

1

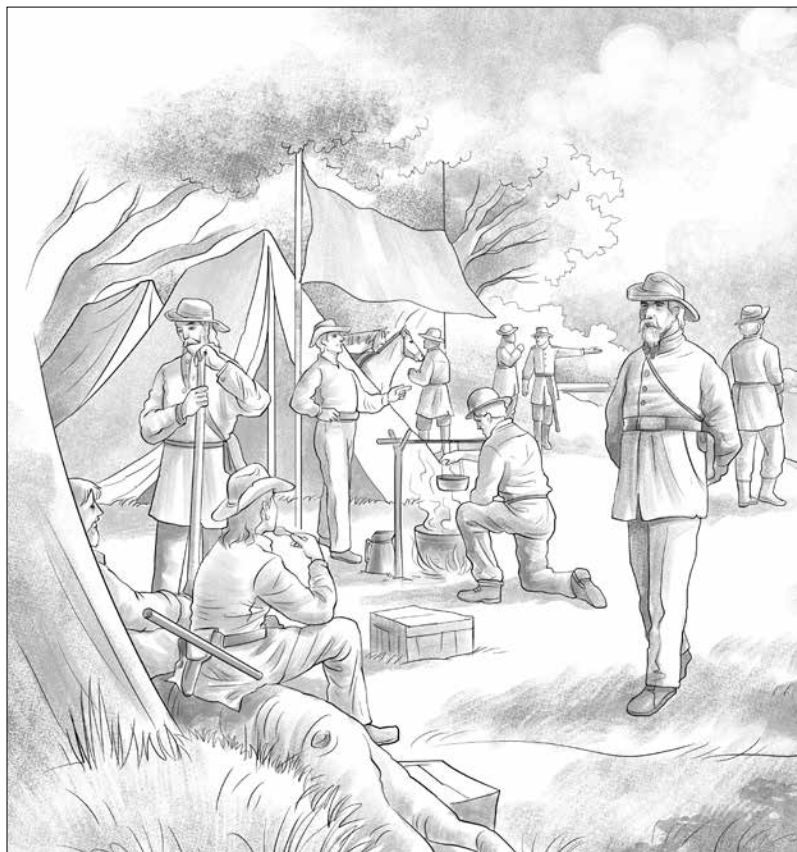
In the Air

Captain Federico Fernández Cavada lifted his spyglass and surveyed the enemy camp. Tents, cannons, and campfires were spread out across a patch of land in southeastern Virginia. Suddenly, what looked like tiny clouds along the ground caught his attention. Could the puffs of dust be made by horses' hooves and marching soldiers? That could be a sign that troops were on the move. This was the kind of important information that the young officer would relay to his commanders.

It was the spring of 1862, and the American Civil War had been raging for a year. The United States, once a whole nation, had split in two. The war had pitted Americans against each other.

The Northern states still thought of themselves as the United States of America, or the Union. But the Southern states had formed a new country: the Confederate States of America, or the Confederacy. The two sides had given each other nicknames. Union soldiers—and anyone who

agreed with the North—were called Yankees. Those who supported the states in the South were called Rebels.

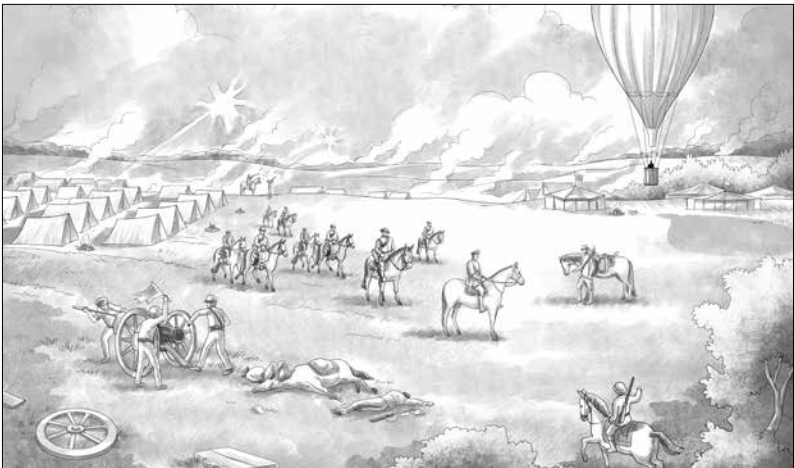


Hand-to-Hand Combat

Unlike wars today, the Civil War was very much fought in hand-to-hand combat. Yankee and Rebel camps were often set up at short distances from each other. The work done by spies was an important part of keeping tabs on the enemy.

Federico was spying for the Union army. But he wasn't perched on a tree limb or lying flat on a hilltop. He was balancing inside a wicker basket hundreds of feet in the air. Above him loomed the globe of the *Constitution*, a huge balloon filled with twenty-five thousand cubic feet of hydrogen gas. With the camps fairly close to each other, Federico's balloon could hover over the edge of its own camp and have a broad view of everything that lay below. A team of handlers in the Union camp were in charge of manning thick ropes to keep it from flying away—and into danger.

If the balloon landed on enemy ground, its passengers, known as aeronauts, could be taken as prisoners of war. The Union could also lose the *Constitution* as well as the telegraph equipment it carried for sending messages to the ground.



As an enlisted member of the Union army's newly-formed Balloon Corps, Federico was trained in the use of special instruments that measured heights and distances. From the air, he drew a map of the land's topography—hills, creeks, woods, and other natural formations. Maps at the time were not as available, generally not as accurate, as they are today. A good map helped in planning battle strategies. One drawn from the air by a skilled topographer was rare and especially valuable.

As he sketched, Federico also described what he saw to a trained telegraph operator on board. The operator used Morse code to send Federico's words to another operator on the ground through a wire hanging off the balloon's side. In Morse code, each letter is represented by a different combination of dots and dashes. At the camp, the dots and dashes were translated, or changed, back into words.

Messages from the Sky

When the Civil War began, the telegraph was already widely used. The process of sending messages over long distances had been around for decades. But Samuel Morse had only invented his code in the 1830s. The Civil War was the first time his code was used to send messages from the sky!

Whizz! Shots flew past Federico's head and that of his companion. Rebel soldiers had fired at the balloon. At a certain height, the aeronauts might be out of the reach of most artillery. But what goes up must come down. As soon as the handlers began pulling the *Constitution* back to Earth, it was again within range of the enemy's weapons.

Don't Look Up

For the first two years of the war, the Balloon Corps was an important part of surveillance. Soldiers like Federico—good at observing, skilled in drawing and writing, and not afraid to fly—were recruited to ride in the balloons and gather information.

Who was Federico Fernández Cavada? Why was he willing to be sent hundreds of feet into the air to spy on Confederate soldiers? The answers to these questions lie in Federico's earlier life.

Thaddeus Lowe and the U.S. Balloon Corps

The balloon that took Federico to the skies was one of seven in the Union army's Balloon Corps. The founder of the corps was a self-taught scientist and part-time showman. His name was Thaddeus Lowe.

Thaddeus had always dreamed of flying. As a boy, he'd

placed a cat in a cage attached to a large kite. He let air currents carry the cat, cage, and kite up hundreds of feet. The terrified cat made it down safely and promptly fled. Thaddeus never used animals in his experiments again.

Later, Thaddeus began learning about the science that made hot-air balloons fly. He bought his own balloon and earned money by taking people up on rides. He also started building balloons for others. By his twenties, he had made a name for himself. But his biggest dream—flying a balloon across the Atlantic Ocean—was put on hold when the Civil War broke out. Wanting to serve his country, Thaddeus formed a new dream. He'd offer his balloons for spying.

How did Thaddeus manage to get the attention of the United States government? He used his skills as a showman to impress President Abraham Lincoln.

In June 1861, the president stood at a second-story window in the White House. He watched as Thaddeus launched the Enterprise near the U.S. Capitol. Thaddeus used city coal gas, which contained hydrogen, to fill up the balloon. In the field, he would produce the hydrogen through a chemical process.

Thaddeus had a telegraph operator with him in the balloon. The operator sent a telegraph message, or telegram, from the air to a station on the ground, from where it was relayed to the White House. There, another telegraph operator

wrote the message down on paper. Apparently, the president liked what he read. He arranged to meet Thaddeus, and the two men talked long into the night. Thaddeus was even asked to stay and sleep at the White House!

President Lincoln and Thaddeus discussed how balloons could be useful in the war. Balloons, Thaddeus said, could send telegrams to military leaders below, even as battles were taking place. Aeronauts could also draw maps showing enemy holdings and territories.

Thaddeus's ideas were given the go-ahead, and a new branch of the military was created—the United States Army Balloon Corps. Thaddeus began building more balloons, giving them patriotic names like the Constitution, the United States, the Washington, the Eagle, and the Excelsior. The two largest, the Union and the Intrepid, were as tall as a five-story building and could lift several people at a time.