**Electric chair**

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*For other uses, see* [*Electric chair (disambiguation)*](https://en.wikipedia.org/wiki/Electric_chair_%28disambiguation%29)*.*

Execution method



Electric chair at the Florida State Prison

**Execution by electrocution**, performed using an **electric chair**, is a method of [execution](https://en.wikipedia.org/wiki/Capital_punishment) originating in (and almost exclusively employed in) the [United States](https://en.wikipedia.org/wiki/United_States) in which the condemned person is strapped to a specially built wooden chair and [electrocuted](https://en.wikipedia.org/wiki/Electrocution) through [electrodes](https://en.wikipedia.org/wiki/Electrode) fastened on the head and leg. The head and leg are usually shaved before execution. This execution method, conceived in 1881 by a [Buffalo, New York](https://en.wikipedia.org/wiki/Buffalo%2C_New_York) dentist named [Alfred P. Southwick](https://en.wikipedia.org/wiki/Alfred_P._Southwick), was developed throughout the 1880s as a "humane alternative" to [hanging](https://en.wikipedia.org/wiki/Hanging), and first used in 1890. This execution method has been used in the United States and for a period of several decades,[[1]](https://en.wikipedia.org/wiki/Electric_chair%22%20%5Cl%20%22cite_note-1) in the [Philippines](https://en.wikipedia.org/wiki/Philippines). While death was originally theorized to result from damage to the brain, it was eventually shown in 1899 that it primarily results from [ventricular fibrillation](https://en.wikipedia.org/wiki/Ventricular_fibrillation) and eventual cardiac arrest.[[2]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-:0-2)

Once the person was attached to the chair, various cycles (changes in voltage and duration) of [alternating current](https://en.wikipedia.org/wiki/Alternating_current) would be passed through the individual's body in order to cause fatal damage to the internal organs. The first, more powerful jolt of electric current is intended to cause immediate unconsciousness,[[3]](https://en.wikipedia.org/wiki/Electric_chair%22%20%5Cl%20%22cite_note-3)[[2]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-:0-2) ventricular fibrillation, and eventual cardiac arrest.[[2]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-:0-2) The second, less powerful jolt is intended to cause fatal damage to the vital organs.[[2]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-:0-2)

Although the electric chair has long been a symbol of the [death penalty in the United States](https://en.wikipedia.org/wiki/Death_penalty_in_the_United_States), its use is in decline due to the rise of [lethal injection](https://en.wikipedia.org/wiki/Lethal_injection), which is widely believed to be a more humane method of execution. While some states still maintain electrocution as a method of execution, today it is only maintained as a secondary method that may be chosen over lethal injection at the request of the prisoner, except in Tennessee, where it may be used without input from the prisoner if the drugs for lethal injection are not available.[[4]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-4) As of 2014, electrocution is an optional form of [execution](https://en.wikipedia.org/wiki/Capital_punishment) in the states of [Alabama](https://en.wikipedia.org/wiki/Alabama), [Florida](https://en.wikipedia.org/wiki/Florida), [South Carolina](https://en.wikipedia.org/wiki/South_Carolina), and [Virginia](https://en.wikipedia.org/wiki/Virginia), all of which allow the prisoner to choose lethal injection as an alternative method. In the state of [Kentucky](https://en.wikipedia.org/wiki/Kentucky), the electric chair has been retired, except for those whose capital crimes were committed prior to March 31, 1998, and who choose electrocution; inmates who do not choose electrocution and inmates who committed their crimes after the designated date are executed by lethal injection. Electrocution is also authorized in Kentucky in the event that lethal injection is found unconstitutional by a court.[[5]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-lrc.ky.gov-5) The electric chair is an alternate form of execution approved for potential use in [Arkansas](https://en.wikipedia.org/wiki/Arkansas), [Mississippi](https://en.wikipedia.org/wiki/Mississippi), and [Oklahoma](https://en.wikipedia.org/wiki/Oklahoma) if other forms of execution are found unconstitutional in the state at the time of execution.

On February 8, 2008, the [Nebraska Supreme Court](https://en.wikipedia.org/wiki/Nebraska_Supreme_Court) determined that execution by electric chair was a "[cruel and unusual punishment](https://en.wikipedia.org/wiki/Cruel_and_unusual_punishment)" under the state's constitution. This brought executions of this type to an end in Nebraska, the only remaining state to retain electrocution as its sole method of execution.[[6]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-6)



**Invention[[edit](https://en.wikipedia.org/w/index.php?title=Electric_chair&action=edit&section=1" \o "Edit section: Invention)]**

In the late 1870s to early 1880s, the spread of [arc lighting](https://en.wikipedia.org/wiki/Arc_lamp), a type of brilliant outdoor street lighting that required high voltages in the range of 3000–6000 volts, was followed by one story after another in newspapers about how the high voltages used were killing people, usually unwary linemen, a strange new phenomenon that seemed to instantaneously strike a victim dead without leaving a mark.[[7]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-7) One of these accidents, in Buffalo, New York, on August 7, 1881, led to the inception of the electric chair.[[8]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-Brandon_The_Electric_Chair_page_12-8) That evening a drunken dock worker named George Lemuel Smith, looking for the thrill of a tingling sensation he had noticed when grabbing the [guard rail](https://en.wikipedia.org/wiki/Guard_rail) in a [Brush Electric Company](https://en.wikipedia.org/wiki/Brush_Electrical_Machines) arc lighting power house, managed to sneak his way back into the plant at night and grabbed the [brush](https://en.wikipedia.org/wiki/Brush_%28electric%29) and [ground](https://en.wikipedia.org/wiki/Ground_%28electricity%29) of a large electric dynamo.[[9]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-9) He died instantly. The coroner who investigated the case brought it up that year at a local Buffalo scientific society. Another member attending that lecture, [Alfred P. Southwick](https://en.wikipedia.org/wiki/Alfred_P._Southwick), a dentist who had a technical background, thought some application could be found for the curious phenomenon.[[10]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-10)

Southwick joined physician [George E. Fell](https://en.wikipedia.org/wiki/George_Fell) and the head of the Buffalo ASPCA in a series of experiments electrocuting hundreds of stray dogs. They ran trials with the dog in water and out of water, and varied the electrode type and placement until they came up with a repeatable method to euthanize animals using electricity.[[11]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-11) Southwick went on in the early 1880s to advocate that this method be used as a more humane replacement for hanging in capital cases, coming to national attention when he published his ideas in scientific journals in 1882 and 1883. He worked out calculations based on the dog experiments, trying to develop a scaled-up method that would work on humans. Early on in his designs he adopted a modified version of the dental chair as a way to restrain the condemned, a device that from then on would be called the *electric chair*.[[12]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-12)

**The Gerry Commission[[edit](https://en.wikipedia.org/w/index.php?title=Electric_chair&action=edit&section=2" \o "Edit section: The Gerry Commission)]**

After a series of botched hangings in the United States, there was mounting criticism of that form of capital punishment and the death penalty in general. In 1886, newly elected New York State governor [David B. Hill](https://en.wikipedia.org/wiki/David_B._Hill) set up a three-member death penalty commission, which was chaired by the human rights advocate and reformer [Elbridge Thomas Gerry](https://en.wikipedia.org/wiki/Elbridge_Thomas_Gerry) and included New York lawyer and politician [Matthew Hale](https://en.wikipedia.org/wiki/Matthew_Hale_%28New_York%29) and Southwick, to investigate a more humane means of execution.[[13]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-13)[[14]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-14)

A June 30, 1888 [*Scientific American*](https://en.wikipedia.org/wiki/Scientific_American) illustration of what the *electric chair* suggested by the Gerry Commission might look like.

The commission members surveyed the history of execution and sent out a [fact-finding](https://en.wikipedia.org/wiki/Fact-finding) questionnaire to government officials, lawyers, and medical experts all around the state asking for their opinion.[[15]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-15) A slight majority of respondents recommended hanging over electrocution, with a few instead recommending the abolition of capital punishment. The commission also contacted electrical experts, including [Thomson-Houston Electric Company](https://en.wikipedia.org/wiki/Thomson-Houston_Electric_Company)'s [Elihu Thomson](https://en.wikipedia.org/wiki/Elihu_Thomson) (who recommended high voltage AC connected to the head and the spine) and the inventor [Thomas Edison](https://en.wikipedia.org/wiki/Thomas_Edison) (who also recommended AC, as well as using a [Westinghouse](https://en.wikipedia.org/wiki/Westinghouse_Electric_Corporation) generator).[[16]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-autogenerated30-16)[[17]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-17)[[18]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-18) They also attended electrocutions of dogs by George Fell who had worked with Southwick in the early 1880s experiments. Fell was conducting further experiments, electrocuting anesthetized dissected dogs trying to discern exactly how electricity killed a subject.[[19]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-autogenerated4-19)[[16]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-autogenerated30-16)

In 1888, the Commission recommended electrocution using Southwick's electric chair idea with metal conductors attached to the condemned person's head and feet.[[8]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-Brandon_The_Electric_Chair_page_12-8) They further recommended that executions be handled by the state instead of the individual counties with three electric chairs set up at [Auburn](https://en.wikipedia.org/wiki/Auburn_Correctional_Facility), [Clinton](https://en.wikipedia.org/wiki/Clinton_Correctional_Facility), and [Sing Sing](https://en.wikipedia.org/wiki/Sing_Sing) prisons. A bill following these recommendations passed the legislature and was signed by Governor Hill on June 4, 1888, set to go into effect on January 1, 1889.

**The Medico-Legal commission[[edit](https://en.wikipedia.org/w/index.php?title=Electric_chair&action=edit&section=3" \o "Edit section: The Medico-Legal commission)]**

The bill itself contained no details on the type or amount of electricity that should be used and the New York Medico-Legal Society, an informal society composed of doctors and lawyers, was given the task of determining these factors. In September 1888, a committee was formed and recommended 3000 volts, although the type of electricity, [direct current](https://en.wikipedia.org/wiki/Direct_current) (DC) or [alternating current](https://en.wikipedia.org/wiki/Alternating_current) (AC), was not determined, and since tests up to that point had been done on animals smaller than a human (dogs), some members were unsure that the lethality of AC had been conclusively proven.[[20]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-Richard_Moran_2007,_page_102-20)

Harold Brown demonstrating the killing power of AC to the New York Medico-Legal Society by electrocuting a horse at Thomas Edison's West Orange laboratory.

At this point the state's efforts to design the electric chair became intermixed with what has become to be known as the [war of the currents](https://en.wikipedia.org/wiki/War_of_the_currents), a competition between [Thomas Edison](https://en.wikipedia.org/wiki/Thomas_Edison)'s direct current power system and [George Westinghouse](https://en.wikipedia.org/wiki/George_Westinghouse)'s alternating current based system. The two companies had been competing commercially since 1886 and a series of events had turned it into an all-out media war in 1888. The committee head, [neurologist](https://en.wikipedia.org/wiki/Neurology) [Frederick Peterson](https://en.wikipedia.org/wiki/Frederick_Peterson), enlisted the services of [Harold P. Brown](https://en.wikipedia.org/wiki/Harold_P._Brown) as a consultant. Brown had been on his own crusade against alternating current after the shoddy installation of pole-mounted AC arc lighting lines in New York City had caused several deaths in early 1888. Peterson had been an assistant at Brown's July 1888 public electrocution of dogs with AC at Columbia College, an attempt by Brown to prove AC was more deadly than DC.[[20]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-Richard_Moran_2007,_page_102-20) Technical assistance in these demonstrations was provided by Thomas Edison's West Orange laboratory and there grew to be some form of collusion between Edison Electric and Brown.[[21]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-21)[[22]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-22)[[23]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-W._Bernard_Carlson_2003,_page_285-23) Back at West Orange on December 5, 1888 Brown set up an experiment with members of the press, members of the Medico-Legal Society including Elbridge Gerry who was also chairman of the death penalty commission, and Thomas Edison looking on. Brown used alternating current for all of his tests on animals larger than a human, including 4 calves and a lame horse, all dispatched with 750 volts of AC.[[24]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-24) Based on these results the Medico-Legal Society recommended the use of 1000–1500 volts of alternating current for executions and newspapers noted the AC used was half the voltage used in the power lines over the streets of American cities. Westinghouse criticized these tests as a skewed self-serving demonstration designed to be a direct attack on alternating current and accused Brown of being in the employ of Edison.[[25]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-25)

At the request of death penalty commission chairman Gerry, Medico-Legal Society members; [electrotherapy](https://en.wikipedia.org/wiki/Electrotherapy) expert Alphonse David Rockwell, [Carlos Frederick MacDonald](https://en.wikipedia.org/wiki/Carlos_Frederick_MacDonald), and Columbia College professor Louis H. Laudy, were given the task of working out the details of electrode placement.[[26]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-Terry_S._Reynolds_1989,_pages_19-28-26)[[27]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-27)[[28]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-28) They again turned to Brown to supply the technical assistance. Brown asked Edison Electric Light to supply equipment for the tests and treasurer Francis S. Hastings (who seemed to be one of the primary movers at the company trying to portray Westinghouse as a peddler of death dealing AC current[[23]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-W._Bernard_Carlson_2003,_page_285-23)) tried to obtain a Westinghouse AC generator for the test but found none could be acquired.[[26]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-Terry_S._Reynolds_1989,_pages_19-28-26) They ended up using Edison's West Orange laboratory for the animal tests they conducted in mid-March 1889. Superintendent of Prisons [Austin E. Lathrop](https://en.wikipedia.org/wiki/Austin_E._Lathrop) asked Brown to design the chair, but Brown turned down the offer.[[26]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-Terry_S._Reynolds_1989,_pages_19-28-26) Dr. [George Fell](https://en.wikipedia.org/wiki/George_Fell) drew up the final designs for a simple oak chair and went against the Medico-Legal Society recommendations, changing the position of the electrodes to the head and the middle of the back.[[19]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-autogenerated4-19) Brown did take on the job of finding the generators needed to power the chair. He managed to surreptitiously acquire three Westinghouse AC generators that were being decommissioned with the help of Edison and Westinghouse's chief AC rival, the [Thomson-Houston Electric Company](https://en.wikipedia.org/wiki/Thomson-Houston_Electric_Company), a move that made sure that Westinghouse's equipment would be associated with the first execution.[[29]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-books.google.com-29) The electric chair was built by [Edwin F. Davis](https://en.wikipedia.org/wiki/Edwin_Davis_%28executioner%29), the first "[state electrician](https://en.wikipedia.org/wiki/State_electrician)" ([executioner](https://en.wikipedia.org/wiki/Executioner)) for the State of New York.[[30]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-30)

**First execution[[edit](https://en.wikipedia.org/w/index.php?title=Electric_chair&action=edit&section=4" \o "Edit section: First execution)]**



The execution of [William Kemmler](https://en.wikipedia.org/wiki/William_Kemmler), August 6, 1890

The first person in line to die under New York's new electrocution law was Joseph Chapleau, convicted for beating his neighbor to death with a sled stake, but his sentence was commuted to life imprisonment.[[31]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-31) The next person scheduled to be executed was [William Kemmler](https://en.wikipedia.org/wiki/William_Kemmler), convicted of murdering his wife with a hatchet. An appeal on Kemmler's behalf was made to the [New York Court of Appeals](https://en.wikipedia.org/wiki/New_York_Court_of_Appeals) on the grounds that use of electricity as a means of execution constituted a "[cruel and unusual punishment](https://en.wikipedia.org/wiki/Cruel_and_unusual_punishment)" and was thus contrary to the constitutions of the United States and the state of New York.[[32]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-32) On December 30, 1889, the writ of [habeas corpus](https://en.wikipedia.org/wiki/Habeas_corpus) sworn out on Kemmler's behalf was denied by the court, with Judge Dwight writing in a lengthy ruling:

We have no doubt that if the Legislature of this State should undertake to proscribe for any offense against its laws the punishment of [burning at the stake](https://en.wikipedia.org/wiki/Death_by_burning), [breaking at the wheel](https://en.wikipedia.org/wiki/Breaking_wheel), etc., it would be the duty of the courts to pronounce upon such attempt the condemnation of the Constitution. The question now to be answered is whether the legislative act here assailed is subject to the same condemnation. Certainly, it is not so on its face, for, although the mode of death described is conceded to be unusual, there is no common knowledge or consent that it is cruel; it is a question of fact whether an electric current of sufficient intensity and skillfully applied will produce death without unnecessary suffering.[[33]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-33)

Kemmler was executed in New York's Auburn Prison on August 6, 1890; the "state electrician" was Edwin F. Davis. The first 17-second passage of 1,000 volts AC of current through Kemmler caused unconsciousness, but failed to stop his heart and breathing. The attending physicians, [Edward Charles Spitzka](https://en.wikipedia.org/wiki/Edward_Charles_Spitzka) and Carlos F. MacDonald, came forward to examine Kemmler. After confirming Kemmler was still alive, Spitzka reportedly called out, "Have the current turned on again, quick, no delay." The generator needed time to re-charge, however. In the second attempt, Kemmler received a 2,000 volt AC shock. Blood vessels under the skin ruptured and bled, and the areas around the electrodes singed. The entire execution took about eight minutes. George Westinghouse later commented that, "They would have done better using an axe",[[34]](https://en.wikipedia.org/wiki/Electric_chair%22%20%5Cl%20%22cite_note-34) and a witnessing reporter claimed that it was "an awful spectacle, far worse than hanging".[[35]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-35)

**Adoption**

The electric chair was adopted by Ohio (1897), Massachusetts (1900), New Jersey (1906) and Virginia (1908), and soon became the prevalent method of execution in the United States, replacing [hanging](https://en.wikipedia.org/wiki/Hanging). Most of the states that currently use or have used the electric chair lie east of the [Mississippi River](https://en.wikipedia.org/wiki/Mississippi_River). The electric chair remained the most prominent execution method until the mid-1980s when [lethal injection](https://en.wikipedia.org/wiki/Lethal_injection) became widely accepted for conducting judicial executions.

Other countries appear to have contemplated using the method, sometimes for special reasons. The only country other than the United States to use the electric chair was the [Philippines](https://en.wikipedia.org/wiki/Philippines), although the method was discontinued after 1976.

**United Kingdom**

*See also:* [*Capital punishment in the United Kingdom*](https://en.wikipedia.org/wiki/Capital_punishment_in_the_United_Kingdom)

The United Kingdom considered replacing hanging with the electric chair (as well as considering the gas chamber, shooting, the guillotine and lethal injection) during the [Royal Commission on Capital Punishment](https://en.wikipedia.org/wiki/Royal_Commission_on_Capital_Punishment_report_%281953%29), the findings of which were published in 1953. The Commission concluded that the electric chair had no particular advantages over hanging.

The United Kingdom performed its last execution in 1964, and abolished capital punishment for murder the following year.

**Present-day use**

A number of states still allow the condemned person to choose between electrocution and lethal injection.

After 1966, electrocutions ceased for a time in the United States, but the method continued in the [Philippines](https://en.wikipedia.org/wiki/Philippines).[[36]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-amnesty-36) A well-publicized triple execution took place in May 1972, when Jaime Jose, Basilio Pineda and Edgardo Aquino were electrocuted for the 1967 abduction and gang-rape of the young actress [Maggie de la Riva](https://en.wikipedia.org/wiki/Maggie_de_la_Riva). The last electric chair execution in the Philippines was in 1976, when firing squad was opted to be more humane. After the 1986 abolition of death penalty, executions resumed during the [Fidel V. Ramos](https://en.wikipedia.org/wiki/Fidel_V._Ramos) administration, this time utilizing lethal injection until 2000.

**Notable persons and events in the United States**



The former [Louisiana](https://en.wikipedia.org/wiki/State_of_Louisiana) execution chamber at the [Red Hat Cell Block](https://en.wikipedia.org/wiki/Red_Hat_Cell_Block) in the [Louisiana State Penitentiary](https://en.wikipedia.org/wiki/Louisiana_State_Penitentiary), [West Feliciana Parish](https://en.wikipedia.org/wiki/West_Feliciana_Parish%2C_Louisiana). The electric chair is a replica of the original.

[Serial killer](https://en.wikipedia.org/wiki/Serial_killer) [Lizzie Halliday](https://en.wikipedia.org/wiki/Lizzie_Halliday) was the first woman sentenced to die in the electric chair, in 1894, but governor [Roswell P. Flower](https://en.wikipedia.org/wiki/Roswell_P._Flower) commuted her sentence to life in a mental institution after a medical commission declared her insane.[[37]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-37)[[38]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-38) A second woman sentenced to death in 1895, [Maria Barbella](https://en.wikipedia.org/wiki/Maria_Barbella), was acquitted the next year.[[39]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-39) [Martha M. Place](https://en.wikipedia.org/wiki/Martha_M._Place) became the first woman executed in the electric chair at Sing Sing Prison on March 20, 1899, for the murder of her 17-year-old stepdaughter, Ida Place.[[40]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-40)

[Leon Czolgosz](https://en.wikipedia.org/wiki/Leon_Czolgosz) was electrocuted at the [Auburn State Prison](https://en.wikipedia.org/wiki/Auburn_Correctional_Facility) in [New York](https://en.wikipedia.org/wiki/New_York_%28state%29) on October 29, 1901 for [his assassination](https://en.wikipedia.org/wiki/Assassination_of_William_McKinley) of President [William McKinley](https://en.wikipedia.org/wiki/William_McKinley).

In a botched execution at [Clinton Prison](https://en.wikipedia.org/wiki/Clinton_Prison) in [Dannemora](https://en.wikipedia.org/wiki/Dannemora_%28village%29%2C_New_York), New York, on October 1, 1903, three brothers – Willis, Frederick, and Burton Van Wormer, condemned for murdering their uncle on December 24, 1901 – were electrocuted one after the other over the course of about 15 minutes and pronounced dead.[[41]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-executedtodayvanwormer-41) But after their bodies were laid out in the prison's [autopsy](https://en.wikipedia.org/wiki/Autopsy) room Frederick's body was seen to move, and the prison doctor determined that his heart was still beating.[[41]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-executedtodayvanwormer-41) He was returned to the electric chair[[41]](https://en.wikipedia.org/wiki/Electric_chair%22%20%5Cl%20%22cite_note-executedtodayvanwormer-41) and the executioner was called back to re-electrocute him,[[*citation needed*](https://en.wikipedia.org/wiki/Wikipedia%3ACitation_needed)] but he died before any more shocks could be administered.[[41]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-executedtodayvanwormer-41)

The electrocution of housewife [Ruth Snyder](https://en.wikipedia.org/wiki/Ruth_Snyder) at Sing Sing on the evening of January 12, 1928, for the March 1927 murder of her husband was photographed for a front-page story on [*New York Daily News*](https://en.wikipedia.org/wiki/New_York_Daily_News) the following morning. News photographer [Tom Howard](https://en.wikipedia.org/wiki/Tom_Howard_%28photographer%29) had smuggled a camera into the death chamber and photographed her in the electric chair as the current was turned on. It remains one of the best-known examples of [photojournalism](https://en.wikipedia.org/wiki/Photojournalism).[[42]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-42)

A record was set on July 13, 1928, when seven men were executed consecutively in the electric chair at the [Kentucky State Penitentiary](https://en.wikipedia.org/wiki/Kentucky_State_Penitentiary) in [Eddyville](https://en.wikipedia.org/wiki/Eddyville%2C_Kentucky), [Kentucky](https://en.wikipedia.org/wiki/Kentucky).[[*citation needed*](https://en.wikipedia.org/wiki/Wikipedia%3ACitation_needed)]

[Bruno Richard Hauptmann](https://en.wikipedia.org/wiki/Bruno_Richard_Hauptmann), convicted of the 1932 [kidnapping and murder of Charles Lindbergh, Jr.](https://en.wikipedia.org/wiki/Lindbergh_kidnapping), the infant son of [Charles Lindbergh](https://en.wikipedia.org/wiki/Charles_Lindbergh) and [Anne Morrow Lindbergh](https://en.wikipedia.org/wiki/Anne_Morrow_Lindbergh), was electrocuted on April 3, 1936, at the [New Jersey State Prison](https://en.wikipedia.org/wiki/New_Jersey_State_Prison) in [Trenton](https://en.wikipedia.org/wiki/Trenton%2C_New_Jersey), [New Jersey](https://en.wikipedia.org/wiki/New_Jersey).[[43]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-43)[[44]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-44)[[45]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-45)

On January 16, 1936, [Hamilton Howard "Albert" Fish](https://en.wikipedia.org/wiki/Hamilton_Howard_%22Albert%22_Fish) was executed at Sing Sing, New York for the murder of [Grace Budd](https://en.wikipedia.org/wiki/Grace_Budd). Fish was suspected of having abducted, sexually abused, mutilated, and murdered multiple children. [[46]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-46)

On August 8, 1942, six German agents convicted of [espionage](https://en.wikipedia.org/wiki/Espionage) and attempted [sabotage](https://en.wikipedia.org/wiki/Sabotage) in the [Quirin case](https://en.wikipedia.org/wiki/Ex_parte_Quirin) for their role in [Operation Pastorius](https://en.wikipedia.org/wiki/Operation_Pastorius) during [World War II](https://en.wikipedia.org/wiki/World_War_II) were executed by electric chair at the [District of Columbia Jail](https://en.wikipedia.org/wiki/District_of_Columbia_Jail) in [Washington, D.C.](https://en.wikipedia.org/wiki/Washington%2C_D.C.)[[47]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-47)

On June 16, 1944, an African-American teenager, 14-year-old [George Stinney](https://en.wikipedia.org/wiki/George_Stinney), became the youngest person ever executed in the electric chair when he was electrocuted at the [Central Correctional Institution](https://en.wikipedia.org/wiki/Central_Correctional_Institution) in [Columbia](https://en.wikipedia.org/wiki/Columbia%2C_South_Carolina), [South Carolina](https://en.wikipedia.org/wiki/South_Carolina). His conviction was over-turned in 2014 after the circuit court judge determined that he was innocent, as there was no evidence against him and he had been set up by the police.[[48]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-48)

[Julius and Ethel Rosenberg](https://en.wikipedia.org/wiki/Julius_and_Ethel_Rosenberg) were electrocuted on June 19, 1953, after being convicted of [espionage](https://en.wikipedia.org/wiki/Espionage) for sharing secrets related to the [atomic bomb](https://en.wikipedia.org/wiki/Nuclear_weapon) with the [Soviet Union](https://en.wikipedia.org/wiki/Soviet_Union).[[49]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-philipson-49) Julius died after the usual three shocks, but Ethel's heart was still beating when she was unstrapped from the electric chair after these three shocks, so she was strapped in again and shocked twice more, finally completing her execution.[[49]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-philipson-49)

[James French](https://en.wikipedia.org/wiki/James_French_%28murderer%29) was executed on August 10, 1966, the last person electrocuted until 1979. French was the first person executed in [Oklahoma](https://en.wikipedia.org/wiki/Oklahoma) since Richard Dare was electrocuted June 1, 1963, and the only person executed in 1966. [[50]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-OKDOC_Stats-50)[[51]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-1990_Daily_Oklahoman-51)

On May 25, 1979, [John Spenkelink](https://en.wikipedia.org/wiki/John_Spenkelink) became the first person to be electrocuted after the [*Gregg v. Georgia*](https://en.wikipedia.org/wiki/Gregg_v._Georgia) decision by the [Supreme Court of the United States](https://en.wikipedia.org/wiki/Supreme_Court_of_the_United_States) in 1976. He was the first person to be executed in the United States in this manner since 1966. [Serial murderer](https://en.wikipedia.org/wiki/Serial_murderer) and rapist [Ted Bundy](https://en.wikipedia.org/wiki/Ted_Bundy) was executed in the same electric chair in Florida on January 24, 1989.

The last person to be executed by electric chair without the choice of an alternative method was [Lynda Lyon Block](https://en.wikipedia.org/wiki/Lynda_Lyon_Block) on May 10, 2002, in [Alabama](https://en.wikipedia.org/wiki/Alabama).[[52]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-52)

**Decline**

The use of the electric chair has declined as legislators sought what they believed to be more humane methods of execution. [Lethal injection](https://en.wikipedia.org/wiki/Lethal_injection) became the most widely used method, aided by media reports of botched electrocutions in the early 1980s.

The electric chair has been criticized because of several instances in which the subjects were killed only after being subjected to multiple electric shocks. This led to a call for ending of the practice, as being a "[cruel and unusual punishment](https://en.wikipedia.org/wiki/Cruel_and_unusual_punishment)".[[53]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-53) Trying to address such concerns, Nebraska introduced a new electrocution protocol in 2004, which called for administration of a 15-second-long application of electric current at a potential of 2,450 volts; after a 15-minute wait, an official then checks for signs of life. In April 2007, new concerns raised regarding the 2004 protocol resulted in the ushering in of the current Nebraska protocol, calling for a 20-second-long application of electric current at a potential of 2,450 volts. Prior to the 2004 protocol change, an initial eight-second application of current at 2,450 volts was administered, followed by a one-second pause, then a 22-second application at 480 volts. After a 20-second break, the cycle was repeated three more times.

In 1946, the electric chair failed to kill [Willie Francis](https://en.wikipedia.org/wiki/Willie_Francis), who reportedly shrieked, "Take it off! Let me breathe!", after the current was applied. It turned out that the portable electric chair had been improperly set up by an intoxicated prison guard and inmate.[[54]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-54) A case was brought before the U.S. Supreme Court *(*[*Louisiana ex rel. Francis v. Resweber*](https://en.wikipedia.org/wiki/Louisiana_ex_rel._Francis_v._Resweber)*)*,[[55]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-55) with lawyers for the condemned arguing that although Francis did not die, he had, in fact, been executed. The argument was rejected on the basis that re-execution did not violate the [double jeopardy](https://en.wikipedia.org/wiki/Double_jeopardy) clause of the 5th Amendment of the United States Constitution, and Francis was returned to the electric chair and successfully executed in 1947.

Recorded incidents of botched electrocutions were prevalent after the national moratorium ended January 17, 1977; two in [Alabama](https://en.wikipedia.org/wiki/Alabama), three in [Florida](https://en.wikipedia.org/wiki/Florida), one in [Georgia](https://en.wikipedia.org/wiki/Georgia_%28U.S._state%29), one in [Indiana](https://en.wikipedia.org/wiki/Indiana), and three in [Virginia](https://en.wikipedia.org/wiki/Virginia). All five states now have lethal injection as the default method if a choice is not made.

As of 2015, the only places in the world that still reserve the electric chair as an option for execution are the U.S. states of [Alabama](https://en.wikipedia.org/wiki/Alabama), [Florida](https://en.wikipedia.org/wiki/Florida), [South Carolina](https://en.wikipedia.org/wiki/South_Carolina), [Kentucky](https://en.wikipedia.org/wiki/Kentucky), [Tennessee](https://en.wikipedia.org/wiki/Tennessee), and [Virginia](https://en.wikipedia.org/wiki/Virginia). [Arkansas](https://en.wikipedia.org/wiki/Arkansas) and [Oklahoma](https://en.wikipedia.org/wiki/Oklahoma) laws provide for its use should lethal injection ever be held to be unconstitutional. Inmates in the other states must select either it or lethal injection. In [Kentucky](https://en.wikipedia.org/wiki/Kentucky), only inmates sentenced before a certain date can choose to be executed by electric chair. Electrocution is also authorized in Kentucky in the event that lethal injection is found unconstitutional by a court.[[5]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-lrc.ky.gov-5) Tennessee was among the states that provided inmates with a choice of the electric chair or lethal injection; in May 2014, however, the state passed a law allowing the use of the electric chair if lethal injection drugs were unavailable or made unconstitutional.[[56]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-wapo20140523-56) In the U.S. state of Florida, on July 8, 1999, [Allen Lee Davis](https://en.wikipedia.org/wiki/Allen_Lee_Davis), convicted of murder, was executed in the Florida electric chair "[Old Sparky](https://en.wikipedia.org/wiki/Old_Sparky#Florida)". Davis' face was bloodied, and photographs were taken, which were later posted on the Internet. An investigation concluded that Davis had begun bleeding before the electricity was applied and that the chair had functioned as intended.

Florida's Supreme Court ruled that the chair did not constitute "cruel and unusual punishment".[[57]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-57) The 1997 execution of [Pedro Medina](https://en.wikipedia.org/wiki/Pedro_Medina) in Florida created controversy when flames burst from the inmate's head. An autopsy found that Medina had died instantly when the first surge of electricity had destroyed his brain and brain stem. A judge ruled that the incident arose from "unintentional human error" rather than any faults in the "apparatus, equipment, and electrical circuitry" of Florida's electric chair.[[58]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-58) Lethal injection has been the primary method of execution in Florida since 2000. On February 15, 2008, the Nebraska Supreme Court declared execution by electrocution to be "cruel and unusual punishment" prohibited by the Nebraska Constitution.[[59]](https://en.wikipedia.org/wiki/Electric_chair#cite_note-59)