



**Barry Lawrence Ruderman
Antique Maps Inc.**

7407 La Jolla Boulevard
La Jolla, CA 92037

www.raremaps.com

(858) 551-8500
blr@raremaps.com

Map of the Isthmus of Panama representing the line of the Panama Rail Road As constructed under the Direction of George M. Totten Chief Engineer &c. Reduced and compiled from the Original Surveys by Thos. Harrison Crown Surveyor Jamaica.

Stock#: 58235
Map Maker: Thos. Harrison Crown
Date: 1857
Place: New York
Color: Uncolored
Condition: VG
Size: 27.5 x 36.3 inches
Price: \$ 795.00



Description:

A Jamaican Surveyor's Map of the Panama Rail Road

Highly detailed map of the Panama Railroad, published two years after its completion in 1857.

This is one of the earliest maps to show in detail the successful completion of the Railroad line (completed in 1855) and one of the best, incorporating significant topographical details within the region and traversing a line immediately east of the modern Panama Canal line.

Relief shown by hachures and spot heights. Depths shown by soundings. Includes "Profile of the Panama Rail Road."



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Panama Railroad History

At the outset of the California Gold Rush, the demand for transportation across the Panama isthmus became pressing. One route for crossing was to cross Panama via the Chagres River by dugout canoe up the river and on mules over the hills, to Panama City and the Pacific, a trek of 50 miles which took 8 days. By 1848, various canal and rail routes across the isthmus had already been proposed. Even the Spanish had first considered building a canal in the 1520s, before settling for the Camino Real, the overland mule track that was still in use when the first gold-diggers arrived.

In 1846, The US Government concluded a new treaty with the Republic of New Granada (Colombia and Panama), which guaranteed the republic's sovereignty in exchange for US transit rights across the isthmus. This paved the way for a transcontinental route. A year later, the US Congress subsidized a mail and passenger steamship service up and down the Atlantic and Pacific coasts from New York to the Chagres River and from Panama City to Oregon, enabling people and goods to reach Panama easily.

New York entrepreneur William H. Aspinwall had won the bid to build and operate the Pacific mail steamships, and, with the onset of the Gold Rush, he set out to build a railroad across the Panamanian isthmus too. Aspinwall traveled to Panama and Colombia with John L. Stephens, a lawyer and writer who had traveled in Central America. They established the Panama Railroad Company, which was granted an exclusive 49-year concession to build a railroad, highway, or canal across the isthmus, as well as 250,000 acres of public land. Aspinwall raised \$1 million by selling stock in the company and persuaded the US Congress to pay an annual fee of \$250,000 to transport mail over the isthmus. Meanwhile, the demand for a passenger train had become increasingly evident: by the end of May 1849, 55 ships had landed more than 4,000 passengers at Chagres, all eager to reach California.

The route was first surveyed by US Army colonel George W. Hughes, who was misleadingly optimistic about the railroad's construction. His survey indicated that the terrain would not be hard to traverse: it did not mention the deep swamps, thick jungle, and dangerous hills the route would have to cross. Aspinwall believed the railroad would need to be just 20 miles long, from the furthest navigable point on the Chagres River to the Pacific Ocean. He contracted experienced American civil engineers George Totten and John Trautwine to build the railroad, but they soon realized the disastrous errors of the survey—for a start, Hughes had overestimated the length of the navigable passage on the Chagres—and withdrew from the contract. However, both were eventually rehired as employees of the company, and Totten ultimately proved to be the hero of the venture.



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The project was monumental in scale. A new town on the Atlantic end of the railroad was built on swampy ground that was often awash at high tide, and many of the buildings in the new town had to be built on stilts to keep them above the water. As more worker housing was needed, abandoned ships brought to the mouth of the Chagres River and used for temporary housing. A steam-powered pile driver was brought from New York. Docks were constructed on pile-driven timbers, more and more of the island was stripped of vegetation, and elevated living spaces, docks, warehouses, and the like were constructed.

Before the railroad construction could get fully started, the island was connected to the Panamanian mainland by a causeway supported by pile-driven timbers. The required steam locomotives, railroad cars, ties, rails, and other equipment were unloaded at the newly constructed docks and driven across the track laid across the about 200 yards causeway separating the island from the mainland. As the railroad progressed, more and more of the island was filled in, and the causeway was expanded to permanently connect the island to the mainland; its island status disappeared and the town of Aspinwall was created.

Very quickly, the difficulty of the scheme became apparent. The initial 8 miles passed through a jungle of gelatinous swamps infested with alligators, the heat was stifling, mosquitoes and sand flies were everywhere, and deluges of up to 100 inches of rain for almost half the year required some workers to work in swamp water up to four feet deep.

Built as the steam revolution was just starting, the only power equipment they had were a steam-driven pile driver, steam tugs, and steam locomotives equipped with gondola and dump cars for carrying fill material; the rest of the work had to be done by laborers wielding machete, axe, pick, shovel, black powder, and mule cart. As more track was laid, the workers had to continually add backfill to the roadbed, as it continued to slowly sink into the swamp. Once about 2 miles of track were laid, the first solid ground was reached, at what was then called called Monkey Hill (now Mount Hope).

After almost 20 months of work, the Panama Railroad had laid about 8 miles of track and had spent about \$1,000,000 to cross the swamps to Gatún. The project's fortunes turned in November 1851 — just as they were running out of the original \$1,000,000 — when two large paddle steamers, the *SS Georgia* and the *SS Philadelphia*, with about 1,000 passengers, were forced to shelter in Limón Bay, Panama, owing to a hurricane in the Caribbean. Since the railroad's docks had been completed by this time and rail had been laid 8 miles up to Gatún on the Chagres River, it was possible to unload the ships' cargoes of emigrants and their luggage and transport them by rail, using flatcars and gondolas, for at least the first part of their journey up the Chagres River on their way to Panama City. Desperate to get off the ships and across the isthmus, the gold seekers paid \$0.50 per mile and \$3.00 per 100 pounds of luggage to be hauled to the



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end of the track. This infusion of money saved the company and made it possible to raise more capital to make it an ongoing moneymaker. The company's directors immediately ordered passenger cars, and the railway began passenger and freight operations with about 40 miles of track still to be laid.

By July 1852, the company had finished 23 miles of track and reached the Chagres River, where an enormous bridge had to be built. The first wooden bridge failed when the Chagres rose by over 40 feet in a day and washed it away. Work was begun on a much higher, 300-foot-long, hefty iron bridge, which took more than a year to finish. In all, the company built more than 170 more bridges and culverts.

In January 1854, excavation began at the summit of the Continental Divide at the Culebra Cut. Later the Panama Canal required years to cut through this area deeply enough for a canal. The road over the crest of the continental divide at Culebra was finally completed from the Atlantic side in January 1855, 37 miles of track having been laid from Aspinwall (Colón). A second team, working under less harsh conditions with railroad track, ties, railroad cars, steam locomotives, and other supplies brought around Cape Horn by ship, completed its 11 mile of track from Panama City to the summit from the Pacific side of the isthmus at the same time.

On January 27, 1855, lit by sputtering whale oil lamps, the last rail was set in place on pine cross-ties. Chief engineer George Totten, in pouring rain with a nine-pound maul, drove the spike that completed the railroad. The next day the first locomotive with freight and passenger cars passed from sea to sea.

Detailed Condition:

Two sheets, folded. With original case. Library stamp on verso. Minor toning along several folds.