

# Technology of the Civil War

The Civil War is regarded as the first “modern” war by many historians, and part of that reasoning is due to the massive technological advancements made and used during the war.

## I. On the Battlefield

While rifles, the galling gun, and double-barreled cannons often fill the minds of those imagining the Civil War, the sea and air were also added as new battlefields in the 1860s. The submarine, ironclad, and hot-air balloon were all used to gain advantage over the enemy.

Both sides began developing submarine technology quite early on in the war. Examine the images of the *H.L. Hunley* and the *USS Alligator*. What similarities and differences do you see?

<i>USS Alligator</i>	Similarities	<i>CSS Hunley</i>

Why would submarines be useful in the Civil War since many of the battles took place on land?

What sorts of limitations would a submarine have at this time (think of modern submarine warfare)?

NOTE: While the [CSS Hunley](#) has been found, the *USS Alligator* is [still missing](#).

Another significant naval innovation was the ironclad. Although the term applies to any warship protected by iron or steel armor plates (the first use dating back to the 16<sup>th</sup> Century), the first Western uses were around the time of the US Civil War. [Examine the location](#) of Mound City, IL, incorporated in 1857. Why would [this location](#) have been chosen by the US Army to produce ironclads?

Why do you think the Mississippi River was important to the US Navy?

The ironclads built in Mound City were known as “Pook Turtles” or City-class gunboats, and those boats became the US Navy’s Mississippi River Squadron. Examine the images of the City-class gunboats. What would some of the requirements for warships on a river be compared to at sea?

Next, read the following transcript:

“...In his last days, he couldn’t find anyone who shared his memories and the things he saw...because there wasn’t a man alive who saw those things. He could have counted the men who ever did on his fingers. There was John Wise, John the Mountain, Ezra Allen and his brother James, a few assistants, and that was it. And they were all dead. Which left professor T.S.C. Lowe as the last man to have seen the Civil War from above. He was an aeronaut. He was a balloonist. He spent the 1850s doing what all balloonists did in the 1850s...trying to come up with ways to fly across the Atlantic. But when war came in 1861, he offered himself and his balloons to his government. His job was to fly hundreds of feet in the air and look down. He soared over battlefields until he crash-landed behind enemy lines at Bull Run. After that, he just went up and down, rising above army camps, taking off from the middle of Chesapeake Bay, turning a coal barge into their first aircraft carrier. He would signal down to Union forces about enemy positions and troop movement.”  
(from the Memory Palace “[What They Saw](#)”)

Now look at the images of Lowe’s balloon and read his letter. What would some dangers and limitations of flying in a balloon be?

What sort of defense would an army have against balloon surveillance?

The Civil War also saw the birth of the Army Ambulance Corps. Look at the images.

As a unit of the Union Army, the corps was originally a unit within the Army of the Potomac. However, by 1864, the service had spread to all of the Union forces via the Ambulance Corps Act. What benefits do you think having an ambulance corps would provide?

What problems would the corps have encountered?

II. Black and White and Read All Over

The Associated Press (AP) was founded in 1849, and took advantage of the multitude of new technologies available to reporters and editors of the time. The rotary press, invented in the 1830s and later combined with steam power, helped speed up production and bring the price of papers down significantly.

Look at the images of the printing press and rotary press. What differences do you notice? What similarities?

Printing Press	Similarities	Rotary Press

Not only could the AP and other papers quickly turn out content, but the invention of the telegraph and expansion of railway networks helped bring the war to civilians (albeit not always fact-checked).

*Harper’s Weekly* was one of a few periodicals that hired artists and illustrators to go to battlefields and sketch what they saw. “Illustrated weeklies” were a regular staple of the civilian experience thanks to electrotyping, which used chemicals and electric current to reproduce detailed images.

Examine the chart for the cost of electrotyping. Think about what you notice and who would have used this chart to fill out the O/R/Q below:

Observe	Reflect	Question

IV. An Arm and a Leg

Between 1861 and 1873, the US Patent Office granted over 130 patents for artificial limbs and prosthetic devices. Also during that time, the government established programs to provide those limbs free of charge to veterans. Over 50,000 men survived as amputees, proving to be a large customer base for inventors of more realistic-looking limbs. In turn, future wars of the mid-19<sup>th</sup> Century benefited from this improved technology.

Read the bio of [John Case](#):

Born in Chelsea, Maine, to Oliver and Rachel Chase, John F. Chase (1843–1914) enlisted as a private in Company B of the 3rd Maine Infantry in early June of 1861. Transferred to the 5th Maine Artillery in November 1861, Chase’s first claim to fame occurred at the Battle of Chancellorsville on May 3, 1863. With the rest of his battery either dead or wounded, Chase continued to fire his cannon under a sustained barrage by the forces of Confederate General Stonewall Jackson. For his “extraordinary heroism” Chase was awarded the Medal of Honor in 1888. On July 3, 1863, while defending Cemetery Hill at the Battle of Gettysburg, a shell exploded near Chase. He lost his right arm and left eye. Overall, he sustained forty-eight shrapnel wounds. Unconscious and presumed dead, Chase remained on the battlefield for two days before his body was removed. Transferred to a field hospital when an orderly became aware he was still alive, Chase received no medical attention for an additional three days as the attending doctors assumed he had no chance for survival. Miraculously escaping death, John Chase was discharged from the U.S. Army on medical disability on

November 25, 1863. Returning to Maine, he married Maria Merrill and fathered six children. Constantly inventing new devices, he submitted approximately forty-seven patent applications during his lifetime. In 1895, Chase moved with his family to St. Petersburg, Florida, where he was active in real estate development.

Now examine the “Left Hand Penmanship” poster. Why do you think the right limbs of soldiers were the most commonly harmed/lost during the war?

What other types of challenges do you think returning soldiers would face when injured?