

UNITING A NATION

# Pacific Railroad Surveys

When Europe had virtually no tracks laid, the Americans could already imagine a transcontinental connection by train from coast to coast. Dr. Hartwell Carver advocated for the first time as early as 1832 in an article in the New Yorker Courier & Enquirer the construction of a transcontinental railroad line from Lake Michigan to Oregon.

In 1847, he submitted to the US Congress a "Suggestion for a charter for the construction of a transcontinental railroad line from Lake Michigan to the Pacific Ocean," which Congress finally approved. Under the leadership of the War Department, the so-called "Pacific Railroad Surveys" were carried out from 1853 to 1855 with many expeditions to the American West to search for possible routes.

One railroad line bridging the continent promised many advantages, such as an expansion of commerce, shortening the travel time for immigrants, as well as a support for the army. In the end, there were three possible routes from which to choose, a northern, a central, and a southern route.

The central route won the race and the western endpoint Sacramento was in principle thereby specified.

A bitter fight broke out between the rival cities of St. Louis and Chicago about the eastern starting point of the transcontinental railroad. Finally, the president at that time, Abraham Lincoln, made a Solomon-like decision and chose Omaha as the starting station.

Omaha was situated farther west between the two rival cities and until then had hardly been noticed. Two branch routes were then to be built for the connection with St. Louis and Chicago.

In 1862, Congress approved construction of a transcontinental railroad connection.

The Central Pacific was to go east from Sacramento

iStock · Abraham Lincoln

up to the border with Nevada and the newly founded Union Pacific was to go west from Omaha up to the border with California.

Since the railroad went through half of the continent across public lands, both companies were allowed to gather all construction materials that could be found there at no cost.

In the process, however, the existing treaties with the American Indians were ignored. The "Pacific Railroad Act" of 1862 created for this purpose also provided for government bonds to both companies between \$16,000 and \$48,000 for each mile built, depending on the difficulty of the terrain to be overcome.

In addition, Congress supported the construction with land grants. These empowered the companies to sell a five-mile wide strip on both sides of the track to farmers willing to settle there.

# Nevada ierra

The Central Pacific's heroic struggle with the mountains claimed enormous losses. One newspaper even wrote, in the Sierra Nevada for every tie laid a railroad worker died. To accelerate the construction, the miners used the extremely dangerous nitroglycerin instead of dynamite.

Often underestimated in its effectiveness, there were many catastrophes resulting in massive amounts of rock burying entire work gangs.

With explosions alone, several hundred Chinese were buried alive and since work continued in the winter, hundreds more died in avalanches or froze. Yet in those days, grand deeds counted for more than human lives. In record time, daring bridges vaulted across chasms and rushing streams, the so-called "trestles".

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With increasing altitude more and more protective structures had to be built against avalanches and snowdrifts. The result was wooden tunnels miles in length. Still, during the blasting operations at the summit tunnel, the work gangs were already beginning to lay track beyond the Donner Pass along the Truckee River to the east.

After much effort, the Central Pacific had finally overcome the mountains and pushed into the desert, Union Pacific Museum · Alfred Hart

where it now laid several miles of track every day. Finally came approval from Washington to continue building the Central Pacific line across the border of Nevada to the meeting with the Union Pacific.

This began the rivalry between the two companies for miles and grants. In April of 1868, the Central Pacific tracks reached Reno and thereby offered the rich silver and gold mines of this area a fast connection to the cities on the Pacific.



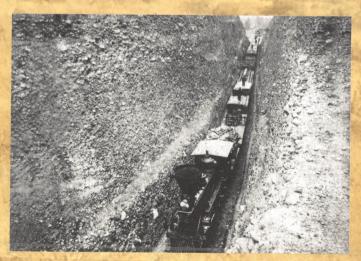
## **Construction Begins**

While the Central Pacific (CP) in Sacramento had begun railroad construction in early 1863, the Union Pacific (UP) in Omaha did not do the first ground-breaking until December of 1863.

In the West, the Central Pacific quickly produced striking successes, although they struggled with many technical difficulties.

California was at the end of the world: Locomotives, cars, rails, and tools had to be brought by water with an endless ocean voyage around Cape Horn to Sacramento.

The Central Pacific initially found itself between a rock and a hard place in the truest sense of the phrase, for in the beginning it had to overcome the mountain barrier of the Sierra Nevada.



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Labor was hard to find, since railroad construction there meant working under the most difficult conditions. Charles Crocker was entrusted with the management of the construction and he quickly recruited thousands of laborers from China – angry at the low willingness of his countrymen to work.

Most were initially convinced of the superiority of the European race, yet the Chinese quickly proved to be serious competition for the Irish and Scandinavian railroad workers.

They toiled under the most difficult conditions and with meager rations from morning till night, as if the devil were at their heels.



Almost a year after the Central Pacific in Sacramento had begun construction of their railroad, the Union Pacific in Omaha finally turned the first shovelful of dirt in December of 1863.

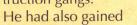
Yet things went very haltingly at first. At that time, Omaha, on the western bank of the Missouri River, was nothing more than a village with barely 2,000 inhabitants. A bridge over the Missouri did not exist. The rail line on the opposite bank between Council Bluffs and Chicago was under construction but was far from being completed. Paddle wheel steamers served to bring in rails, locomotives, and rolling stock.

Groundbreaking in Omaha

At the end of 1865, the rails still did not reach 50 miles to the West and the Union Pacific threatened to become a national laughing stock. The situation changed with the end of the Civil War as thousands of discharged soldiers were faced with the question of what to do in the future. Many moved West to work in railroad construction on the plains of Nebraska.

In addition, Irish, German, and Italian immigrants as well as former slaves followed the call of the Union Pacific – all total 8,000 to 10,000 workers joined in the construction efforts. In 1866, General Grenville

M. Dodge took over management of the construction and created a half-military half-civilian organization, ideally suited for railroad construction through Indian Territory. The go-getter Jack Casement was hired as manager of the construction gangs.





Union Pacific Museum · A.J. Russell

the rank of a general in the Civil War. The last rush to the West had now started with the great march of the rail layers and mile after mile of the iron path moved across the prairie. At the front were the surveying engineers fulfilling their tasks. Following them were the line workers, who graded the roadbed and built the necessary engineering structures. Finally, the construction trains laid ties and rails, followed by the immense supply trains.



In 1868, the Central Pacific made its way across the 250 miles of the Humboldt Sink. The bleak desert almost appeared to give the railroad workers new momentum. In the foot-deep alkali layers that were covered with the grayish green web of sagebrush, construction manager Jim Strobridge and his Chinese workers reached record achievements. Railroad towns such as Winnemucca and Elko were built and even the murderous climate could no longer prevent the settlement of Nevada.



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### A Record Never Broken

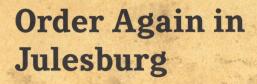
On April 29, 1869, shortly before Promontory Summit, Jim Strobridge with 850 men and 40 horses succeeded in setting a record that would never be broken. There were a lot of bets between the Central Pacific and Union Pacific managers as to who could lay the most miles of track in a single day.

On this memorable day, the well trained Central Pacific workers succeeded in laying 10 miles – a good 16 kilometers – of ties and rails! The newspaper reporters present as witnesses quickly sent the report around the world.

The Americans applauded enthusiastically, but in Europe, people just shook their heads in disbelief.



Union Pacific Museum · Alfred Hart



Finally, everything escalated in Julesburg in the summer of 1867 between the Union Pacific and the owners of the gambling houses and saloons.

The bar owners had hired gunslingers, cardsharps, and prostitutes and terrorized the town, as they wanted. Since drunkenness, robbery, and murder kept increasing, General Dodge decided to set an example.

One night, Jack Casement with a train full of heavily armed railroad workers entered Julesburg. Casement first shot the leading bar owner and then his people pounced on Julesburg like a tribunal. Anyone who resisted was shot; anyone who had a particularly nasty reputation was hanged. The next day there were 70 fresh burial mounds at the Julesburg cemetery.

Two years later, a German traveler reported after a stop in Julesburg, the sole legacy of the formerly 6,000 inhabitants consisted of two houses and many graves, in which only three people died a natural death. The others all died "with their boots on".



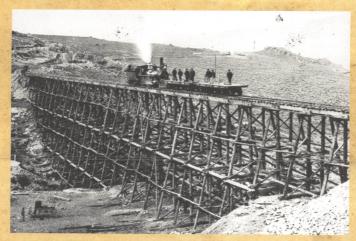
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The Union Pacific tried to build its line as straight as possible and in the shortest distance. Existing settlements such as the burgeoning Denver or also Salt Lake City failed to influence the adopted course.

The Union Pacific's concept was quite simple: The towns should arise where the railroad went through. The Central Pacific and Union Pacific agreed to go past the uninhabited north end of the Great Salt Lake. Denver as well as Salt Lake City therefore both rushed to build a connection by means of branch lines to the railroad to the Pacific.

The Rocky Mountains offered the Union Pacific far fewer difficulties than had been expected. Crossing them at Sherman Hill can be read in a report from the company as follows: "Nature has blazed the way here with a surprising powerhouse." Now the work pushed forward faster and faster. The railroad now employed 9,000 men and 10,000 draft animals. To haul rails, ties, spikes, food, drinking water, and fuel,





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The iron snake crept relentlessly across the broad expanse of the prairie. The American natives looked on in despair at the drive of the white intruders.

The "Great White Father" in Washington gave the land to the Union Pacific without taking into consideration existing treaties and the railroad sold it to settlers. The iron tracks, never to be removed, meant the end of the Red Nation. Yet the Indians fought back.



In May of 1866, the Sioux attacked an advance party, killed several men, and drove the surveyors out of their tribal area. In answer, the whites sent in entire regiments to protect the Union Pacific.

The former Civil War officers wanted to fight glorious battles again. The Sioux appeared on their swift horses, and later also the Cheyenne, often where they were least expected. Isolated work gangs were constantly attacked. The railroad construction turned into an Indian war and both sides fought with utter savagery. In the end, scores were settled over nothing more than railroad construction.

Overall however, the Indians could not delay the Union Pacific's railroad construction to any extent. The farther the tracks stretched out to the West, the larger the supply train became following the path of construction. At each of the endpoints, temporary towns quickly spread out, the so-called "end-of-track-towns."

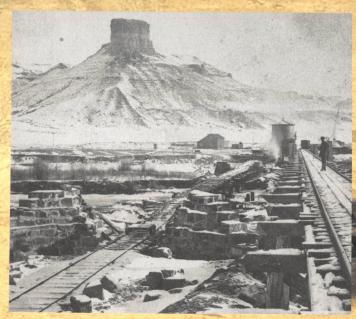
There, gambling houses, bordellos, and saloons separated the railroad workers from their hardear¬ned money. Usually existing only a few months, these towns would be loaded onto extratrains, and set up again about 100 miles further west. As an example, North Platte be¬gan on the Platte River. It rose out of nothing in the fall of 1866 and after a few days counted around 5,000 inhabitants. Then, the railroad moved on and all that remained was an immense pile of rubbish, the traces of the beaten camp streets, and a sleepy railroad station.

there were 53 locomotives and over 1,000 freight cars available. The average daily output now climbed from four to about seven miles.

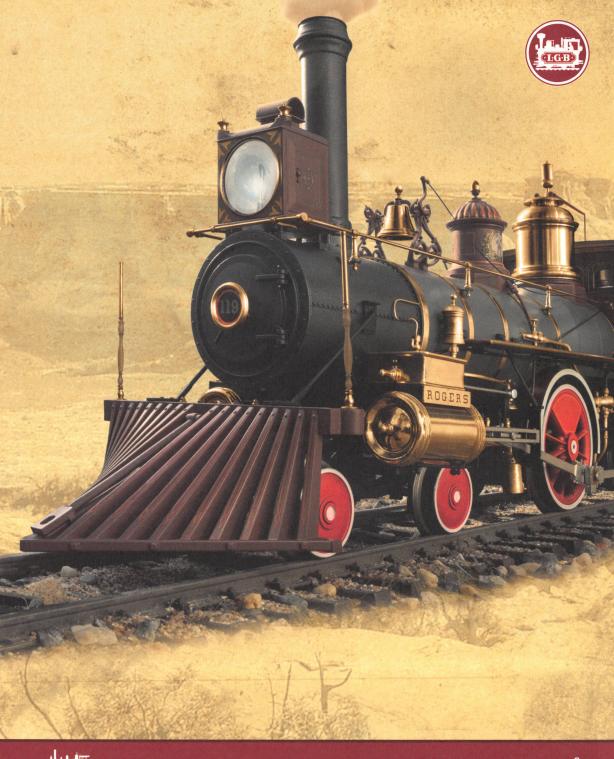
Laramie as one of the "end-of-track-towns" that sprang up overnight is one of the few to survive up to the present.

Finally, in the fall of 1868 the rails reached the Wasatch Mountains with their rock towers and narrow canyons. Now, the railroad workers were faced with the most difficult of obstacles, because torrential rivers shooting through rugged gorges had to be bridged.

Yet even the difficulties in the canyons of the Wasatch Mountains were mastered and the work continued even during the harsh winter of 1868/69.



Union Pacific Museum : A.J. Russell



# The Marriage of the Rails

At the end of 1868, the ends of the tracks for both companies were only a couple hundred miles apart and there had been no agreement on a meeting point. At the same time, enterprising managers on both railroads hit on the same thought: In order to ensure the greatest possible share of the line yet to be built, they sent construction gangs with immense lines of wagons way beyond the ends of the rails in order to prepare a railroad embankment on the plains of Utah. These gangs had the goal of building up to 200 miles of partial rail lines at a mad pace parallel to each other.

The construction gangs stalked each other almost like deadly enemies and soon there were serious fights. It began with the theft of materials, went further with knife fights, shootings, as well as acts of sabotage, and ended in a dynamite war. The whole thing did not end until the Mormons in Salt Lake City telegraphed dramatic status reports to the headquarters of both companies. Finally, President

Grant personally put his foot down and declared Promontory Summit, north of the Great Salt Lake, as the meeting point.

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When the two companies announced in January of 1869 that the railroad to the Pacific would begin operations on Independence Day, July 4, the public reacted with disbelief. Even with the official report of the General Post Office in Washington, stating that the ends of the two tracks were only 80 miles apart was doubted by most people.

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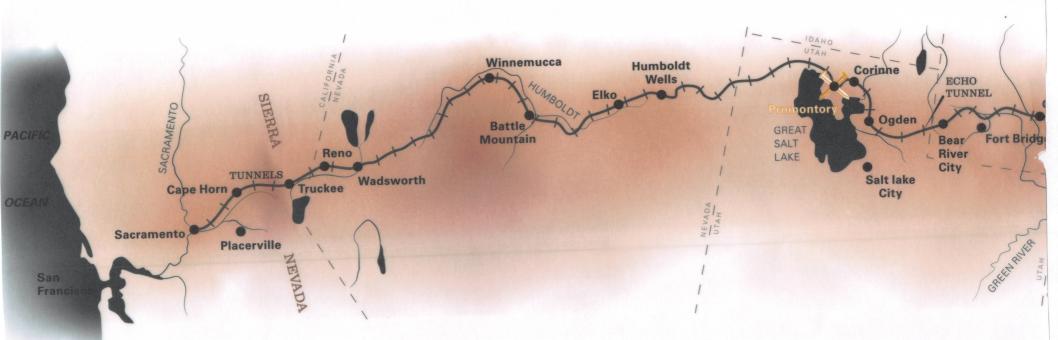
The construction progress in the last months even appeared too fantastic to Americans who were used to records being set. When the Central Pacific telegraphed from San Francisco to the news agencies that only 9.5 miles were still lacking for an uninterrupted rail connection from ocean to ocean, this was viewed as nonsense.

Yet just a few days later, all the doubting Thomases were proven wrong. On May 7, 1869, the post office in New York sent the mail to California by rail only for the first time.





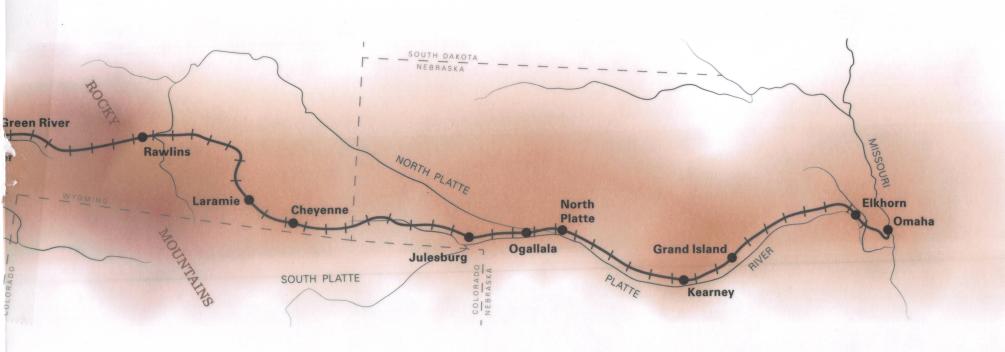




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# ROUTE OF THE TRANSCONTINENTAL RAILWAY





# **Promontory Summit**

In a hastily set up tent camp in the most desolate corner of the continent, at Promontory Summit, the highest representatives of both railroads met on May 9, 1869 in frock coats and top hats. A correspondent noted in view of the surrounding desolate alkali desert: "Promontory Summit is located closer to hell than all the other towns along the railroad." The drinking water supplied at the rails cost an exorbitant two dollars per bottle.



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Leland Stanford, President of the Central Pacific, and Thomas C. Durant, Vice President of the Union Pacific, had reached Promontory Summit in their private salon cars after various difficulties and on the previous evening of the event. There was dining, exchanges of friendship, and after-dinner speeches.

In the meantime, the last preparations were completed for the historic act.



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When the two special trains came closer from East and West at noon on May 10, a brisk wind blew in off the Great Salt Lake into the plumes of smoke from the locomotives. The representatives of the two

railroads walked to the meeting point, identified by two polished rails. Telegraphists provided connections to the East and West. A pastor blessed the railroad and pronounced a prayer.

The last track spike was made of pure gold and was driven by Leland Stanford and Thomas Durant with a heavy hammer into the holes prepared for the last tie.

This symbolic scene went into history as the "Golden Spike."



National Park Service (NPS) · Hill Painting

Then, special trains filled with workers approached, until the Central Pacific's "Jupiter" and the Union Pacific's "No.119" were standing cowcatcher to cowcatcher. This festive moment was captured by the photographer Charles Savage on a photographic plate forever. The telegram from Leland Stanford to the newspapers said: "Promontory Summit, Utah, May 10: The last rail is laid! The last spike driven! The railroad to the Pacific is completed. The meeting point is 1,086 miles west of the Missouri and 690 miles east of Sacramento. Leland Stanford."

Five years earlier than planned in the "Pacific Rail-road Act" and two years earlier than the predictions of the boldest optimists, the gigantic work was completed.

Thanks to the railroad, the 1,776-mile-long route from Omaha to Sacramento could now be completed in a few days. On May 12, 1869, the first train loaded with Japanese tea departed Sacramento for Omaha.

A few miles west of Promontory Summit, it passed one of the last wagon trains with emigrants to California.



Union Pacific Museum · A.J. Russell





## Decline and a New Beginning

In 1903, the Southern Pacific as the successor to the Central Pacific began construction of a shortcut across the Great Salt Lake – the so-called "Lucin Cutoff." The historic route via Promontory Summit soon fell into disrepair and its tracks were finally pulled up in 1942.

In the Fifties, interest in this historic site came alive again. Initially under private custody, Promontory Summit was raised on April 2, 1957 to the status of a "National Historic Site."

On July 30, 1965, the 1,100 hectares / 2,718-acre area went to the federal national parks administration, which undertook considerable effort to provide visitors a clear view of the construction of the first transcontinental railroad in America.

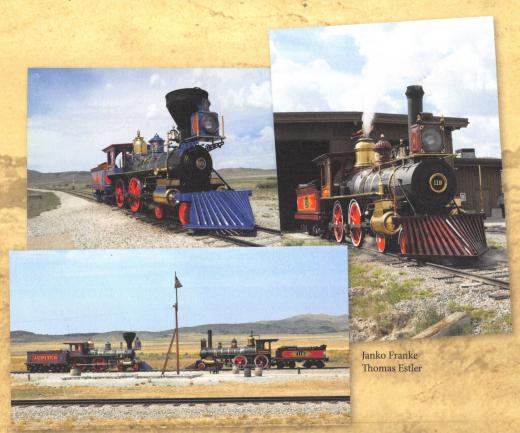
In 1975, it contracted to have prototypical reproductions done made of the two 4-4-0 locomotives from the opening ceremony, the Central Pacific's "Jupiter" and the Union Pacific's "No. 119." Since the original drawings had not been preserved, the parks administration first turned to the Walt Disney Studios, which had experience with new and rebuilt steam locomotives for railroads.

The Disney Studios turned this down, but recommended O'Connor Engineering Laboratories in Costa Mesa, California for this task. The well-known railroad historian Gerald M. Best served as an adviser for the project.

Over 700 detailed design drawings were produced

that were based almost exclusively on the photos of the locomotives taken during the ceremony.

In the end, Disney animator and steam locomotive enthusiast Ward Kimball was responsible for determining the colors based on original documents for the "Jupiter" and the "No. 119."



# Jupiter Pacific Central

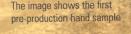
The "Jupiter" (Central Pacific No. 60) wrote history as one of the participants in the Golden Spike ceremony for the completion of the transcontinental railroad through the USA on May 10, 1869. The "Jupiter," a wood-fired 4-4-0 locomotive with a tender that was customary at that time, was built in September of 1868 as part of a small series by the Schenectady Locomotive Works in New York together with three more units. These were given the road numbers 61, 62, and 63 as well as the names "Storm," "Whirlwind," and "Leviathan." After they were built, the four locomotives were disassembled again and transported by ship to San Francisco.

There they were loaded on a riverboat for the trip to Sacramento to the Central Pacific's main shops. After they were reassembled, they were put into service on March 20, 1869.

However, the "Jupiter" was not originally chosen to pull the train for the president of the Central Pacific, Leland Stanford, to the Golden Spike site. Initially, another steam locomotive, the "Antelope," pulled the presidential train. On the run to Promontory, Stanford's train followed a regular train being pulled by "Jupiter" at a short distance. During the run, both trains had to pass a cut with a logging camp.

When the train with "Jupiter" had passed the cut, the workers let a large log roll down the slope, which smashed into the "Antelope" and damaged it considerably. Apparently, either "Jupiter" was not flying the correct flag, in order to signal a train following closely, or the workers had not noticed the flag.

After the accident, a message was quickly sent to the next station to stop the train pulled by "Jupiter." There Stanford's car was coupled to "Jupiter."











### The Union Pacific No. 119

Like the Central Pacific's "Jupiter," the Union Pacific's "No. 119" also served as a replacement for the original unit, which was supposed to pull the special train for Union Pacific Vice President Thomas Durant with his entourage to Promontory Summit for the Golden Spike ceremony.

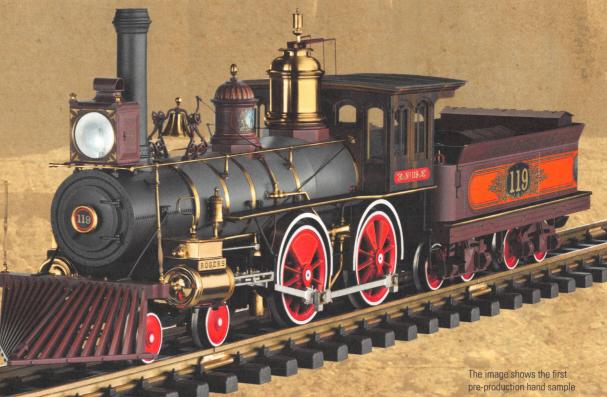
An unpleasant interruption on the way to Promontory brought a forced pause to the "Durant Special." In the small town of Piedmont in Wyoming, not too far from the state line with Utah, the train was taken onto a siding and the locomotive was chained up. There Durant was greeted by over four hundred laid off workers, who had previously been employed producing ties. They had already been waiting more than three months to finally be paid. Obtaining their wages lasted almost two more days, and then the special train was allowed to proceed.

Yet soon another stop had to be made. Heavy rainfall had in the meantime greatly swollen the Weber River and when the "Durant Special" reached the Devil's Gate Bridge spanning the river, the locomotive engineer noticed that the raging water had washed out and washed away several supports.

The locomotive engineer explained to Durant that the bridge would probably collapse under the heavy steam locomotive, but could probably take the weight of the lighter passenger cars.

The locomotive thus moved to the end of the train, gave each car a push, and let them roll individually across the wobbly bridge.

The shaking cars with their dignitaries rolled across the equally wobbly bridge. Indeed, The train had now crossed the river, but it still needed a locomotive. A hasty telegram to Ogden requested rescue. There were five locomotives there with road numbers 116-120, which had been built in November of 1868 by the Rogers Locomotive and Machine Works in Paterson, New Jersey. The first available unit was the "No. 119," also a 4-4-0 locomotive with a tender, which now hurried to the aid of the special train and then was on hand for the memorable meeting with the "Jupiter" at the Golden Spike ceremony.





The image snows the first pre-production hand samples

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