

Did You Know...?

Civil War Innovations and Technology

The American Civil War has been called the first modern war because of all the innovations used during the conflict. Below are a selection of some of the innovations and technology from the war.



1861-1865

The Civil War brought developments to the clothing industry: standard shoe and clothing sizes made it easier to supply soldiers with shoes and uniforms.

Ebenezer Butterick used tissue paper to create the first graded sewing patterns (1863), making it easier for women making their family's clothing.

Pocket watches were carried by soldiers. The Waltham Watch Company of Massachusetts made interchangeable parts for their pocket watches, making them affordable.

The first telegraph message was in 1844. During the Civil War, portable telegraph units were established and used on the battlefield to send real-time reports to headquarters or Washington, D.C.

The Civil War was the first major war to be photographed extensively. Photographers Mathew Brady, Alexander Gardner, and Timothy O'Sullivan are among those who found an eager audience for their battlefield images.

Confederate surgeon Julian John Chisolm invented the Chisolm inhaler, designed to administer chloroform to wounded soldiers during surgery. The chemical was previously given to soldiers by placing a cone-shaped cloth over the mouth and nose and dripping the drug on the cloth. The drawbacks to this method were that it wasted the valuable chemical, and everyone in the room or tent felt the effect of the chloroform. Chisolm's inhaler confined the drug to only the patient.

1861

Boston confectioner William Schrafft invented the jelly bean and urged the public to send them to soldiers on the front lines.

William F. Ketchum developed the Ketchum hand grenade,

a cast iron projectile thrown like a dart. It was used during sieges, including Vicksburg and Petersburg. The Confederate Army's equivalent, the Rains grenade, was less effective.



Dr. Richard J. Gatling invented the six-barreled Gatling gun, an early machine gun. It could fire up to 350 rounds a minute.

Though the hot air balloon was first used in 1783 in France, Professor Thaddeus Lowe convinced the Union Army that air balloons would be of great assistance for aerial reconnaissance. In June 1861, by presidential order, the army established the Army Civilian Balloon Corps. Depending on their size, balloons could carry one to five people and had a capacity of 15,000 to 32,000 cubic feet of gas. Both Union and Confederate militaries employed balloons. Some of the battles where balloons were used included Bull Run, Chancellorsville, the Seven Days Campaign, the Peninsula Campaign, and Fredericksburg.

The federal government imposed the first U.S. income tax to pay for the war. The tax was set at 3% on income over \$800.

1862

Union doctor Jonathan Letterman created the first "evacuate and care" system, using ambulance wagons to move wounded soldiers from the battlefield to the hospital, the model for the ambulance-to-ER system of today.

Canned goods such as meat biscuits, condensed coffee and milk, pork and beans, fruits, and vegetables produced by Borden, Van Camps, Armour, and Swift were introduced.



Confederate General Gabriel J. Rains is credited with the development and use of anti-

personnel mines. He first used them during the Battle of Yorktown in 1862.

The U.S. Congress passed the Legal Tender Act, transforming the banking system. Paper money became legal tender known as “greenbacks” because of the anti-counterfeit green ink used on the back of the notes. The federal notes replaced local banking notes issued throughout the nation.

1863

James Caleb Jackson, operator of the Jackson Sanitorium in Dansville, New York, invented breakfast cereal. It was unpopular because the bran nuggets had to be soaked overnight to be soft enough to eat.

Calcium floodlights, known as “limelights,” were first adapted and used for war during the Union attack on the Confederacy’s Fort Wagner. The chemical lights illuminated targets for Union artillery gunners. It also blinded Confederate gunners.



James Leonard Plimpton of Medford, Massachusetts, invented the first four-wheeled roller skates arranged in two side-by-side pairs.

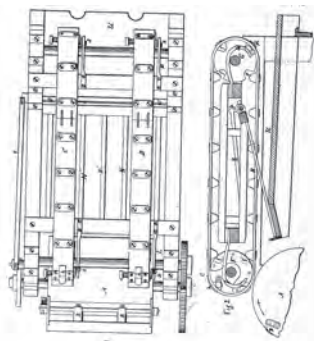
Union doctor Benjamin Howard pioneered the treatment of sucking chest wounds.

J.J. Richardson of Vermont patented the improved ratchet wrench.

1865

John Batterson Stetson invented the cowboy hat while on a hunting trip using fur, boiling water, and his hands. The Stetson is a defining feature of the North American cowboy.

William Bullock invented the rotary printing press that feeds paper on a continuous roll and can be printed on both sides. The *Philadelphia Ledger* was the first to use this process. Bullock became a victim of his machine when, working on a press, his leg was caught in the machine and crushed. Bullock died during an operation to amputate the leg.



Bibliography

- “Chisolm Inhaler, Civil War on the Western Border.” *The Kansas City Public Library*. Accessed September 27, 2015. <http://www.civilwaronthewesternborder.org/content/chisolm-inhaler>.
- “Civil War Ballooning.” *Civil War Trust*. Accessed September 27, 2015. <http://www.civilwar.org/education/history/civil-war-ballooning/civil-war-ballooning.html>.
- “Civil War Inventions and Technology.” *Civil Conflict*. Accessed September 27, 2015. <http://www.civil-conflict.org/civil-war-weapons/civil-war-inventions.htm>.
- Directory of American Tool and Machinery Patents*. Accessed September 27, 2015. <http://www.datamp.org/patents/search/advance.php?pn=38914&id=13721&set=11>.
- Hambrecht, F.T., M. Rhode, and A. Hawk. “Dr. Chisolm’s Inhaler: A Rare Confederate Medical Invention,” *The Journal of the South Carolina Medical Association* (May 1991): 277-280. http://www.academia.edu/2909650/Dr._Chisolms_Inhaler_A_Rare_Confederate_Medical_Invention.
- Medical Department, United States Army Surgery in World War II Thoracic Surgery*, vol. I, Office of the Surgeon General, Department of the Army, Washington, D.C., 1963, 5-6. Office of Medical History, U.S. Army Medical Department. <http://historyamedd.army.mil/booksdocs/wwii/thoracicsurgeryvolI/chapter1.htm>. PDF e-book.
- Nelson, Scott Reynolds and Carol Sheriff. *A People at War: Civilians and Soldiers in American’s Civil War, 1854-1877*. New York: Oxford University Press, 2008.
- “Rotary Perfecting Press,” Smithsonian Institution’s HistoryWired: A few of our favorite things. *Smithsonian Institute*. Accessed September 27, 2015. <http://historywired.si.edu/objectcfm?ID=401>.
- “Tax History Museum: 1861-1865,” *The Civil War Tax History Project*. Accessed September 27, 2015. <http://www.taxhistory.org/www/website.nsf/Web/THM1861?OpenDocument>.
- “This Day In History, Civil War, 1862 Legal Tender Act.” *History Channel*. Accessed September 27, 2015. <http://www.history.com/this-day-in-history/legal-tender-act-passed>.
- “Timeline 1860-1869.” *The People History from 1800-Present Day*. Accessed September 27, 2015. <http://www.thepeoplehistory.com/1860to1869.html>.
- “Top 10 Civil War Innovations.” *Discovery Communications*. Accessed September 27, 2015. <http://news.discovery.com/history/us-history/civil-war-innovations-110328.htm>.
- Zorn, Marc. “Who Invented the Socket Wrench,” *Vision Launch*. Accessed September 27, 2015. <http://www.visionlaunch.com/who-invented-the-socket-wrench>.