



Today in History - June 3

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Bell's Photophone

On **June 3**, 1880, Alexander Graham Bell transmitted the first wireless telephone message on his newly invented [photophone](#) from the top of the Franklin School in Washington, D.C.



[Alexander Graham Bell](#). Timoléon Lobrichon, artist; photograph of 1882 painting. [between 1882 and 1960]. Gilbert H. Grosvenor Collection of Alexander Graham Bell photographs. Prints & Photographs Division



[Franklin School, Wash., D.C.](#). Frances Benjamin Johnston, photographer, [ca. 1900]. [Johnston \(Frances Benjamin\) Collection](#). Prints & Photographs Division

Bell believed that the photophone was his most important invention. The device allowed the transmission of sound on a beam of light. Of the eighteen patents granted in Bell's name alone, and the twelve that he shared with his collaborators, four were for the photophone.

Bell's photophone worked by projecting the voice through an instrument toward a mirror. Vibrations in the voice caused similar vibrations in the mirror. Bell directed sunlight into the mirror, which captured and projected the mirror's vibrations. The vibrations were transformed back into sound at the receiving end of the projection. The photophone functioned similarly to the telephone, except that the photophone used light as a means of projecting the information and the telephone relied on electricity.

Although the photophone was an extremely important invention, it was many years before the significance of Bell's work was fully recognized. Bell's original patent failed to protect transmissions from outside interferences—such as clouds, that easily disrupted transport. Until the development of modern fiber optics, technology for the secure transport of light inhibited use of Bell's invention. Bell's photophone is recognized as the progenitor of modern fiber optics.

Learn More

- The [Alexander Graham Bell Family Papers](#) contain [correspondence](#), scientific notebooks, journals, blueprints, [speeches](#), and photographs documenting Bell's invention of the telephone and his involvement in the first telephone company, his family life, his interest in the education of the deaf, and his aeronautical and other scientific research. Use the [Timeline](#) to learn more about the inventor or peruse some of the [Collection Highlights](#). To dig deeper into the collection, browse the different series of papers or search on terms of special interest.
- Follow the excitement of new developments in science and technology through articles found in the Library's database of historic American newspapers, [Chronicling America](#). [Invention of the Telephone: Topics in Chronicling America](#) highlights important dates and sample articles related to Bell's invention.
- The collection [Making of America](#) contains numerous articles about Alexander Graham Bell. News of his most recent inventions was certain to be documented in the scientific and technical literature of the time such as [Manufacturer and Builder](#).
- The Library's [pictorial collections](#) contain over one million images; Alexander Graham Bell's family life and work is extensively documented.
- Learn more about the inventor. A biography of Bell is featured on the [March 10](#) Today in History. Also, see the feature on the National Geographic Society of which Bell was a founder and first president.
- Search [Today in History](#) on the keywords *inventor* or *invention* to find more portraits of creative Americans including Samuel F. B. Morse, Elias Howe, and Henry Ford.

Battle of Cold Harbor

On **June 3**, 1864, the second battle of [Cold Harbor](#) began. After securing a costly victory at the Battle of Spotsylvania Court House, Union General [Ulysses S. Grant](#) encountered Confederate troops as he made his way to Richmond. The Confederates, under command of General [Robert E. Lee](#), were entrenched behind earthworks at Cold Harbor, a crossroads ten miles northeast of the Confederate capital. Over the course of the next nine days, the Union lost 7,000 men while the Confederates suffered 1,500 casualties. Grant moved on toward [Petersburg](#) and began the last major siege of the war. Confederate forces finally abandoned [Petersburg](#) and [Richmond](#) on April 2, 1865.



[Cold Harbor, Va.](#) Gen. Burnside and his staff at 9th Corps headquarters, Engraving from a photograph by Mathew Brady; illus. from Harper's Weekly, July 23, 1864, p. 469. [Civil War Glass Negatives and Related Prints](#). Prints & Photographs Division

The first battle of Cold Harbor, also called the battle of [Gaines' Mill](#), took place on June 27, 1862. It was part of the Seven Days' Battles (June 25-July 1) that ended General George McClellan's [Peninsular Campaign](#) — an early attempt to capture the Confederate capital.

Learn More

- View photographs from the war. [Civil War Glass Negatives and Related Prints](#) includes [several photographs](#) of Cold Harbor, Virginia.
- Search [Military Battles and Campaigns](#) in the Map Collections on keywords such as *Petersburg*, *Richmond*, and *Cold Harbor* for dozens of maps of these battles.
- Additional collections with materials related to the Civil War cover an array of formats:
 - [Civil War Maps](#)
 - [Civil War Sheet Music Collection](#)
 - [Band Music from the Civil War Era](#)
 - [Alexander Hamilton Stephens Papers](#)
 - [Confederate States of America Records](#)
- A selection of items from the Library's collection of [Ulysses S. Grant Papers](#) is now available online. View the [Timeline](#) for a chronology of key events in Grant's life.
- Read eyewitness accounts of the Civil War. [First-Person Narratives of the American South, 1860-1920](#) documents the culture of the nineteenth-century American South from the viewpoint of Southerners. Search the collection on *Civil War* to read books such as [A Boy's Experience in the Civil War, 1860-1865](#).
- For additional information about the Civil War, search [Today in History](#) on *Civil War* to locate features highlighting:
 - General Lee's evacuation of Richmond;
 - Military engagements at Bull Run, Gettysburg, Nashville, and Antietam; and
 - Other key figures from the Civil War era such as Jefferson Davis and Stonewall Jackson as well as Civil War era events including Abraham Lincoln's Gettysburg Address and the execution of Andersonville Prison's Henry Wirz.
- Consult [Primary Documents in American History: Civil War and Reconstruction, 1860-1877](#) for links to digitized materials on this era.

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