Our 'First': The Story of Carmel's Traffic Signal
By Andrew Wright

Leslie Haines spent evenings tinkering in his workshop. (Courtesy of John Haines)

With a population less than 400 at the time,[1] Carmel seems an unlikely town to have installed one of the first traffic signals in the state nearly 90 years ago. The signal has since been a regular feature in histories of Carmel, and though the labels have been misapplied, numerous articles have been published celebrating Carmel's "first". The signal was nonetheless innovative and represented the only significant manufacturing endeavor in Carmel's first century. Sadly Carmel did not laud the signal in inventor Leslie Haines' time. To the contrary, the signal drew the ire of residents and business owners in the mid-1920s who suspicioned the signal was to blame for the relocation of State Road 31 from Rangeline Road to Meridian Street. Haines died before Carmel recognized the significance of his invention.

Leslie Haines was born in Carmel in 1883. As a young man working in his father's blacksmith shop, he often talked about joining the navy.[2] From 1906-1909, he circumnavigated the globe as Electrician First Class aboard the USS Connecticut, the flagship of Roosevelt's Great White Fleet. He had the fortuitous opportunity to assist a leading figure in the development of wireless technology, Dr. Lee DeForest, with the installation of wireless radio aboard the ship. The experience was invaluable for the already gifted engineer. After leaving the Navy in 1910, Haines moved back to Carmel and worked at the Home Elevator Co. of Indianapolis, where he designed elevator control panels and specialized in their repair.[3] He spent his evenings in his workshop tinkering with mechanical and electrical inventions. Haines' cousin, Florence Jewett Beaver, recalled one of his creations. "When I was a very small girl, I spent several days with my Aunt Rose and Uncle John Haines, Leslie's parents. One day I awakened from a nap and my doll came walking across the room to me. Leslie had rigged it up some way. I never figured out how."[4]

Electricity came to Carmel in 1904. For many years, a lamp socket in the central room of a house or business was the extent of wiring in a building, so when Haines strung homemade Christmas lights on his tree, it was the talk of the town. In 1919, he made the Carmel[5] and Noblesville[6] newspapers with the gift of a homemade electric train and track for his son, John. Other gifts included homemade washing machines for his wife and mother.[7] His passion for electricity was such that he even wired his campsites with a water-powered generator of his own design.

"He was a genius. There's no doubt about it," John W. Hobbs III said of Haines. Hobbs worked with Haines at Home Elevator and would later become president of the company. Hobbs recalled that many of Haines' coworkers were dismissive of the early version of the traffic signal that sat in Haines' workspace. Hobb's father, however, saw the potential in the blinking lights and gave Haines his own foundry to begin manufacturing the signal at Home Elevator.[8] In 1923 or 1924, town officials granted him permission to

Haines signal ca. 1924.

install his signal at the intersection of Main Street and Rangeline Road. The first signal[9] was a square box with the words “stop” and “go” backlit with red and green lights.[10] On April 19, 1924,[11] Haines reinstalled the signal with a new housing and a perfected timing mechanism for which he filed a patent application.[12] The signal stood about eight feet tall with a cast iron pedestal on a concrete base.

By early summer, Haines left Home Elevator and rented space on the 2nd floor of Rue Hinshaw's Carmel Garage. He hired Ralph Butterworth and Leland Perisho to assemble the magnetic coil device. Perisho later became the primary installer and repairman. Haines and his family assembled much of the signal housing.

On September 1st, Haines setup models of his signal at a booth in the Manufacturer’s Building at the state fair. The signals received much attention from municipal representatives from all over the state.[13] Within two months, he sold three traffic lights to Noblesville[14] and seven to Lebanon[15] at an average price of $200 per signal. A local physician, Dr. Ross A. Cooper, took interest in the novelty. With his investment, the Haines Automatic Switch and Signal Co. was incorporated with capital stock of $10,000.[16]

Carmel found that strict enforcement of the signal was necessary. Dr. Cooper wrote a letter to the editor of the Indianapolis Star in November 1924, imploring Indianapolis drivers to heed the signal.

> Most of the complaint is from Indianapolis motorists who I am confident adhere to Indianapolis traffic laws but when they drive out through the country these beautiful autumn days they seem to catch the spirit of the air and have a tendency to step on it and in many cases fan through [Carmel] at thirty-five or forty miles an hour.[17]

Town Marshal Roy Holbrooke’s particular devotion to enforcement arguably had the greatest impact on the legacy of Carmel’s signal. Motorists traveling State Road 31 to and from Indianapolis frequently ignored the signal. Others had difficulty judging the change from green to red at thirty miles per hour without a yellow light.[18] Holbrooke blew his whistle regardless and made the arrest. Violators were taken to Justice of the Peace Mahlon Day, who required the fee be paid before the motorist left town.[19] The operation was lucrative; the *Carmel Standard* reported that Holbrooke averaged five arrests per day in November 1924.[20]

Initially, residents found the scene amusing; however, drivers began avoiding Carmel as word of the traffic trap spread and the Hoosier Motor Club advised a detour. Residents soured on the signal as local businesses were impacted. In June 1925, Holbrooke resigned, likely at the request of the town. The *Carmel Standard* questioned whether the signal should go with him.[21]

Haines signal with “change” phase. (Courtesy of Carmel Clay Historical Society)

In early 1925 Dr. Cooper built a shop for the signal company at the corner of 1st Avenue NW and 1st Street NW.[22] In the new building Haines manufactured a modified version of the signal that had a third signal phase, “change”, backlit with yellow. This new model was comprised of three compartments with stenciled directives designed by Ralph Applegate, a local Herron art student working out of Franklin Booth’s studio. Applegate also designed a herringbone pattern that was painted onto the pedestal. [23] Haines changed the design once more sometime in late 1925 or

early 1926 to a signal housing that resembled the modern signal. Carmel's signal was likely replaced with the final model in 1926.

Carmel's signal ca. 1928. (Courtesy of Carmel Clay Historical Society)

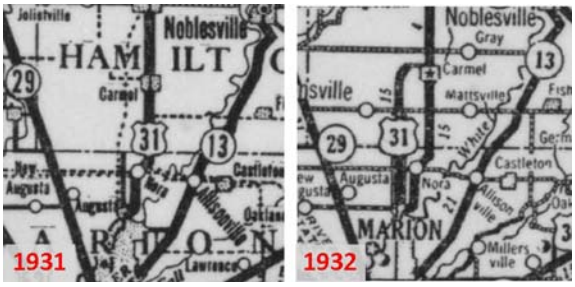
With production rolling, Haines hired salesman Carlyle Newkirk, a relative of Dr. Cooper's father-in-law. Newkirk traveled the state, installing the two-foot models in the front window of hotels to create a buzz in small towns. For a time, interest in the signal was so great that the company struggled to keep up production.[24] Signals were installed in Zionsville, Linton, Rochester, Richmond, Wabash, Auburn and Marion, OH, among others.

On December 29, 1925, Haines hosted an oyster supper at the shop to toast the successful year and the promise of another in 1926. The employees and their families, 24 people in all, enjoyed a long night of food and games. Tables were decorated with Japanese lanterns and miniature signals.[25]

The promise of another good year quickly dissipated. On March 22, 1926, Haines went back to work for Home Elevator and manufacturing came to a halt. The only activity to speak of was Perisho's repair work on existing signals.[26]

The disparity between sales and expenses was a significant factor in the company's demise. Newkirk proved to be an ineffective salesman, but his connection to Dr. Cooper allowed him to take advantage of a liberal expense account. Hobbs believed Haines' downfall was he did not care about money.[27] When the company folded, Dr. Cooper kept the building. Haines walked away with little as he failed to obtain a patent to protect the rights to his invention.

In 1929, rumor spread that the highway commission planned to move State Road 31 west of Carmel to either College Avenue or Meridian Street to avoid the traffic signal at Main Street and Rangeline Road. The *Carmel Standard* voiced the concerns of residents, who protested and lobbied the commission with a plan in which Carmel and Nora would remain on the route of State Road 31; "Eliminate Carmel from Road 31, in this day of progress would be about equivalent to erasing Carmel from the map and placing it back in about the same status it was 20 years ago."[28] In a response to the paper, Commission Director John Brown acknowledged that there had been ill feelings among commissioners toward Carmel as a result of the arrests but downplayed the rumor that Carmel would lose the state road as a result, stating the objective was to eliminate dangerous curves along White River in Broad Ripple.[29] Less than a year later, he announced plans for Meridian to become State Road 31. In 1932 the state road arced around Carmel, rejoining the old route just north of town.[30]



SR 31 was relocated to Meridian St. in 1932, arcing around Carmel. (Indiana State Highway Commission. "State Highway System of Indiana." 30 Sep. 1931. & 30 Sep. 1932.)

Carmel's signal was removed by order of the State Highway Commission Safety Director and was replaced with stop signs mounted to Haines' herringbone pedestal in 1936. This setup remained in the center of the intersection through at least 1937.[31]

It is unfortunate that Carmel's favor toward the signal did not change in Haines' lifetime. He lamented the turn of events in a letter written a year before his death,

Carmel's signal was replaced with stop signs as shown in this photo from the 1937 Centennial Celebration. (Courtesy of Carmel Clay Historical Society)

> So take it all in all I begin to feel like the largest part of my life efforts have been pretty much of a failure and due really to no fault of my own. A high powered salesman can exploit his wares and turn over a pretty penny no matter how good or bad the product he is selling might be. I find I would have made a mighty poor salesman for all I ever had to sell was my labour as an electrical mechanic and I sure have made a failure of that.[32]

Haines self-assessment was not shared by his contemporaries. Lester Hinshaw, a longtime acquaintance of the Haines family spoke for those who knew him; "there's no doubt about it. The man was an electrical wizard, a natural, just born with a lot of knowledge about such things."[33]

Today the only existing Haines signal is housed at the Carmel Clay Historical Society's Depot Museum. The signal was discovered in the attic of the Cooper building and donated to the city in 1979.[34] A concrete base that held a display signal outside the shop sits in the museum's garden. These artifacts as well as a plaque at the intersection of Main Street and Rangeline Road commemorate Leslie Haines' ingenuity and the mercurial legacy of his traffic signal.

How the Mechanism Worked

By the time Haines installed his signal in Carmel, there were at least 70 US patents issued for electric traffic signals. The designs varied greatly from hand-cranked, semaphore signals to automatic signals that resembled the modern traffic light. While nearly all automatic signals used a continually running motor, Haines' magnetic coil was only energized intermittently. The magnetic coil lifted a piston until it made contact with a trip that released the piston, which then fell through a brass tube filled with glycerin to control the rate of descent. At the bottom, the piston made contact with a silver dime contact that activated the coil and restarted the cycle. The piston was attached to a switching segment on the other end of a pulley. As the piston cycled, contacts were made and broken on the switching segment, controlling the lights.[35] Adjustments to the rate of descent allowed for precise intervals in each phase of the signal.

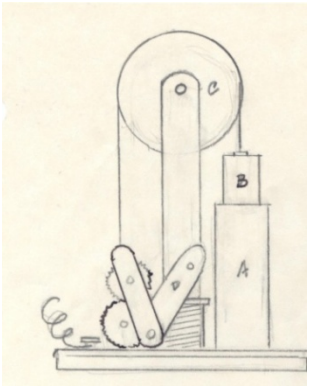


Diagram of mechanism by John L. Haines. (Haines. *Carmel Remembered* 71.)

While it was more efficient than its motorized counterparts, the mechanism was vulnerable to fluctuations of temperature and collisions from motorists with the concrete base. "Time and transportation involved soon proved to be impractical to service", recalled Haines' son, John L. Haines.[36] The expense to maintain and repair the device was a contributing factor to the company's failure.

[1] "Statistics and Demographics of Carmel, IN." City of Carmel, IN, 3 Aug. 2013. Web.
[2] "Not Much of a Sinecure." *Indianapolis News* 22 Jan 1908: 5. Print.
[3] Niederpruem, Kyle. "Inventor's Spark of Genius Seen only by Friends, Family." *Indianapolis Star* 10 Mar. 1986: 1. Print.
[4] Barker, Myrtie. "Carmel gets 'First' Signal." *Indianapolis News* 25 Oct. 1979: 18. Print.
[5] "Haines Made Unique Mechanical Toy." *Noblesville Reporter* 30 Dec. 1919: Print.
[6] "Happy Youngster over Electric Toy." *Carmel Standard* n.d. Print. In Haines Clipping Book. Collection of Carmel Clay Historical Society, Carmel, IN.
[7] Haines, John L. *Carmel Remembered* 2009. 35. Author's Personal Collection.
[8] Niederpruem, Kyle. "Inventor's Spark of Genius Seen only by Friends, Family."
[9] "Patents Flash for Sign." *Carmel Standard* 4 Apr. 1924: 1. Print.
[10] "New Automatic Traffic Signals Being Installed." *Lebanon Reporter* 6 Nov. 1924: Print.
[11] Haines, Leslie. Letter to Albert Pickett. 1979. Collection of Carmel Clay Historical Society, Carmel, IN.
[12] "Patents Flash for Sign."
[13] Haines, Leslie. Letter to Albert Pickett.
[14] "New Automatic Traffic Signals Being Installed."
[15] "Other Notes from Monday Night's Session of Council." *Noblesville Reporter* 23 Sep. 1924: 1. Print.
[16] *Iron Age* 114. (1924): 1260. Print.
[17] Copper, Ross A. "Suburban Traffic." *Indianapolis Star* 10 Nov. 1924: 6. Print.
[18] Dubois, Robbie. "Getting to Know You." 1966. Newspaper in Collection of Carmel Clay Historical Society.
[19] Haines. *Carmel Remembered* 70.
[20] "Arrests Continue in Traffic Violation of Crossing Signal." *Carmel Standard* 14 Nov. 1924: 1. Print.
[21] "Marshal Resigns." *Carmel Standard* 5 Jun. 1925: 1. Print.
[22] Haines, Leslie. Letter to Albert Pickett.
[23] Haines. *Carmel Remembered* 68.
[24] Haines. *Carmel Remembered* 70.
[25] "Haines Signal Company Celebrates." *Carmel Standard* n.d. Print. in Haines Clipping Book. Collection of Carmel Clay Historical Society.
[26] Haines. *Carmel Remembered* 81.
[27] Niederpruem. "Inventor's Spark of Genius Seen only by Friends, Family."
[28] "Road 31 will Stay in Carmel." *Carmel Standard* 6 Dec. 1929: 1. Print.
[29] "Carmel will not Lose Road 31." *Carmel Standard* 27 Sep. 1929: 1. Print.
[30] Indiana State Highway Commission. "State Highway System of Indiana." Map. 30 Sep. 1932.
[31] Board of Trustees Minutes. 5 Sep. 1939.
[32] Haines, Leslie. Letter to ADM Sterling Yates. 1944. Collection of Carmel Clay Historical Society.
[33] Barker, Myrtie. "Carmel gets 'First' Signal."
[34] "City Given one of Oldest Stoplights." *Carmel News Journal* 24 Oct. 1979: 1. Print.
[35] Haines, Mike. Letter to Phil Hinshaw. 15 Apr. 1990. Collection of Carmel Clay Historical Society.
[36] Niederpruem. "Inventor's Spark of Genius Seen only by Friends, Family."