

Thomas E. Clark

Founder Tecla Company, Inc. 1897



Thomas E. Clark "Wireless Wizard"

by
Russ Kleinman,
Dick Clark and
the Clark Family,
&
Karen Blisard

Copyright 2009, Russ Kleinman

Introduction

Thomas E. Clark introduced wireless communication to the Great Lakes region. He was an innovator and visionary experimenter.

Clark's many inventions and patents include improvements in such diverse areas as display cabinet lighting, electric fans and heaters, humidifiers, looms, wireless telegraphy as well as voice transmission, electric cars, car and police radios, wireless railway train control, and automobile safety around railroad crossings. He was the first to equip steamships on the Great Lakes with wireless and he placed stations at strategic locations on shore to communicate with them. He was the consulting engineer when one of the first commercial broadcast stations (WWJ) in Detroit came on the air.

Clark counted many famous people among his friends, including James E. and William Scripps, Ty Cobb, Walter W. Massie, A. Frederick Collins, Nikola Tesla, Henry Ford, Charles Steinmetz, and Thomas Edison. He was as devoted to his family later in life as he was to his work earlier, but he never bragged about his great accomplishments. Although he was a great storyteller who enjoyed sharing his experiences with his family and friends, he never sought the fame and fortune that he deserved and that other inventors of his time valued so highly. On April 17, 1909, one hundred years ago, the Sunday News of Port Huron, Michigan, called Thomas E. Clark an electrical genius and the "Wireless Wizard." Famous people and people who were key researchers in wireless and radio development are shown: (see Wikipedia articles; History of Radio & Wireless Telegraph).

Humble Beginnings

Thomas Edward Clark was born on May 10th, 1869, in the area of Tecumseh in Essex County in the province of Ontario, Canada. Although it has grown to be a modern town now with upscale housing subdivisions and all the usual conveniences, Tecumseh, named after a prominent Indian leader, was mostly unincorporated forest and farmland at that time. In 1854, the Great Western Railroad intersected Tecumseh Road. This stimulated more rapid growth in the area as it became able to ship more grain and lumber. Initially known as Ryegate, Tecumseh incorporated as a town in 1921 with a population of 978.

Tom's mother was Mary Mero Clark, the daughter of a well-respected and influential French settler, pioneer, and farmer in this French-Canadian area. Thomas E. Clark's father, also named

Thomas, worked for the Grand Trunk Railway Company for 38 years as roadmaster of the Great Western division.

The young Thomas Clark went to grade school in Essex County. He did well enough at his studies to earn a scholarship commendation. His real interest was not in school but telegraph. His father was a railroad man, so Tom spent all his spare time at the Tecumseh and Belle River office of the Grand Trunk Railway. Here he learned the Morse telegraph code and became familiar with the instruments used on the telegraph line that accompanied the railroad.

He learned about telegraph keys, sounders, relays, ground wires, and lightning arresters. He helped clean the old-style crow's foot batteries with their zinc and copper electrodes. These pursuits were not interrupted when the family moved just a few miles west to Detroit, Michigan, when Tom was eleven years old. By the time he was fifteen years old, Tom was working as the night operator at several points along the Grand Trunk Railway.

He had no formal schooling beyond this point.

Early Technical Training

In the autumn of 1884, Tom's enthusiasm impressed Mr. MacKay who was a train dispatcher. He got a job at a company that made a wide variety of electrical products including telegraph instruments, medical induction coils, gas lighting devices, chandeliers, dynamos, motors, doorbells, and buzzers. Tom wanted to learn all he could about the practical manufacture and use of these instruments. He also learned about test equipment such as galvanometers, voltmeters, ammeters, and the Wheatstone bridge.

In 1885 he went to Sault St. Marie, known as "the Soo," and worked with the managers of the Western Union Telegraph. He also helped manage the Bell Telephone.

It was also during this time that he assisted in the electrical installation of the Edison Electric Light Company at Sault St. Marie he met **Thomas Edison**. The man who ran the Edison company in Michigan was **Henry Ford**. He continued to learn and gained valuable experience but had not yet found his niche.

Edison and Ford were lifelong friends. Ford bought Edison's Menlo Park Laboratory and moved it to Henry Ford Museum in Dearborn Michigan including the dirt around the Lab. Edison built a new lab in West Orange, New Jersey that you can visit that is run by the U.S. Park Service.

In 1889, Clark returned to Detroit and took a job with the equipment department of the Detroit Light and Power Company working with Edison and Ford. Then in 1892, at the age of 23 Tom got his next big chance and accepted the position of electrical engineer in the electric boat department of the Edison General Electrical Works at Schenectady, New York. He found this a great opportunity to learn more and the heads of various departments did all they could to help him.

He offered to work for the department heads at night for no pay so that he could learn more about new developments and new equipment. He was a terrific note taker. The department heads appreciated the extra help, and Clark learned electrical theories and techniques that

would be invaluable to him later. As a result of his employment with Edison General Electric, he attended at the World's Columbian Exhibition in Chicago in 1893.

At the World's Columbian Exhibition in Chicago

It was the 400th anniversary of the landing of Christopher Columbus in the New World, and Chicago won the intense competition to host the great celebration. The preparations for the fair which occupied 630 acres took three years. The fairgrounds were opened to the public a year later than had been planned although the dedication ceremonies were held in October 1892. Over 27 million people eventually passed through the gates during the six months of the Exhibition. The International Exhibit of the fair was held in a building dominated by electrical inventions and exhibits. Thomas Edison, Western Electric, Westinghouse, and other many other commercial enterprises all had booths at the International Exhibit. Bids were accepted for powering the lighting for the building.

The bid submitted by Edison General Electric to power the exhibits with direct current at a cost of one million dollars was turned down in favor of **Westinghouse** and **Nikola Tesla's** alternating current system at half the cost. This decision caused Edison General Electric to retaliate by banning the use of Edison's light bulb at the exhibit. Inventors at the incandescent lamp department at Westinghouse designed an improved electric light bulb that sidestepped the Edison patents and allowed Westinghouse to introduce the public to the wonder of electric lighting produced by alternating current.

Into this grand event walked a short, thin, 25-year-old Tom Clark looking quite uncomfortable in a coat, tie and dome-shaped bowler hat. General Electric had picked him to be their electrical engineer in charge of the electric boat concession at the Exhibition. The boats, called "electric launches" at that time, were propelled by direct current motors, and supplied by General Electric and **Cornelius Vanderbilt**. This was the largest collection of boats powered by storage batteries ever assembled up to that time. There were 60 low-slung boats that had cloth tops to screen the sun and that were each about 25 feet long.¹ The motors were noiseless and represented the peak of technology at the time. One boat could carry 36 visitors at a time navigating around the lagoons at the fair.

Clark earned his keep during a devastating fire at the fair by saving the electric boats from destruction. He ordered his men to dump the heavy batteries overboard so that they could save the boats. Afterwards the batteries were recovered, and the boats restored to operation. **Vanderbilt feared that the boats were lost, but Clark told him that all he needed was the money to pay the men he had hired to help him save the boats.**

The most pivotal time of young Thomas E. Clark's life occurred at the Exhibition when he met **Nikola Tesla**. Clark's vision of a life of experimentation and invention opened as he listened to Tesla's daily lectures and demonstrations on the new science of high frequency and high potential oscillating currents. One of the talks that Clark heard Tesla give was about the propagation of electric waves into space using special equipment and a ground connection (**electrical induction**). Tesla also displayed gas containing lights, precursors to **fluorescent lights** of today, which were powered without wires by high frequency currents close to them. Tesla's dazzling public display included neon lights and many other electrical marvels. Clark had the opportunity to talk with Tesla personally many times to discuss how these feats were accomplished and what could be

hoped for in the future. He and Tesla specifically discussed power transformers, inductances, capacitance, and oscillating currents.² They corresponded and Clark bought oscillators for his wireless equipment a few years later.

Clark met many of the scientists and engineers who were key developers of radio and electricity. **Eugene Ducretet** who had come to Chicago from France.³ Ducretet knew **Edouard Branly** who had made the first coherer. He told Clark how Branly had used the coherer to detect static electricity in the atmosphere. The coherer, a glass tube with metal filings between plug-like contacts, was soon to be used as one of the first detectors in wireless radio. Clark, spoke French met Count Froloff who also spoke French who told Clark of the experimental work of the Russian scientist **Popov**. Froloff and Clark attended many of Tesla's demonstrations and lectures together.

Clark met Mr. Church, who was connected with the *Electrical World* published in London and the *Electrical World and Engineer* which was published by McGraw Publishing in New York. Mr. Church helped Clark obtain copies of books about **James Clerk Maxwell's** treatise on electromagnetic wave propagation as well as translations of **Heinrich Hertz's** laboratory work and the experimental validation of Maxwell's theories.⁴ Clark decided that he would pursue his own wireless experiments.

After the World's Columbian Exhibition

During Clark's employment at General Electric he had the opportunity to meet with **Elihu Thomson**. Clark also worked with **Charles Steinmetz** at General Electric in 1894. Steinmetz had described the mathematics of alternating current and built the first power line circuit breaker.

Clark Starts His First Business-- Electrical Service & Appliance Company

In December 1898, Thomas E. Clark moved with his wife and one year old son James to Detroit where he set out in business for himself for the first time at 166 Randolph Street. He called this business the Electrical Service & Appliance Company. He manufactured various electrical devices and continued his work in electrical engineering and contracting. He sold electrical supplies, working on a modest scale. He continued to pursue new ideas in areas besides wireless.

During late 1899 and the beginning of 1900, he designed and built an electrical automobile (Figure 7.) It was all his own design, and he manufactured the parts himself. When friends asked if they could drive his electric car, he told them it would cost eight dollars. He said that is what it would cost to hire a horse team to tow the car back from 8 Mile Road—the city limit.⁵ He could not interest any business investors to invest capital in his electric vehicle, but during 1901 and 1902 he operated a large automobile garage in Detroit and built charging stations for those electric vehicles that others were able to manufacture and sell. The thing that killed the electric car was **Charles Kettering's** invention of the **electric motor starter**. Gas cars had to be hand cranked to start. If the car backfired, you could break an arm. So, the electric motor starter for gas cars solved that problem and now women could start gas cars.

Clark also designed an ignition system for one of Henry Ford's prototype cars. The first spark coil Ford used was hand made in Clark's shop on Randolph Street. Eventually Clark developed his own spark plug which he sold to Ford, Cadillac, Buick, and other automobile manufacturers. Ford

wanted Clark to be his chief engineer, but Clark refused saying "How would you feel working for someone else?" See Norval Hawkins response to that problem below.

Clark also began the manufacture of wireless demonstration sets in 1898 that he sold to colleges and universities, as well as electrical supply houses. These were small, low power induction coil sets. A couple of years later he advertised them in *Scientific American* and in *The Electrical World* and sold them to early amateurs and other experimenters. He sold over 200 of these sets in the first few years of the 20th century and over 1000 of them over the next 10 years.

Clark said in a 1956 interview that many radio engineers and hams received their early training and inspiration while operating Clark wireless demonstration sets, including Alfred Goldsmith, who later became a Vice President and the General Manager of **RCA**. **Donald McNichols** obtained one of these sets including a coherer made by Clark. McNichols became Superintendent of Telegraph for the Great Northern Railroad, head of the Postal Telegraph in New York City, and **President of the Institute of Radio Engineers**.

Clark got a patent in 1901 for a shield and reflector for display lighting. In Clark's lighting, all the apparatus was hidden from view and the reflector directed light into the cabinet.

Clark's Wireless Network Expands

Thomas E. Clark formulating a plan. If he could get enough wireless stations assembled on land, then he would be able to communicate with similarly equipped ships on the Great Lakes. He could monitor their movements, send messages from passengers to family members or business associates on land, and provide emergency communications to those vessels that experienced mechanical difficulties or accidents while underway.

Help Comes from Unexpected Benefactors

Clark at this time lived just a few blocks away from **James E. Scripps**, founder of the **Detroit News**. As Clark walked home from work, he would sometimes stop and talk with Mr. Scripps and his 19-year-old son William. Tom had helped **Will Scripps** build a wire telegraph circuit between his house and those of his friends. A friendship developed between the kindred spirits, so Clark invited Mr. Scripps and his son to a private demonstration of his wireless equipment at the Banner Laundry building.

Mr. Scripps had heard of wireless telegraph, but he had never seen it in action. Clark activated his setup which had been assembled on tables in the loft of the building and he sent sparks flying as he sent a message on the telegraph key. A few moments later, a reply returned from the Board of Commerce building station. There was a heavy dark curtain at one end of the room, and Will was suspicious that he was being tricked. He told Tom he wanted to look behind the curtain, but when he did so he found to his amazement that there were no instruments nor any person there.

The impressive demonstration was a complete success. Mr. Scripps immediately grasped the possibilities of this new technology and wrote out a check to Clark in the amount of \$1000 to continue his wireless experiments. That was a lot of money in 1901.

Clark also demonstrated his wireless apparatus in 1901 for the **Mayor of Detroit, W.C. Maybury**. Maybury noted that his message was correct as received, and wrote, "Here Edison received his first inspirations and now may we hope that a compeer if not a greater than Marconi may have arisen in the favored territory!" Edison's family emigrated from Canada. Vienna, Ontario. He was born in Milan, Ohio. The family moved to Port Huron, Michigan when he was 6 years old. The schoolteacher called up his mother and said your son is too dumb to educate. So, his mother home schooled him. Edison had 1093 patents. He would have had 1094 but he donated the patent for the first practical X ray machine—the Fluoroscope to science.

New Company and New Business

The officers of the new company represented the top businessmen at the time in Detroit. **R.R. Sterling**, who made money in the automobile industry, was the president of the company. Thomas E. Clark himself was the vice-president. **Norval Hawkins, who was sales manager of the Ford Motor Company, was the secretary. Hawkins had become rich with the Ford Company after Henry Ford agreed to pay him one dollar for every model T after the first million sold. At least 20 million Ts were sold. Clark held Norval Hawkins in such high regard that he named his youngest son after him—My father was Norval Clark**

TECLA

It did not take long for Thomas E. Clark to re-invent himself in his favorite endeavor, wireless. He called his new company "**TECLA**," a contraction of his own name-- **T.E. CLARK**. The first year that TECLA appeared in the Detroit city directory is 1916, and TECLA took out a full-page advertisement that year. The factory was still at Cass & State Streets in Detroit. TECLA promoted its electrical laboratory with consulting engineers for electrical and mechanical problems, along with specialties in "Electrical measurements. Experimental work. Patent office models. Manufacturing of electric and mechanical specialties. Designing, testing, perfecting inventions. Electrical & mechanical railway signaling apparatus. Radio telegraph and telephone instruments and equipment."

In a full-size 6-page brochure that was probably printed just before World War I, TECLA presented half tone photographs for a quenched gap panel type spark transmitter that could be built for 1/2 to 2 kW power capabilities. In the front view of the panel, the new company logo appears to have been hastily applied for the photograph. This is the only spark transmitter that TECLA would commercially offer. It had a cast iron frame and a bakelite front panel upon which the meters, controls, and spark gap were mounted. The last page of the brochure showed a radio receiving set with loose couplers and crystal detectors. A few years later, at the Detroit Radio Show in 1922, a poster that was part of a historical review of radio at Clark's booth declared that this transmitting panel set and the receiver were designed and manufactured by TECLA for the United States Navy. World War I got in the way of further progress for TECLA in 1917.

Bruce Beach in Canada

Clark needed a place for quiet time and recreation. After staking out a claim on Lake Huron a few hours from Detroit in Canada, he built a lovely cottage for the family on the shoreline where he grew huge zinnias about 1916. At the time, the location was quite remote and sparsely populated. To get to the cottage, Clark had to take the ferry across to Canada and then travel up the coastline

on a train or one lane dirt roads towards Sault Ste. Marie. The drive took two days back then and it was really quite an adventure. He grew raspberries and black currants at the cottage. Clark did not drink or drank very little.⁶ He loved to cook and make ham and raspberry jelly sandwiches, and he had a wooden plank rowboat. Clark and Will Scripps were both avid birdwatchers and one summer they recorded bird calls together at the cottage.

Also, in 1916, Tom and his wife Agnes accompanied their son James, who was born in 1897, and his new bride to Yellowstone Park. Yellowstone was flooded by rain that year, and they had to drive over railroad trestles to get there. They went through five tires on the trip. James kept the car running and at one point had to have a farmer weld the gas tank after they put a hole in it.

Thomas E. Clark belonged to the Masonic Temple in Detroit. He would thrill audiences there when he performed electric shows with a Tesla coil. He could throw lightning back and forth with the high voltage and stand his hair on end. Something he learned from Tesla.

WWJ and Broadcast Radio

Before World War I there was no such thing as broadcast radio in Detroit. In other words, it was generally not possible to sit in front of a radio and listen to news, music or to a ballgame. This all became reality when the radio station that would later be given the call sign **WWJ** started broadcasting in the summer of 1920. The first plans came about after a meeting on Will Scripps's porch.

Clark's friendship with his boyhood friend Will Scripps, who was an amateur radio operator, had continued. Scripps had a home called Wildwood Farm in Lake Orion. Clark installed one of the radios. On one of Clark's weekend visits to Wildwood Farm, after dinner, he and the Scripps family were discussing radio on the porch. The idea of a radio station for the Detroit News was conceived.

At the request of the Scripps, Clark made a presentation to the directors and officers of the Detroit News several weeks later hoping to convince them to build a radio station. Although he thought he had not made much of an impression, he was asked several months later to attend a meeting at an architect's office. The Detroit News was designing an addition to their building and the directors had decided to plan for a studio and radio station. Clark then worked out the layout for the radio instruments, studio, and transmitting antenna. Many conferences were held since nothing like this had ever been done before. Clark was part of a delegation that then went to Washington, D.C., to file an operating license for the station with the Department of Commerce. The license was granted.

TECLA Offers Broadcast Receivers

The new industry of broadcast radio exploded onto the scene. In short order, other cities such as Pittsburgh, Pennsylvania, established their own broadcast stations.⁷ Clark recognized the wonderful opportunity he had to get in at the ground floor of the new industry. As a result, TECLA produced a whole new line of products targeted at the listening public. As he had done during the boom years of the Clark Wireless Telegraph & Telephone Company, Clark spent long hours at the shop and personally supervised the manufacturing process.

Starting in the early 1920's, Clark manufactured several broadcast receivers marketed under the TECLA name. The smallest was called the TECLA "Ten." He considered the "Ten" to be an "ideal radio phone for people living in or near a city where there is a broadcasting station, making long receiving radius unnecessary." The "Ten" had a receiving radius that was advertised as about 20 miles, and it sold for ten dollars.

The TECLA "Thirty" was a very popular product. The advertised receiving radius was 25 to 35 miles and it was sold with double headphones, an aerial wire, ground wire, and insulators and hooks to raise the antenna. The price for the whole package was \$30, but it could be bought without the headphones or aerial assembly for only \$20. It was enclosed in a leatherette case with a fold-down lid. This was a good value for the price at the time, although tubes were becoming more available quickly and would soon make the "Ten" and the "Thirty" with their crystal detectors and cat whiskers obsolete.

The "Thirty" was intended to be a portable radio, to be taken on family outings. It was "perfect" for the family trip-- "When you go motoring or yachting, pack your **Tecla** and when you stop along the roadside or in your motor boat at the lake, suspend your wire between trees, poles, or masts, and run to the aerial post. Run your ground wire into the ground or to the water pipe and "listen in." (Figure 88) Alternatively, you could "Attach an aerial to one side of the car top and put your "**Tecla**" in the car. While you are eating your lunch by the roadside, enjoy the radio program from your nearest broadcasting station." One ad cut suggested that the modern businessman should "put on the headphones of your **Tecla** and get the market reports, sport news, weather forecasts, etc. clearly and distinctly."

Although Clark had designed a wireless valve tuner circuit based on the Fleming valve in 1908, the **TECLA** "Fifty" was Clark's first commercially advertised receiver that incorporated a tube detector (Figure 89.) The receiving radius was promoted as 150 to 200 miles. Complete with double headphones, B battery, detector "bulb," lightning arrestor and aerial assembly it sold for \$65 in a leatherette case. Without the separate parts, the basic receiver could be bought for just \$40. The **TECLA** "Two Stage Amplifier" (Figure 90) was specifically intended for use with the **TECLA** "Fifty" although it could be used with any detector. The "Two Stage Amplifier" increased the receiving range of the "Fifty" to 800 to 1000 miles. It was built in a leatherette case and sold separately for \$60.

The **TECLA** "Ten," "Thirty" and "Fifty" receiving sets were built in large numbers at the Cass Street factory. In addition, Clark offered three higher priced receiving sets that were custom built when ordered. These were the Type 250-A, Type 250-B, and the Type 300 (Figure 91.) The Type 250-A and Type 250-B had tube detectors and two-stage amplifiers. They had "loud talkers" (speakers) built into the panel making headphones unnecessary. The Type 300 had tube detector and a four-stage amplifier. A loop antenna and a horn loudspeaker were available as accessories for the Type 300.

The No. 500 **Tecla** Radio Receiving Unit was the first car radio made for use on automobiles in motion and was available prior to 1922. It had three stages of radio frequency amplification, three stages of audio frequency amplification, a special tuner for aerial and ground, and a special loop to be used for reception without ground when the automobile was moving. The No. 500 was said to be able to pick up all American and Ship Stations from New York to Los Angeles.

1922-- The Detroit Radio Show and America's First Radio Tour

TECLA needed to get its brand name into the public eye and participated in two grand promotional opportunities in 1922. One of these was the Detroit Radio Show (Figure 92.) **TECLA's** booth at the show was mainly a wonderful historical review of early wireless. There were posters showing the factory and the panel transmitter. Many pieces of early wireless equipment lined the cabinet tops and shelves. These included Clark's early school demonstration coherer receiver set, variable capacitors (Figure 93), induction coil spark gap transmitters, a wavemeter (Figure 94), early receivers with crystal and electrolytic detectors (Figures 95 and 96), a rotary spark gap (Figure 97 and 98), a large, quenched spark gap (Figure 99), and other delightful relics (Figure 100) of what must have seemed like a long time past. It had only been a decade or two.

The early radio gear lured the show's visitors up to the **TECLA** display. Standing in front of the display on a short pedestal was a **TECLA** "Thirty" with the cabinet open. Two posters set off to the right of the "Thirty" invited visitors to "Listen in on a **TECLA** *Thirty*." **TECLA** obviously intended to sell many of these receiving sets at the show. Much of the space behind the cabinets and against the wall was lined with boxes of them, with aerial wire coils displayed in front.

The more sensational event in 1922 gave **TECLA** national exposure. This was "America's First Radio Tour." The Detroit Board of Commerce, the Detroit Automobile Association and the Lincoln Highway Association sponsored the tour. Two Rickenbacker sedans with advanced motors that minimized vibration were selected for the expedition (Figure 101.) The cars drove 2,800 miles on a 40-day journey from Detroit to San Francisco between June 1 and July 10, 1922. The entire equipment in the radio car was designed and built by **TECLA**.

The radio receiver was built into the car and featured a tube detector and several stages of amplification. The radio car was equipped with a 200-foot-long loop aerial on top. It also carried a second 200-foot emergency aerial attached to the running board that could be stretched out and attached to a high point at a distance for better reception if necessary. The Magnavox horn loudspeaker mounted on top of the roof played the radio programs for crowds assembled around the sedan.

Where possible, the cars stopped at noon and again every evening to give concerts for the onlookers. This was the first time a radio equipped vehicle crossed the continent and thousands of people were exposed to the experience of broadcast radio for the first time. The second car on the road trip was a supply car carrying spare parts for the radio in case they were needed. The radio never had any failure at all though, and only one tube needed to be replaced on the trip.

The publicity was marvelous. Newspapers, especially the San Francisco Chronicle, carried headlines that let people know when the cars were in their city and advertised the event. America's "ace of aces" Eddie Rickenbacker was on hand in Detroit to see the cars off. Clark did not accompany the tour, but selected Detroit businessmen and radio operators Wallace Blood and William Heinz and their wives to be in charge.

Government Work, and then the Depression

TECLA also obtained government contracts for wireless from about 1924 to 1934. These were tube transmitters and receivers (Figure 103.) They were no longer as bulky and dangerous to

operate as the spark transmitters had been. Some of these transmitters and receivers were sold to the Department of Commerce and were used for communication between aircraft and ground and between Department of Commerce offices in various cities. TECLA also developed radio beacon sets for the Department of Commerce. They were installed on the Great Lakes, New York Harbor near Sandy Hook, and on Puget Sound.

When the Detroit police department became the first to have police cars around 1924, TECLA installed the first experimental radios on them. TECLA sold them much of the equipment for the different police stations. In the game of cat and mouse, Clark said that, "There was a time when everybody used wireless, even the crooks. They gave a bad reputation to the activity."

Clark was a longtime member of the Institute of Radio Engineers. In 1927 he became the founding Chairman of the Detroit Section of the IRE. This was quite an honor.

What Do We Do Now?

The Depression years were tough for TECLA and the company nearly succumbed to the poor business environment. Clark, now 60 years old, and his son James who now was more involved in running TECLA, needed to reinvent the company one more time to stay in business.

One of the employees in their machine shop was a marine engineer who had emigrated from Scotland. He was a dog show judge who showed Scottish Terriers as a hobby, and he complained about the poorly suited files that had to be used to trim their toenails. This was the impetus behind the invention and patent of the guillotine type dog nail trimmer by TECLA in the 1930s. The idea for the nail trimmer came from a bamboo needle cutter made by Columbia Phonograph. Sales of this unlikely product marketed under the brand name "RESCO" and other pet products revived TECLA's sagging sales and brought it back to profitability. This nail clipper is still for sale. It is sold all over the world. By Amazon, Walmart, PetSmart and other animal grooming sellers.

World War II

Thomas E. Clark went into semi-retirement after seeing his company weather the rough years, and after about 1930 the business was run by his sons James and Norval. His other son, Thomas, died at a rather young age in 1941. Clark began to pay more attention to his private life.

During World War II, TECLA made parts for a number of pieces of equipment that did not bear the manufacturer's label according to Clark. This equipment went to Dayton, Camp Evans or Watson Laboratory in New Jersey. It consisted of parts for amplifiers and equipment possibly destined for use on radar. TECLA also made parts for aircraft engines during World War II as well as lathe products for munitions and machine parts.

Clark was well-respected and liked by the farmers who owned the farms near the family cottage at Bruce Beach on Lake Huron in Canada. A son of one of the farmers was killed in action in World War II. Clark built an open-air picnic pavilion as a memorial to the fallen soldier.

Thomas E. Clark helped support his youngest son Norval and his wife Jane Clark during Norval's four years in the service. Jane Clark lived in Thomas E. Clark's apartment during for these four

years just after the war. When Norval was working at the TECLA plant during the time it was located on Schaeffer Road in Detroit, Thomas E. Clark helped Norval and Jane buy their first house.

Full Retirement After 1950

Clark donated his early radio equipment to the Detroit News in 1950. The Scripps family arranged with him to have the equipment permanently located at the Detroit Historical Museum, where it still can be seen. The equipment is to a great extent the same historical display that Clark presented at the Detroit Radio Show of 1922.

Another interesting event occurred in 1950-- Clark visited television station WWJ-TV for the first time just after his 81st birthday. The personal tour was led by WWJ-TV engineering director Dick Love.

He continued as a member of the Institute of Radio Engineers into his sixties and associated with the IRE socially even into his eighties.

TECLA Evolves

From this point onwards the company began to concentrate on the manufacture of mechanical and electrical items in niche markets and the machining and assembly of parts rather than electrical supplies. Quite a bit later TECLA moved to Walled Lake, MI, and diversified further. **TECLA** currently consists of four divisions: **BERT'S CUSTOM TACKLE/WALKER DOWNRIGGERS, fishing accessories, mechanical and electrical, RESCO, pet products, mechanical, TECLA MARINE PRODUCTS, custom engineered products mechanical and electrical and TECLA INDUSTRIAL, custom engineered products, mechanical and electrical.** TECLA continues to prosper but has had no further involvement with radio.

DICK CLARK is President of the company.
ROBB CLARK is Administrative Vice President
JEFF CLARK is Engineering Vice President
