



## Timberclads, tinclads, and cottonclads in the US Civil War

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The United States Civil War (1861–1865) is known primarily for its land battles. But a substantial amount of naval warfare also occurred, for two primary reasons: (1) the Union attempted to blockade over 3500 miles of Southern coastline to prevent the shipping of valuable cotton from the Confederate States to England, as well as the importation of much needed supplies; and (2) the rivers—especially the Mississippi—were the great highways of the time. Though railroads were growing quickly, the rivers were still the quickest ways to transport troops, equipment, and food.

Both sides purchased riverboats, with shallow drafts (water displacement) to navigate rivers that, at that time, dropped to depths of a couple of feet in the hot summer months. Steam-powered paddle wheel boats had to be outfitted for protection from enemy cannon and rifle fire. In the desperation of the times, and amid limited resources, different and sometimes unlikely materials were used as “armor” for these boats—timber, thin sheets of iron (called “tin” to distinguish them from the bulky iron armor of the “ironclads,” such as the famous Monitor and Merrimack vessels), and even cotton.

Through experimentation, in 1861 Union Commander John Rodgers II determined that 5 inches of oak timber was sufficient to protect sailors from the penetration of a rifle bullet shot from guerilla snipers on the riverbank. In June 1861, he purchased three riverboats—the Lexington, Tyler, and Conestoga—and sent them for refitting at the Marine Railway and Drydock Company in Cincinnati, Ohio. In addition to reinforcing the bulwarks with five inches of oak armor, which earned them the nickname “timberclads,” the decks were reinforced with thick wooden beams to support the weight of cannons, and the boilers were moved from the deck to the hold underneath to make them less easy targets. Placed into active duty in the fall of 1861, the Lexington, Tyler, and Conestoga performed admirably in all the major campaigns of the western theater of the war, supporting troops with covering cannon fire.

The ever-increasing guerilla fighting of Confederate snipers soon called for a more formidable response. Rear Admiral Charles H. Davis, commander of the Western Flotilla, pushed for the development of lighter riverboats clad in one-half to one-inch layers of iron for protection.

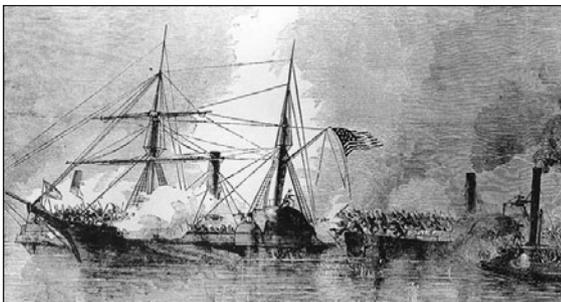
When the Confederate steamer Alfred Robb was captured on April 21, 1862, it was retrofitted as the first of 72 “tinclads,” which journalists soon began calling the “mosquito flotilla.” Tasked with producing the lightest boats with the lowest draft possible, Commander Alexander M. Pennock ordered iron sheet metal to be installed around the forecastle, the pilot house,

and the boiler, among other modifications, to resist fire from rifles and light artillery. In three years of fighting, only three of these swift, shallow-bottomed tinclads were lost in battle. They often accompanied larger gunboats to protect them from riverside sniping, and greatly reduced the damage inflicted by Confederate guerrillas for the remainder of the war.

On the Confederate side, the expanding Union effort in 1862 to seal the border throughout the Gulf of Mexico, and specifically Texas, led Confederate Major General John B. Magruder to order the manufacture of ironclads to recover the island city of Galveston from Union control. But the Confederacy did not have the resources to build the ironclads, so Magruder turned to the South’s most plentiful resource—cotton. Similar to the ability of five inches of oak to block bullets, 500-pound bales of cotton could provide breastworks and firing platforms to protect their soldiers while firing at the enemy. The Confederate government purchased the riverboat Bayou City, removed the upper cabins and the pilot house, and stacked cotton bales along the perimeter of the deck. Cotton bales were also installed around the boiler.

In the six-hour Battle of Galveston on January 1, 1863, the Bayou City, with the help of another cottonclad called the Neptune, attacked the Union’s warship Harriet Lane. Cannon fire from the Bayou City disabled Harriet Lane’s port side paddle wheel, while the Neptune, itself foundering from Union artillery damage, still managed to ram the Harriet Lane’s side. While soldiers on the Neptune kept up a steady barrage of rifle fire even while their vessel was sinking, the Bayou City rammed into the Harriet Lane’s port paddle wheel. Despite the Bayou City’s modest cotton armor, the crash led to Union rumors that the Harriet Lane had been rammed by a mighty Confederate ironclad. Rebel soldiers boarded the Harriet Lane and captured it, thereby restoring Galveston to Confederate control.

While the Union victory was ultimately the result of land-based battles, the superior number of soldiers and greater resources of the Union, riverboats clad in all manner of materials played a key role in the outcome of the US Civil War. □



Engraving, published in *History of the Confederate States Navy*, depicting Confederate troops boarding Harriet Lane from C.S. gunboats Neptune and Bayou City.