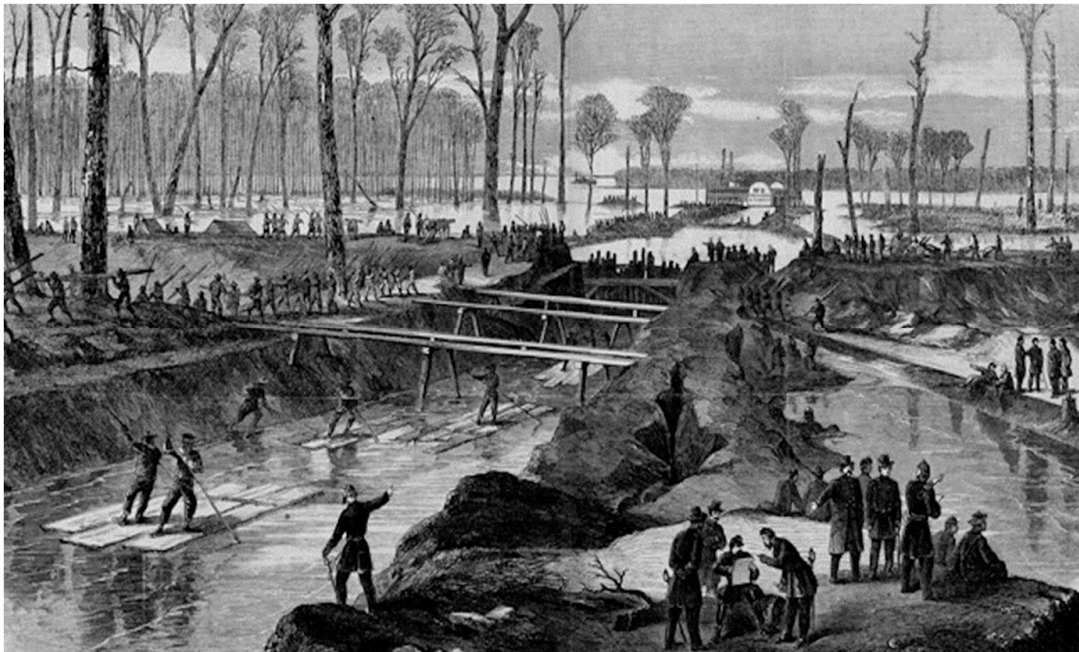


Camped in the blackwater Mississippi swamps facing Vicksburg, soldiers of the Chicago Mercantile Battery complained about their drummers beating day and night. They lamented that “*one funeral procession after another*” was burying their comrades in horrid graves in the river levee. Many Union remains were washed up and away by the disrespectful Mississippi River.

Northern missionary and relief organizations rushed with limited resources to provide what they could to stem the suffering of their soldiers in the Louisiana jungles.



Grant's treacherous, disease-ridden 1863 canal operation at DeSoto Point, La.  
*Image by Henri Lovie, Frank Leslie's Illustrated Newspaper, March 28, 1863.*

Before they ever faced Pemberton's forces, Grant's men would face an army of natural enemies: ticks, lice, mosquitoes, and a varmint new to the Northern soldier, chiggers with their maddening itch.

Swamps filled with dislodged and agitated man-eating alligators, disgusting leeches, and monster water moccasins kept soldiers on almost debilitating alert.

The Mississippi swamps offered zero in the way of the gallon of fresh drinking water every soldier needed daily. The water was so sediment-laden that locals joked that it was “*too thick to drink and too thin to plow.*”

A barrel of Mississippi River water intended for drinking would be left standing for many hours to allow the muddy sediment to settle to the bottom. The water could then be *racked* like wine, the cleaner top water drained away. Left in the sun, barrels of Mississippi River water would get warm to the taste and various *wiggles* would need to be strained.

Dysentery, the leading killer of the war, was on parade in Louisiana.

### **A Treacherous Lifeline**

Union quartermasters would be dependent on tender, vulnerable vessels moving a million pounds of war material and supplies daily to keep Grant's army postured for victory at Vicksburg. The 500-mile transport route from Cairo, Illinois, was one long, treacherous enemy and environmental gauntlet.

In 1863, the Mississippi could be a *new river every day*, its shifting sands and freely fluctuating depths producing shoals capable of grounding unsuspecting pilots. An immobilized steamer was a *sitting duck* for enemy marauders. The Mississippi River loved to *pile on*, using its current to rip a stuck vessel apart.

As dangerous as icebergs in the Atlantic Ocean, trees, living and dead, are pulled into the channel of a falling, receding river where they become ragged floating and submerged *snags*. These timber *traps* could hold a steamer hostage for hours or rip its belly open entirely. The Mississippi River's snags were more effective than the enemy at sinking vessels.

River pilots with deep-draft war vessels might expect a river adequate for naval operations in winter and spring. Adm. David Glasgow Farragut, however, found his deep-draft vessels vulnerable in front of Vicksburg as summer began dropping river stages in late July.

In the river's smaller tributaries like Steele Bayou north of Vicksburg, a war vessel drawing more than six feet of water would quickly become a liability. Maritime designers on both sides prioritized creating solutions for *brown-water* warboats.

Since the earliest days of steamboating, prosperous river shippers had engaged in a game of *Russian Roulette*, betting lives and property on operational costs, schedules, capacity, and fire-stoked wooden vessels powered by high-pressure steam boilers that were ticking time-bombs. Vessels rarely survived five years under this business model.

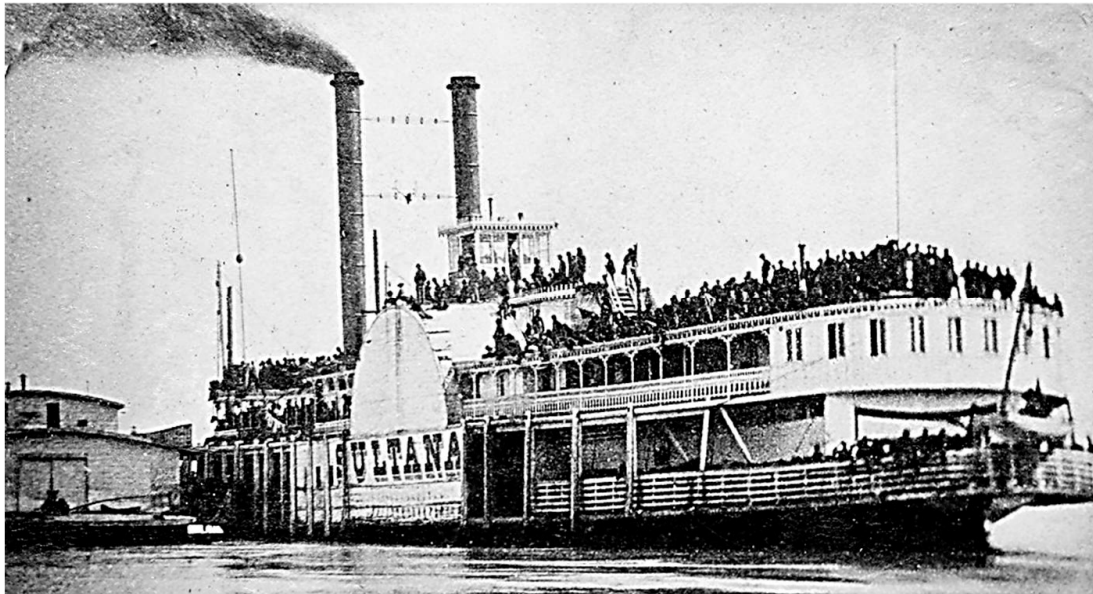
The added pressures of combat, wartime profits, personal or political urgency, and inexperienced crews meant tragedy was just around the bend.

Boiler explosions were commonplace on the Western rivers and always catastrophic. Even an exploding 30-gallon home hot-water tank has the capacity, the experts say, to blow an automobile fourteen stories high with a launch speed of 85 miles per hour.

Western steamboat engine boilers came in multiples and featured fire-tube boilers exponentially larger than a home system. Crews feared these over-sized bombs.

On April 27, 1863, the steamer *Sultana* fell victim to the convergence of these hazards faced by the vessels of her day. The *Sultana*, designed to carry 376 passengers, was gravely overloaded with more than 2,200 Union prisoners of war headed home from a Vicksburg collection center.

An illicit deal had been made to capitalize on the \$10-per-soldier passenger fee, netting the crooks about \$3/4 million in 2023 dollars. About 1,800 survivors of the horrible prisoner of war camps at Cahaba, Alabama, and Andersonville, Georgia, were on the boat's manifest.



*Echoes of jubilant Sultana soldiers still ring today from Vicksburg's waterfront. From a Civil War tintype, April 26, 1865, Helena, Ark. (WKP)*

Near Marion, Arkansas, across the river from Memphis, Tennessee, the *Sultana's* hastily repaired boilers exploded at 2:00 a.m. Over 1,700 died horrible death in many forms as a result. The Mississippi River holds the *dark record* for the **worst maritime disaster in American history**, worse than the sinking of the *R.M.S. Titanic*.

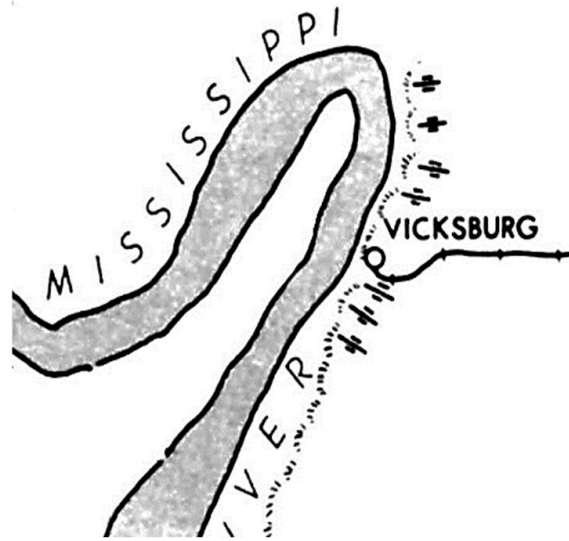
Ventures into the Mississippi's tributaries, the Yazoo, the Red, and the Arkansas led to *steamboat graveyards*. RAdm. David Dixon Porter's trapped flotilla had to be saved by Sherman during his Steele Bayou Campaign.

On the Red River, Porter came within a whisker of abandoning his entire surviving fleet trapped by falling stages. Many had already been sunk or destroyed on the expedition.

An extreme hairpin river bend in front of Vicksburg (*see photo next page*) required vessels to slow down to navigate the turn. The river created a perfect *killing field* for Confederate gunners. Even the Union ironclad *U.S.S. Cincinnati* was sunk in Vicksburg's artillery crossfire in the bend.

When Grant had no recourse but to run his Army transports by Vicksburg's line of 75 guns on April 16, 1863, contract pilots refused the *suicide mission*. Soldiers volunteered or *were volunteered* to man and pilot the vessels.

On one run, Maj. Gen. John Logan warned his soldiers that any man abandoning his post on a transport would be shot. Several received the Medal of Honor during those hazardous operations.



Conversely, the west channel of Vicksburg's treacherous Tuscumbia Bend (*above*) proved to be a relatively safe harbor for Union vessels and for the mortar boats that fired over 7,000 of their 200-lb. mortar shells into Vicksburg for 47 days and nights.

### Evolve or Perish

The Mississippi River would become a primordial, intensely interactive war gameboard, willing to test the old rules of warfare and to change the daily landscape at a whim.

The challenges of the Mississippi River would certainly demand the greatest minds of the era. Strategies, weaponry, and innovative measures and countermeasures all demanded an evolution or revolution in the art of war for success in the *brown waters* of the Western theater.

### Brown-Water Navies

For the first time in history, a successful military outcome depended on hundreds of fragile steam-powered transports and steely-eyed pilots instinctive to the river's tricks and turns and adaptative to frequent on-the-fly changes in riverine tactics and technology. Strange new vessels on both sides would go into urgent construction with the ink not yet dried on the draftsman's plans.

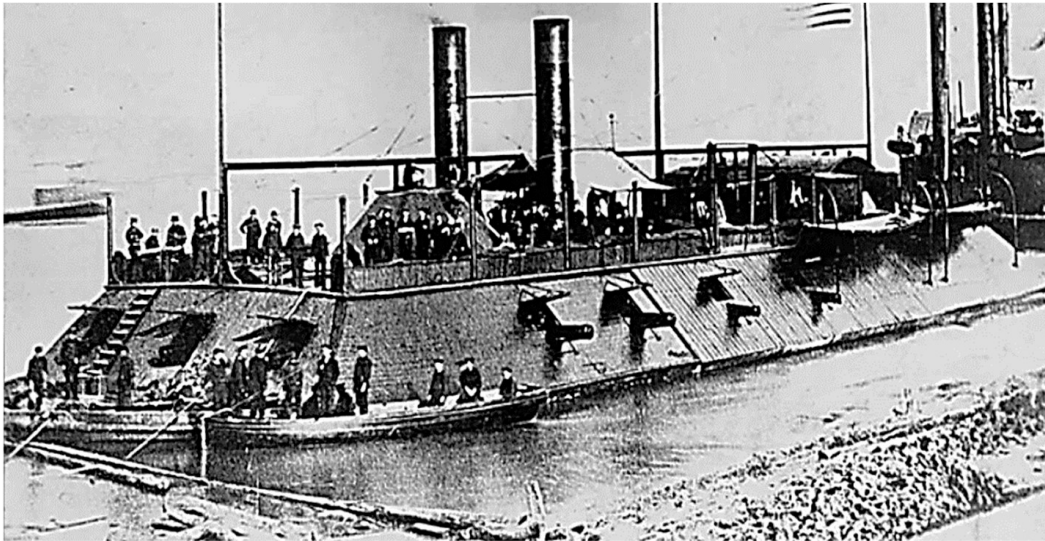
Floating Union Army monsters appeared near Cairo, Illinois, in January 1862, 800-ton ironclad gunboats conceived by the preeminent engineer of his Age, self-taught James Buchanan Eads, who designed the first bridge across the Mississippi River at St. Louis, Missouri. It was Eads who came up with the strategy of converting Western steamboats into ironclad gunships.

Designed by the U.S. Navy's Samuel Pook, these forerunners of battleships and tanks were also built by Eads, seven 175-foot behemoths completed in a miraculous few months and named for cities along the Ohio and Mississippi rivers.

**These Western vessels were battle-tested weeks prior to their more famous sisters, the *U.S.S. Monitor* and the *C.S.S. Virginia*.**

To overcome the low river stages that hindered Farragut's war vessels in the summers at Vicksburg, Eads' ironclads were designed to navigate on just six feet of water, or "*on a heavy dew.*"

For lesser depths, vessels such as Lincoln's 176-ton *U.S.S. Cricket* required only eighteen inches to float. "*Our web-footed Navy can go wherever the ground is a little damp,*" President Lincoln quipped.



The *U.S.S. Cairo* and her 175-man  
*U.S. Navy History and Heritage Center (USNHHC).*

There was a corresponding Confederate rush to field a large fleet of gunboats converted from steamboats. The Confederate mantra of the day was, "*If it floats, put a cannon on it.*"

When Louisianians ran short of packets to convert, they modified a drydock into a floating battery, the *C.S.S. New Orleans*. The strange but powerful battery was unnerving to approaching Union crews.

These opposing navies would see the **first major action involving ironclad vessels and rams** on May 10, 1862, at Plum Point, Tenn. **It was also the first true naval battle in the Western theater.**

Two of Eads' *unsinkable* ironclads, the *U.S.S. Cincinnati* and *Mound City*, were sunk at Plum Point in previously unimagined warfare. Both of these durable, resilient vessels were *raised, repaired, and returned to service.*

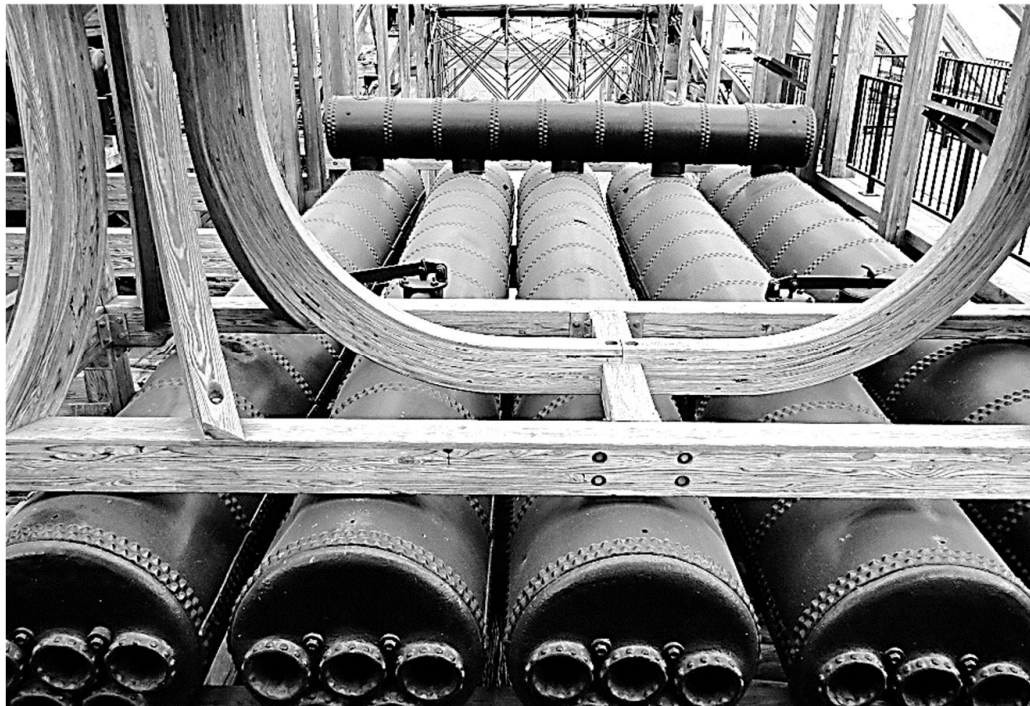
The Battle of Memphis would be a major test for the **U.S. Ram Fleet**.

### **Afraid of the Beasts**

As 400 shipbuilders worked around the clock on Ead's "smoke pots" using lumber from mills in four states, they lacked one a key resource – crews. Experienced seamen, for the most part, had already joined the *blue-water* Navy. And, obviously, there were no experienced ironclad crewmen.

The sight of a belching, hot, overcrowded ironclad bristling with thirteen heavy guns would have concerned the average Northwestern soldier or sailor facing an ironclad assignment. But it was those tubular steam boilers that Eads had installed that gave the recruits the greatest pause.

The unpredictable pressure cookers were the same that were infamous for destroying boats and claiming passengers and crews. The *U.S.S. Mound City* suffered a perforated boiler in battle on Arkansas' White River. Eighty-two sailors were buried on site, most dying a horrific steam-related death. Only 25 sailors were unhurt of a crew of 175.



The *U.S.S. Cairo*'s fearsome tubular boiler system.  
Image from the Gary J Millett Collection. (GJMC)

Filling the ironclad crew rosters required an inventive personnel system. Immigrants were offered American citizenship for serving. About one-third of crews on Eads' boats were immigrants from a variety of countries.