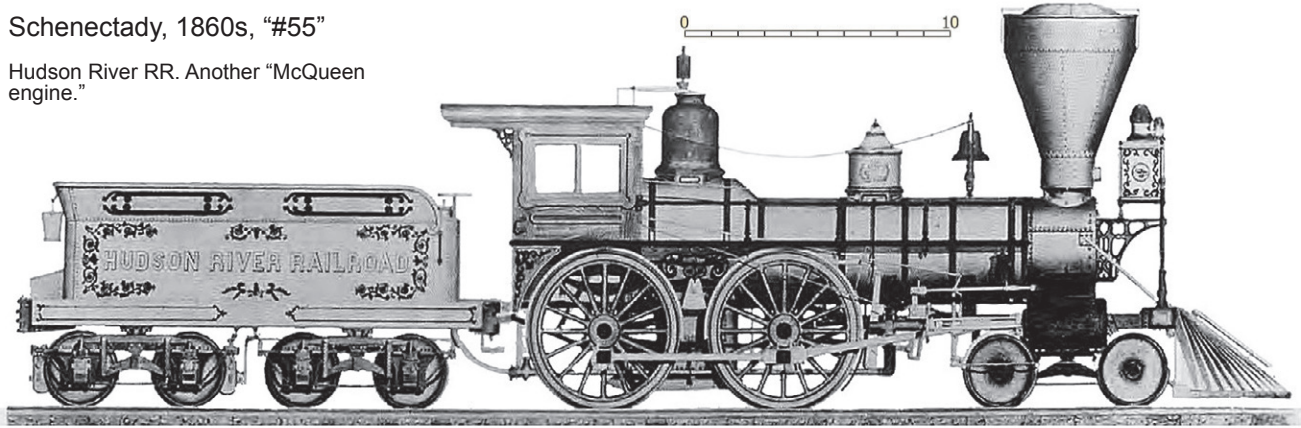
Schenectady, 1850s, "#29"

A "McQueen engine." Walter McQueen was the superintendant of the Schenectady works.



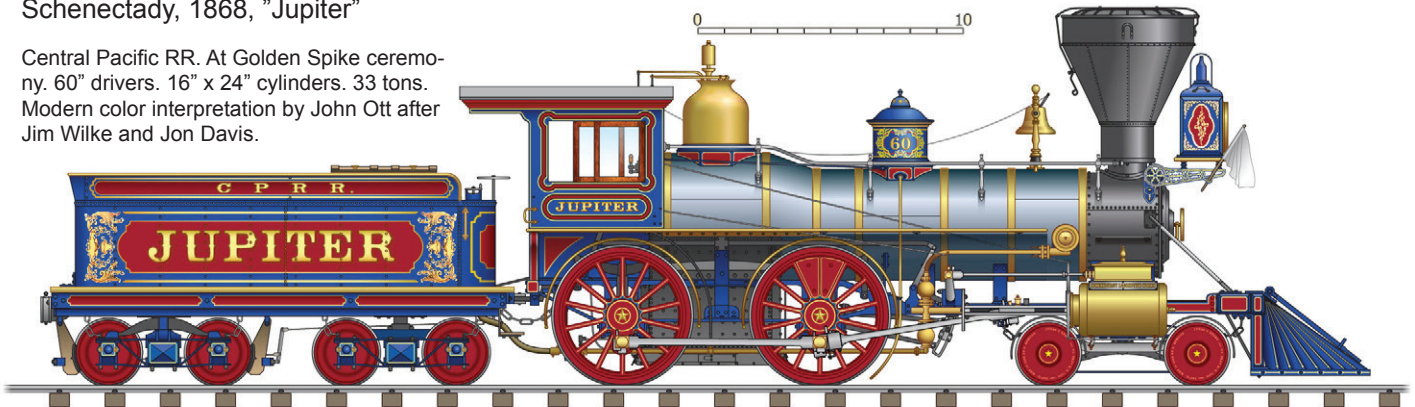
Schenectady, 1860s, "#55"

Hudson River RR. Another "McQueen engine."



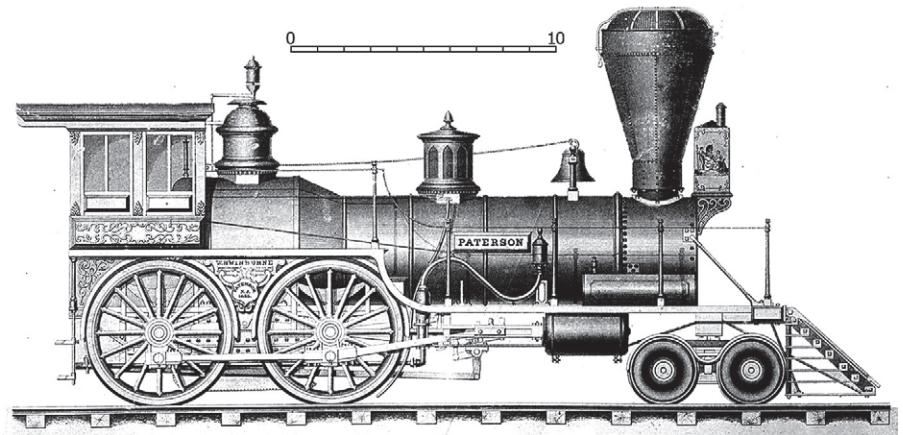
Schenectady, 1868, "Jupiter"

Central Pacific RR. At Golden Spike ceremony. 60" drivers. 16" x 24" cylinders. 33 tons. Modern color interpretation by John Ott after Jim Wilke and Jon Davis.



Swinburne, 1855, "Paterson"

One of the few American engines that did not have the cylinders aligned with the stack.

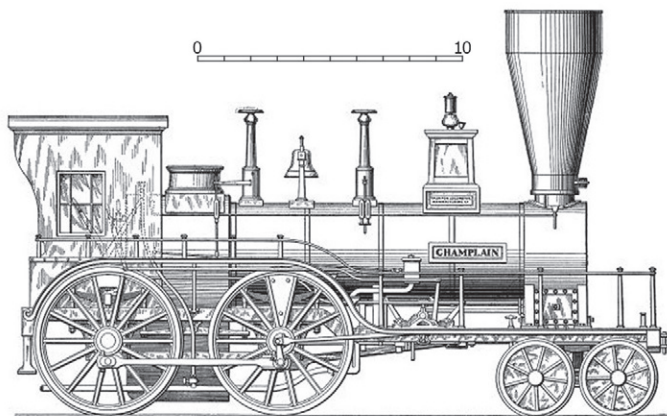


Taunton, 1849, "Champlain"

Built for the Hudson River RR.

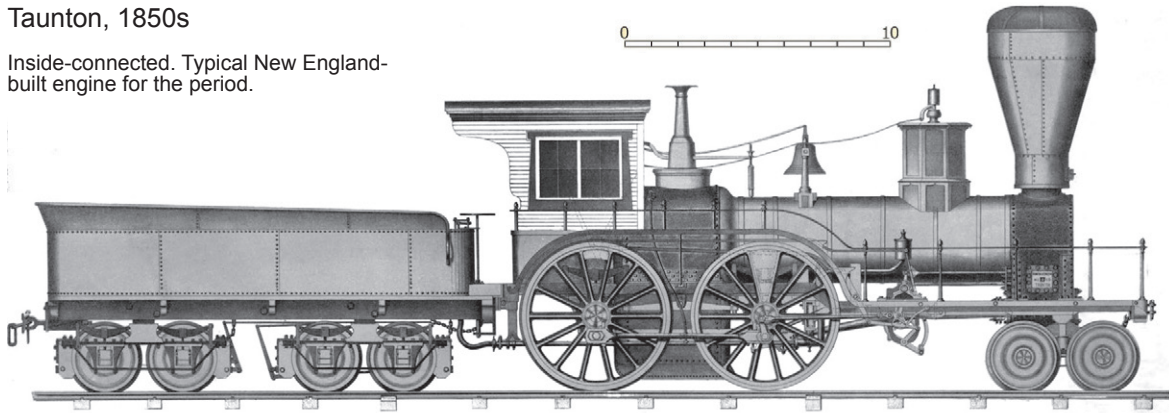
Inside-connected. Manhole in top of firebox.

Scale was printed with the drawing.



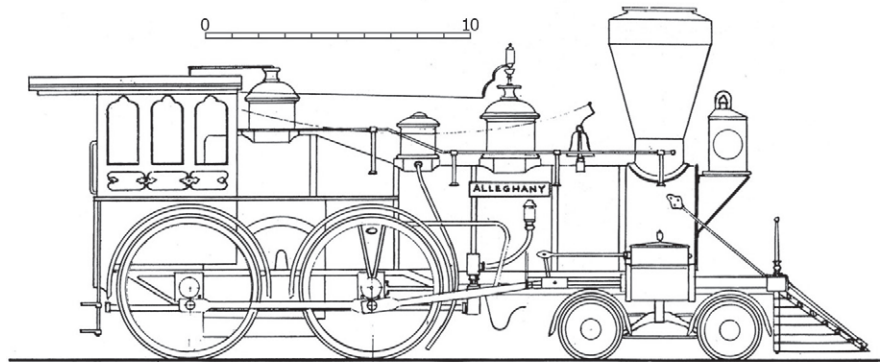
Taunton, 1850s

Inside-connected. Typical New England-built engine for the period.



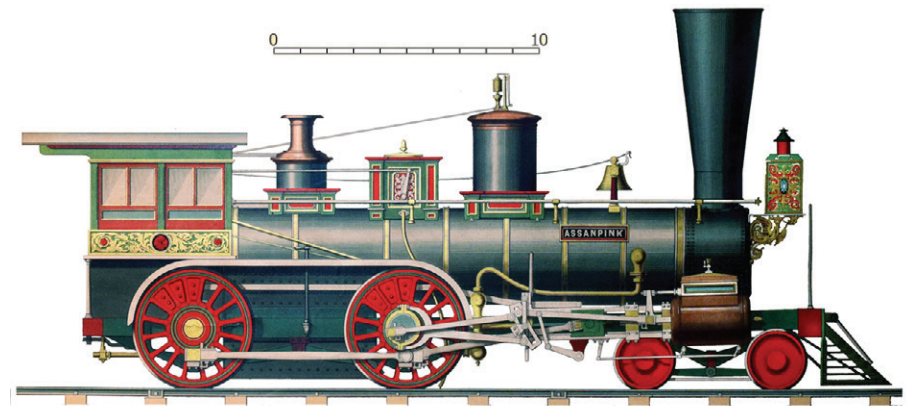
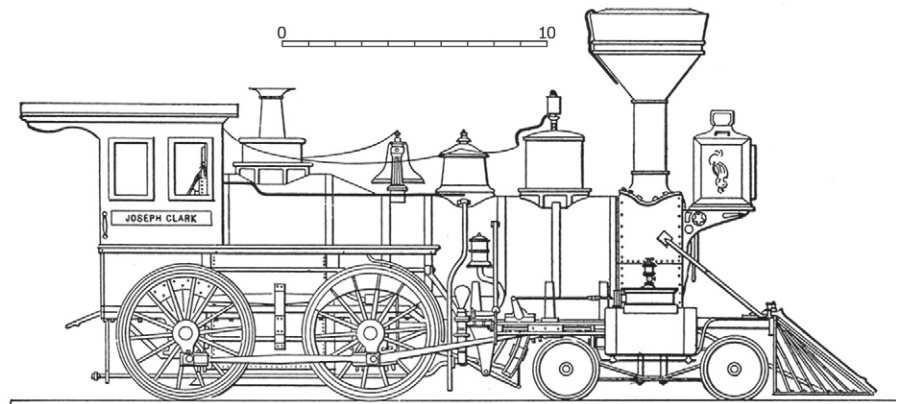
Tredegar, 1856, "Alleghany"

For the Virginia Central RR.



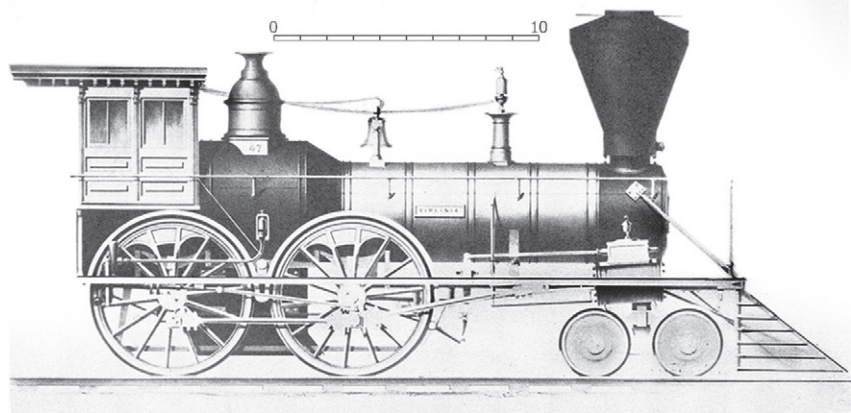
Trenton, 1855, "Assanpink"

For the Belvidere Delaware RR. Outside link-motion valve gear and small drivers make this engine an oddity. Built for the Belvidere Delaware RR. The Trenton Locomotive Works of Trenton, NJ, built locomotives 1853–1858.

Vermont Central RR shops,
1863, "Joseph Clark"

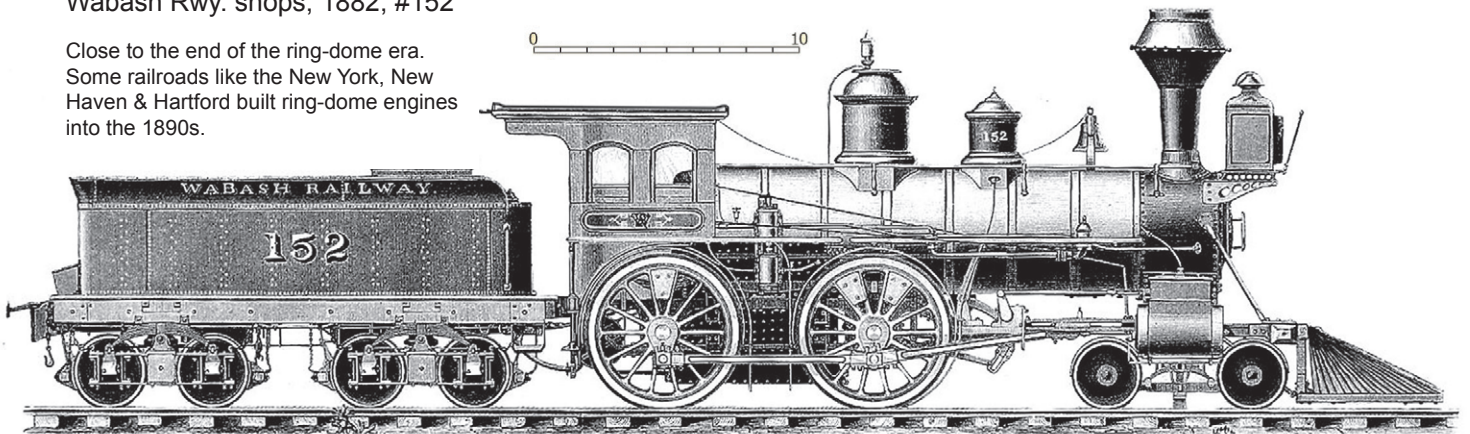
Virginia, 1856, "Virginia"

Virginia Locomotive and Car Works, also known as Smith & Perkins, was a small, short-lived builder in Alexandria, Virginia, founded by important early locomotive designer Thatcher Perkins.



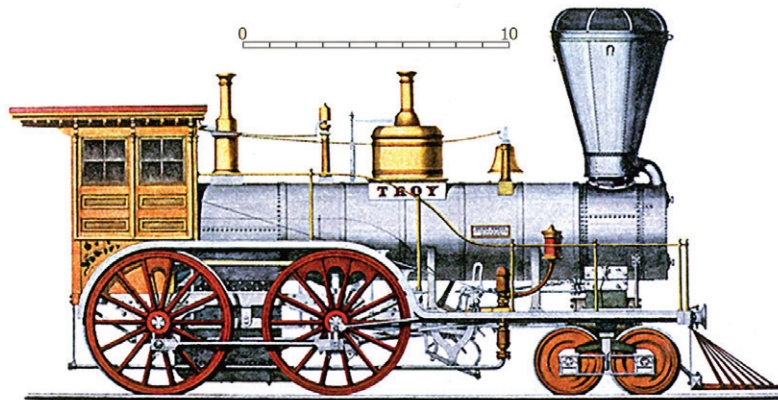
Wabash Rwy. shops, 1882, #152

Close to the end of the ring-dome era. Some railroads like the New York, New Haven & Hartford built ring-dome engines into the 1890s.



Wilmarth (Union), 1852, "Troy"

For the Rensselaer & Saratoga RR. 66" drivers. 16" x 20" cylinders. 23 tons.



Wilmarth (Union), 1853, "Atalanta" (PRR #40)

For the Pennsylvania RR. 78" drivers. 16" x 22" cylinders.

Scale was printed with the drawing.

