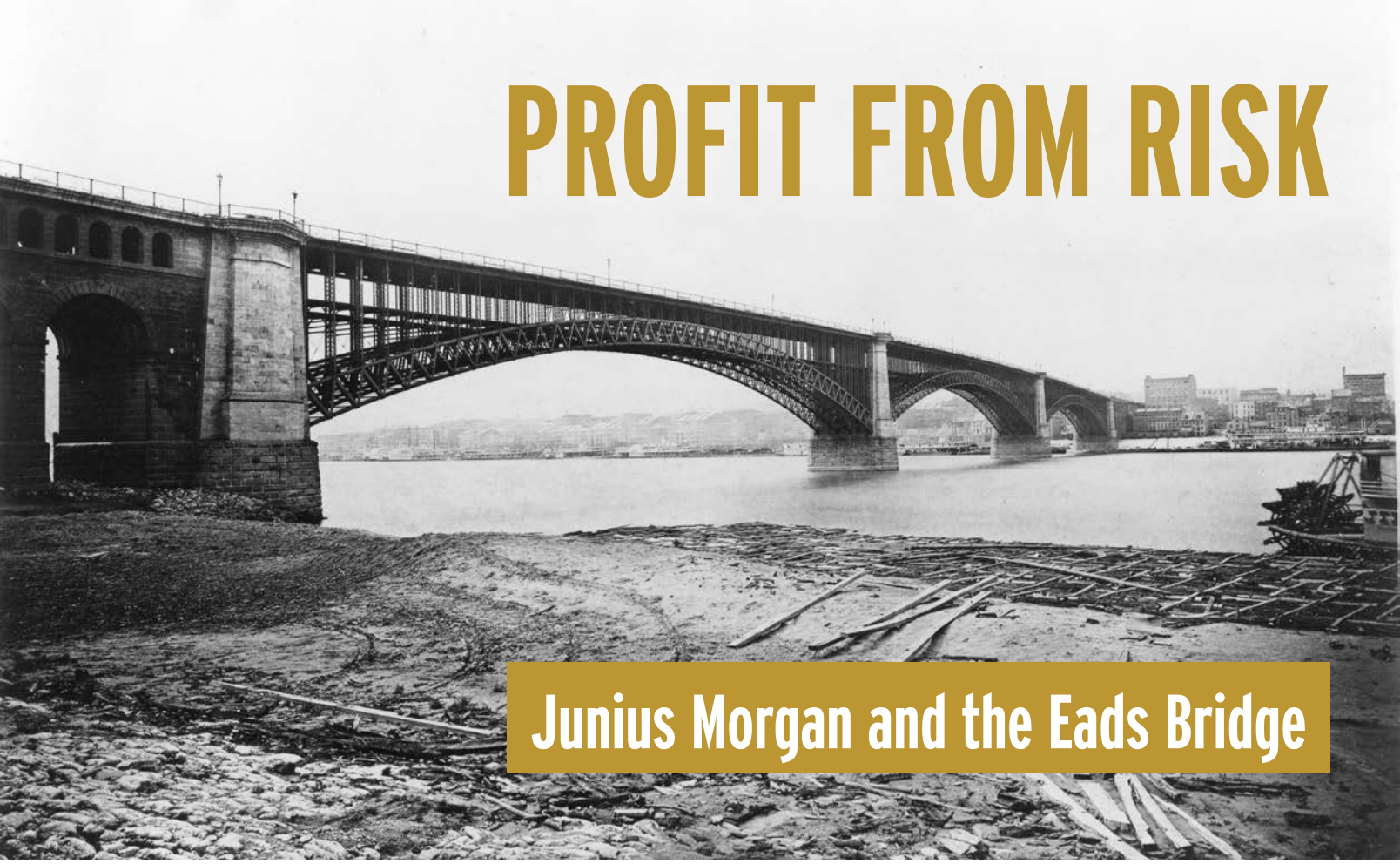
PROFIT FROM RISK



Junius Morgan and the Eads Bridge

By John K. Brown

On July 4, 1874, the St. Louis Bridge over the Mississippi River opened to great fanfare. The first structure anywhere in the world to rely on steel, it broke world records for the length of its arched spans and the depth of its stone piers reaching down to bedrock beneath the churning river. The bridge gave St. Louis, long the leading city of the West, its first direct connection to the national railway network.

This restored landmark still serves the city. Now known as the Eads Bridge—named for its promoter—it cost the equivalent of $422 million in today's dollars. A steamboat man before the Civil War, James Eads designed the bridge and drove it to completion through innumerable obstacles, although he had no training in civil engineering. This was his first bridge.

The St. Louis Bridge shortly after its completion in 1874, with St. Louis, Missouri in the distance. Photograph by Robert Benecke from Calvin Woodward, *A History of the St. Louis Bridge*, frontispiece (1881)

His work in promoting the project was equally audacious. Bankers Junius and Pierpont Morgan leapt into the venture with an enthusiasm that contradicted their conservative image. After investing for their own accounts, the Morgans underwrote the bonds of this risky enterprise: an untried design, developed by a novice and built with pioneering methods and novel materials over a wild river. This was not banking for the timid.

The Progenitor of the House of Morgan

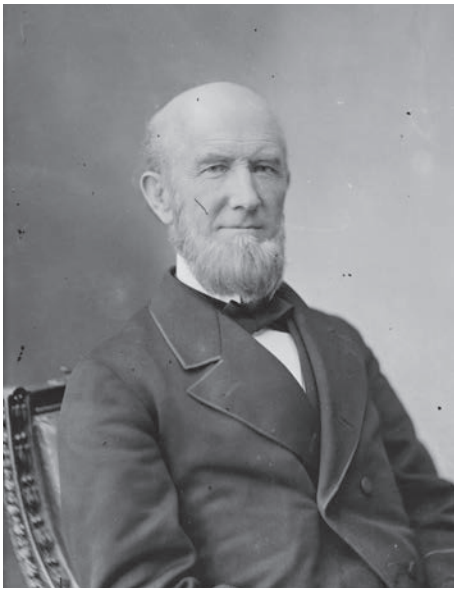
We know a lot about the House of Morgan, still the reigning world power in banking. Junius's son, Pierpont, dominated Wall Street in 1900, but the son built on his father's foundation. In 1870, J.S. Morgan & Company stood at the center of Anglo-American finance. By that time, the London-based bank did a worldwide business, with a focus on the United States. Junius cultivated his reputation for caution, for making American capitalism—especially its railroads—safe for British investors.

Investment banking emerged in the mid-19th century out of merchant banking and international trade. Barings, Rothschilds and Brown Brothers moved with some care into financing the new railroads of Europe and America. A relative newcomer, J.S. Morgan grabbed market share by offering riskier issuers.

Investor capital largely came from British gentry and industrialists. American companies topped their shopping lists, thanks to generous returns, cultural affinities and a faddish appreciation for the exotic. Britain's investing elite understood railroads, but American lines were taming a vast continent, literally the Wild West.

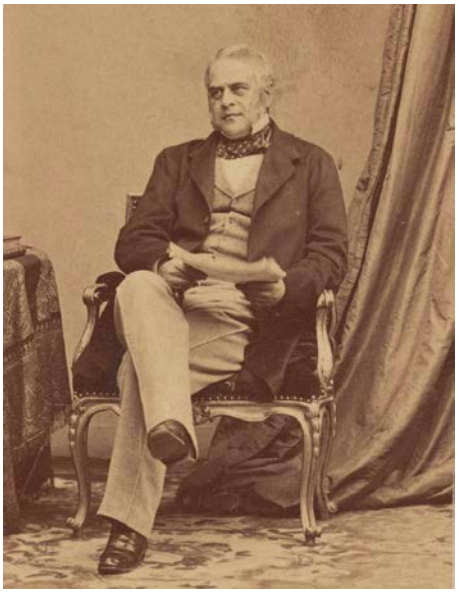
Railroad equities had a dubious reputation, especially those of new western lines. According to one historian, the equities of the transcontinental lines were "normally distributed as bonuses to bondholders or as compensation for services rendered by railroad promoters." Potentially valuable someday, such stock was little more than a speculative bet.

While *shares* carried a speculative aroma, *bonds* of new railroads could be portrayed as attractive investments in a bright future. They stipulated collaterals, trustees and investor protections in the



LC-BH832-05, Brady-Handy photograph collection, Library of Congress

James Eads. Photograph by Matthew Brady.



The Morgan Library & Museum, New York

Junius Morgan. Photograph by Disderi & Company.

event of default. But they were not risk free. To entice investors, the coupons paid upwards of 7%, against the 3% which the Bank of England—the Old Lady of Threadneedle Street—paid on British sovereign debt.

So Junius Morgan offered higher yields on riskier ventures than did other bankers. According to one competitor, he demonstrated "an undoubtedly speculative turn."

Raising the Money

Unlike iconic government-sponsored structures of the 20th century—Golden Gate, George Washington, Tappan Zee—most 19th-century American bridges were built by companies that charged tolls and sought profits. In the Gilded Age worldview, private enterprise should fulfill public needs.

With his groundbreaking design in hand, Eads turned his questing mind to finance. In January 1869, he circulated a bridge company prospectus that dangled a 400% return in just three years if all worked according to plan. (It didn't.)

The prospectus did entice 54 bankers and merchants from New York and St. Louis—and one from London—to subscribe for the bridge company's common stock. Junius Morgan subscribed for $25,000, while Pierpont committed to shares worth $100,000 (par value). Overlooked by Morgan biographers, these investments illustrate their penchant for risk. After all, this was speculative common stock, the venture sought to build a bridge not a railroad, construction had scarcely begun and Eads was a novice in civil engineering.

A year earlier, Eads had budgeted the bridge at $4.8 million, based on detailed calculations by his engineers. His new prospectus aimed to raise $10 million. Half the total would build the bridge; the rest could reward the investors. Drafted by Eads, the first line claimed, "It is assumed and believed that the tolls on the Bridge will safely pay interest on ten million." From that vision, the plan proposed to issue $4 million in common stock, $4 million in first mortgage bonds and $2 million in second mortgage bonds.

Stock was the mainspring driving the whole scheme. Subscribers would commit to $3 million in shares (face value). This left a quarter of the equities unissued, but available in the company treasury. For the shares the company *did* issue, the prospectus forecast that investors would pay only 40% of face value. That cash total, $1.2 million, would fund the stone piers and abutments.

After stonework stood tall in the river, Eads believed he could entice an investment banker to float $4 million in first mortgage bonds. Assuming the bridge company received proceeds of 90% of par, the resultant $3.6 million would pay to erect the steel and iron superstructure. Then the St. Louis Bridge would open for business and revenues would flood its coffers—chiefly tolls paid by railroads crossing the Mississippi.

The prospectus envisioned that St. Louis Bridge would then reward investors with the bounty of unissued securities remaining in its treasury. An investor who had subscribed for $100,000 in stock would have paid only $40,000. At the bridge's completion, he could possess stocks and bonds worth $200,000, once given his due in unissued shares and second mortgage bonds. Eads planned the grand opening for December 1871, suggesting a 400% return on investment in short order.

These numbers caught the attention of sophisticated bankers and investors, and Eads got the money. It is also interesting to note the Morgans were trading on their own accounts. In committing their own funds to common stock and then underwriting bridge bonds, they were embracing risk. Then and now, any venture dangling a quick 400% return epitomizes risk.

An asset of enormous latent value bolstered investors' confidence. The bridge company held a 25-year monopoly, granted by the Illinois legislature, that blocked any competing bridge into St. Louis. This statutory gift ensured monopoly rents at the main entrance to a thriving metropolis. Here was private-sector capitalism with a turbocharged boost from the state—if Eads could actually build his bridge.

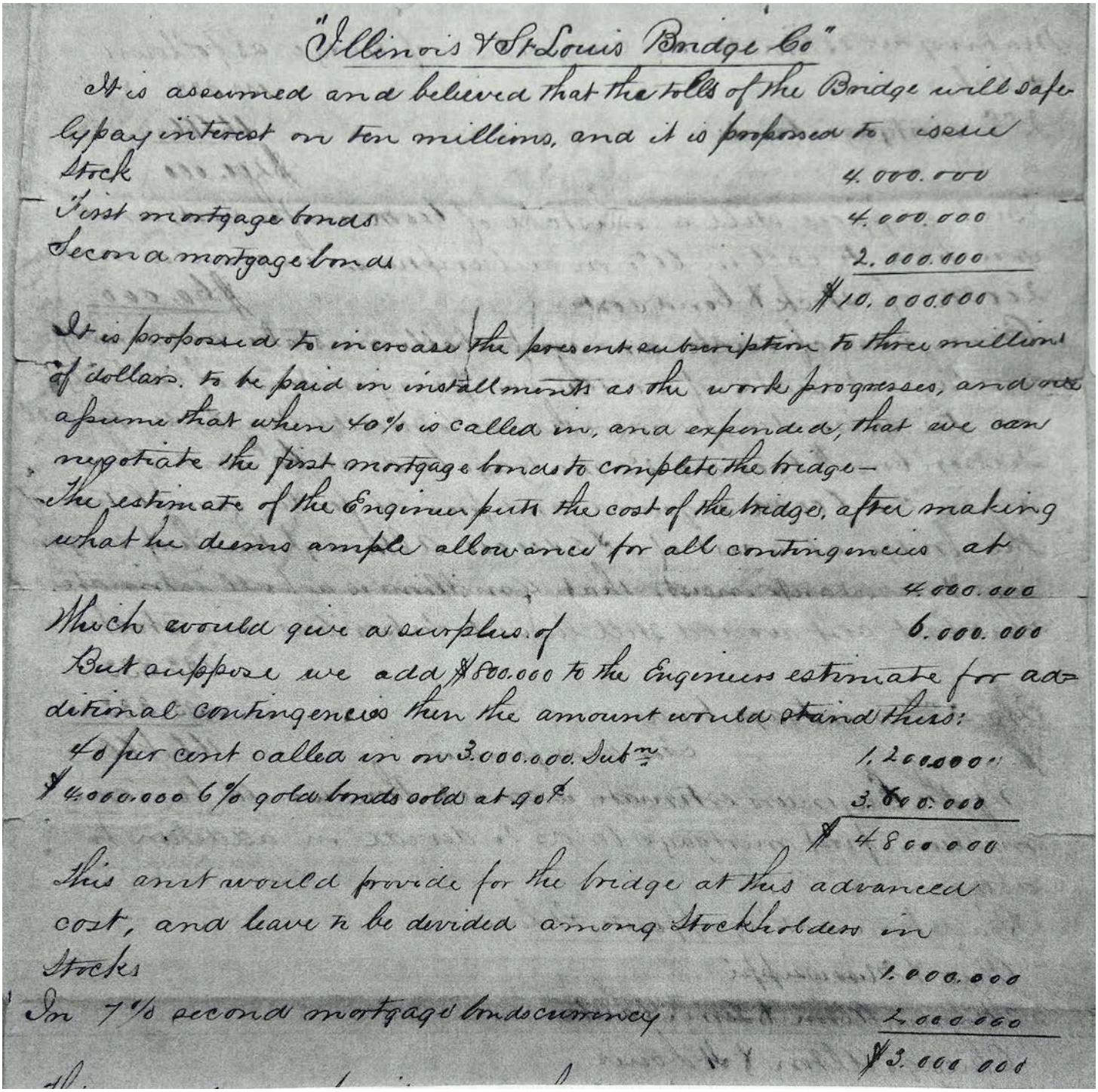
From Stock to Bonds

As Eads predicted, the $1.2 million in equity capital proved sufficient to build the stone abutments on each shore and two massive stone piers in the Mississippi. That unprecedented work preoccupied engineers and laboring men for 20 months. But success came with costs, as 13 sandhogs died from decompression sickness, struck down after working in caissons deep beneath the river. The overall schedule slipped by a year.

With the stonework successfully completed, the company needed to raise $3.6 million by selling first mortgage bonds to erect the superstructure. Bankers in Philadelphia, New York, London and Germany all declined the novelty and risk that Eads was selling.

At this juncture, the powerful vice president of the Pennsylvania Railroad (PRR), Thomas Alexander Scott—stepped in. He was a stockholder and board member of Eads's company. In March 1870, he dispatched his right hand, Andrew Carnegie, to London as an emissary to J.S. Morgan & Company. Morgan wanted direct assurances before staking his reputation and his investors' money on such a venture.

As its shareholders for more a year, the



"Illinois & St Louis Bridge Co"

It is assumed and believed that the tolls of the Bridge will safely pay interest on ten millions, and it is proposed to issue

Stock	4.000.000
First mortgage bonds	4.000.000
Second mortgage bonds	2.000.000
	$10.000.000

It is proposed to increase the present subscription to three millions of dollars. to be paid in installments as the work progresses, and to assume that when 40% is called in, and expended, that we can negotiate the first mortgage bonds to complete the bridge—

The estimate of the Engineer puts the cost of the bridge, after making what he deems ample allowance for all contingencies at 4.000.000

Which would give a surplus of 6.000.000

But suppose we add $800.000 to the Engineers estimate for additional contingencies then the amount would stand thus:

40 per cent called in on 3.000.000 Subn	1.200.000
$4.000.000 6% gold bonds sold at 90	3.600.000
	$4800.000

This amt would provide for the bridge at this advanced cost, and leave a to be devided among Stockholders in

Stocks	1.000.000
In 7% second mortgage bonds currency	2.000.000
	$3.000.000

Box 14, folder 2, Terminal Railroad Association of St. Louis Records, 94-0011, Missouri Historical Society

The first page of James Eads's prospectus, February 1869.

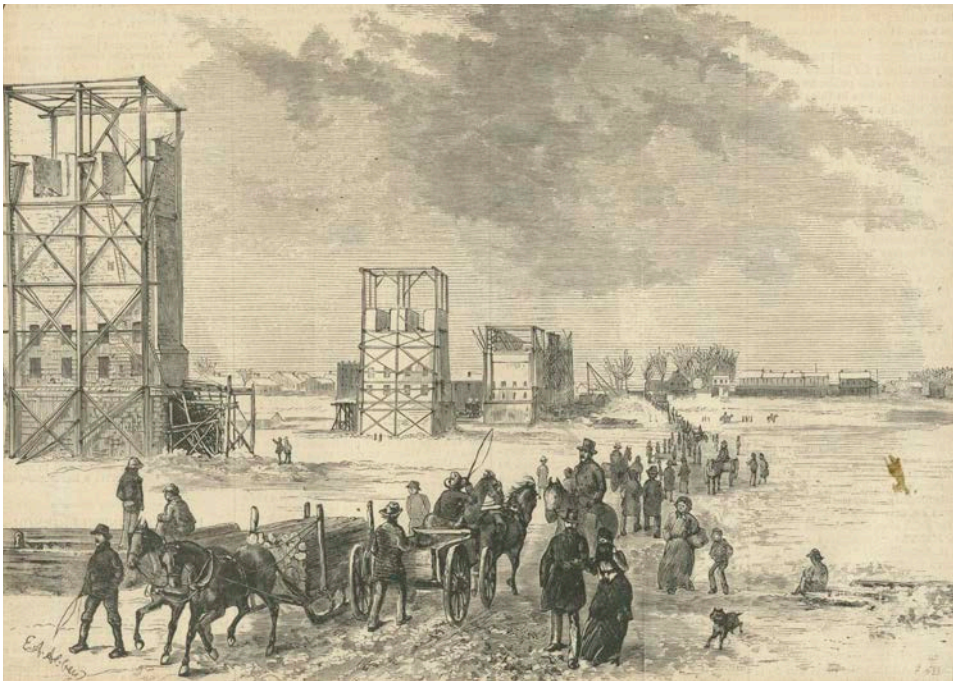
Morgans knew a lot about St. Louis Bridge. Junius wrote to Pierpont on March 24, "There can, we think, be but little doubt that it will be a financial success." Even so, he worried the bridge was "liable to great risks which cannot be provided for."

Weighing the unknowns, Morgan initially thought to underwrite only $1 million of the first mortgage bonds, demanding a stiff discount: just 70% of face value. His bank might earn a fat mark-up when selling the bonds to investors. Or his wealthy British clients might spurn the offering, leaving Morgan stuck with unsold securities. Back in St. Louis, the bridge company achieved milestones in contracts with railroads and in building the stone piers—good tidings dispatched by telegram across the Atlantic.

By March 31, Junius agreed to take all the first mortgage bonds in three tranches. A $1 million tranche would net 70; a second tranche of $1.5 million paid 72, both in gold. The final $1.5 million tranche would yield 90 in US currency. Junius Morgan went all-in on St. Louis Bridge.

Initially, he profited handsomely from the deal. In early April 1870, British investors paid an average of 90 for the two tranches (face value of $2.5 million), yielding gross profits of $470,000 for the bank. The bonds did well thereafter, trading at 99 in April 1872.

Thomas Alexander Scott. Engraving from a photograph by F. Gutekunst, author's collection.



Missouri Historical Society, N 45660

With the bridge's steel superstructure much delayed, many St. Louisans chose to walk across the frozen Mississippi in December 1872. Engraving by E.A. Abbey, "Ice Bridge," *Harper's Weekly*, January 18, 1873, 52.

Trouble Ahead

The glow soon faded from the St. Louis Bridge Company and its securities. Far from opening in December 1871, the first trains crossed in May 1874. Maddening obstacles slowed the work: a tornado, Eads's perfectionism, difficulties in procuring quality steel and problems fabricating the components. Those issues triggered bitter conflicts with the prime contractor responsible for erecting the superstructure: the Keystone Bridge Company, covertly controlled by Tom Scott.

The delays demolished the promises of Eads's 1869 prospectus. As problems metastasized, shareholders were dunned for 100% of their stock subscriptions, not the 40% originally envisioned. Even that proved insufficient. In September 1873, Eads was in London seeking fresh capital from banker Morgan. He came through, making cash loans of £90,000 a month for three months, adding $1.5 million in exposure for the bank.

The new money came with strict deadlines for completing the arches, targets met with just hours to spare. Once the arches were up, Morgan believed (correctly) that he could make a market for a $2 million issue of the bridge company's second mortgage bonds. Those proceeds would pay off his cash loans. Eads's 1869 prospectus had promised the seconds as gifts to stockholders. By 1873, they became a lifeline to complete the bridge.

Through it all, Morgan proved a stalwart backer of his far-off bridge. Not that he had much choice; no other financier would go near it. If he shut off the cash, the half-built structure would fetch little in a foreclosure sale.

Then the Panic of 1873 wounded the entire American economy. By November 1873, 55 railroads had defaulted on their bonds. As the economy slowed, unemployment among urban workers reached 25%.

Against this dismal backdrop, the St. Louis Bridge opened for business in July 1874—and Eads left for a greener pasture. His latest bold engineering project sought to improve navigation through the Mississippi River Delta.

At that moment, Scott switched from ally to enemy. After becoming president of the Pennsylvania Railroad in May 1874, he engineered a boycott of the bridge by the eastern carriers reaching St. Louis. His motive is unknown, but inference suggests one compelling answer. If driven into foreclosure, the bridge could become PRR property at a bargain price. Scott, however, had not reckoned on the Morgans.

In 1869, Eads predicted the bridge would cost $4 million. The actual figure totaled $12.5 million. The approaches to the structure (including a cross-town tunnel) added $1.5 million. It all translates to $422 million in today's currency—with two-thirds underwritten or lent directly by J.S. Morgan & Company.

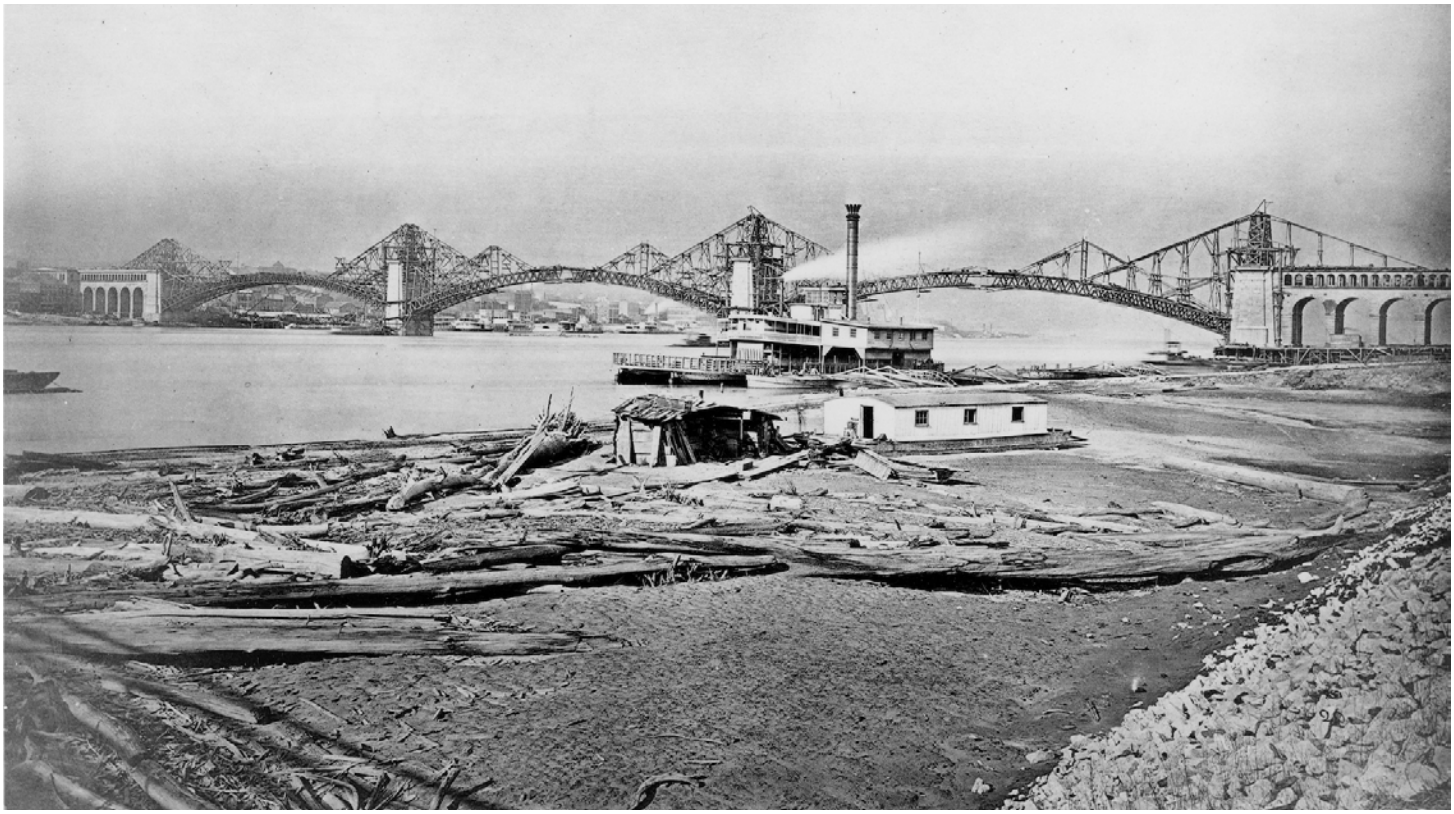
Eads built it. Morgan paid for it. And British investors bought it. But few customers used it. In the first year, a daily average of just 64 loaded freight cars and no passenger trains crossed the bridge.

Scott's boycott succeeded, thanks to a self-interested ally. The Wiggins Ferry Company had long enjoyed a monopoly (also granted by Illinois legislators) on freight and passenger traffic crossing the Mississippi on its boats and barges. Wiggins, eastern railroads and St. Louis merchants simply continued the arrangements that had worked adequately for years.

James Eads moved on, but Junius Morgan had to stick with the bridge. His British investors would spurn his new offerings if this one failed to pay. To retain their faith in the bank and the bridge, J.S. Morgan & Company made cash loans to cover the interest due its bondholders—over $280,000 a year. In December 1874, with the US economy collapsing, the bonds of the St. Louis Bridge traded on the London Stock Exchange at par—testament to the banker's reputation.

By then, he had investigated matters personally. During his September 1874 visit to America, the St. Louis Bridge took a worrying primacy. Letters to his partners conveyed bad news: "There does not seem to be anyone in the business with brains enough to organize some plans" to manage the financial obligations while developing the rail business. "I am thoroughly despondent."

A month later, he saw the great



The center and eastern arches just before the engineers succeeded in the difficult challenge of fitting the final sections into place. That climactic moment happened at 7:40 am on December 18, 1873—the date of Junius Morgan's deadline. Photograph by Robert Benecke, in Woodward, *History*, plate 44.

bridge—arguably *his* bridge. And his news turned worse: "The competition with [the] ferry co. is severe [and the railroads] are taking advantage of it to force lower terms from the bridge. Scott was there with me, and I tried hard to get him to order his trains over." All hung on the PRR's president. Scott did not come through. A February 1875 telegram from the Morgan bank in New York to its London affiliate conveyed the grim truth: "Satisfied foreclosure inevitable."

Turnaround

After foreclosure, the bond trustees took over management of the bridge, and Junius Morgan persuaded the president of the Illinois Central Railroad to chair its board of directors. Finally, an experienced railroad man took charge. Morgan also financed new freight and passenger facilities in downtown St. Louis. By June 1875, he had invested an additional $250,000 ($7.2 million in 2024) to create a dedicated railroad to haul freight and passenger trains over the bridge. Soon 200 passenger cars were crossing daily.

The price war between St. Louis Bridge and Wiggins Ferry lasted two years. On April 23, 1877, the companies signed a price-fixing agreement and immediately raised their rates, charging the same tolls for passengers and each class of freight. In 1877, such collusion was not illegal.

"Morganization" came to describe how Pierpont Morgan guided his debtor railroad clients to negotiate pools or mergers, ending rate wars to assure steady returns to capital. He offered no apology for imposing oligopoly or monopoly on the commerce of St. Louis or America's railroads. He sought profitable stability, which he claimed would benefit laboring men, managers and investors.

The price-fixing succeeded. For four years, the St. Louis Bridge operated in foreclosure under the oversight of the Morgan banks. Once the pooling/price-fixing agreement brought profits, the bankers crafted a plan to restructure the debts and reorganize the bridge company.

Approved by the court in March 1879, the new capital structure made no provision for the old stockholders. Those experienced investors, enticed by Eads's prospectus a decade earlier, forfeited the entire $3 million par value of their shares. Junius and Pierpont lost $125,000 on their equity stakes.

By 1881, however, the reorganized St. Louis Bridge and Tunnel Railroad, enjoyed the prosperity that Morgan had envisioned. A million rail passengers crossed that year. Each day, nearly 400 freight cars trundled back and forth (up from 64 in 1875). Gross earnings exceeded $1.1 million and net profits serviced the company's securities.

This prosperity attracted Jay Gould, who negotiated a lease for the entire property. The bridge would cinch his 10,000-mile rail system, running from Lake Erie to Mexico. Junius Morgan's prosperous assessment proved accurate in the long run.

The bridge powered vibrant growth for St. Louis, which grew from 6th to 4th among US cities (1880-1900). But the cost overruns, bond interest and monopoly pricing were ultimately paid by the passengers, shippers and citizens of St. Louis.

Thanks to the Illinois legislature, St. Louis Bridge garnered monopoly profits until 1892. Widespread in the Gilded Age, such chartered monopolies served a legitimate purpose, encouraging investors to fund these costly projects. But 25 years was a long time to derive monopoly rents from America's fourth-largest city.

Saint Theodore prepares to slay a dragon. This brilliant cartoon combined the corporate components that made up the Terminal Railroad's monopoly grip on freight and passengers crossing the Mississippi to and from St. Louis. Cartoon by Harry B. Martin, *St. Louis Post-Dispatch*, October 8, 1905, 29.

After the statutory monopoly ended, Pierpont Morgan financed its replacement. In 1902, he floated a $50 million bond issue ($1.86 billion in 2024) to buy Wiggins outright, enlarge St. Louis Union Station (already the world's largest) and build new yards and belt routes for freight traffic in the area.

Morgan had earlier financed the creation of the Terminal Railroad Association (TRRA). It ran the bridge and nearly all services crossing the Mississippi. The 1902 prospectus bragged that the TRRA "controls practically the only available entrance to St. Louis." For Pierpont Morgan, consolidation and its profits were self-evidently good.

For President Theodore Roosevelt, however, the TRRA was a grasping monopoly bent on extracting wealth, not creating it. After four antitrust cases (1904–1912), the US Supreme Court split the baby, preserving the company while placing it under federal oversight.

The Gilded Age had never actually known *laissez faire* in practice. That bit of French masked the truth: capitalists of the era reliably leveraged state power to their own benefit. And sometimes to the benefit of the public. In the Progressive Era that followed, Americans demanded a compromise between private profit and public good—a tension that continues today.

The St. Louis Bridge provides a fine window into the Gilded Age. Why did the Morgans decide to sell a bridge? Their motives reached beyond profit to a prescient grasp of risk and reward, a deep understanding of the British investor class, faith in progress through innovation and confidence in the boundless future of the United States. For a half-century, the Morgan banks guided the fortunes of the Eads Bridge, wielding their unique brand of finance capitalism and demonstrating how to create enduring value. $

For 25 years, John K. (Jack) Brown taught history, applied ethics and writing in the Department of Science, Technology, and Society at the University of Virginia. This article draws from his new book, Spanning the Gilded Age: James Eads and the Great Steel Bridge. *Among many topics, it offers fresh perspectives on the Morgans, Andrew Carnegie and finance in the Gilded Age, that epochal turning point that made America modern. More information can be found at www.greatsteelbridge.com.*