

Artist Gary Lucy painted this image of the *Arabia's* final voyage for the museum that the Hawley family opened in Kansas City, Missouri.

*Arabia* Steamboat Museum.

# TREASURES OF THE STEAMBOAT ARABIA

By Leslie Przybylek, Curator of History, Heinz History Center



**Time is a sort of  
river of passing  
events, and strong  
is its current; no  
sooner is a thing  
brought to sight  
than it is swept by  
and another takes  
its place.**

***Meditations,*  
Marcus Aurelius**

The oak timbers of the *Arabia's* paddlewheel (right) and the iron boilers (center back) are visible in this photo of the 1988 excavation.

David Hawley and the Arabia Steamboat Museum.





**E**arly on the evening of September 5, 1856, a side-wheel steamboat made its way up the Missouri River past present-day Kansas City, Missouri. Of average size for its era, the boat carried more than 200 tons of cargo and 130 passengers bound for the growing settlements of Iowa and the Nebraska territory. The *Arabia* had been built in the boatyards of Western Pennsylvania in 1853, one of hundreds of vessels launched by Monongahela River valley communities from Brownsville to Pittsburgh, a region that had dominated boatbuilding on the “western rivers” since the 1820s.<sup>1</sup> The *Arabia* plied the Ohio and Mississippi Rivers for two years before new owners acquired her and turned their attention to the Missouri River. The boat survived numerous trips on this treacherous waterway, traveling from St. Louis as far west as Pierre, South Dakota, to deliver hundreds of tons of eagerly awaited dry goods, clothing, hardware, and building supplies to frontier merchants and settlers.<sup>2</sup> During 1856 alone, the *Arabia* made multiple trips from St. Louis to the communities between St. Joseph and Sioux City, Iowa.<sup>3</sup>

But the *Arabia*’s luck ran out that September evening when the boat hit a submerged walnut tree—a “snag”—that impaled the three-inch-thick hull. Water rushed into the gash and the boat keeled over in the gathering dusk. Though the crew attempted to guide the stricken vessel ashore, their efforts were to no avail. Within minutes, the *Arabia* sank up to the main deck. Fortunately the boat’s passengers ferried themselves safely to land, but the cargo was a total loss. The boat settled into the mud of the Missouri River bottom. By the next morning, only the stacks and the top of the pilot house were visible. Within days, they too were gone, washed away by the Missouri’s powerful current.

The *Arabia* had vanished, but she would not be forgotten. The boat’s entombed cargo tempted treasure-seekers for a century, and its eventual recovery is one the most successful and important archeological finds of 19th-century American material culture. Part of that treasure is featured in a new

exhibition at the Senator John Heinz History Center, where the tale of what was uncovered illuminates the role Western Pennsylvania played in 1850s frontier commerce.

### A Treasure Revealed

The story of the *Arabia* and her lost cargo floated through the folklore of the Missouri River valley for generations, one of nearly 300 documented shipwrecks that enticed adventurers and treasure hunters.<sup>4</sup> The *Arabia*, rumored to have gone down with 400 barrels of the finest Kentucky bourbon, drew special attention. The ship’s general location was never a mystery. After the boat’s sinking, the Missouri River permanently shifted northeast, leaving the *Arabia* under more than 40 feet of dirt in a cornfield in Wyandotte County, Kansas. The greatest challenge to recovering the boat lay not in locating it but in finding a way around a situation that would turn out to be a blessing-in-disguise: the *Arabia* rested underground,

but never above the water table. The boat and its cargo remained preserved under water, in an anaerobic, or oxygen-free, environment.<sup>5</sup>

In 1877, 1897, and again in 1974-1975, salvage crews attempted to reach the buried vessel.<sup>6</sup> Using coffer dams, pressurized air, or pumps to hold back the water, each crew breached the *Arabia*’s watery grave. But having expended their money, their interest, or both—usually when they found no whiskey—all abandoned the project with little tangible reward to show for their work. After the third failure in 1975, the Kansas farmer whose family had watched people “digging holes and messing up the farm” for three generations vowed that he would “never let anyone try for the *Arabia* again.”<sup>7</sup> But he hadn’t met the Hawley family.

Led by patriarch Bob and his wife Florence, this “run-of-the-mill blue-collar family” operated a refrigeration business in Independence, Missouri, but also pursued other passions. Fueled by the same regional folklore that inspired





ABOVE: Karl Bodmer's engraving, *Snags (Sunken Trees on the Missouri River)*, 1841, illustrates the threat that fallen trees presented for boats navigating on the western rivers.

Museum of Nebraska Art Collection, Kearney, Nebraska.

**STEAMBOATS.**

**FOR CINCINNATI.**

The steamer **HURON**, Mc-Millan, master, will leave for the above and intermediate ports on this day the 14th inst., at 4 P.M. jyl3 JOHN FLACK, Agt.

**FOR ST LOUIS.**

The steamer **A R A B I A**, Woodburn, master, for above and intermediate ports, on the first rise of water. jyl4 JOHN FLACK, Agt.

**WHEELING PACKETS**

LEFT: Advertisement for the Steamer **ARABIA**, *Pittsburgh Post Commercial*, July 14, 1853.

HHC, Detre L&A.





Among the artifacts recovered from the *Arabia* were more than 300 hats, like this one Bob holds, still stacked inside their original shipping crates.

David Hawley and the  
Arabia Steamboat Museum.



previous adventurers, Bob and his sons David and Greg searched for lost steamboats and sunken treasure along the historic channels of the Missouri River. They considered themselves treasure hunters, although, as of yet, they had found little of real value.<sup>8</sup>

After needing a year to convince the skeptical farmer to allow one more attempt at that steamboat buried below his corn, the Hawleys broke ground on November 13, 1988.<sup>9</sup> The epitome of a Midwestern entrepreneurial venture, they funded the project themselves with the assistance of local backers (they had formed a partnership with a local restaurateur and a Kansas contractor). Support was needed for such a huge undertaking: before starting, they had to ship a 100-ton crane up the Missouri River, and meanwhile devised pumps that each removed 1,000 gallons of water per minute to fight the ever-present surge of water in the sandy Kansas soil. At the height of the effort, they had 20 wells pumping out 20,000 gallons of water per minute. They worked seven days a week, 12 to 14 hours a day.<sup>10</sup>

For nearly three months the work continued, until February 9, 1989, when the last piece of the *Arabia*, the ship's stern, was removed from the excavation. Two days later, the pumps were turned off, and ground water slowly reclaimed the site. Watching the remaining portions of the ship become submerged again, Greg Hawley later wrote, was "like saying farewell to a good friend."<sup>11</sup> All told, the family recovered more than 200 tons of goods from the *Arabia*, including thousands of everyday items like shoes, cutlery, sewing equipment, hardware, ironstone and ceramic dishes, glassware, tinware, hundreds of rare textiles, jars of preserved food, and even two small frame houses.<sup>12</sup> They also found the only iron boiler and engine made by John Snowdon and Son's Vulcan Iron Works of Brownsville, Pa., known to survive.<sup>13</sup> Through the process of excavating these materials, the former treasure hunters developed an emotional bond with the story of the *Arabia*. Rather than sell the collection, they made a remarkable decision to keep it intact. "We realized we had a national treasure on our hands," recalled Greg in 2006.<sup>14</sup>

Recovering portions of the boat and its cargo was only part of the story. In 1989, the Hawley family's independent archeological efforts were not without controversy. When word of the excavation leaked to the media, voices of dissent arose in the museum and archeological community.<sup>15</sup> The family themselves, realizing the conservation challenge of unearthing materials that had been unexposed to oxygen for so many years, sought help from the Canadian Conservation Institute. In

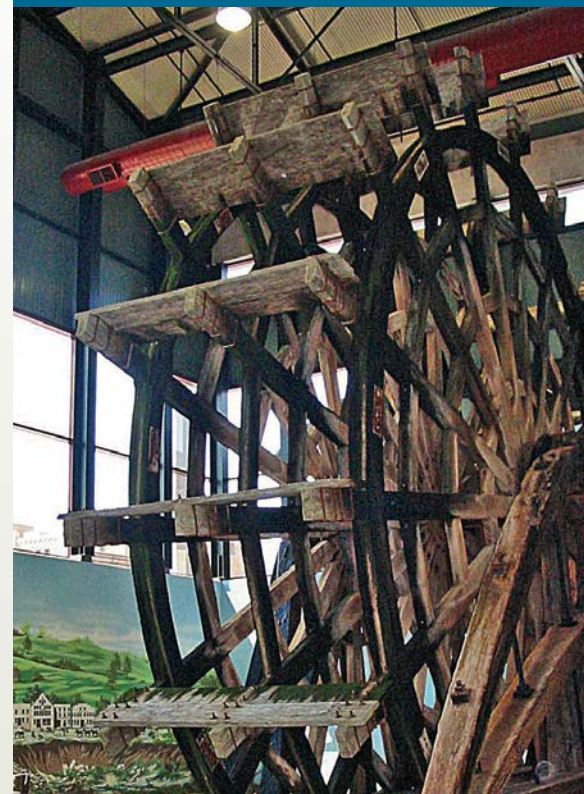
Among the finds on the *Arabia* were bolts of cloth that survived underwater for more than a century. This fragment shows the paper label on cotton cloth made in New York. The tight weave of the Sea Island cotton and the compression of the bolt may have contributed to its survival, since most cotton materials did not survive.

Arabia Steamboat Museum.



**ABOVE:** The *Arabia*'s cargo contained multiple firearms, including 15 single-shot, walnut-gripped boot pistols. **BELOW:** The partially reconstructed paddlewheel from the steamboat *Arabia* on view at the museum in Kansas City. **BOTTOM:** This Yellow-ware bowl was made by Bennett & Brothers of Pittsburgh.

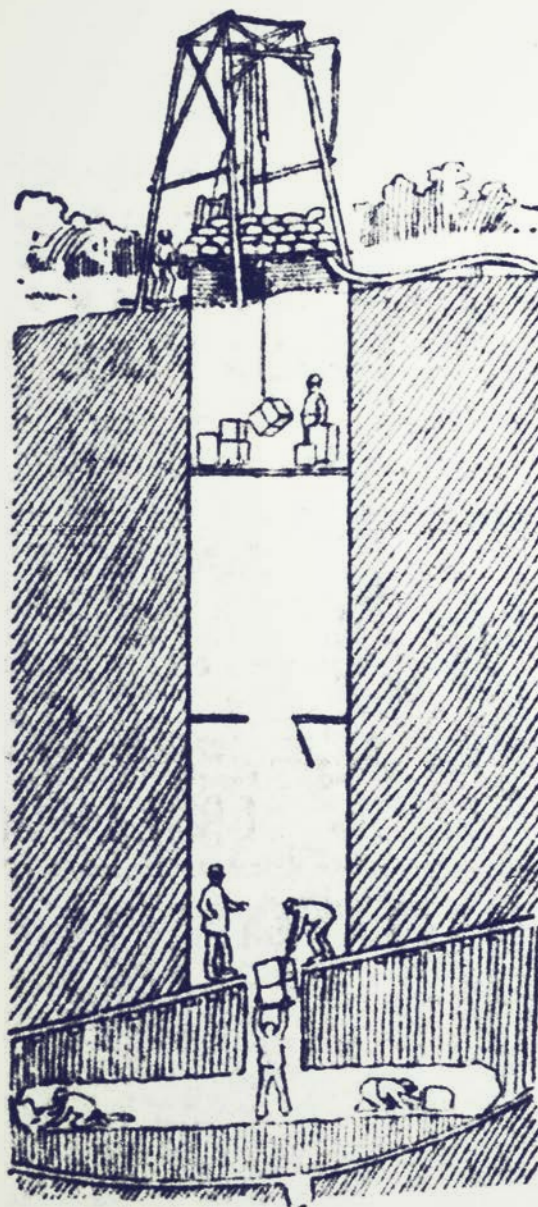
Arabia Steamboat Museum.





1991, maintaining their vow to keep the collection intact, they opened the Arabia Steamboat Museum in Kansas City, Missouri. Within a decade, the museum community started to come around. In December 2006, *Smithsonian Magazine* ran a story featuring the Hawleys and the *Arabia's* recovery. In the article, Bob Keckeisen, then director of the Kansas State Historical Society's museum, wrote, "It would have been easy for the Hawleys to break up that collection, but they didn't.... They must be commended for seeing the greater significance."<sup>16</sup> Honoring that commitment hasn't been easy; 25 years after the initial groundbreaking, large portions of the collection are still being processed. Running the museum long ago became a full-time family occupation, and then in 2009, the Hawleys lost brother Greg in a tragic auto accident.<sup>17</sup> How did they manage to keep going? "Well," Florence offered, "we just didn't all get discouraged at the same time."<sup>18</sup> And now, Bob Hawley notes, "the boat has touched so many lives" that the family is "more determined than ever" to stay true to the commitment they made a quarter of a century ago.<sup>19</sup>

Over the intervening years, the Hawleys have been reluctant to loan treasured artifacts retrieved and cared for with such devotion. Material from the *Arabia* has gone on loan just twice. A small display was placed at the Kansas State Historical Society in Topeka ("it's their heritage too," notes Dave), and a more extensive set of items was featured in a temporary exhibit at the Visitor Center in Hannibal, Missouri, the boyhood home of Mark Twain.<sup>20</sup> The loan to the Heinz History Center will be the largest selection of artifacts they have ever shared with another institution. "It was the History Center's persistence that won us over," admitted Bob. "And our belief that this is a treasure worth sharing with Western Pennsylvania."<sup>21</sup>



This illustration shows men working within the type of steel caisson that was used to salvage cargo from the *Arabia* in 1897. When the crew found shoes and boots but no whiskey, they abandoned their efforts.

State Historical Society of Missouri and the Arabia Steamboat Museum.

**In 1877, 1897, and again in 1974-1975, salvage crews attempted to reach the buried vessel.**

## By Pennsylvania Hands

Much of what the Hawley family recovered has special relevance for Western Pennsylvanians. "They should be proud of what they accomplished," noted Bob. "Their relatives in Brownsville outfitted the boat, put the boilers on, they helped make the country what it is today."<sup>22</sup> Built in the boatyard of John Snyder Pringle in West Brownsville in 1853, the *Arabia's* story parallels the history of hundreds of other boats whose hulls, decks, boilers, and engines were constructed by Pennsylvania hands along the banks of the Monongahela River, and to a lesser extent, the Allegheny, during the first half of the 19th century.<sup>23</sup> Merging Western Pennsylvania's long history as a center for the construction of keelboats and flatboats with Pittsburgh's prominence in the iron industry, the region's skilled shipwrights, mechanics, finish carpenters, and ironworkers transformed it into one of the nation's leading steamboat manufacturing centers by the 1820s.<sup>24</sup>

River steamboats such as the *Arabia*—shallow, flat-bottomed craft that glided over low water—emerged from decades of trial and error following the first successful voyage of a steamboat in 1811-1812 on what were then called the "western rivers." This was the great inland network of waterways that ran west of the Allegheny Mountains, including the Ohio, the Mississippi, the Red, the Arkansas, and most fearsome of all, the Missouri.

These were not the deep smooth-flowing rivers of the east. The western rivers ran fast, with strong, sometimes unpredictable currents and maddeningly varying water levels. Travel was often a seasonal affair, with more journeys undertaken in early spring or later summer and early fall, water levels permitting. Navigational hazards were common: shifting banks and sandbars in the summer; ice jams in the winter; and the menace of floating obstacles and sunken trees (known as "snags") waiting to ensnare boats





“We realized we  
had a national  
treasure on our  
hands.”

*Greg Hawley*



**ABOVE LEFT:** This tool chest found on the *Arabia* was probably the personal cargo of one of the boat's passengers. **ABOVE RIGHT:** After test drilling, the excavation team marked the *Arabia*'s 171-foot-long outline with white chalk to highlight its exact location and placement underneath the cornfield. **BELOW:** One of the largest pieces of the boat excavated by the Hawley family was the *Arabia*'s boiler, made up of three large iron boiler tanks, each 24 feet long and three feet in diameter.

Arabia Steamboat Museum.





**Pittsburgh's foundries, rolling mills, engine factories, machine shops, and skilled ironworkers played a vital role in the region's emergence as the center of steamboat manufacturing.**

in any season. The Missouri was considered particularly treacherous. Mark Twain called it a "villainous" river, one whose "alluvial banks cave and change constantly, whose snags are always hunting up new quarters."<sup>25</sup>

That first western steamboat, the *New Orleans*—funded by Robert Fulton and Robert Livingston, and built in Pittsburgh by inventor Nicholas Roosevelt—placed the Iron City at the head of a brave new world when the small craft set off from the shipyard near Beelen's iron foundry on the north bank of the Monongahela River in 1811. Journeying down the Ohio to the Mississippi River, it withstood even the catastrophe of the New Madrid earthquake to reach its namesake city by early 1812.<sup>26</sup> The *New Orleans* remained in trade on the lower Mississippi through 1814, but its hull

depth was too great to allow it to run on the upper Ohio.<sup>27</sup> Likewise, most of the roughly 60 other early steamboats that followed the *New Orleans* on western waters between 1811 and 1820 played their part in the annals of maritime history without contributing directly to a two-way system of regional commerce. There were exceptions, but most were too small and too heavy, and their hulls too deep, to allow them to make the return journey and serve as the cargo-laden workhorses that later steamboats became.<sup>28</sup>

A set of key innovations transformed these fledgling craft into the working boats exemplified by the *Arabia*. From the very

**This pressed brass deck ornament from the *Arabia* may have been installed by a finish carpenter or craftsman in Pittsburgh.**

Arabia Steamboat Museum. Photo by Courtney Keel.

**BELOW:** As this letterhead from Iron City Commercial College illustrates, Pittsburgh of the mid-19th century was clearly a leader in steamboat manufacture and commerce.

HHC, Detre L&A, MFF 1020.



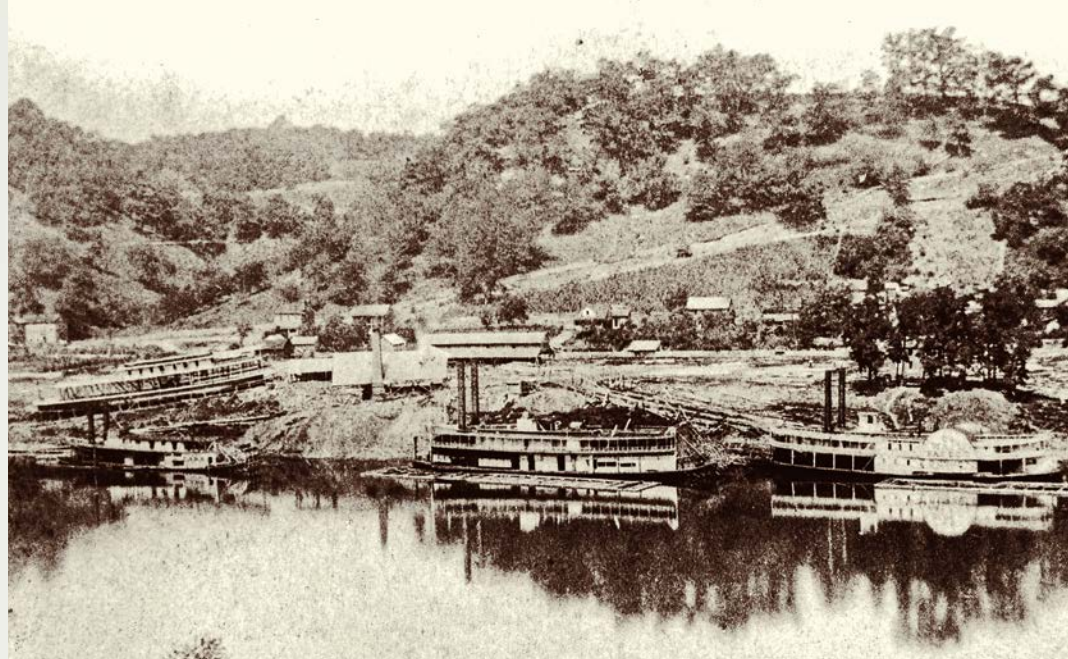


Although it postdates the years of the *Arabia's* construction, this view of the J.D.S. Pringle boat yard and sawmill in West Brownsville, Pennsylvania, c. 1870, illustrates the kind of activity that filled communities throughout the Monongahela River valley in the mid-1800s.

HHC Detre L&A, Steamboat Photographic Collection, MSS 890.

start, most vessels were built and operated by independent shipwrights and businessmen, or small partnerships. Owning and offering shares in multiple boats helped mitigate the risk should a single craft be lost, which happened with distressing frequency. The *Arabia*, for example, had three partners, including a majority owner from Brownsville and two additional owners from Pittsburgh and Sampeace.<sup>29</sup> With few hard and fast rules about either boat mechanics or form, early entrepreneurs sought to get the most out of their investment by testing new forms of hulls, decks, engines, boilers, and construction methods to find models that responded best to the unique needs of western rivers. Eventually, they came up with three crucial adaptations: the use of high-pressure steam engines; the creation of a new form of boat that featured a light-draft (or shallow) hull and multiple decks; and the use of hog chains.

The use of high-pressure steam engines was spearheaded by the second official boat on western waters, the *Comet*, a small 52-foot sternwheeler built in Brownsville in 1813, one of whose makers, Daniel French, patented an early form of an oscillating high-pressure engine.<sup>30</sup> Though this boat proved unsuccessful, it was followed by two more Brownsville craft that also featured high-pressure engines: the *Despatch* (1814) and the *Enterprize* (1814).<sup>31</sup> These pointed the way for what became the power source of choice and one of the most celebrated and controversial aspects of western river boats. High-pressure engines provided the force needed to propel boats on a faster, more efficient two-way trip. If mishandled, they could also be extremely volatile. Dramatic images and gruesome newspaper accounts of catastrophic boiler explosions became common, until the federal



## Why Brownsville?

Many Western Pennsylvania communities along the Monongahela River built steamboats in the 1800s, including Belle Vernon, California, and Elizabeth. The busiest of these towns was Brownsville, 40 miles south of Pittsburgh.

How did a town so far from Pittsburgh become a major center for steamboat construction? Brownsville's role as a transportation hub dates back to the 1750s, when the small community was called "Redstone Old Fort." The town sat at the western end of Nemacolin's Trail, a key pathway for settlers making their way westward over the Allegheny Mountains. By the late 1700s, Brownsville had become a major point for crossing the Monongahela River, spawning a profitable flatboat industry.

The presence of skilled boat builders extended into the construction of steamboats. A number of steamboat pioneers, including inventor Henry Miller Shreve and steam engineer Daniel French, began their operations in Brownsville. In 1812, French and two partners founded the Monongahela and Ohio Steamboat Company in Brownsville, the second company in the United States formed expressly to build and operate steamboats on the Ohio and Mississippi Rivers, challenging Robert Fulton for supremacy of America's western waterways.

Through the late 1800s, Brownsville rivaled Pittsburgh and Wheeling as one of the region's main steamboat builders. Although the town's fortune fell on hard times later in the 20th century, boat building remains part of its heritage: Brownsville Marine Products, LLC, launched its first barge in November 2006, using a facility that had been used by the Hillman Barge Company since 1939. In November 2012, the company celebrated its 600th barge launch.

For more information about Brownsville's early role as a transportation and steamboat hub, check out:

- Ellis Franklin, *History of Fayette County, Pennsylvania, with Biographical Sketches of Many of its Pioneers and Prominent Men* (Philadelphia: L.H. Leverts & Co., 1882): section on "Brownsville Borough and Township," accessible on-line through the portal at [www.historicpa.net/history/fayette.html](http://www.historicpa.net/history/fayette.html)
- The Brownsville Historical Society: [www.nemacolinncastle.org/history.html](http://www.nemacolinncastle.org/history.html)



government intervened in 1838 and 1852 to establish safety standards. In truth, far more boats were felled by snags, but boiler explosions entered the public imagination as a vivid symbol of both the promise and peril of new technology.<sup>32</sup>

The form and construction of boats also changed to meet physical and economic needs. The earliest steamboats resembled sailing ships, with heavy-timbered construction and

deep hulls. But what guaranteed stability on the ocean was less reliable or unworkable on western rivers. Taking a cue from the area's connection with flatboats and keelboats, steamboat builders along the Monongahela and Ohio Rivers experimented with flatter, wider, and longer hulls, increasing the ability of boats to carry more weight in less water.<sup>33</sup> As the deep hulls of earlier vessels gave way to shallow hulls that could navigate western

rivers, boats lost hold space for both passengers and cargo. Shipwrights and boatmasters like Brownsville's Captain Henry Shreve, who had gotten his own start in keelboat yards, added upper decks above the hold to open up more space to accommodate people and freight.<sup>34</sup> What we now envision as the "typical" shape of a steamboat emerged through trial and error related directly to the creation of a watercraft designed for the western trade: a low-water boat that could carry as many people and as much cargo as far and as fast as possible.

One more innovation extended this capacity. "Hog chains" connected the ends and intermediate posts, much like a suspension bridge, to give the boats stability and strength; they allowed builders to use lighter wood for hull construction while making those hulls longer and shallower.<sup>35</sup> One of the first documented uses was in the Pittsburgh and Cincinnati Packet Line boat *Brilliant* (1848), a Western Pennsylvania-built craft, though hog chains could have been used much earlier.<sup>36</sup> From boilers and engines to key internal structures like hog chains, iron became crucial in constructing these boats. Pittsburgh's foundries, rolling mills, engine factories, machine shops, and skilled ironworkers played a vital role in the region's emergence as the center of steamboat manufacturing.

Marrying the traditional realm of the shipwright with the world of iron and machines, the new boats were constructed in a process that involved multiple specialized facilities. The wooden hull and body were typically built by an experienced boatyard such as J.S. Pringle's yard in West Brownsville. The partially completed craft was then floated to an engine factory such as John Snowdon's Vulcan Iron Works which installed the boilers and other machinery. The vessel then continued its journey to the commercial center of Pittsburgh, where finish carpenters, glaziers, joiners, painters, and furniture makers completed the process, fully outfitting the boat for its life in the trade, making everything from passenger cabin chairs and

## Steamboats in Strange Places? The *Bertrand*

Two decades before the discovery of the *Arabia*, the excavation of another steamboat provided a glimpse of the historical treasure such wrecks could reveal to those who persevered in retrieving them.

In early 1968, two salvors notified the DeSoto National Wildlife Refuge, a Missouri River flood plain 25 miles north of Omaha, Nebraska, that they had found the steamer *Bertrand* within the refuge's boundaries. The *Bertrand*, whose hull was built by Dunlevy and Company of Wheeling, West Virginia, with cabin fittings completed by Gullett of Pittsburgh (probably of the firm Gullett & Applegate), was launched in March 1865, headed for the Montana Territory. Alas, the *Bertrand* proved less fortunate than the *Arabia*, striking a snag and sinking during its maiden voyage on April 1. While the boat's steam fittings and paddlewheel were salvaged after the wreck, much of its cargo was lost.

Rumors of the *Bertrand's* location prompted repeated searches over the next century before the 1968 discovery. Because the boat was found on federal land, the excavation was supervised by the National Park Service. More than 250,000 artifacts—including more than 1,000 boots and shoes, household furnishings, clothing, cookware, and hundreds of bottles of food and condiments—were turned over to the U.S. Fish and Wildlife Service.

The *Bertrand* Collection is maintained by the DeSoto National Wildlife Refuge. In 2011, the entire collection was evacuated in nine days when extensive Missouri River flooding forced the closure of the DeSoto National Wildlife Refuge Visitor Center and the Steamboat Bertrand Museum. After years of clean up and stabilization, artifacts from the collection finally went back on display in September 2013.

More information and images from the *Bertrand* Collection can be found at: [http://www.fws.gov/refuge/Desoto/wildlife\\_and\\_habitat/steamboat\\_bertrand.html](http://www.fws.gov/refuge/Desoto/wildlife_and_habitat/steamboat_bertrand.html) and <https://www.facebook.com/SteamboatBertrandMuseum>



*Bertrand* artifacts on display.

Steamboat Bertrand Museum.



# A New Boat for Western Waters

After the partnership of Pennsylvania inventor Robert Fulton and wealthy diplomat Robert Livingston resulted in the triumph of Fulton's *Clermont* on the Hudson River in 1807, the men who had created America's first commercially successful steamboat turned their eyes toward a larger prize.

Fulton and Livingston looked westward to the boat-building center of Pittsburgh and its ready access to the Ohio River and the entire western river network. Soliciting the assistance of inventor Nicholas Roosevelt—great-granduncle of Theodore Roosevelt and advocate of side-wheels rather than stern-wheels—the men set out to achieve something that many thought impossible:

build and navigate a steamboat down the Ohio and Mississippi Rivers.

With funding from Fulton and Livingston, Roosevelt headed to Pittsburgh. In 1809, he undertook a trip to test whether western river steam navigation was feasible. After Roosevelt returned with a favorable assessment, the construction of a new side-wheel steamboat began in 1810. Named the *New Orleans*, the wooden craft took shape at a wharf along the Monongahela River in Pittsburgh. Its engine works were carted overland from New York and assembled here. The new boat was completed in October 1811, and its main expedition launched on October 20. Large by the standards of the day, the *New Orleans* could accommodate as many as 60 passengers, and Nicholas Roosevelt was joined on the trip by his wife Lydia, a cook, a small crew, and a Newfoundland dog named Tiger. After an eventful voyage that witnessed the birth of Roosevelt's son and the impact of the New Madrid earthquake on the river's course, the *New Orleans* reached its namesake destination on January 10, 1812.

The boat never again saw Pittsburgh but the point had been made: navigation of the western rivers by steamboat was possible, and Pittsburgh would play an integral role in the growth of that industry.

In this folk painting on a metal barrel lid, an artist depicted the *New Orleans'* historic first voyage on the western rivers, c. 1811.

HHC, Detre L&A, 86.1.216.



**The New Orleans:  
Steaming Upstream by  
Moonlight, 1811,  
by Gary R. Lucy.**

Gary R. Lucy Gallery, Inc. Washington, Mo., [www.garylucy.com](http://www.garylucy.com).





decorative woodwork to painted nameplates.<sup>37</sup> Towns throughout the valley buzzed with activity. One traveler, reporting on the boatbuilding community of Monongahela for the *Cleveland Herald* in 1840, complained, “It is strange that the people here are not all deaf, for really this is a noisy city.... These workers in Iron and Brass can no more be quiet, than the Whigs can.”<sup>38</sup> For the boats themselves, life following this birth could be brief. Beyond snags and boiler explosions, boats suffered from collisions with other vessels or submerged wrecks, leaks, ice jams, fires, groundings, and the general wear of life on the river.<sup>39</sup> The average boat lasted about five years; many, like the *Arabia*, sank or were “used up” in three or four. Sometimes they gained an extended form of life when pieces or parts from one craft were salvaged and placed in another.<sup>40</sup>

### Connecting People, Cargo, and Communities

By the mid-1830s, these lightweight, short-lived craft with their high-pressure boilers and multiple decks had revolutionized the transportation infrastructure of the nation’s interior. Journeys that once took weeks now required just days, even if posted steamboat departure and arrival times tended to be notoriously unreliable.<sup>41</sup> European observers also

recognized the transformation. Commenting during his trip down the Mississippi River in 1838, Alexis de Tocqueville admitted “that the discovery of steam has added unbelievably to the strength and prosperity of the Union, and has done so by facilitating rapid communication between the diverse parts of this vast body.” He continued, “Of all countries in the world America is the one where movement of human thought and industry is the most continuous and swift.”<sup>42</sup> A newspaper writer from Frankfort, Kentucky, whose comment was republished in the *Daily Pittsburgh Gazette*, mused in more poetic fashion about the accomplishment: “verily, the ingenuity of Fulton is destined to bring back the days of enchantment, when space was conquered by magical influence.”<sup>43</sup> By this time, the creation of the boats themselves was no longer a novelty. “Gradually steamboat business has been brought to a greater perfection, and almost ceases to be a matter of interest to the mass,” noted the *Pittsburgh Gazette* in March 1837.<sup>44</sup> Nonetheless, the impact was still a marvel to behold. “The introduction of steam boats on western waters,”



This brass and steel spring balance scale was one of at least a dozen found on the *Arabia*.

Arabia Steamboat Museum.

pronounced the author of *Notes on the Western States* in 1838, “has contributed more than any other single cause, perhaps more than all other causes which have grown out of human skill, combined, to advance the prosperity of the west.”<sup>45</sup>

Despite competition from other river communities such as Cincinnati, Wheeling, and Louisville, Pittsburgh was recognized as one of the preeminent sources of western river steamboats from the late 1830s through the 1850s. One survey of all recorded steamboats operating on western waters between 1829 and 1836 found that nearly 40 percent of the craft originated in Pittsburgh or Western Pennsylvania.<sup>46</sup> Nearly a decade later, this percentage remained remarkably consistent.<sup>47</sup> Cities further west were envious of the trade. “Why is that we annually send away half a million dollars to give employment to the boat builders of Cincinnati and Pittsburgh?” asked St. Louis in the *Daily Missouri Republic* in March 1837.<sup>48</sup>

Some of the most remarkable artifacts recovered from the *Arabia* were textiles, including more than 300 hats, and hundreds of shirts, coats, and socks. This photograph shows the collection on display in the museum in Kansas City.

Arabia Steamboat Museum.





**Miller's Landing: Westward  
Travelers at Miller's Landing,  
1843, by Gary R. Lucy.**

Gary R. Lucy Gallery, Inc. Washington, Mo.,  
www.garylucy.com.



These delicate calico buttons represent just two of the 109 patterns found aboard the *Arabia*. They were probably a product of France.

Arabia Steamboat Museum.



**Steamboats brought a surprising variety of material goods to far-flung new settlements that had yet to establish their own factories and commercial networks.**

Would-be operators outside the Pittsburgh region exchanged instructions by mail to facilitate the construction and purchase of vessels. With such a high demand, these long-distance transactions could be challenging. Writing from Pittsburgh to St. Louis in May 1839, Theodore Dunnica reported to his employers regarding their awaited boat, the *Meteor*: “We are driving ahead finely since she has been at the wharf, and I think she will be ready to leave this by 1st to 5 June.... The best judges have examined her and pronounced her a very superior boat throughout,” he continued, admitting, “this is some compensation for the delay which has been unavoidable.”<sup>49</sup> J.I. Dales sent a note from Louisville, Kentucky, to his agent J.T. Hogg of Brownsville in January 1847, concerning a boat under construction in the Pringle (misspelled Prinkle) yard: “Say to Mr. Prinkle to make the rudder 13 ft apart from

out to out and [we’ll] be in the safe side,” he requested. “I should like to be with Prinkle when he is modeling and setting it up. However you will write me in time if it is necessary I should be with him.” He added, “I have no further alterations to make in regard to the hull (until I see Capt Sparrowhawk in St. Louis).” Dales’ correspondence also reflected the transitory nature of commerce conducted along the river. “The boat is about to leave in a few minutes,” he explained, “and I haven’t time to write much.”<sup>50</sup>

Advertisements seeking available boats ran in local Pittsburgh newspapers, which also

followed the fates of Pittsburgh-built boats that ended up far from Pennsylvania shores.<sup>51</sup> One former Pittsburgh resident, writing to the *Daily Pittsburgh Gazette* from La Platte City, Nebraska Territory, in May 1855, reported on the only boat to have made it as far north as Council Bluffs, Iowa, that spring: “The *Clara* is a Pittsburgh built steamboat,” wrote William Larimer, Jr., “I felt like meeting an old acquaintance when I went on board.”<sup>52</sup> Larimer was referring to the *Clara* in 1855, but other





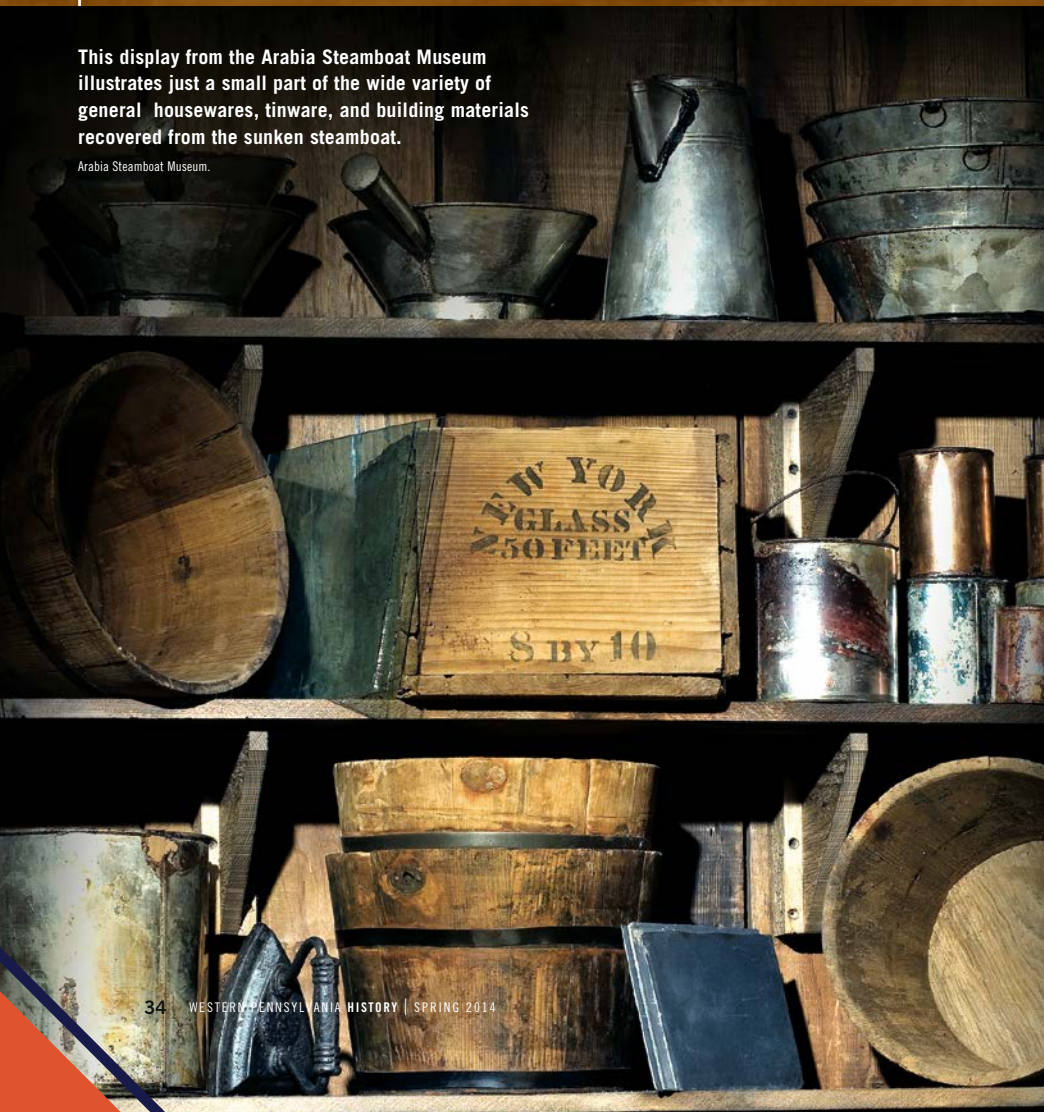
At least six kinds of preserved pie fruit were recovered on the *Arabia*, including cherries, currants, and gooseberries.

*Arabia Steamboat Museum.*

**Western river steamboats carried diverse products from across the nation to people and markets that wanted them, regardless of distance or unpredictable waterways.**

This display from the *Arabia Steamboat Museum* illustrates just a small part of the wide variety of general housewares, tinware, and building materials recovered from the sunken steamboat.

*Arabia Steamboat Museum.*



passages in his letter could have just as easily been written about the *Arabia* one year later. “The merchants there are out of everything,” he informed Pittsburgh readers regarding the situation in Council Bluffs, “or were before the Clara came up. Building is kept back for want of lumber, nails, and all kinds of hardware.” Adding further enticement, he continued, “I know of no article of Pittsburgh manufacture that is not wanted here.”<sup>53</sup>

Larimer’s words reflected the human motivation behind the unique type of boat that Pennsylvanians helped to create. Western river steamboats carried diverse products from across the nation to people and markets that wanted them, regardless of distance or unpredictable waterways. Shoes and pickles from New York, saws from Philadelphia, oysters from Baltimore, coffee and molasses from New Orleans, nails, hardware, and glassware from Pittsburgh, even perfume from France—steamboats brought a surprising variety of material goods to far-flung new settlements that had yet to establish their own factories and commercial networks.<sup>54</sup> Products these vessels carried also helped to ensure that factories, stores, and homes could be built: among the *Arabia*’s cargo were thousands of nails and spikes, approximately 20,000 feet of lumber, and the equipment for a sawmill.<sup>55</sup> The same boats also allowed suppliers and factories in eastern urban centers to reach new communities or maintain relationships with customers that had enjoyed their products before heading west. Thus, the network enabled by boats such as the *Arabia* allowed New Yorkers or Pennsylvanians to move to a settlement in Iowa and still expect to furnish their table with the blue-edged china plates, bottle of cognac, and jar of cherries or pickles that had graced their home back east.<sup>56</sup>

By the time of the *Arabia*’s sinking, the leading edge of frontier settlement in America was along the Kansas and Nebraska borders with Missouri and Iowa, centered on the Missouri River, a region opened up by the Kansas-Nebraska Act of 1854. In close focus, the goods carried by the *Arabia* and recovered by the Hawley family shine a rare light on an area of

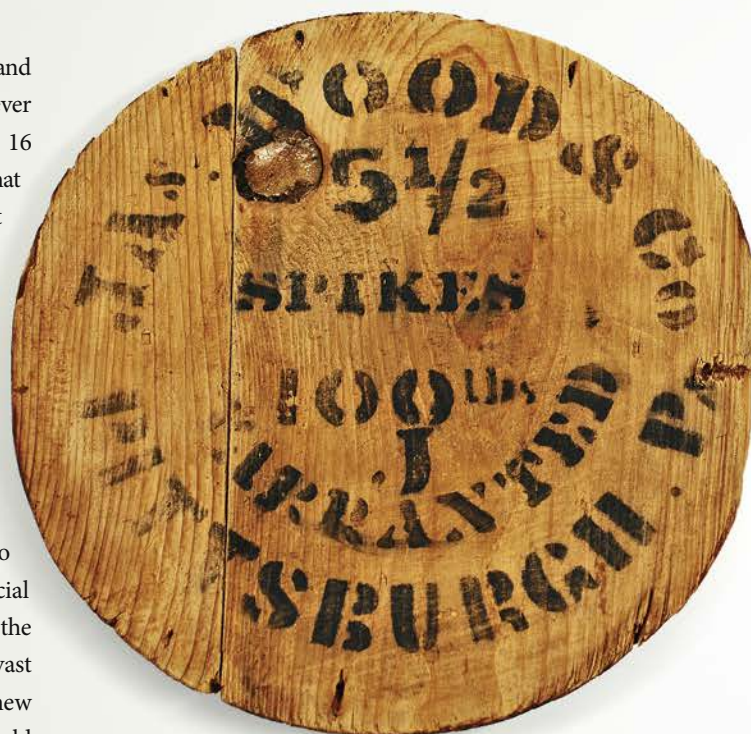


Settlers all along the frontier desired iron goods from Pittsburgh such as spikes from James Wood & Company.

Arabia Steamboat Museum. Photo by Elizabeth Simpson.

advancing settlement, revealing the stories and meanings found in a boatload of cargo never received by people building new lives in 16 western communities in the fall of 1856. That story will unfold as part of the exhibition at the Senator John Heinz History Center.

The tale of the *Arabia* is also the story of hundreds of other boats shaped by Western Pennsylvania hands. The heyday of these boats as freight carriers was brief; western river steamboats enjoyed their greatest success in the years between 1830 and 1860, before the nation's railroads transformed America's cargo distribution network. Yet during that crucial period, steamboats shaped and accelerated the pace of commercial exchange across the vast heartland of the country. They created new expectations about what material goods would be available even in fledgling communities far beyond the nation's urban centers. "Those early men," observed Dave Hawley in admiration, "the Pringles, the Snowdons: their imagination, ingenuity, and hard work created a network that took products from all over the world to small towns in Missouri, South Dakota, Nebraska..."<sup>57</sup> The history of that time, added Bob, "is written in the little things, in how many different things" boats such as the *Arabia* made possible. "Capitals and towns in Missouri and South Dakota were the work of people like Western Pennsylvanians.



They helped build the network that created these places."<sup>58</sup> And that, the family agreed, was clearly a legacy worth sharing.

The exhibition **Pittsburgh's Lost Steamboat: Treasures of the *Arabia***, opens April 26, 2014, at the Senator John Heinz History Center. Those wishing to know more about the *Arabia* Steamboat Museum and its story can visit the museum's website at: [www.1856.com/](http://www.1856.com/).

Leslie A. Przybylek is Curator of History at the Senator John Heinz History Center, where she recently curated *Pennsylvania's Civil War* and the new exhibition on the steamboat *Arabia*. A native of Western Pennsylvania with family roots in Pittsburgh, Leslie previously served as Curator of Humanities Exhibitions for *NEH on the Road* and Creative Director for Programs with the Mid-America Arts Alliance in Kansas City, Missouri, where she first learned of the *Arabia*'s story. Leslie holds a B.A. from Gettysburg College and an M.A. from the University of Delaware.

<sup>1</sup> The standard source for the history of the western river steamboat industry remains Louis C. Hunter, *Steamboats on the Western Rivers: An Economical and Technological History* (1949; reprinted New York: Dover Publications, 1994). Also useful is: Adam I. Kane, *The Western River Steamboat* (College Station: Texas A&M University Press, 2004), and Leslie S. Henshaw, "Early Steamboat Travel on the Ohio River," *Ohio Archaeological and Historical Quarterly* 20, no. 4 (October 1911): 378-402.

<sup>2</sup> The standard sources on the *Arabia* are: Greg Hawley, *Treasure in a Cornfield, The Discovery and Excavation of the Steamboat Arabia* (Kansas City, Mo.: Paddlewheel Publishing, 2005) and David Hawley, *Treasures of the Steamboat Arabia* (Kansas City, Mo.: Arabia Steamboat Museum, 1995). Also useful is: Fergus M. Bordewich, "Pay Dirt," *Smithsonian Magazine* (December 2006), available online at: <http://www.smithsonianmag.com/history-archaeology/arabia.html?c=y&page=2>. Information about the *Arabia*'s ownership history is found in Annalies Corbin, *The Material Culture of Steamboat Passengers, Archeological Evidence from the Missouri River* (New York: Springer Publishers,

The Pittsburgh Novelty Works Company made this balance scale (left) and combination boot jack, nail pull, and buggy wrench, which were carried west before sinking.

Arabia Steamboat Museum. Photo by Elizabeth Simpson.







A fine set of crated china emerges from a watery grave. It is believed that the gold-rimmed pieces belonged to a wealthy passenger.

Arabia Steamboat Museum.

2000), 15. The *Arabia* was owned by a Pittsburgh group until March 1855, when ownership was transferred to a concern out of St. Charles, Missouri.

<sup>3</sup> D. Hawley, *Treasures*, 15.

<sup>4</sup> G. Hawley, *Treasure in a Cornfield*, 20; Capt. H.M. Chittenden, "Report on Steamboat Wrecks on Missouri River," *Nebraska History* 51 (1970): 16-23; see also articles such as "The Legend of the Lost Arabia and its Treasure Exploded," *Kansas City Star*, June 1910, and "Under the River's Sands," *Omaha Weekly Bee*, July 22, 1896. It is likely that more than a few of those other boats had Western Pennsylvanian origins. Periods of low water still reveal wrecks hidden under the Missouri's current. See for example, news coverage of the steamboat *Montana*, which re-emerged in August 2012, available online at: <http://fox2now.com/2012/08/10/the-steamboat-montana-resurfaces-in-the-missouri-river/>.

<sup>5</sup> The relationship of both the Missouri and Mississippi River basins to the surrounding geography makes the water table issue a consistent challenge for maritime archeologists, who must either find ways to remove the water from shipwreck excavations, or attempt dive recoveries in extremely limited visibility. See Kane, 33-34.

<sup>6</sup> G. Hawley, *Treasure in a Cornfield*, 39-40; D. Hawley, *Treasures*, 18-19; *The Columbus Telegram*, Columbus, Nebraska, April 19, 1974; unidentified newspaper, Atlanta, Georgia, December 5, 1897, from files of Arabia Steamboat Museum.

<sup>7</sup> G. Hawley, *Treasure in a Cornfield*, 39-40.

<sup>8</sup> Bordewich, 1 (note: page numbers are based on the downloadable online version of this article).

<sup>9</sup> G. Hawley, *Treasure in a Cornfield*, 42, 49.

<sup>10</sup> G. Hawley, *Treasure in a Cornfield*, 47, 140; Bordewich, 2.

<sup>11</sup> G. Hawley, *Treasure in a Cornfield*, 167.

<sup>12</sup> *Ibid.*, 197-214. Due to the ongoing processing of the *Arabia* collection, slated for completion around the year 2022, counts for the number of some items in the collection are estimates rather than final figures.

<sup>13</sup> Today the location of the Snowdon factory in Brownsville, Pa., is the site of an ongoing archeological dig organized by the Mon/Yough Chapter of the Society for Pennsylvania Archeology in association with California University of Pennsylvania. See the blog: [www.archaeologydude.com/2013/06/john-snowdon-and-sons-vulcan-iron-and.html](http://www.archaeologydude.com/2013/06/john-snowdon-and-sons-vulcan-iron-and.html). The author is indebted to Marc Henshaw for this information.

<sup>14</sup> Bordewich, 4.

<sup>15</sup> G. Hawley, *Treasure in a Cornfield*, 153, 177.

<sup>16</sup> Bordewich, 4.

<sup>17</sup> The loss was intensified by the nature of the accident. Hawley's vehicle was caught in the middle of a drag race on Interstate 70 that was witnessed by multiple individuals. Greg was well known as the public face of the Arabia Steamboat Museum, and his death was mourned as a loss to the entire Kansas City community.

<sup>18</sup> Personal interview by the author with Bob, Florence, and David Hawley, Arabia Steamboat Museum, Kansas City, Mo., November 14, 2013.

<sup>19</sup> *Ibid.*

<sup>20</sup> *Ibid.*

<sup>21</sup> *Ibid.*

**ANTHONY BEELEN,**  
**COMMISSION & FORWARDING MERCHANT, PITTSBURGH.**



Johnson & Stockton, print. Pittsburgh.

**SHIPPED,** IN GOOD ORDER, AND WELL CONDITIONED, BY **A. BEELEN,**  
for account and risk of whom it may concern, on board the good Steam  
Boat called the *Franklin*, whereof is Master for the  
present voyage, *Seaman*, now lying at the Port of  
Pittsburgh, and bound for *St. Louis*, the following  
packages or articles, marked or numbered as below, which are to be delivered, without delay, in like good  
order, at the Port of *St. Louis*. (The dangers of River Navigation, Fire and una-  
voidable accidents excepted,) unto *Mrs. S. Ziegler* or to *his* assigns;  
he or they to pay freight for the said goods at the rate of *thirty Cents* per 100 lbs.

In Witness Whereof, The Owner, Master or Clerk of said boat has affirmed to two  
bills of lading, of this tenor and date, one of which being accomplished, the other to stand void.

Dated at Pittsburgh, this *14* day of *November* 184*5*

**MARKS.**

*H.C. Rozier & Co.*

*St. Louis*

*H.C. Rozier & Co.*

1 Box Books	86
5 " Glassward 45.72.71.72.79.	348
6 half boxes 8 X 10 W. Glass	288
2 " 10 X 12 do	100
1 " 12 X 16 do	56
1 box Stone pipes	15
8 Grand Wrapping Paper	175
2 Bales Batting	50
1 Box Wire	80
6 Teakettle Hides	56
13 bags Nails & Brads	1300
1 " Spikes	100
1 " Wrought Nails	33
19 pieces A B. Steel	522
6 tin plate Wood Stoves	1236
6 pieces Sheet Iron	69
26 joints Stone pipe	73
6 Wash Kettles	294
179 pieces Iron assortd	5624
18 Bundles Iron "	1585
1 Franklin Stove and 1 big cast iron balls 15	415
3 joints & 1 Stone pipe	20
<i>Seaman</i>	12 1486

Boats from Western Pennsylvania carried people and commercial goods across the nation in the mid-1800s, opening up the interior of the United States to trade and settlement.

HHC, Detre L&A, Francis C. Rozier & Co records, MF 0129.



<sup>22</sup> Ibid.

<sup>23</sup> By far the majority of Western Pennsylvania-built steamboats, especially through the 1840s and including those that navigated on the Allegheny River, were constructed in the yards along the Monongahela. See Frederick Way, Jr., *The Allegheny* (New York: Farrar & Rinehart, 1942), 223-272. But there were boatyards on the Allegheny. See, for example, ads appearing for the "Allegheny Steam Boat Yard and Steam Saw Mill," *Daily Pittsburgh Gazette*, March 30, 1837.

<sup>24</sup> Kane, 20-21; Leland D. Baldwin, *The Keelboat Age on Western Waters* (Pittsburgh: University of Pittsburgh Press, 1941), 52-53. For a review of Pittsburgh's earlier shipbuilding history, which included the construction of a few ocean-going ships, see William F. Trimble, "From Sail to Steam, Shipbuilding in the Pittsburgh Area, 1790-1865,"

*The Western Pennsylvania Historical Magazine* 58, no. 2 (April 1975): 147-167. The *Arabia's* builder, John Snyder Pringle, was among those who began his career working in a boatyard that built keel boats, see: Boyd Crumrine, Ellis Franklin, and Austin N. Hungerford, *History of Washington County, Pennsylvania with biographical sketches of many of its pioneers and prominent men* (Philadelphia: H.L. Everts & Co, 1882), 635.

<sup>25</sup> Mark Twain, *Life on the Mississippi* (Wordsworth edition of 1883 original, 2012), 88.

<sup>26</sup> The most specific details of the launch are mentioned in an anniversary account of the voyage in 1911: *Pittsburgh Post*, October 30, 1911. The standard account of the trip is: J.H.B. Latrobe, *The First Steamboat Voyage on the Western Waters* (Baltimore, 1871).

<sup>27</sup> Hunter, 70. The boat was sunk by a snag near Baton Rouge, see: James T. Lloyd, *Lloyd's Steamboat Directory and Disasters on the Western Waters* (Cincinnati: James T. Lloyd & Co., 1856), 41.

<sup>28</sup> Kane, 12; Hunter, 70-76; The most notable exception was the *Enterprize*, which achieved fame as the first boat to descend the Mississippi and make a successful return trip as far as Louisville, although this return trip was aided by high water. The *Enterprize* also played a key role in the Battle of New Orleans. See Alfred A. Maas, "Brownsville's Steamboat *Enterprize* and Pittsburgh's Supply of General Jackson's Army," *Pittsburgh History* (Spring 1994): 22-29.

<sup>29</sup> Kane, 44-46; Hunter, 310-311. A part-ownership could include anywhere from two to five or more listed partners, though two-thirds of all boats were owned by four or less men. For the *Arabia's*

## The *Arabia* and "Beecher's Bibles"

*We have thus far been successful, and the guns and ammunition are safe in the hold. The boat is crowded with Border-Ruffians, but they are of the better sort and treat us well, little knowing who we are.*

David Starr Hoyt, writing to his mother aboard the *Arabia*, March 1856

Most of the *Arabia's* voyages delivered basic consumer goods to the homes and tables of settlers. But no steamboat operating on the Missouri River could escape the escalating political tensions of the 1850s. The passage of the Kansas-Nebraska Act in 1854 spurred increasing immigration to the those two new territories, but the Act's clause requiring "popular sovereignty" (e.g. a democratic vote) to determine whether the territories would be slave state or free embroiled Kansas in a bloody conflict that haunted the region long after the Civil War.

In March 1856, the *Arabia* ran right into the middle of the debate. David Starr Hoyt, a covert agent for the New England Emigrant Aid Society, was discovered attempting to secretly ship five crates of Sharps Model 1853 carbines and rifles into Kansas aboard the *Arabia*. The rifles—sometimes called "Beecher's Bibles" due to abolitionist preacher Henry Ward Beecher advocating that a Sharps rifle was a more persuasive moral agent than a Bible for convincing slaveholders of the error of their ways—were part of a larger effort to arm the Free-Soilers in Kansas.

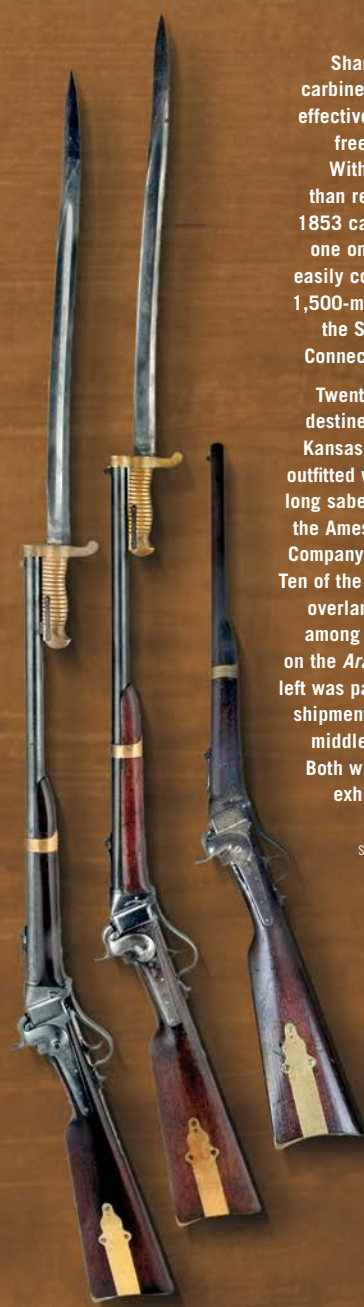
Hoyt's 90 carbines and 10 rifles, hidden in crates labeled "tools" and "machinery," were discovered when a personal note he penned was stolen from his cabin or his coat pocket. Angry passengers and crew uncovered the crates; some even threatened to lynch Hoyt and his agents. Cooler heads prevailed and the men were allowed to leave the boat, but the rifles were confiscated. Months later, Hoyt was murdered by Border-Ruffians and the *Arabia* ended up on the bottom of the Missouri River. Ironically, the rifles, after a lengthy legal battle, were eventually returned to the anti-slavery forces in Kansas.

The *Arabia's* brush with the history of "Bleeding Kansas" will be featured in the exhibit at the Heinz History Center. Two original Sharps rifles connected with the story, as well as six others, will once again demonstrate the many roles that Pittsburgh's western river steamboats played in the drama of westward expansion.

This feature is largely based on:

- Andrew Masich, "'Beecher's Bibles' aboard the Steamship *Arabia*," *The Sharps Collector Report* 19, no. 2: 16-17.
- Philip R. Rutherford, "The *Arabia* Incident," *Kansas History* 1 (Spring 1978): 39-47.

Special thanks to the Sharps Collector Association, <http://sharpscollector.com/>, Guy Ferro, and David Carter.



Sharps Model 1853 carbines were uniquely effective for the Kansas free soil campaign. With barrels shorter than regular rifles, the 1853 carbines (like the one on right) could be easily concealed for the 1,500-mile journey from the Sharps factory in Connecticut to Kansas.

Twenty such carbines destined for Lawrence, Kansas, were specially outfitted with 24 ¾-inch-long saber bayonets from the Ames Manufacturing Company (shown at left). Ten of the rifles were sent overland, and 10 were among those smuggled on the *Arabia*. The gun at left was part of the *Arabia* shipment; the one in the middle went overland. Both will appear in the exhibit at the Heinz History Center.

Sharps Collector Association,  
[www.sharpscollector.com/](http://www.sharpscollector.com/)



## IRON STEAMER—FOR NEW ORLEANS.



The Iron Steamer **VALLEY FORGE**, Baldwin, Master, will depart for the above and intermediate ports, on Thursday next, the 5th December, at 10 o'clock, A. M. For freight or passage, apply on board, or to

**ROBINSON & MINIS, AGENTS.**

The Valley Forge is rendered *Snag proof* by the subdivision of her hull into three separate apartments, each perfectly water tight; she is **FIRE PROOF**, in virtue of the material of which the entire hull is constructed, and of the presence of a complete and powerful fire engine; she is *proof against explosion*, because she is provided with Evans' Safety Guard, which makes **EXPLOSION IMPOSSIBLE**; she is provided with every improvement of cabin and state room that may secure the comfort and convenience of passengers. All the berths of both cabins are enclosed in commodious state rooms opening at once on to the guards and into the cabin; in short, neither expenditure nor pains have been spared to make the passenger comfortable and safe, and to make freight secure on board the Valley Forge. nov 28—td

FELT CLOTHS AND CARPETS

## The Valley Forge — Another Pittsburgh First

Most steamboats built in Western Pennsylvania in the 1800s followed the tradition of wood construction. But one enterprising foundry and engine-builder gave Pittsburgh a "first" in 1839 when it launched a steamboat with a hull built entirely of iron.

Robinson, Minis & Miller started construction on the *Valley Forge* in the summer of 1838. Using iron from Lyon, Shorb & Company's Sligo Mill, the team hoped to complete their experimental craft by July 4, 1839. But the boat's construction proved challenging, and the "iron wonder" was not ready until that fall. The *Valley Forge's* hull was launched on September 9, 1839, and her "upper works" (the wooden deck and furnishings) were finished in time for a public showing in December.

The *Valley Forge* was permanently pulled from service in 1845, and her upper works and engines were transferred to a more traditional steamboat. The novel iron hull was cut up for scrap.

An ad for the *Valley Forge* in the *Daily Pittsburgh Gazette*, November 29, 1836.

HHC Detre L&A

ownership, see: Corbin, *Material Culture*, 14-15.

<sup>30</sup> Kane, 47. French's boat made the first high-pressure run out of Brownsville, but his work was preceded by that of the celebrated steam inventor Oliver Evans, who pushed for the use of high-pressure engines by the early 1800s, and was directly responsible for introducing the manufacture and operation of such technology west of the Alleghenies. See: Hunter, 122-126; and Justin Herbert Daley, "The Pre-Twentieth Century Development of Watercraft Construction in Pittsburgh and Its Impact on Western Waters of North America," Master's Thesis, Indiana University of Pennsylvania (August 2013), 13-14.

<sup>31</sup> Hunter, 17-18, 127. See also: Maas, 22-29.

<sup>32</sup> Lloyd's dramatic *Steamboat Directory and Disasters on the Western Waters* (1856) was one of the earliest volumes to catalog these events. See also: John G. Burke, "Bursting Boilers and the Federal Power, *Technology and Culture* 7, no. 1 (1966): 1-23; and Richard N. Langlois, David J. Denault, and Samson M. Kimenyi, "Bursting Boilers and the Federal Power Redux: Evolution of Safety on the Western Rivers," *Economics Working Papers* (University of Connecticut Digital Commons@UConn, May 1, 1994), 1-27.

<sup>33</sup> Hunter, 72-75.

<sup>34</sup> Although Shreve is often credited as the sole inventor of upper deck, there is evidence that other makers were also experimenting with it. See: Kane, 66; Hunter, 89-90.

<sup>35</sup> Kane, 63.

<sup>36</sup> Hunter, 97-99; Daley, 253.

<sup>37</sup> Hunter, 108-110. Specific examples of Pittsburgh firms that did such work include: Isaac Gullet & Wm Apple (joiners and builders), *Pittsburgh Daily Commercial*, July 7-9, 1853; J.L. Dawes and J.F. Clule (sign painters and glaziers), *Pittsburgh Daily Commercial*, July 9, 1853; and T.B. Young & Company (furniture makers), *Pittsburgh Daily Commercial*, July 20, 1853.

<sup>38</sup> "Correspondence of the Cleveland Herald," *Monongahela Republican*, October 26, 1840, as cited in: J.K. Folmar, *Gleanings from Pittsburgh & W. Pa. Newspaper &c. Views, 1786-1886* (California, Pa.: Yohogania Press, 2006), 79-80.

<sup>39</sup> One insight into the maintenance required to keep western river boats operational can be seen in the documentation of the St. Louis Court of Common Pleas cases regarding the *Avalanche* and the *Shenandoah* (1853). In both, the itemized claims submitted by St. Louis workers, who charged that they were not paid for maintenance done on the craft by their Pennsylvania-based operators, span pages recounting the replacement or refitting of valves, rivets, gaskets, wood items, and other parts. See: Clark et al v. *Avalanche*, No. 29, St. Louis Court of Common Pleas, Civil Case Files, February Term, 1853; and Clark et al v. *Shenandoah*, No. 69, St. Louis Court of Common Pleas, Civil Case Files, February Term, 1853. Missouri State Archives – St. Louis.

<sup>40</sup> Hunter, 100-102; W.G. Lyford, *Western Address Directory* (Baltimore: Jos. Robinson, 1837), 43.

<sup>41</sup> Henshaw, 388-390. Stories of boat departures delayed by hours or even days were common. Some riverboat captains were notorious for urging passengers to sign on in haste, preparing for an "immediate" departure, only to stall for an extended

period until they had rounded up enough passengers or cargo to ensure profitability. One good account of such practices can be found in: Hiram Mills, "The Romantic Past? Steamboat Experiences, From the Journal of Dr. Hiram Mills," *Missouri Historical Society Bulletin* (July 1957): 385-392. Missouri Historical Society.

<sup>42</sup> As cited in Hunter, 28-29.

<sup>43</sup> The *Frankfort Commonwealth*, as recounted in the *Daily Pittsburgh Gazette*, April 5, 1837.

<sup>44</sup> As cited in Folmar, 73-74.

<sup>45</sup> James Hall, *Notes on the Western States, containing descriptive sketches of their soil climate, resources and scenery* (Philadelphia, 1838), 216, from the Collection of the Herman T. Pott National Inland Waterways Library, Mercantile Library, St. Louis. The "western states" as defined in this volume included Kentucky, Ohio, Indiana, Illinois, Missouri, the territory of Michigan, and parts of Virginia, Pennsylvania, and Tennessee, plus "a region of about five hundred miles in width lying west of these organised boundaries" (see page 13).

<sup>46</sup> Lyford, 461-468. Of 368 listed boats, 142 were identified as being of Pittsburgh or Western Pennsylvania in origin, with the communities of Brownsville, Elizabeth, Shousetown, and Beaver being among those identified as communities of origin. The exact percentage totals 38.5 percent.

<sup>47</sup> "The Memphis Convention and Western Improvements," *The American Review: A Whig Journal* (June 1847): 549. Of the roughly 128 boats built in 1845, 50 were from Pittsburgh (39 percent) and 36 were from Cincinnati. Louisville, Kentucky, ranked third, with 26 boats.



Ticket for Ohio River passage from Portsmouth to Cincinnati, Ohio, May 2, 1841. Steamboats such as the *Valley Forge* regularly shuttled passengers and cargo to growing towns along the Ohio River.

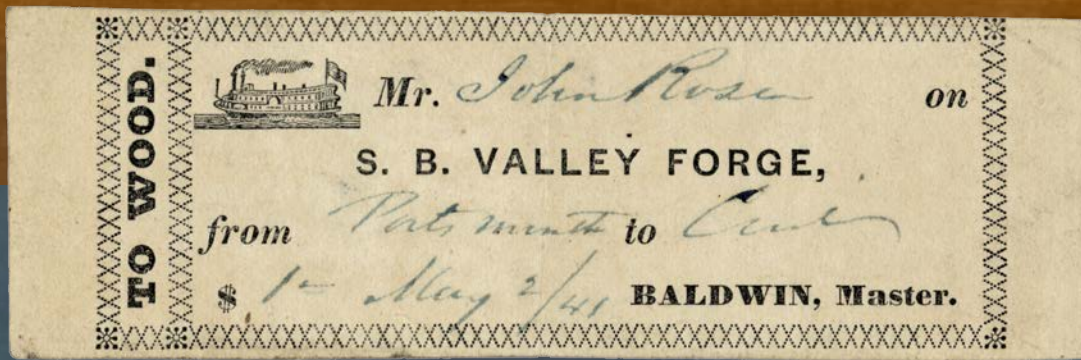
HHC Collections.

## “Launch of the Iron Boat” ~ *Daily Pittsburgh Gazette*, September 10, 1839

The present freshet affording water enough, somewhat unexpectedly, the proprietors of the Iron Steam Boat determined yesterday morning to launch her at 5 o'clock in the afternoon.

As the hour approached, notwithstanding the short notice given, thousands were assembled to witness the launch. We were amongst those who were invited aboard to enjoy the scene. About five minutes before 5, every thing being in readiness, the word was given to “cut away,” and the boat started in beautiful style, gliding into the water without jar or surge. The first rush was to see how much water she would draw; in an instant a score of joking banters passed touching her draught.

Some stood for fourteen inches, some thirteen, twelve, eleven, ten, were severally cried out, and when she settled all were astonished. *Nine inches astern. Nine and a half forward, proves to be her draught.*



The instance is without parallel: a *timber* boat of her capacity, similarly constructed, would draw *twenty one inches*, while the Iron steamboat draws but *nine and a half*...

Here, then, is a boat, the product of Pittsburgh enterprise and mechanical skill, the first of any considerable size built in the country, which, when finished, will afford the safest vehicle for the conveyance of persons and property which can be produced, in the shape of a steamboat.

Her length in deck is 160 feet, length of keel 140 feet, breadth of beam 25 feet 4 inches, depth of hold 6 feet.

This feature is based on the article, “The Iron-Hulled Steamboat *Valley Forge*,” by well-known steamboat captain and historian Frederick Way, Jr., for *Western Pennsylvania Historical Society Magazine* 44, no. 2 (June 1961): 137-149. Access it online at <http://ojs.libraries.psu.edu/index.php/wph/article/view/1882/1730>

<sup>48</sup> *Daily Missouri Republican*, March 29, 1837, as cited in William E. Lass, *Navigating the Missouri, Steamboating on Nature's Highway, 1819-1935* (Norman, Okla.: University of Oklahoma Press, 2007), 108-110.

<sup>49</sup> Correspondence, Theodore W. Dunnica, Pittsburgh, Pennsylvania, to Messrs. Chouteau and Mackenzie, St. Louis, Missouri, May 14, 1839, McKenzie Papers, Missouri Historical Society.

<sup>50</sup> Correspondence, J.I. Dales, Louisville, Kentucky, to J.T. Hogg, Brownsville, Pennsylvania, January 26, 1847, Steamboats and River History Collection, Missouri Historical Society.

<sup>51</sup> *Daily Pittsburgh Gazette*, March 24, 1855.

<sup>52</sup> William Larimer, Jr., to the *Daily Pittsburgh Gazette*, May 23, 1855 (publishing correspondence dated May 9, 1855).

<sup>53</sup> Ibid.

<sup>54</sup> These examples are drawn from items recovered on the *Arabia*; G. Hawley, *Treasure in a Cornfield*, 197-219; information on product origins comes from an on-site review with Greta Erhardt and staff at the Arabia Steamboat Museum, November 12-13, 2013. The commercial network that steamboats helped to expand was based on a complex system of merchants and commission houses that is beyond the scope of this article. For more information, see: Lewis E. Atherton, *The Frontier Merchant in Mid-America* (Columbia: University of Missouri Press, 1971), 82-86.

<sup>55</sup> The urgent need for lumber on the Nebraska frontier was mentioned by William Larimer in his letter, *Daily Pittsburgh Gazette*, May 23, 1855. At least one St. Louis lumber dealer also specifically advertised “seasoned Allegheny white pine” from Pittsburgh to would-be customers in the Missouri River communities near St. Joseph. See: advertisement from J.H. White, *Weekly Commercial* (St. Joseph, Mo.), April 7, 1854, microfilm from Missouri Valley Room, Kansas City Public Library.

<sup>56</sup> Again, examples drawn specifically from cargo recovered on the *Arabia*.

<sup>57</sup> Personal Interview by the author with Bob, Florence, and David Hawley, Arabia Steamboat Museum, Kansas City, Mo., November 14, 2013.

<sup>58</sup> Ibid.

Along with building supplies and dry goods, the *Arabia's* cargo included canned and bottled foods such as these pickles, still preserved after more than 160 years.

Arabia Steamboat Museum. Photo by Dave Hawley.



## Arabia Steamboat Museum

Once you've seen the History Center's *Arabia* exhibit, you'll want to visit the museum devoted to the doomed steamer and its recovery. A full-sized reproduction of the main deck shows the grand scale of a steamboat, with the *Arabia's* huge boilers and steam engine in place. A 28-foot paddlewheel turns in a pool of water alongside the final resting place of a mule skeleton — the only life lost in the *Arabia's* sinking. Thousands of recovered items bring the frontier to life.

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