

CIVIL WAR TECHNOLOGY

The Civil War was a time of great social and political upheaval. It was also a time of great technological change. Inventors and military men devised new types of weapons, such as the repeating rifle and the submarine that forever changed the way that wars were fought. Even more important were the technologies that did not specifically have to do with the war, like the railroad and the telegraph. Innovations like these did not just change the way people fought wars—they also changed the way people lived.

NEW KINDS OF WEAPONS

Before the Civil War, infantry soldiers typically carried muskets that held just one bullet at a time. The range of these muskets was about 250 yards. However, a soldier trying to aim and shoot with any accuracy would have to stand much closer to his target, since the weapon's "effective range" was only about 80 yards. Therefore, armies typically fought battles at a relatively close range.

Did You Know?

The rifle-musket and the Minié bullet are thought to account for around 90 percent of Civil War casualties.

Rifles, by contrast, had a much greater range than muskets did—a rifle could shoot a bullet up to 1,000 yards—and were more accurate. However, until the 1850s it was nearly impossible to use these guns in battle because, since a rifle's bullet had roughly the same diameter as its barrel, they took too long to load. (Soldiers sometimes had to pound the bullet into the barrel with a mallet.)

In 1848, a French army officer named Claude Minié invented a cone-shaped lead bullet with a diameter smaller than that of the rifle barrel. Soldiers could load these "Minié balls" quickly, without the aid of ramrods or mallets. Rifles with Minié bullets were more accurate, and therefore deadlier, than muskets were, which forced infantries to change the way they fought: Even troops who were far from the line of fire had to protect themselves by building elaborate trenches and other fortifications.

"REPEATERS"

Rifles with Minié bullets were easy and quick to load, but soldiers still had to pause and reload after each shot. This was inefficient and dangerous. By 1863, however, there was another option: so-called repeating rifles, or weapons that could fire more than one bullet before needing a reload. The most famous of these guns, the Spencer carbine, could fire seven shots in 30 seconds.

Like many other Civil War technologies, these weapons were available to Northern troops but not Southern ones: Southern factories had neither the equipment nor the know-how to produce them. "I think the Johnnys [Confederate soldiers] are getting rattled; they are afraid of our repeating rifles," one Union soldier wrote. "They say we are not fair, that we have guns that we load up on Sunday and shoot all the rest of the week."

BALLOONS AND SUBMARINES

Other newfangled weapons took to the air—for example, Union spies floated above Confederate encampments and battle lines in hydrogen-filled passenger balloons, sending reconnaissance information back to their commanders via telegraph—and to the sea. “Iron-clad” warships prowled up and down the coast, maintaining a Union blockade of Confederate ports.

For their part, Confederate sailors tried to sink these ironclads with submarines. The first of these, the Confederate C.S.S. Hunley, was a metal tube that was 40 feet long, 4 feet across, and held an 8-man crew. In 1864, the Hunley sank the Union blockade ship Housatonic off the coast of Charleston but was itself wrecked in the process.

THE RAILROAD

More important than these advanced weapons were larger-scale technological innovations such as the railroad. Once again, the Union had the advantage. When the war began, there were 22,000 miles of railroad track in the North and just 9,000 in the South, and the North had almost all of the nation’s track and locomotive factories. Furthermore, Northern tracks tended to be “standard gauge,” which meant that any train car could ride on any track. Southern tracks, by contrast, were not standardized, so people and goods frequently had to switch cars as they traveled—an expensive and inefficient system.

Union officials used railroads to move troops and supplies from one place to another. They also used thousands of soldiers to keep tracks and trains safe from Confederate attack.

THE TELEGRAPH

[Abraham Lincoln](#) was the first president who was able to communicate on the spot with his officers on the battlefield. The White House telegraph office enabled him to monitor battlefield reports, lead real-time strategy meetings and deliver orders to his men. Here, as well, the Confederate army was at a disadvantage: They lacked the technological and industrial ability to conduct such a large-scale communication campaign.

In 1861, the Union Army established the U.S. Military Telegraph Corps, led by a young railroad man named [Andrew Carnegie](#). The next year alone, the U.S.M.T.C. trained 1,200 operators, strung 4,000 miles of telegraph wire and sent more than a million messages to and from the battlefield.

CIVIL WAR PHOTOGRAPHY

The Civil War was the first war to be documented through the lens of a camera. However, the era’s photographic process was far too elaborate for candid pictures. Taking and developing photos using the so-called “wet-plate” process was a meticulous, multi-step procedure that required more than one “camera operator” and lots of chemicals and equipment. As a result, the images of the Civil War are not action snapshots: They are portraits and landscapes. It was not until the 20th century that photographers were able to take non-posed pictures on the battlefield.

Technological innovation had an enormous impact on the way people fought the Civil War and on the way they remember it. Many of these inventions have played important roles in military and civilian life ever since.

Name: _____ Hr: _____

Answer the following questions related to the Civil War Technology article

1. Which Civil War Technology do you feel to be the most important?
2. Why do you feel it is the most important? Give multiple reasons
3. How does the 'Repeater' changed the way soldiers fight?
4. What ways do you think the telegraph changed the war?
5. Who was more likely to use these new technologies? How would that affect the war?
6. What new technologies during the Civil War does the military still use today?
7. What technology do you think had the least affect on the Civil War?