

TECLA COMPANY, INC.

CELEBRATING 125 YEARS OF
AMERICAN MANUFACTURING EXCELLENCE



TECLA COMPANY, INC.
FOUNDED 1897

TECLA COMPANY, 125 YEARS YOUNG

A brief history of the company and the inventors who inspired us

By Dick Clark

Tecla, based in Walled Lake, Michigan, was founded in 1897 by Thomas E. Clark, the grandfather of brothers Robb, Jeff and Dick Clark, who have been managing the business for more than 50 years.

Our five divisions serve several industries:

- **Tecla Marine Products** makes custom marine hardware and boating accessories for the pleasure power boat industry.
- **Bert's Custom Tackle** and **Walker Downriggers** make fishing tackle.
- **Resco Pet Products** makes pet grooming products.
- And **Tecla Innovation** designs and makes products for industrial applications primary for the automotive and robotics industries.

We have a team of next-generation family members and colleagues trained to someday take over management of the company. It is awe inspiring to us all how innovation has changed our lives – and those of our customers – over the decades, and how it continues to do so.

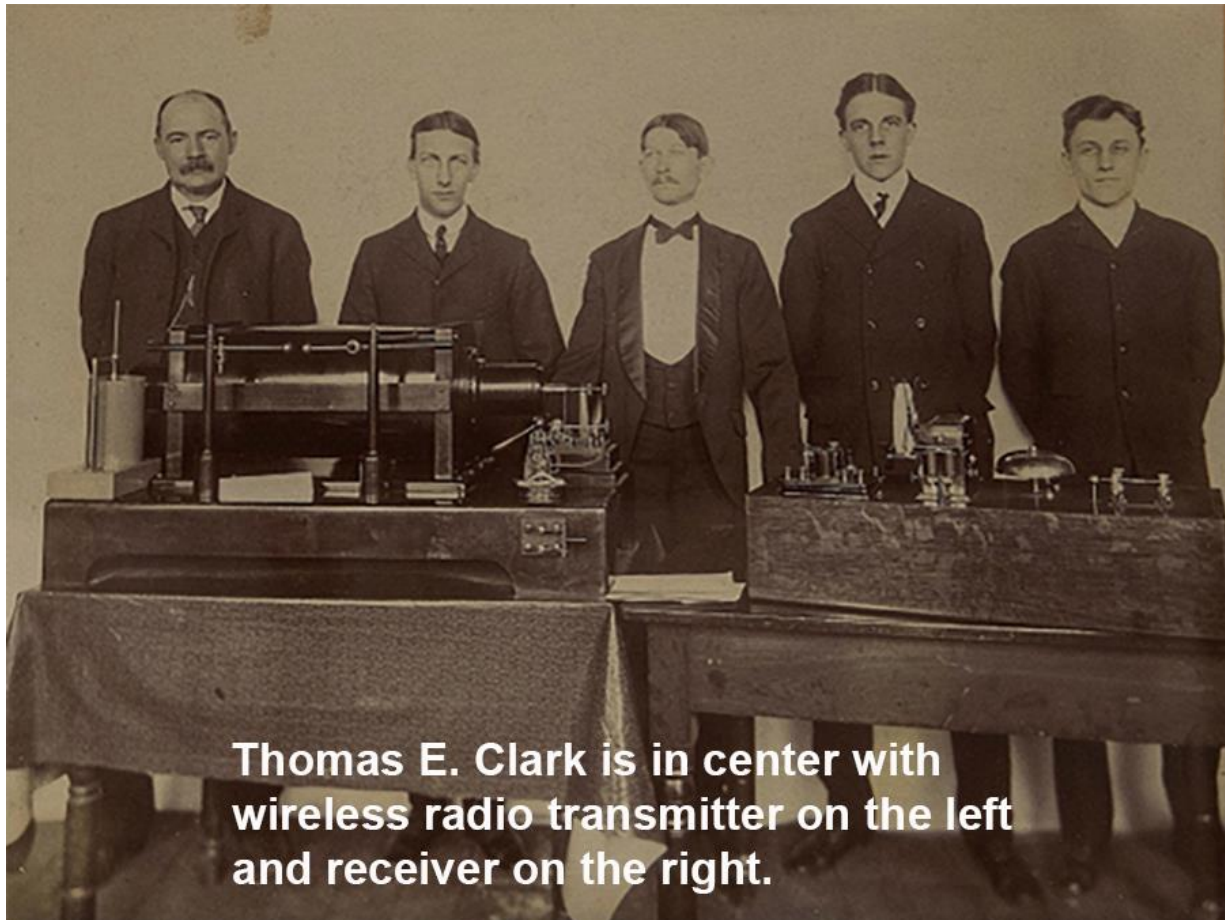
In celebration of this, Tecla's 125th anniversary and of the spirit of innovation on which Tecla was founded, it is our great joy to share this brief history of our grandfather, the other inventors – including Thomas Edison, Henry Ford, Nikola Tesla – he worked with, and how they influenced him and the company whose name still bears his initials.

Thomas E. Clark, the making of an inventor

Tom, as our grandfather was known, was born in Tecumseh, Ontario – near Windsor – in 1869. His father worked for the Grand Trunk Railroad and moved the family to Detroit when Tom was a boy. He attended school until age 15, when, like his dad, he went to work for the Grand Trunk Railroad at one of its train stations in Ontario.

It was there that Tom was first exposed to telegraph communication, learning Morse Code and, sometimes to the exasperation of his bosses, taking telegraph keys apart to see how they worked. He soon went on to become a night telegraph dispatcher for the railroad. Understanding telegraphy then was like knowing how to write computer code today and was foundational in building his career as an electrical engineer and inventor.

One of Tom's bosses at the railroad recommended him to W. A. Jackson, the superintendent of the Detroit Electrical Works, which made electrical components. Tom worked long hours for that company – many of them without pay – to learn how electrical components worked and were made. That job led to stints in Michigan's Upper Peninsula working for Western Union Telegraph and Bell Telephone Company. He later went to work as an electrical engineer for Edison Electric Light Company, traveling all over the U.S. to set up grids for power distribution.



Thomas E. Clark is in center with wireless radio transmitter on the left and receiver on the right.

How it worked: The transmitter (on left above) created Morse code pulses that the receiver (on the right above) read.

It was a time of major transformation nationally and internationally, and Tom jumped at the chance to deploy and advance the new technologies. His thirst for knowledge would lead him to never stop enhancing his engineering skills to come up with new ways to use electricity to make people's lives easier and more productive. His invention skills led to 43 U.S. patents and to relationships with other pioneers in electrical power, radio broadcasting, wireless technology and the automotive industry who helped make our country the innovation and industrial leader it is today.

Thomas Edison, trailblazer

Twenty-two years before our grandfather's birth, another boy was born to a family that had moved from Ontario to the U.S. for better economic opportunities. **Thomas Elva Edison**, the youngest son of six children, spent his first years in Milan, Ohio near Lake Erie. His house is still standing as a historic site you can visit. His family later moved to Port Huron, Michigan, where his father made shingles and sold lumber.

The boy was taken to be enrolled in school, where a teacher refused to admit him, saying he was too dumb for her to educate. His mother was a schoolteacher and decided to home school him, instead. Edison drove himself to learn far beyond the basics she taught. He became a prolific reader, often devouring two books at the same time and drawing from the knowledge he gleaned from them to solve complex mechanical problems. He went on to become one of the most prolific inventors, with 1,093 US patents, more than anyone in U.S. history. That number would have been 1,094 had he not had the good grace to donate the patent for the first practical X-ray machine, the fluoroscope, to science.

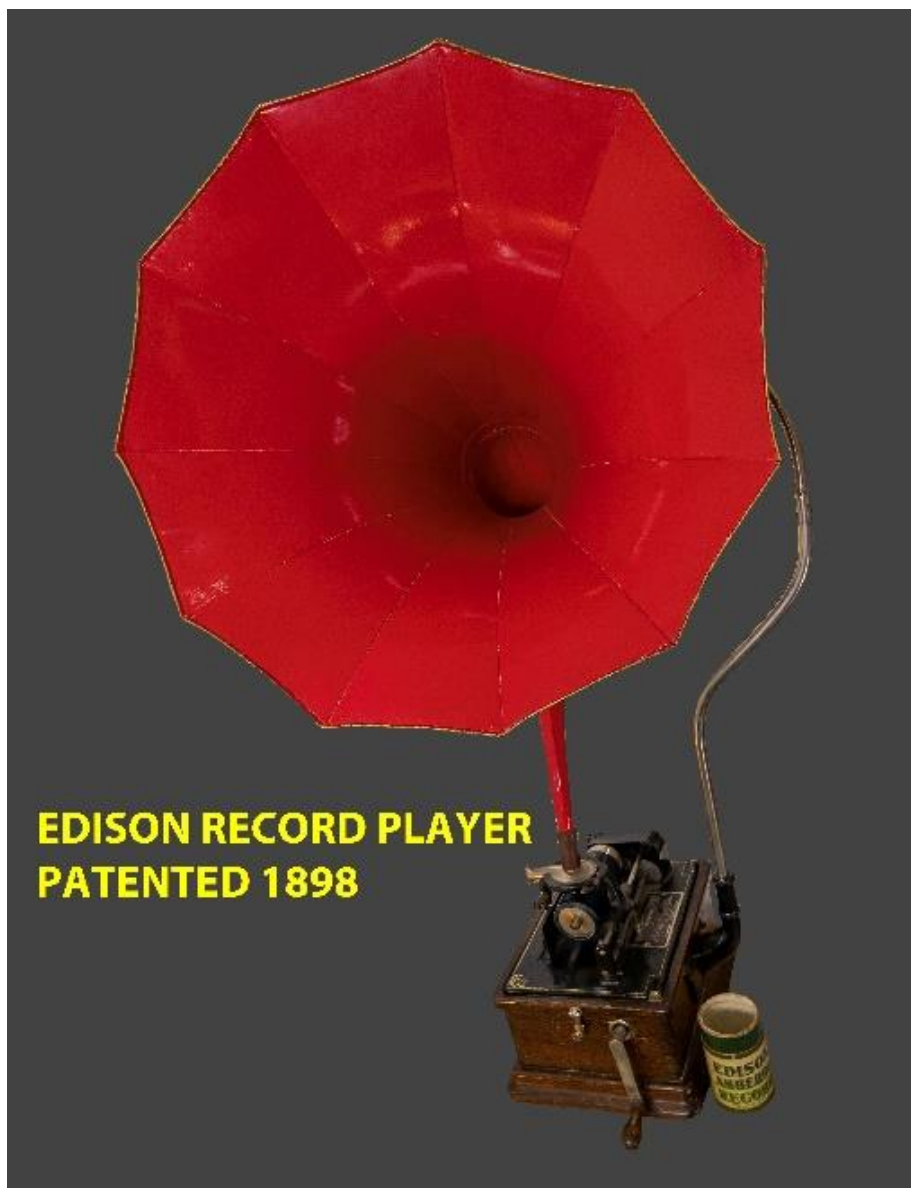
The myth about Edison was that he invented by trial and error. But the truth is that his errors were few and far between. He relished complex engineering problems and would work tirelessly to find the solutions. He also surrounded himself with people who possessed the skilled craftsmanship to build prototypes of his many patented products.



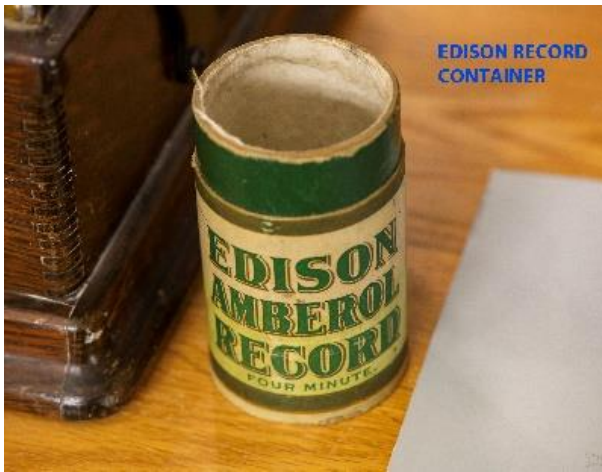
Edison's creativity and intuition were incredible. He was a practicing organic chemist before organic chemistry was invented. He used strands of flax, an organic plant material that he compressed with 50,000 pounds of pressure, as the filament of the first light bulb he invented. Edison's light bulb evolved through his innovations and became the incandescent light that we still use today.

Edison invented the phonograph after discovering he could record sound and play it back by coating cylinders with wax grooves. That coating, however, became problematic in hot weather when it would soften and distort the sound. Edison fixed the problem by coming up with an **organic compound** he called **Amberol**, which he painted as a varnish on the cylinders to keep the wax coating from melting.

The Amberol cylinders he invented had twice the grooves and double the playing time of his first cylinders. They were introduced in 1908. As brilliant as he was as an inventor, Edison was a lousy salesman. Although the phonograph he sold was superior in quality to those of his competitors, he lost sales to companies that recruited more popular orchestras and singers for their recordings.



Those companies later went on to produce flat discs or records based on Edison's technology of using physical grooves to record and replay sound.

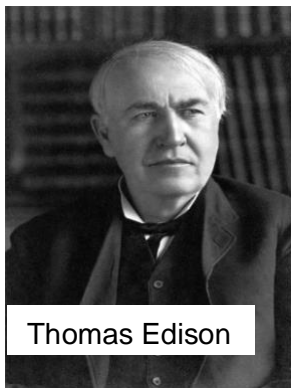


Edison's inventions also revolutionized photography.

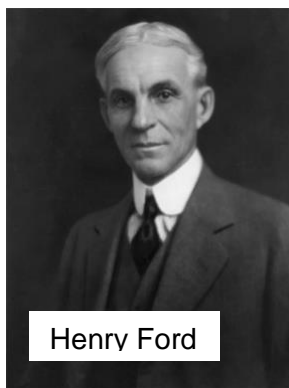
George Eastman, founder of Eastman Kodak, asked him to make a better camera than the one the company was selling, which needed to be disposed of and replaced after shooting just one roll of film. For this project, Edison drew heavily from his earlier innovations around telegraphy – most notably a concept he patented in 1874 called **quadruplexing** that allowed messages to be sent faster and more reliably by transmitted four signals over two telegraph lines. He applied the idea of multiplexing first to still cameras, punching holes in both sides of the acetate film and inventing a drive mechanism so film could be removed for developing, but the camera itself could be reused. He later applied multiplexing to invent motion picture cameras, movie screens, and the movie development process.

Edison's multiplex concept of sending multiple signals over one line or band has since been used in radio, telephones, TV and computers.

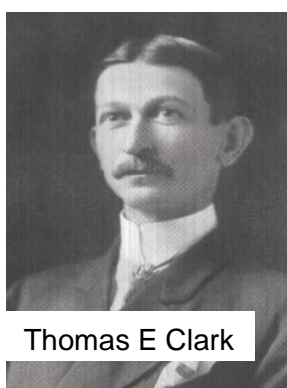
Tom Clark Meets Thomas Edison, Henry Ford and Nikola Tesla



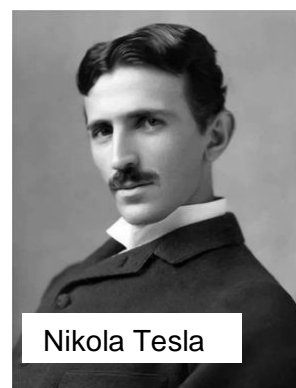
Thomas Edison



Henry Ford



Thomas E Clark



Nikola Tesla

In the 1890's, our grandfather went to work for Edison as part of his effort of putting up power lines to provide electric power all over the U.S.

It was through Edison that our grandfather also met **Henry Ford**, then a journeyman carpenter who at the time was devising ways to mass produce the automobile in Detroit. Tom worked on many projects for Ford, including building prototype ignition systems and spark plugs for his first prototype cars.

He turned down Ford's invitation to become his motor company's chief engineer.

"How would you feel working for someone else?" he asked his fellow inventor. "That's how I would feel working for you."

Tom continued working on various projects for Edison, who became one of the founders of **General Electric** in Schenectady, New York. In one of his projects as the electrical engineer in charge of GE's electrical boats, he was responsible for running that company's electric boat concession at the **Columbian Exhibition**, the first world fair, in **1893**.

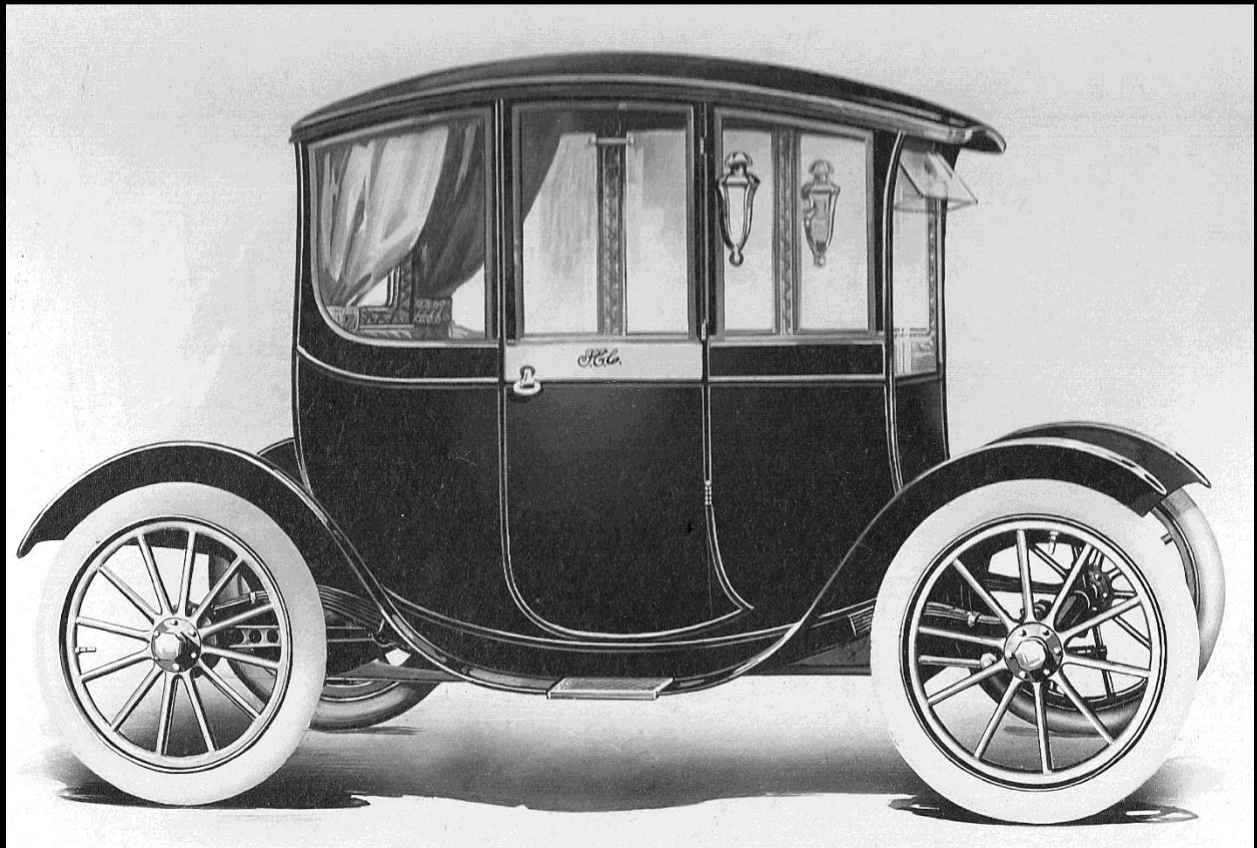
The boats took the people attending the exhibition in Chicago around to different exhibits halls, and Tom used his ability to speak French to squeeze information from European scientists about the latest technology: wireless telegraph, which would later evolve into the wireless telephone, the precursor to the cell phone (not pocket-sized, though).

It was at the exhibition that he met **Nikola Tesla**, a Serbian born in Croatia who held the key patents for high-voltage AC electrical current, which ultimately replaced Edison's less efficient DC technology. Tesla was giving lectures on AC current and showed electric lighting that evolved into fluorescent lighting we use today. Ever the showman, Tesla also demonstrated how he could put a million volts thru his body safely and make his hair stand on end.

Tesla also had patents on AC motors that we use today. He made the mistake of selling his patents to George Westinghouse – who was instrumental in developing AC power distribution in the U.S. – without negotiating a good royalty agreement. He died penniless in 1947. Westinghouse, to his credit, paid for Tesla's needs near the end of his life.

THE REST IS HISTORY

Our grandfather continued his friendship with Tesla after the exhibition in Chicago as he built a prototype electric car. Shown is a picture of a prototype electric powered automobile Thomas Clark built in 1898 (Pictured below)



1898 T.E. Clark's Prototype Electric Car

He couldn't get enough people interested in it to start production. He bought oscillators from Tesla for the wireless telegraph technology he was using to make Tecla Co's first products – radio transmitters and receivers used for ship to shore communication. He set up land stations that would communicate with the Detroit to Cleveland boats on the Great Lakes. In what were among the first radio broadcasts, according to a *Detroit News* article from 1907, he transmitted music and election results to the boats' passengers. He was the chief engineer who set up WWJ, Detroit, one of the first commercial radio stations in 1920. And he made radio sets that enthusiasts of the new wireless technology put to a variety of new uses.

Tom spoke often – especially to us, his family – of the influence his involvement with some of the world’s greatest inventors of the late 19th early 20th centuries had on him. He made sure we grew up knowing how things work, how to invent what hadn’t yet been invented, and how to bring those ideas to fruition. He also instilled in our family the grit and resilience to weather uncertain times. His son, our uncle James Clark, diversified Tecla after becoming president of the company and steered it through the Great Depression and World War II partly by making pet supplies (Resco Pet Products). Tecla invented and manufactured the first dog toenail cutters in 1937.



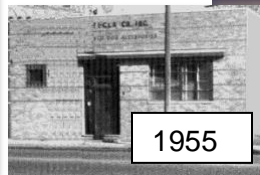
Then followed other products such as World-renowned Resco Cordo-hyde show leads (used frequently at West Minster and Crufts Dog Shows). Heavy-duty pet grooming tools, grooming posts and nooses and we remain the only American manufacturer of dog combs.



Although a far cry from the lightbulb or AC currency, those tools have prevented countless dog bites and hours in the doghouse.



1897



1955



1989



1999

Resco Pet Products (1937) has been a leader in pet grooming and handling products. We invented the hand-held dog nail trimmer and continue to manufacture dog combs, grooming posts, show leads, grooming nooses and other USA made pet products. **Tecla Marine Products (1972)** has equipped generations of pleasure power boaters with hardware such as heavy-duty seat brackets and electric seat mechanisms to keep them safe on the water. **Bert's Custom Tackle (2001)** and **Walker Downriggers** provide sport fishers with tackle they need to make their most memorable – and tasty – catches. And, most true to Tom Clark's legacy, we continue inventing (**Tecla Innovation**). At the start of the COVID pandemic, for example, we manufactured face shields for COVID protection. We are especially proud of our collaborations with some of the greatest innovators of our own time, including our work making prototypes and designing automation controls for an array of different industries. We've made and programmed control systems for test and assembly fixtures in the automotive industry. And we know our grandfather would be tickled to know that we currently provide machined enclosures for testing the cars and Space X rockets made by the company Elon Musk named after the great Nikola Tesla.

See the *"the antique wireless association review"* article, "Thomas E. Clark, Detroit's Wireless Wizard" written by dr. Russ Kleinman, Dr. Karen Blisard, and Dick Clark a peer reviewed document.

Our company is a growing, diversified business. We make pet supplies, marine hardware for pleasure power boats, fishing tackle for sport fishermen, and prototypes for different industries. we do automation controls design. we provide machined enclosures for testing Tesla cars and their Space X rockets.

Visit Our Website: TECLAUSA.COM

BIBLIOGRAPHY AND NOTES

EDISON A LIFE OF INNOVATION by Paul Israel

Probably the best book about Thomas Edison. It's a reference that I used extensively. He won a Pulitzer Prize for this book. Published in 1998. He wrote multiple books about Edison's achievements while he was at Rutgers University. Rutgers has Edison's files of his work and inventions--over 5 million pages.

EDISON by Edmund Morris

A Pulitzer Prize winning book published in 2021. He provides more insight about Edison and his achievements. His insights about Edison's work and inventions complement Israel's book.

WIZARD THE LIFE AND TIMES OF NIKOLA TESLA BIOGRAPHY by Mark Seifler

Tesla was born in Smilian, Croatia in 1857 and died in New York in 1943.

TESLA DIDN'T INVENT THE ELECTRIC POWERED CAR.

More importantly he **DID** invent the concepts of A C current that he patented and sold to George Westinghouse. He invented the brushless AC motor that powers your refrigerator and other appliances, the Florescent light and designs that are the basis of the circuits that we use to electrify our homes. He fought the battle to prove that AC current was superior to DC. He worked for Edison who advocated for DC current.

WHO INVENTED THE ELECTRIC CAR AND WHY DIDN'T IT BECOME THE CHOSEN MODE OF TRANSPORTATION?

Edison developed an electric car in 1892. T.E. Clark developed an electric car in 1898. **EVAN MUSK WASN'T BORN YET. NO that's not the answer—SEE BELOW—**

Gas cars had to be hand cranked to start. You could suffer injury if the car backfired. Charles Kettering invented the electric motor starter that appeared on Cadillacs in 1912. It made gas powered cars easy and safe to start and cost less than electric cars. With an electric starter, **women could start and drive gas cars.**

MY INVENTIONS The Autobiography of Nikola Tesla

A great book that gives you insight into how and why he thought. He talks about how he was influenced by his family and his early environment. I highly recommend it.