

# MASTER SURGEONS OF AMERICA

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## CRAWFORD WILLIAMSON LONG

CRAWFORD WILLIAMSON LONG, the discoverer of surgical anæsthesia, was the scion of distinguished ancestors. His progenitors immigrated from the north of Ireland to Pennsylvania and Virginia. One grandfather, Captain Samuel Long, fought through the Revolutionary War under Washington. Edward Ware, his maternal grandfather, was a sergeant under LaFayette. After the war, the Longs of Pennsylvania and the Wares of Virginia moved to Madison County, Georgia, where both Revolutionary heroes are buried, their graves being marked by the United States Government in commemoration of their patriotic services. James, the son of Captain Samuel Long, became one of the most prominent and influential men in Georgia. He married Elizabeth Ware and from this union sprang Crawford Williamson Long.

Crawford Long entered Franklin College, now the University of Georgia, at the age of fourteen years, taking the degree of A.M. at nineteen, standing second in his class. His roommate and best friend was Alexander H. Stephens, who became vice-president of the Confederacy. Young Long took one year of medicine in Transylvania University. From there he went to the University of Pennsylvania, graduating in two years, class of 1839.

To have graduated at the University founded by Benjamin Franklin is no mean distinction. The biography of the famous men who have taught or graduated there, including Benjamin Rush, almost makes the history of American medicine and surgery. During Long's attendance the Faculty included Philip Syng Physic, the first surgeon to use buried sutures; William Gibson, who tied the common iliac and did two cæsarean sections on the same woman; Nathaniel Chapman, George B. Wood, Hoover, Hodge, Hare, et al. These were the men who taught young Long. Wood never failed to admonish his students to be cautious in announcing new discoveries. Jenner waited twenty years before publishing his discovery of vaccination. Wood's teachings evidently left their impress upon Crawford Long.

Following graduation Dr. Long spent eighteen months in New York City "walking the hospitals." He gave special attention to surgery and attained an enviable reputation in his work. Returning to his native state, Dr. Long located at Jefferson, a country village. Possessing a pleasing personality, and coming

from the greatest university of his day, he soon acquired a large practice and became a social favorite as well.

Dr. Long married Miss Caroline Swaim, daughter of the president of the University of North Carolina. Fourteen children were born to them, two of whom, Miss Emma Long and Mrs. Frances Long Taylor, are still living in Athens, Georgia, where the family moved in 1851. They are the custodians of an enormous amount of literature that has gathered around the history of their father's great discovery.

The inhalation of nitrous oxide to produce mental exhilaration, or a species of intoxication, was known and practiced during the early part of the nineteenth century, both in Europe and America. The introduction of this custom was due originally to certain chemists, and later its use was broadcast by itinerant lecturers. It was noticed that when the inhalation of nitrous oxide was pushed far enough stupefaction ensued, and the subject became unconscious. Wells (1844) got his inspiration from this source, and the next day had one of his sound molars extracted while he was under the influence of the gas. Mr. Davey, afterward Sir Humphrey, called attention to the effects of nitrous oxide as early as 1800 and suggested that probably it might be used to prevent the pain of a surgical operation. In the same year William Allen demonstrated the phenomena of nitrous oxide inhalation to Sir Astley Cooper, at Guy's Hospital, noting especially the loss of sensation to pain. While that famous surgeon had eyes to see and ears to hear, his spiritual vision failed to discern the wonderful secret that was revealed before him, and for which the profession had sought since the beginning of time. And the world shuddered on under the agony of the surgeon's knife.

It was also observed that sulphuric ether, which had set upon the Apothecaries' shelves for three hundred years, would produce exhilaration and stupefaction as did nitrous oxide. Faraday said in 1818 "When the vapor of ether, mixed with common air, is inhaled it produces effects similar to those of nitrous oxide gas." Ether, by inhalation, to relieve the spasm of asthma and phthisis, was used by Pearson, of England, as early as 1795. Numerous American physicians employed ether for the same purpose. However, it was the social use of both ether and nitrous oxide to produce a pleasurable exhilaration, for which they were chiefly used. Prof. Thompson, of Edinburgh, frequently entertained his students by exhibition of the exhilarating effects of both sulphuric ether and nitrous oxide. But no one coupled up the anæsthetic effects of ether with a surgical operation.

While Crawford Long was attending lectures in Philadelphia, the inhalation of ether to produce mental excitement, according to Mitchell, was common practice among the lads in that city. It is of record that Long indulged in the favorite pastime himself. The same custom prevailed in New York.

Shortly after Dr. Long located in Jefferson he introduced the use of ether by inhalation for its exhilarating effect. Dr. Long's "ether frolics" soon became

quite popular in that part of the state. As the result of his observations of persons under the influence of ether, he concluded that an operation might be performed while a patient was under its influence and without pain. But let us have the story in Long's own words: "On numerous occasions I have inhaled ether for its exhilarating properties, and would frequently, at some short time subsequent to its inhalation, discover bruises or painful spots on my person, which I had received while under the influence of ether. I noticed my friends, while etherized, received falls and bangs, which I believed were sufficient to produce pain on a person not in a state of anæsthesia, and on questioning them, they uniformly assured me that they did not feel the least pain from these accidents. These facts are mentioned that the reasons may be apparent why I was induced to make an experiment in etherization. . . .

"The first patient to whom I administered ether in a surgical operation, was Mr. James M. Venable, who then resided within two miles of Jefferson, and at present (1849) lives in Cobb County, Georgia. Mr. Venable consulted me on several occasions in regard to the propriety of removing two small tumors situated on the back of his neck, but would postpone, from time to time, having the operations performed, from dread of pain. At length, I mentioned to him the fact of my receiving bruises while under the influence of the vapour of ether, without suffering, and as I knew him to be fond of and accustomed to inhale ether, I suggested to him the probability that the operations might be performed without pain, and proposed operating on him while under its influence. He consented to have one tumor removed, and the operation was performed the same evening. The ether was given to Mr. Venable on a towel, and when fully under its influence, I extirpated the tumor. It was encysted and about one-half inch in diameter. The patient continued to inhale ether during the time of operation, and when informed it was over, seemed incredulous, until the tumor was shown him. He gave no evidence of suffering during the operation, and assured me after it was over that he did not experience the slightest degree of pain from its performance. This operation was performed on March 30, 1842."

Dr. Long continued the use of sulphuric ether as a surgical anæsthetic, his operations being of record. He published his epoch-making discovery by word of mouth to all with whom he came in contact, by doing operations in the presence of reliable witnesses and by urging other physicians to use ether as a surgical anæsthetic, until it was said that his method became "notorious" throughout that part of the country among both the profession and laity. Later (1849) in a paper read before the Georgia State Medical Society, and published in the *Southern Medical and Surgical Journal*, he gave a full account of his discovery.

Documentary evidences of the above statements are published in *Old Penn*, vol. xiv, No. 1, October 2, 1915, and elsewhere. They are so convincing that they cannot be gainsaid. Practically everyone, both in America and Europe, who has

investigated this subject, admits that Crawford Williamson Long was the first to employ sulphuric ether as a surgical anæsthetic. Many papers, pamphlets, and a few books have been written setting forth in great detail the history of Long's discovery. Numerous monuments have been erected to his memory. Many scientific bodies have declared their belief in Long's priority. His Alma Mater in 1910 unveiled a medallion with imposing ceremonies to commemorate Long's discovery.

In 1902 Congress enacted a law authorizing each State to place a statue of two of its most distinguished citizens in Statuary Hall which is located in the Capitol directly under the dome. The State of Georgia, through its Legislature selected Crawford W. Long and Alexander H. Stephens as its most illustrious representatives. In March of this year the Memorial Association of the Discoverer of Surgical Anæsthesia will unveil in Statuary Hall a statue of Crawford W. Long made of Georgia marble by the famous sculptor, J. Massey Rhind, New York City.

That Wells in 1844 used nitrous oxide as an anæsthetic, and Morton in 1846 employed ether disguised with aromatics, and under the patented name of "letheon," does not in any way invalidate the fact of Long's priority claim as the discoverer of surgical anæsthesia in 1842.

In the ringing words of Henry W. Grady: "It was Crawford W. Long who gave to the world the priceless boon of anæsthesia." When Edward VII was operated on for appendicitis, his first question on awakening was "Who discovered anæsthesia?" His surgeon, Sir Frederic Treves, answered: "It was an American, Your Majesty, Crawford W. Long."

JOHN WESLEY LONG.

