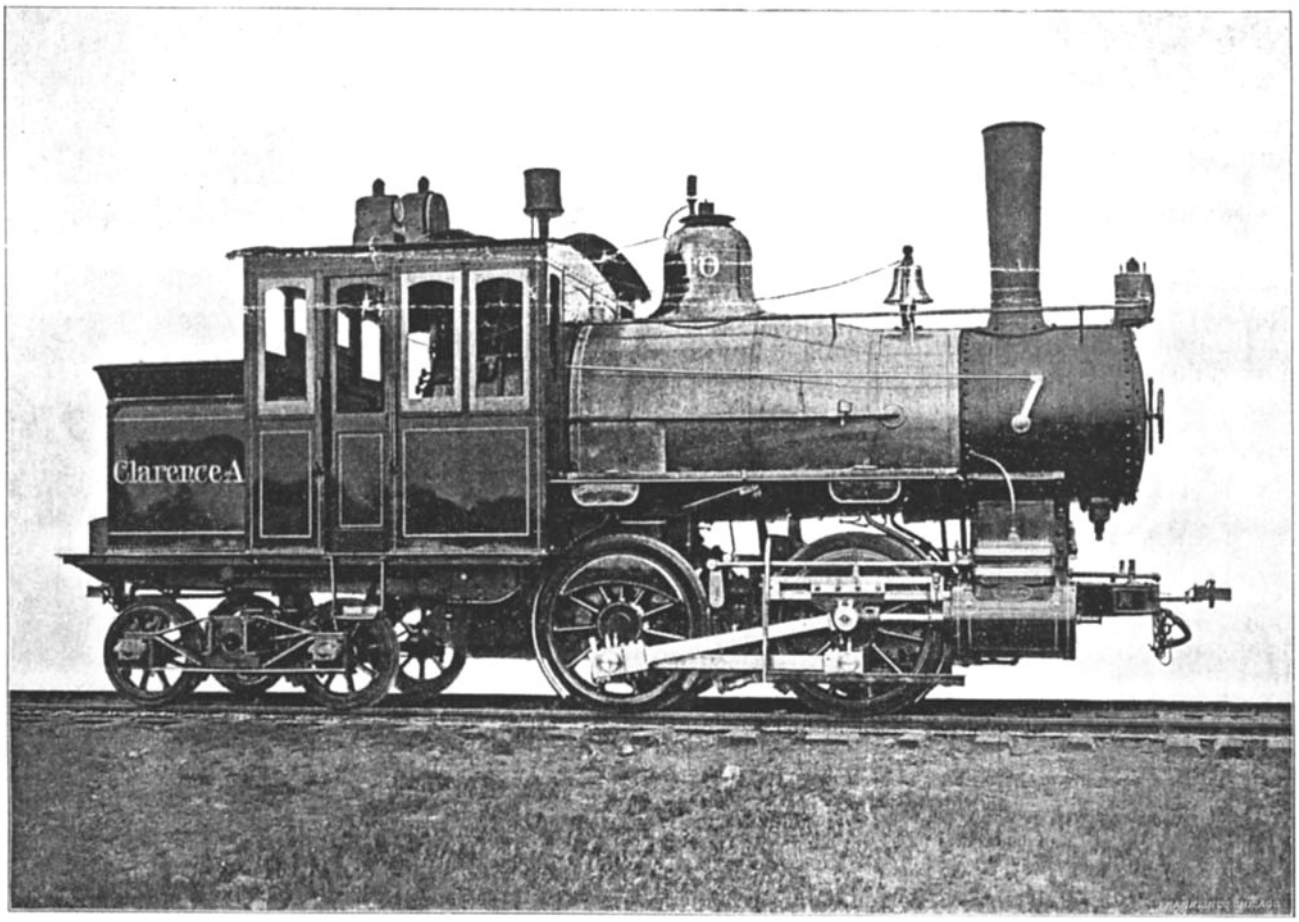
DESCRIPTION

—OF—

LAKE STREET ELEVATED RAILWAY LOCOMOTIVES.

FOR SALE BY

FITZ-HUGH & COMPANY, CHICAGO.



DESCRIPTION.

SINGLE EXPANSION LOCOMOTIVES. Cylinders 13 x 18 inches.

COMPOUND LOCOMOTIVES.—Cylinders, high pressure, 13 x 18 inches; low pressure, 22 x 18 inches.

FUEL, bituminous or anthracite coal, coke or wood. FOUR DRIVING WHEELS, 44 inches diameter; tires, steel, 2½ inches thick, 5¼ inches wide. Total wheel base, 16 feet; rigid wheel base, 5 feet; driving wheel base, 5 feet. Weight in working order, about 56,500 lbs. Weight on driving wheels, about 40,250 lbs. TANK CAPACITY, 700 gallons. BOILER, made of 7-16 inch Otis steel, double riveted, tested to 180 lbs. steam pressure, 44 inch waist, made wagon top with extension arch; firebox 58 inches long, 42⅝ inches wide; tubes of steel, 188 in number, 1½ inch outside diameter, 6 feet 6 inches long, with copper ferrules on fire box end; crown supported by radial stays, cleaning holes in corner of fire box. Nathan triple sight feed lubricator. Richardson balanced valve in steam chest. PISTON HEADS, Ramsbottom type. GUIDES, Laird steel. Driving wheel axles, Carnegie steel, journals, 6 x 7 inches, driving boxes and rod bearings, Damascus bronze. Two Monitor injectors, No. 5. 28 inch wrought center, steel tired engine truck wheels, truck axle journals, 3¼ x 6 inches. CYLINDERS, DOME and BOILER lagged with ½ inch asbestos fire felt. Cylinder head casings, pressed steel. Running board, steel. Two headlights. Eames Vacuum Brake for driving wheels, tender and train, with Eames muffler and Lappin flanged brake shoes. Jerome metallic packing on piston rods and valve stems.

The rated capacity of these locomotives is as follows: On ½ per cent grade, or 26.4 feet per mile, 480 tons; on 1 per cent grade, or 52.8 feet per mile, 275 tons; on 2 per cent grade, or 105 feet per mile, 145 tons.

These engines were built in 1893 and 1894 and have been kept in first-class condition. They are sold subject to any inspection the customer may desire to have made. The road is now equipped with electricity, hence the sale of these engines.

A personal inspection of these locomotives is only necessary to convince buyers of the value of this power.

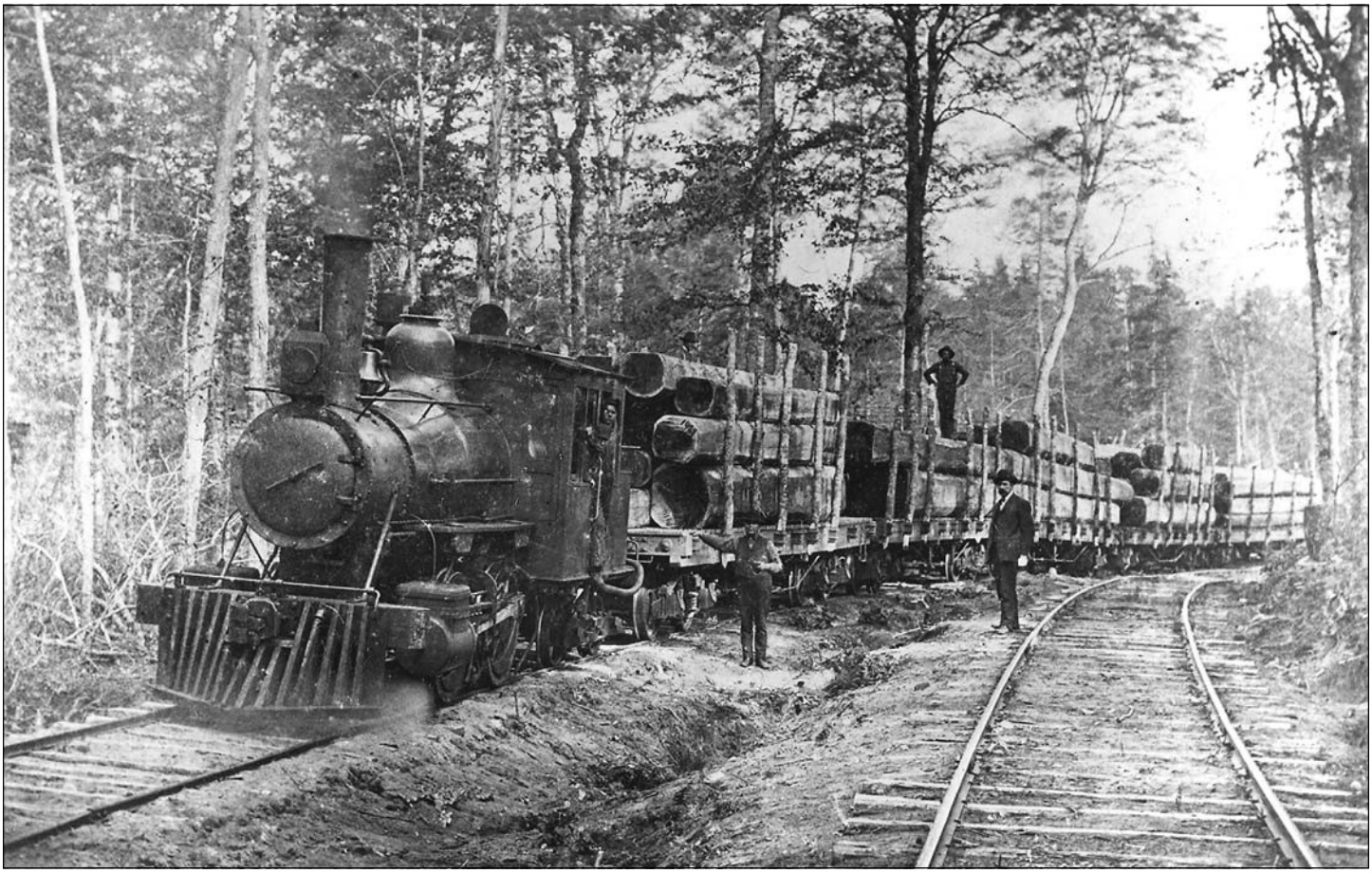
FOR FURTHER INFORMATION ADDRESS

FITZ-HUGH & COMPANY, - - 1634 MONADNOCK BUILDING, CHICAGO.

A Brief History of Lake Street Elevated RR Steam Locomotive #9, "Charles H."

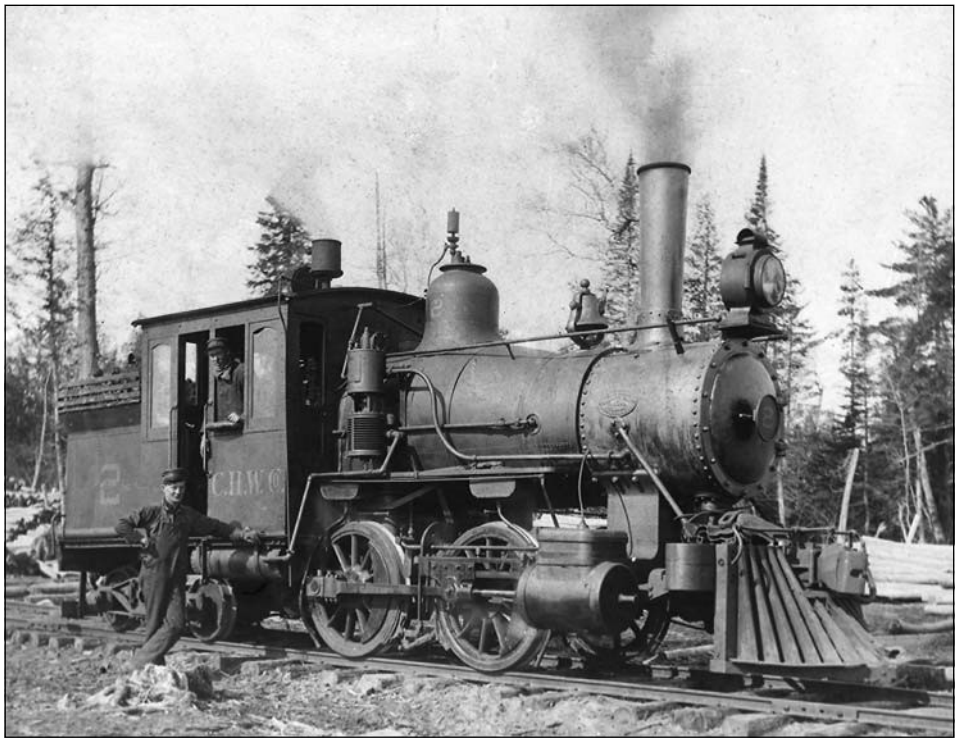
by Ron Goldfeder,
Museum of Transportation

How did Lake Street Elevated #9 survive to become the world's only elevated railway steam locomotive to be preserved in a museum? The captions to these photos will tell you its long and eventful story.

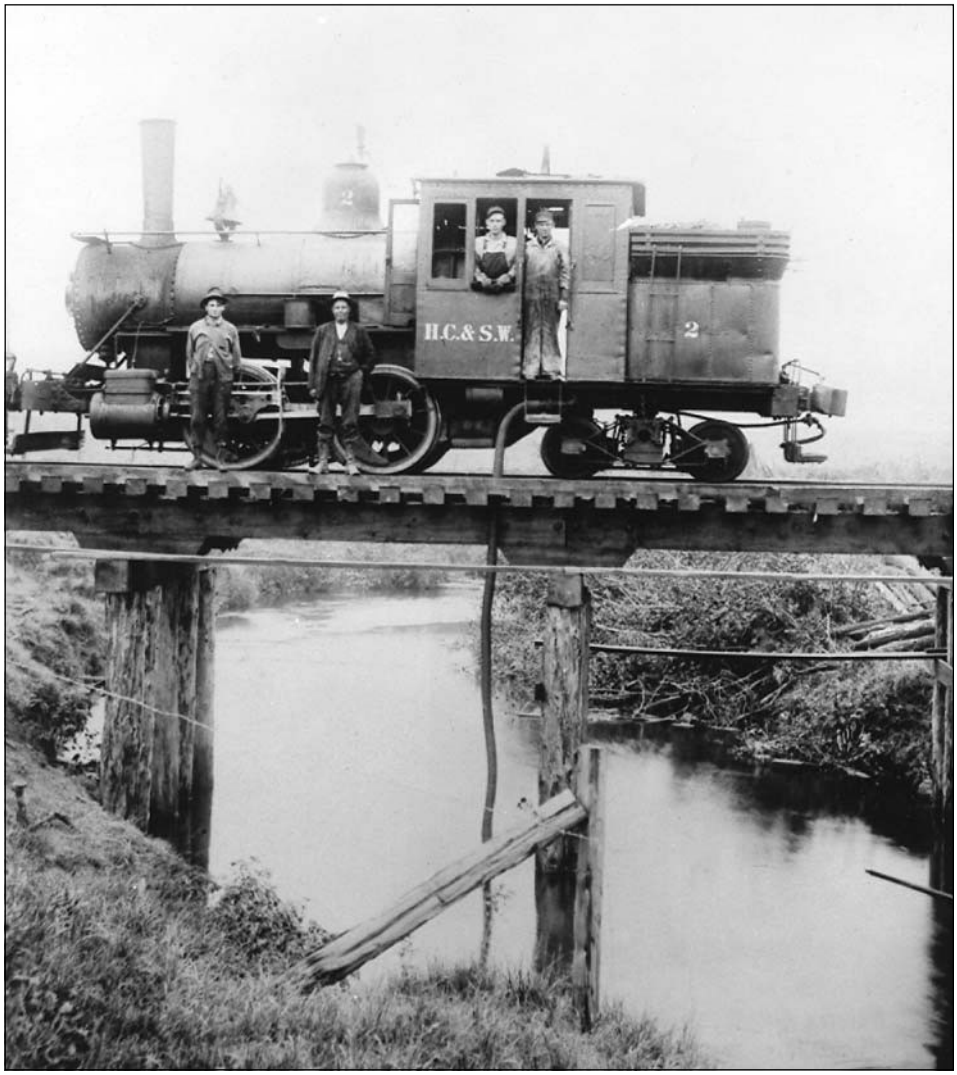


◄ *When #9 and its thirty four sister locomotives were replaced by electric power in 1896 they were the first group of elevated steam locomotives to go on the used equipment market. Construction contractors, industrial plants, plantations, and lumber operators were all possible users of such small locos. This flyer was sent to the Nekoosa Paper Co of Nekoosa, Wisconsin in January 1898 but they bought a South Side loco instead. It fully describes the features and dimensions of the nearly new locos. Ten were purchased by the Long Island Railroad for use on its Atlantic Avenue suburban line from Flatbush Ave in Brooklyn to Jamaica and Rockaway Jct, a distance of about twelve miles. These also were used on the connecting Brooklyn Elevated Railroad for jointly operated trains that ran from the Sands Street terminal at the Brooklyn Bridge to LIRR points, using a ramp from the Fifth Ave elevated line to the ground at Atlantic Ave. Here they worked with their slightly older duplicates built for the BERR, seen in another photo.*—Alexander House Center for Art & History Collection, Port Edwards, WI

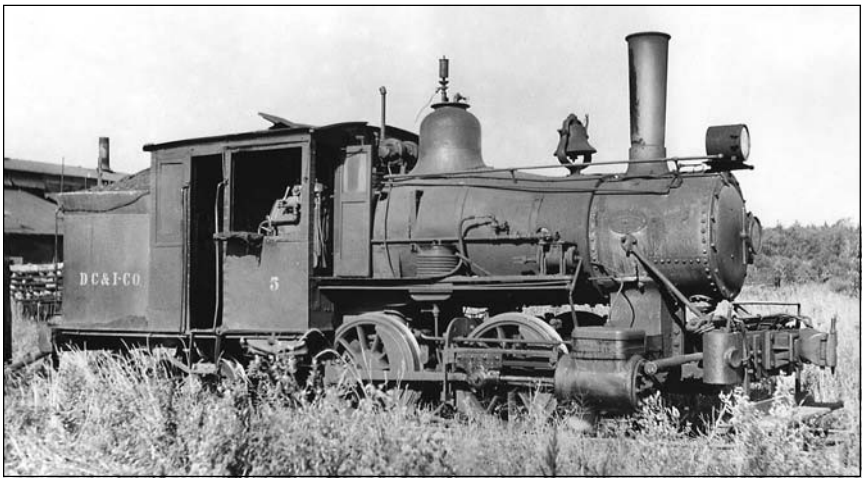
▲ *In about 1901 #9 was sold to lumberman Dan McLeod. He ran an isolated logging line, the Sucker River Ry, in the Upper Peninsula, southeast of Grand Marais, Michigan. After getting as close as possible on rail it was probably delivered to this line on a barge. In 1903 the line was extended northeast to a junction with the Manistique Ry, and was about twenty-four miles long. Shortly after this connection #9 was photographed in Oct 1903 with this load of square cut logs, which according to local folklore, was being shipped to London for use at Buckingham Palace. Dan McLeod is standing alongside the first flatcar, with Barney McKeever, his camp boss, to the right. Most buyers did not need or want the complications of the cross compound system on their locos, so #9 had its left cylinder replaced with one matching the one on the right side. In addition to being converted to a simple loco it has knuckle couplers, a wood stave pilot braced from the smokebox, and an air brake hose. A siphon hose for getting water from lakes or streams is installed under the cab on the left side. It still has four sandboxes under the running boards, its vacuum brake muffler on the cab roof, and spoked trailing truck wheels.*—McLeod family via author's collection



▶ *By mid-1906 the loco had been sold to the C.H. Worcester Lumber Co. In 1905 Worcester started logging in a swamp area near Cusino, Michigan, earlier thought too soft for railroad logging. The light weight of #9 was perfect for use here, along with a new Shay. Changes visible are the numberplate, a different headlight, coal boards on top of the water tank, which has been lengthened to fill out the space where the toolbox had been at the rear, and solid trailing truck wheels. The air compressor makes it difficult to fully open the cab's front door.*—From the Collection of the Marquette County Historical Society

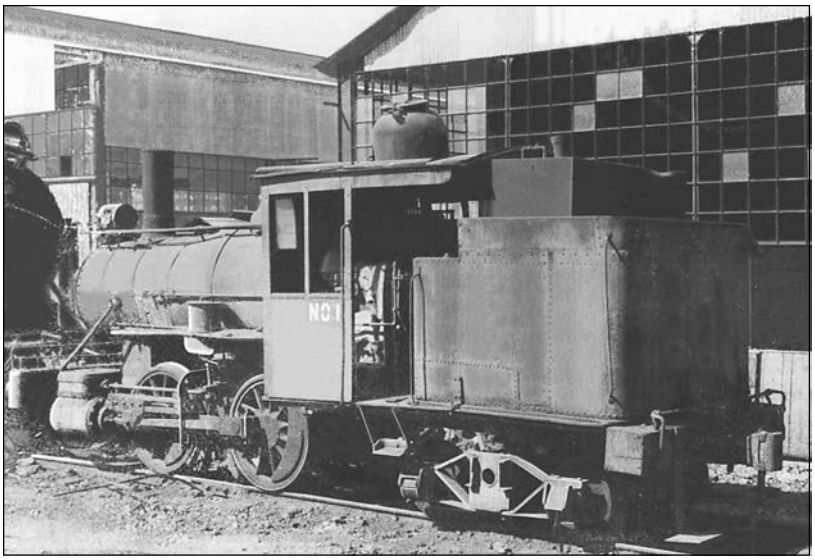


▶ *About 1911, the locomotive was moved to the Houghton, Chassell & Southwestern Railroad, another Worcester operation. This common carrier ran from a connection with the Duluth South Shore & Atlantic at Chassell, Michigan. It eventually grew to twenty-seven miles in length, including woods lines, and ran until 1929. The photo shows the locomotive siphoning water at the Otter River. A ladder has been placed on the side of the water tank, and the stave pilot has been replaced with footboards, with another set at the rear. No headlight is installed. There is now one sandbox per side, in the center of the running board, with a circular extension on top to increase capacity. Before it left this operation it had its water tank replaced with a taller one, had its trailing truck rebuilt with larger journals and a revised side frame, had a turbo generator installed for electric headlights, and a ventilator hatch placed in the cab roof.*—Michigan Technological University Archives and Copper Country Historical Collections



◀ *The Delta Chemical & Iron Company in Wells, Michigan, next to Escanaba, was the next owner, buying the loco in 1929. This firm was part of the wood chemical industry that made charcoal, methanol, methyl acetone, formaldehyde, and various tars and oils from waste lumbering material. The charcoal was mixed with high-grade iron ore and limestone in furnaces to make charcoal pig iron for foundry casting work. During its service here #9 was given a steel front pilot beam, and lost its air compressor, although the mounting is still visible. The cab window post on the engineer's side was removed and the cab handrails were lengthened. A poling pole is across the frame in front of the cylinders, along with drawbars used to move low-level charcoal buggies. The steam-activated cylinder in front of the sandbox was used to operate a flanger blade in winter. Rerailing frogs hang from hooks under the cab, and bolts visible on the smokebox door indicate a liner or inner door has been installed. The photo is circa 1938.*—Ray Buhrmaster via author's collection

▶ *In 1944 the Delta operation shut down and the locomotive, along with other equipment was bought by the government's Defense Plant Corporation. This was moved to Rusk, Texas, where there were undeveloped iron ore deposits. A blast furnace from Florida was combined with the equipment from Wells and reassembly was started. But the war ended with this 90% complete and work was suspended. In 1947 these surplus assets were sold to the E.F. McCrossin Engineering Co, which completed the plant. It was sold to the Valencia Iron & Chemical Co in January 1948, and operated for three years before the business failed. It was then sold to the Sheffield Steel Corporation, which operated it until 1954. Valencia converted the loco to burn oil, with its enclosed ash pan cut off under the cab, and an oil tank installed in the coal space and over the top of the water tank. The rebuilt rear truck is clearly visible. Somewhat surprisingly, the sides of the enclosed cab are still there, although the rear wall is gone.*—Author's collection



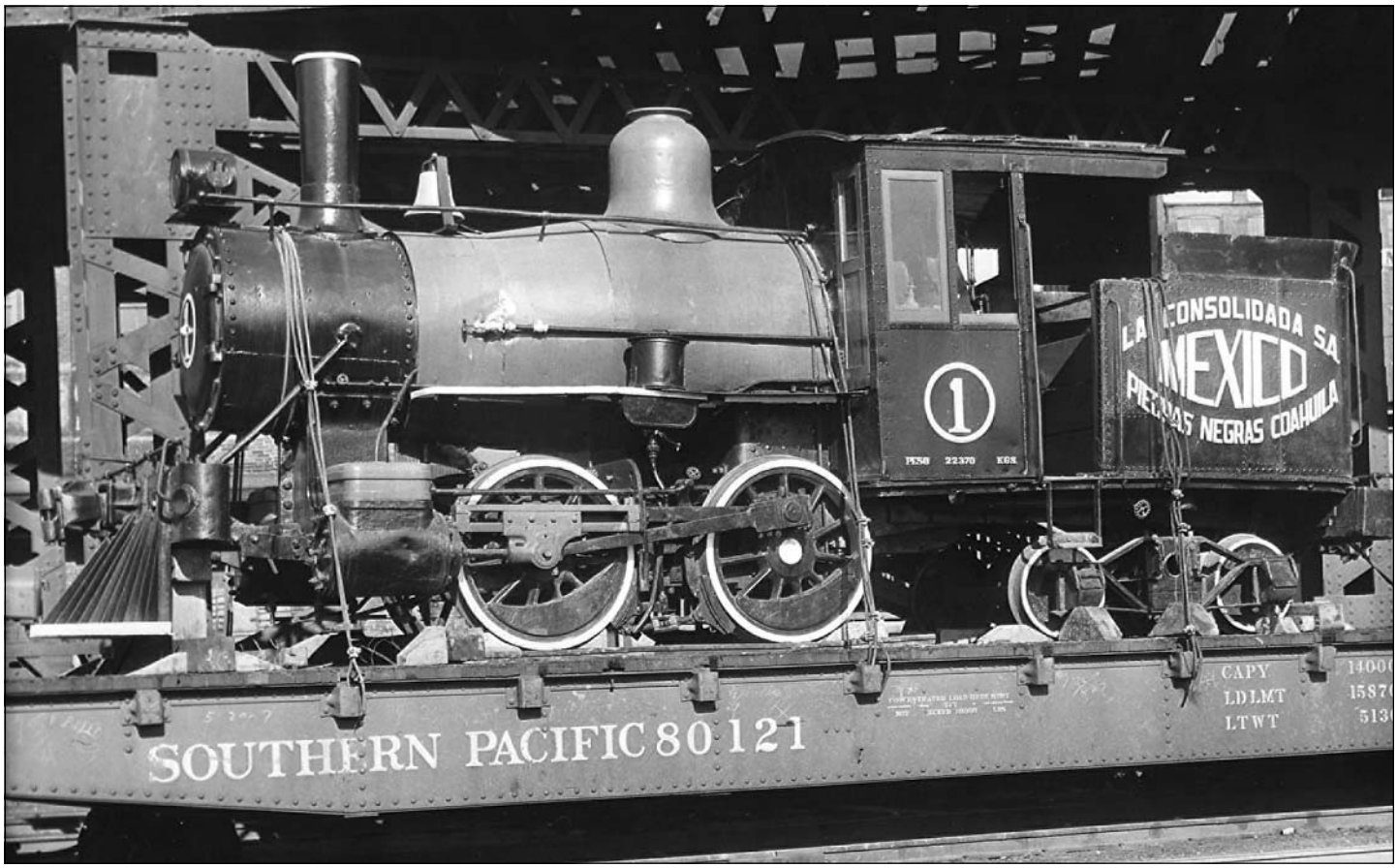
◀ *In mid-1955 the loco and much of the equipment at Rusk was sold to La Consolidada, S.A., a steel mill which had an office in Eagle Pass, Texas and a plant in Piedras Negras, Coahuila, Mexico, just across the Rio Grande River. It was roughly treated there, finally losing the rear side walls of its enclosed cab and suffering some damage that required patching the original smokebox door as well as replacing the smokestack. This was quite a bit shorter than the original, altering the look of the loco quite a bit. Its bell had disappeared before it left Texas. And the lower portion of the smokebox was replaced with a welded patch. Fortunately, it had been noticed by a Cotton Belt brakeman named Avery F. Von Blon while waiting for use in Rusk. Von Blon recognized what type of locomotive this was, made somewhat easier by the fact that one of its builder's plates was still in place. He took a photo that he sent to Railroad Magazine and other publications, as well as to individuals and the few museums that collected railroad items. One of the two replies he received was from Dr. Roberts at the Museum of Transportation, who asked to be kept informed. In late 1957 the old locomotive had been replaced by a diesel and was waiting for its trip into the scrap furnace.Von Blon, now a machinist at the Missouri-Kansas-Texas (Katy) Railroad in Waco, Texas, notified Dr. Roberts of this, giving him the name and address of the official to contact. After a brief exchange of letters the locomotive was donated, and the Museum arranged free transportation to St. Louis. This is the only photo we have of it in Mexico, enlarged from a Polaroid original.*—Museum of Transportation Library, St. Louis

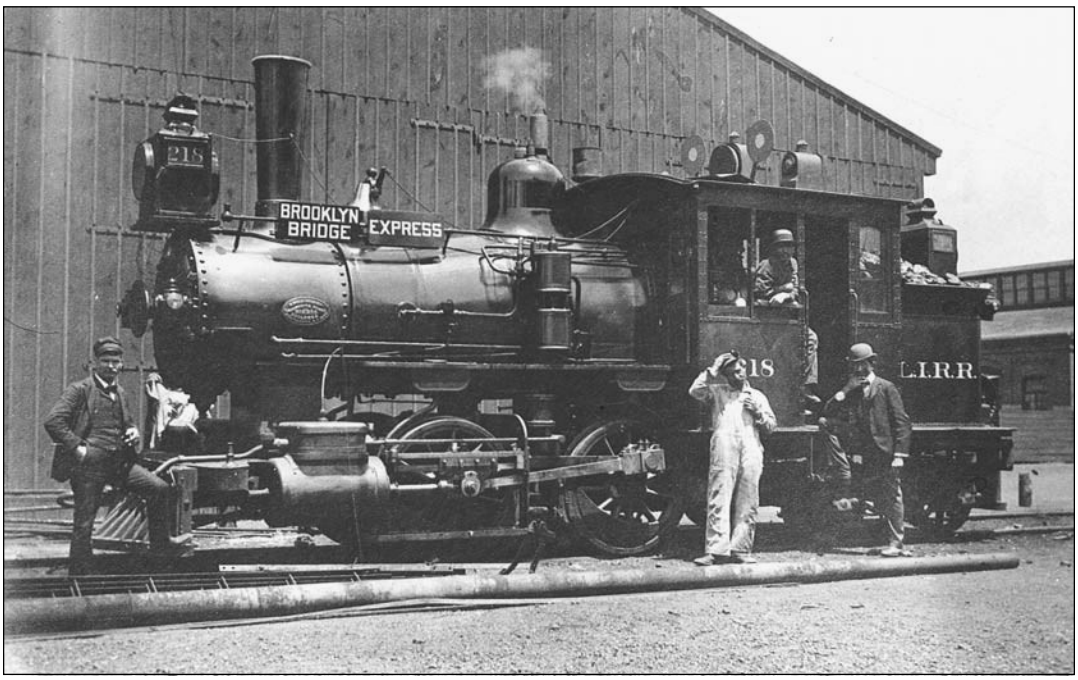
A Comparison of Three 0-4-4T Forney Elevated Steam Locomotives

	Lake St #9	BERR #100	BERR #116
Cylinder Diameter	13" & 21"	13" & 21"	13" & 20"
Cylinder Stroke	18"	18"	18"
Driver Diameter	44"	43"	43"
Driver Wheelbase	60"	60"	60"
Truck Wheelbase	56"	56"	56""
Total Wheelbase	16' 1"	16' 1"	16'
Truck Wheel Diameter	28"		27 1/2"
Boiler Diameter-first course	44"	44"	44"
Boiler Pressure	180 lbs		180 lbs
# of Boiler Tubes	184	188	186
Diameter of Boiler Tubes	1 1/2"	1 1/2"	1 1/2"
Length of Boiler Tubes	6' 6"	7' 2 1/16"	7'
Grate	58 1/4" x 42 1/2"	50 1/2" x 42 1/2"	50" x 42 1/2"
Weight on Drivers*	42,920 lbs	40,000 lbs	43,500 lbs
Weight on Truck*	17,920 lbs	16,000 lbs	13,000 lbs
Total Weight*	60,840 lbs	56,000 lbs	56,500 lbs
Water Capacity	700 gals	600 gals	600 gals
Coal Capacity			2000 lbs

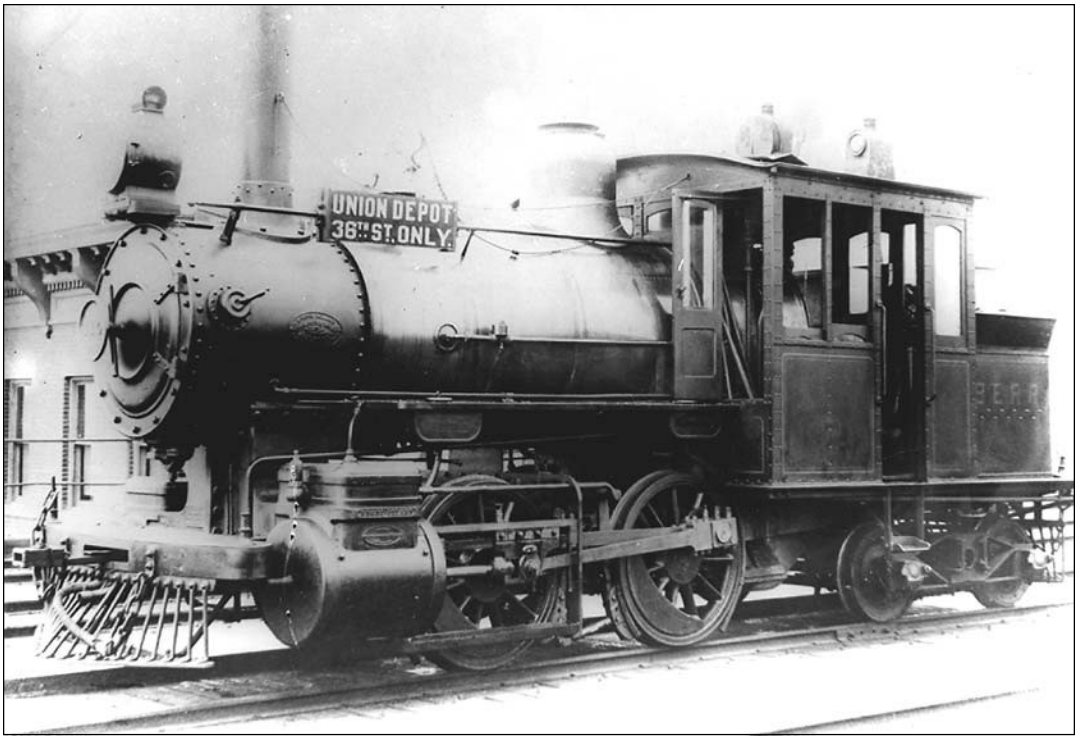
* Weights are in working order.

LSERR #9 and BERR #100 built by Rhode Island Locomotive Works, 1893, BERR #116 built by Pittsburgh Locomotive Works, 1893. Most data on LSERR #9 and BERR #116 is from Modern Locomotives, published in 1897. Other data is from builder's photos and trade press of the period. Discrepancies are found in builders records and trade publications describing the weights of these locomotives. Railway Gazette for Sept 29, 1893 lists #116's weights as about (their word) 40,000 lbs, 16,000 lbs, and 56,500 lbs. It also lists its coal capacity at 1600 lbs. The photopaster from Alco lists this loco's weights as 40,000, 7,000, and 47,200 in working order, but these are believed to be light weights instead. The photopaster lists fuel capacity at 1000 lbs. Locomotive Engineering for August 1893 lists the weights of BERR #100 as given above. The builders photo for this loco gives only light weights, 39,400, 7650, and 47,050 lbs. There are also slight differences in some dimensions in different references, usually only of an inch or fraction of an inch.





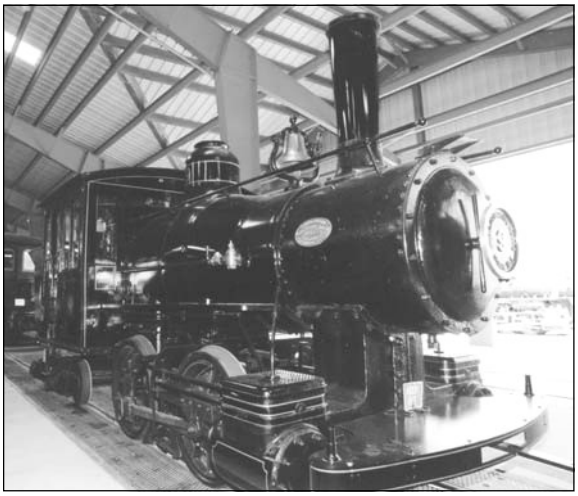
◀ *Long Island Railroad #218 is the former Lake Street Elevated #16 (Rhode Island Locomotive Works c/n #2959, September 1893). The photo is possibly at Woodlawn Jct., New York, in 1898. LIRR modifications include conversion from cross compound to simple, large headlights and wooden pilots at both ends, a much larger whistle, a Westinghouse air brake compressor, removal of the flare around the top of the steam dome casting, and destination boards. The vacuum brake muffler is still on top of the cab and both brake systems may have been in use.*—Harold Fagerberg via author's collection

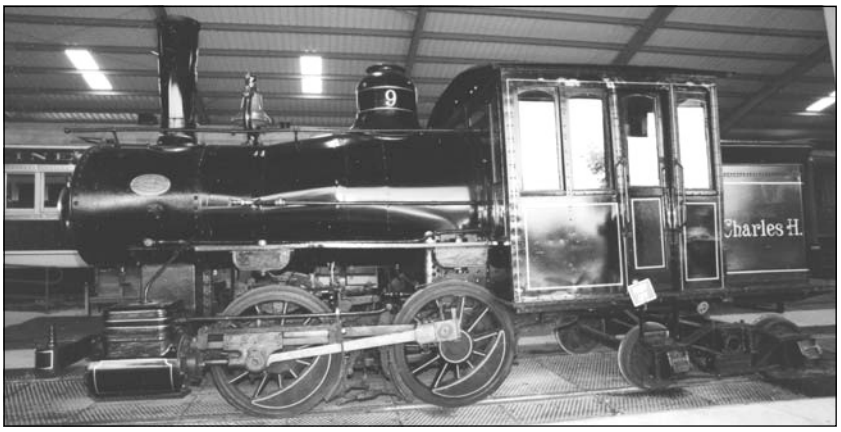


◀ *Brooklyn Elevated Railroad #110, built by Rhode Island Locomotive Works in September 1893, c/n 2924. The larger low-pressure cylinder for the cross compound system is easily seen. These locos were equipped with pilots and headlights for surface as well as elevated operation. The cleanout opening and cover on the side of the smokebox, different smokebox door design, a one-inch difference in driver diameter, and a shorter firebox were the only other differences between these and the Lake Street engines. The first of these had been built in May 1893.*—Harold Fagerberg via author's collection

◀ *For the trip to St. Louis La Consolidada made the locomotive presentable. They removed the oil tank and the footboards at each end, and built a steel pilot. The boiler jacket, steam dome cover, valve chests, front doors and window frames were painted green, and the rest black with white tires on the wheels and white lettering. It only had a number on the cab while in service, but received much more complete and impressive lettering for the trip. The missing bell was replaced with one from another engine, with a strap steel hanger holding it in place. On December 26, 1957 it left for St. Louis via the Southern Pacific Railroad (Cotton Belt) to Corsicana, Texas, then via the Missouri Pacific and Terminal Railroad Association of St. Louis, arriving on December 30. It is seen here upon arrival and before a presentation ceremony at St. Louis Union Station held on Jan 2, 1958. On Jan 4, 1958, the locomotive was delivered to Museum of Transportation by the Missouri Pacific Railroad. Von Blon knew who had collected the loco's builder's plate, which was eventually obtained some years later. We're still hoping to find the bell.*—Museum of Transportation Library, St. Louis

Ron Goldfeder is a collections assistant at the Museum of Transportation in St. Louis. As a Chicagoan he was asked to head up the project to cosmetically restore Lake Street Elevated #9 and was the one who accompanied it to the Loop Centennial events in Oct 1997.

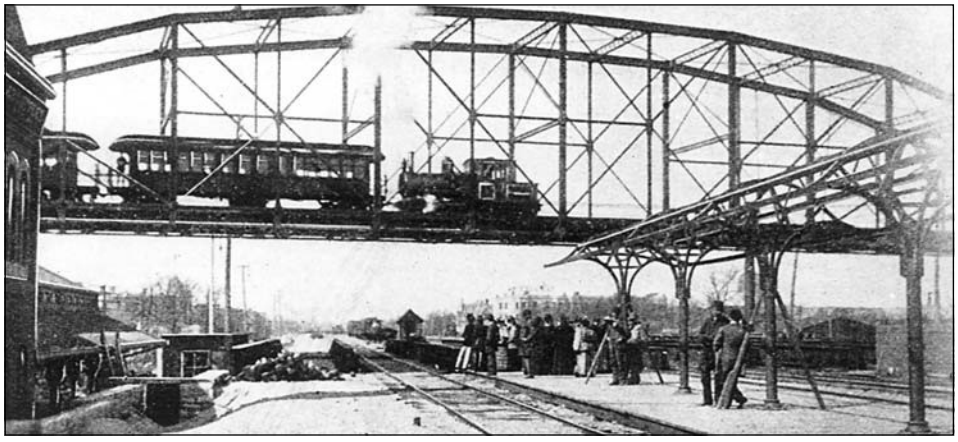




Lake Street Elevated #9 in July 1998. To cosmetically restore this locomotive we had to recreate the curved front pilot beam and deck, the smokestack, two of the four sandboxes, the entire rear and back side panels of the cab, the cab side doors, the cab's center front windows, the water tank and the toolbox behind it. New sheet metal jacketing was installed on the boiler, cylinders, valve chests, and the center part of the steam dome. A new cab roof was installed, reusing the original center vent. Missing truck journal box covers were duplicated, as were the replica builder's plates and front number plate, using surviving parts or ones borrowed from a collector as a pattern. The smokebox door closure and handle behind the number plate were also recreated, along with the front flag stands and a variety of other small parts. The side windows were replaced with ones having the correct curved top piece, and the front cab doors rebuilt. The bell is one we had, installed shortly after the locomotive arrived at the museum.—Museum of Transportation photos

While Ron Goldfeder's article is about one of the Lake Street steam locomotives, we thought that these two views of Chicago & South Side Rapid Transit locomotives would be of interest.

▶ *On May 24, 1893 we see what appears to be a northbound train looking east from State Street near 34th Street. Looking through the second story porch a southbound train is coming into view. Please note the lack of smoke from the locomotives' stacks. The firemen on these locomotives have their fires well under control. Norton D. Clark was the source of this post card photo.*—Norman Carlson Collection



▶ *While this photo is a few generations removed from the original it is worthy of reproduction. The view is looking north at 63rd Street and Madison Avenue, now Dorchester Avenue, along the Illinois Central right-of-way. The ICRR's 63rd Street Station is at the left. The train is heading east toward Stony Island Avenue and the Exposition grounds. Based on the state of construction of the ICRR station, we believe it was taken in the Spring of 1893 shortly after the Rapid Transit service was extended to the World's Columbian Exposition in Jackson Park. Steam locomotives served on the South Side line from May 27, 1892 to July 27, 1898 when conversion to electrified operation was completed.*—Norman Carlson Collection