

Alfred Carlton Gilbert: An Unsung Radio Pioneer

The "Erector Set" man was also a broadcaster and set manufacturer.

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FEB 9, 2018

Copied from: [RADIO WORLD](#)

If you were a child of the '40s, '50s, '60s (or perhaps even later if you had an older sibling) and are reading this, it's likely that you owned or at least played with an A.C. Gilbert Erector Set.



A.C. Gilbert "state-of-the-art" educational toys such as this model 4004-T "Wireless Telegraph Set" signaled the company's entry into the Radio Age. It was part of the 1920 Gilbert product lineup and sold for \$5 (more than \$60 in today's money).

Alfred Carlton Gilbert "invented" this educational toy more than a century ago. Gilbert was also known for other such items including chemistry sets, microscopes, kits for casting "tin" soldiers and even an atomic energy lab. However, few know of his involvement in early radio broadcasting. During his lifetime, Gilbert amassed some 150 patents and had been head of a very successful company, but he hadn't out to be an inventor.

Early in his life, he developed something of an obsession for sports and physical fitness, as well as prestidigitation. The former led to lettering in several Yale University athletic teams, and an Olympic Gold Medal for pole vaulting in 1908. Gilbert took a medical degree from Yale in 1909, but rather curiously, never intended to become a doctor, preferring instead to support his family by giving magic shows and selling parlor trick magic sets.

RADIO'S GROUND FLOOR

Gilbert's place in radio history is best explained via a short journey through the origins and founding of his toy company, which have their roots in one of several train trips that Gilbert made around 1911 between home base in New Haven, Conn., and New York City, where stores were marketing magic sets.



One of the few surviving Gilbert #4016 crystal sets. This example is owned by the Eli Whitney Museum in Hamden, Conn. Courtesy National Museum of American History. Photography by **Harold** Dorwin

The New Haven rail line was “going green” then, moving from coal-fired locomotives to electric propulsion. According to his own account, Gilbert experienced some amount of fascination in watching the steel girders and beams being assembled into supports for the overhead catenary to be used by the next-gen train engines.

After arriving home from one these trips, he sketched out several girder shapes in miniature on thin cardboard, cut them out, and the next day delivered these to a New Haven machine shop that fabricated them in thin steel.

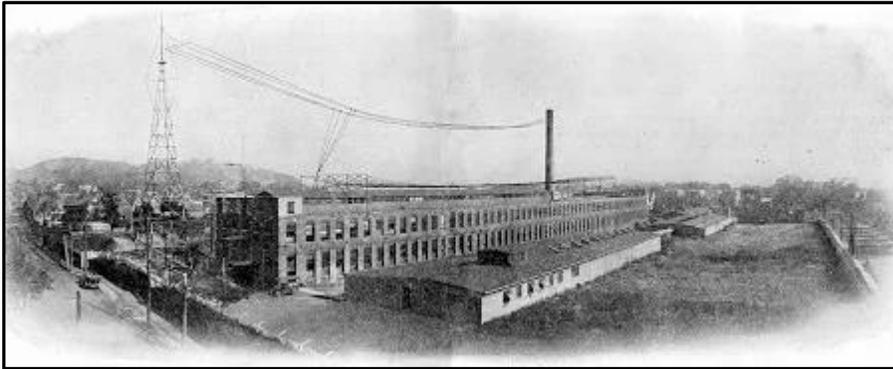
Gilbert’s creation was introduced as a new entry in the catalog of magic sets, and soon became a best seller. The World War helped to further anchor the Erector Set’s place in toy stores and in the hearts of young people and their parents, as Germany had been a major source of toys and the war brought a halt to imports into the United States from this direction.

The “Great War” also opened another door for Gilbert and his creations — radio. Commercial use of “Hertzian Waves” had begun during the first decade of the 20th century, but this was basically limited to ship-to-shore communications. During the war, radio rapidly matured, becoming an indispensable part of the military tool kit. Gilbert, always looking for new ideas for his line of educational toys, recognized radio’s potential and the rapidly growing interest in it by young and old alike.

As Gilbert had no skill or experience in radio, he enlisted the skills of another Connecticutite, Clarence Tuska, in the design of his sets and in the writing of instruction manuals to accompany

"After a few years we gave up on our radio business — broadcasting as well as manufacturing," he said. "Why? Well, the assets of great value were not of any value yet. The broadcasting license would have been worth a small fortune a decade later. But we became involved in litigation over our use of vacuum tubes ... I felt sure that we would win out in time, and the owners of the patents under which we operated insisted that we would win. But litigation, meanwhile, cost a great deal of money in legal fees and I could see no end to it.

"But with all the costs and time of lawsuits added to the fact that we were getting away from the fields we had set for ourselves, I decided we should get clear of the whole thing and return to the business we really knew. "I just gave the whole thing to Tuska — all our rights and everything."



A.C. Gilbert went on the air from his Blatchley Avenue factory location via this large flattop antenna. A 125-foot tower was erected to support one end, while the other was anchored to an existing smokestack.

Credit: The Eli Whitney Museum

THE GILBERT RADIO RECEIVERS — AND A MYSTERY!

In his autobiography, Gilbert stated that his company produced a fairly large number of radio receivers and associated items, and that he was also a pioneer in transitioning receivers from "breadboard" assemblages of tubes, coils and capacitors to enclosed models that could be classified as "furniture."

"During the early twenties, we listed dozens of wireless and radio items in our catalogs, from parts, antennas and tubes to complete receivers and transmitters. The most significant thing about them was this — we were the first concern in the country to put our sets in cabinets. Up to that time and for quite a few years afterward, most sets were uncovered and open, for people seemed to like to look at all the apparatus they were trying to operate. We put our sets in nice-looking wooden cases with attractive fronts and were a few years ahead of the public in doing it. I still think I was one of the first to see that radio sets would become pieces of furniture in the living room."

It is not known; however, just how long Gilbert pursued this venture, or even if such sets were offered for sale to the general public.

The late radio historian Alan Douglas, in his otherwise very comprehensive three-volume "Radio Manufacturers of the 1920s," fails to list Gilbert. However, the "C. D. Tuska" listing more than makes up for the omission with the intermingling of Gilbert receiver ads and pictures among strictly-Tuska models.

January 10th, 1923.

Master Charles H. Hewitt,
Southern Pines, North Carolina,
Box 236.

Dear Friend:

We have received your card regarding our broadcasting operations and would say we were not broadcasting a program the morning of January 10th.

We cannot give you our schedule as we have discontinued broadcasting, owing to the various amateur stations surrounding us, who say that, due to the powerfulness of our station, they cannot get any other.

Very truly yours,
THE A. C. GILBERT COMPANY.

The Gilbert Company penned this letter in early 1923 to a young WCJ listener in North Carolina who wanted to know why he could no longer receive the station.

Credit: Huntington, W.Va. Museum of Radio and Technology collection

Douglas also includes a letter penned by Tuska in which he relates his experiences working as a consultant for Gilbert both before and after the war. Tuska, mentions among other things, working on a wartime trench radio for Gilbert, and his own version of the eventual parting of the ways with the educational toy manufacturer.

"I left him [to enter military service] with the understanding that I would see him when I returned. I did so, but after a few weeks Gilbert and I disagreed. He was applying toy manufacturing practice to an amateur radio receiver, and I was not able to convince him he was wrong. Finally, I told him he was wasting money paying me for advice he would not use. He told me he was the best judge of wasting money. Yes, but I [could] not afford to waste my time."

Douglas notes that Tuska served as a consultant to Gilbert until 1923, about a year after he had established his own company, and that Tuska featured Gilbert receivers in his own catalog, even though the companies weren't linked on a business basis. [2]

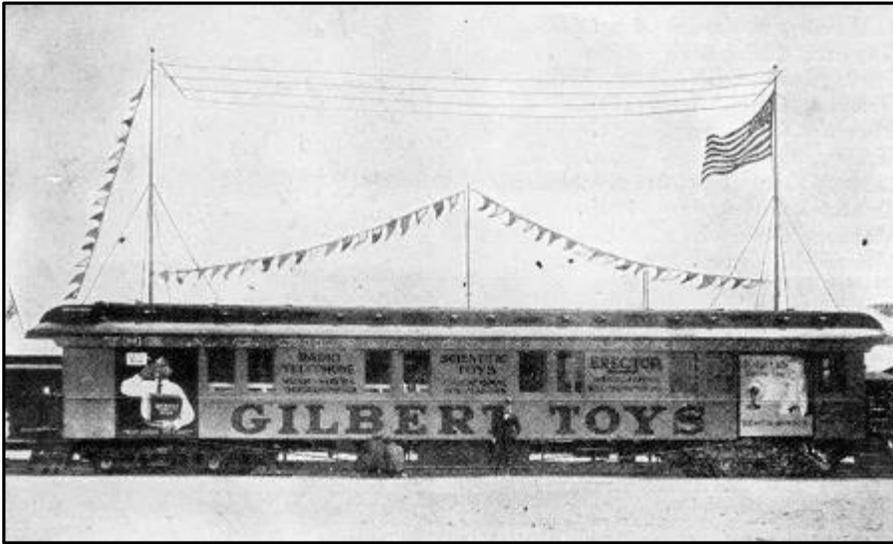
The Germany-based "Radio Museum" website lists a number of Gilbert radio products, and offers a picture of the model 4023 to substantiate Gilbert's claim about a cabinet receiver.

Lloyd McIntyre, a serious Gilbert collector, and the individual responsible for the Huntington, W. Va. Museum of Radio and Technology's extensive A. C. Gilbert product display, is personally aware of a couple of production tube sets and offered speculation as to why examples of these haven't surfaced.

"Gilbert did offer a cabinet model, the 4023," said McIntyre. "It was a TRF set housed in a cabinet. It looked very neat. Gilbert may not have built these; they may have been purchased from a sub-manufacturer. Actually, the radio looks totally out of place with the other sets he produced; it's way too sophisticated. The set may never have been produced in any quantity, as Gilbert's real interest was in developing educational toys."

McIntyre also offered an explanation as to why there are so few Gilbert radios in the hands of collectors, aside from the crystal set (which, as noted, is itself quite a rare item).

"We don't really know for sure, but I wouldn't be surprised that some of these sets that do show up were prototypes. Factory employees may have taken these [one of a kind] prototypes home and handed them down to others."



In the early 1920s, Gilbert's "Radio Car" (aka the "Circus Car") provided many children (and their parents) with their first radio experience.

Credit: The Eli Whitney Museum

THE RADIO CAR

While WCJ was on the air, Gilbert, who was strangely prescient when it came to radio, envisioned a way to use the nascent media to promote his company's products. This was long before the regular appearance of commercial announcements and other ploys for putting radio on a paying basis. The project began in 1922 with the company turning a railroad coach car as a mobile showroom, not only for Gilbert educational toys, but also for radio demonstrations. As described by Gilbert: "We hired a regular railroad car from the New Haven Railroad, pulled everything out of the inside and refitted and redecorated it completely, then painted the outside like the gaudiest circus car you ever saw. We fixed up shelves and display cases and installed our best Erector models in all their glory."

Gilbert stated that the car went on the road in 1922, with the same sort of itinerary and buildup that a circus might use. An advance man placed ads in newspapers in towns in which stops were scheduled, and arrangements were made with retailers of Gilbert products in those cities to offer free tickets for admission to the car. According to Gilbert:

"The car attracted a tremendous amount of attention right from the start. Newspaper reporters and photographers came down to meet it when it arrived in town and was shunted to a convenient siding. Boys and girls flocked to the store by the thousands to get the free tickets."

However, as this was the time of broadcast radio's infancy, Gilbert Erector and chemistry sets weren't the only draw.

"But the feature of the show was reception of a broadcast direct from the plant in New Haven. This was exciting stuff.... It was something new, and very few of them had ever seen radio sets, let alone listened to a broadcast. The transmission of a voice over the air was still considered mysterious and miraculous, and people didn't quite believe it who had not actually heard it. They loved it!"



This one-tube set was featured in the Gilbert toy catalog.

Credit: The Eli Whitney Museum

NOT QUITE HONEST

Gilbert noted that reception of his radio station was no problem if the car was within reasonable proximity of New Haven; however, once it was as far out as Boston or Albany, WCJ didn't deliver enough signal to overcome the noise.

"... [T]he feeble receivers of those days just couldn't pick up the signals from our transmitter in New Haven."

So as not to disappoint the throngs of youngsters (and their parents) wanting to witness the miracle of radio, Gilbert came up with a scheme to make such a thing possible even when the car was far out in the hinterlands (it made stops in cities and towns as far away as Michigan and Ohio).

"The stunt [radio broadcast reception] had made such a big hit during the first few weeks that we could not imagine giving it up just because we traveled beyond range," said Gilbert.

He went on to admit some underhandedness in which one of the individuals traveling with the car hid out in the coach's rest room, and taking his cue from a watch, originated a closed-circuit "broadcast" for the benefit of those wanting to experience radio. The script (a newscast) was sent in advance via Western Union and mirrored what was being broadcast at WCJ.

"It wasn't quite honest, of course, but it made a wonderful show," admitted Gilbert. "If you could have seen the wide shining eyes of those boys and girls, you wouldn't have deprived them of the thrill for anything."

He further admitted that these faked "broadcasts" became something of a joke among employees, as some poor soul had to be locked in the washroom for hours at a time and no one else could use the facility.



Alfred C. Gilbert, right, is seen in a radio studio setting with baseball great Babe Ruth. Gilbert continued his involvement in broadcasting long after his own station went dark.
Credit: The Eli Whitney Museum

PIONEERING IN ANOTHER DIRECTION

The Eli Whitney Museum in Hamden, Conn., located only a few miles from Gilbert's New Haven manufacturing facility, showcases many Gilbert products, and its curator, William Brown, is something of a Gilbert scholar, having amassed a large amount of information about the entrepreneur's life and times. Brown suggests that in addition to visualizing radio as a scientific marvel and communications tool, Gilbert was likely the first individual to truly appreciate and understand radio's place in marketing.

"In reading the conventional history of radio, people don't know that there will be advertising on radio in 1922," Brown said. "The conventional wisdom is that the first advertising on radio was [for] some real estate concern ..., but most assuredly the first-ever broadcast for children that involves the prospect of their buying something — which is the beginning of radio advertising — is Gilbert's and [came] in 1922."

Even though Gilbert eventually ended the train car tours and surrendered his broadcasting license, he remained acutely aware of the power of the new medium in delivering commercial messages to mass audiences.

Brown noted that a within a few years after WCJ signed off for the last time, Gilbert was again in front of the microphone.

"He goes to New York, NBC, and does a sports talk show there," said Brown, explaining that this was a natural for Gilbert, as he was a life-long athlete. "There's a fairly famous picture of him with Babe Ruth [in one of the broadcasts]. He knows that Babe Ruth will draw people and that endorsement of his products will be an immensely valuable sales tool."

Brown noted that Gilbert continued the weekly NBC broadcasts for some time, and that he also did broadcasts on a regular basis at New Haven station WELI.



William Brown

DEATH BY TELEVISION

Even though the A.C. Gilbert company survived well beyond its founder's exit from broadcasting and radio, it eventually fell victim to declining sales and shut its doors for the last time in 1967, six years after the death of its founder. Rather ironically, the downfall of the giant educational toy business may be attributable to technological changes within the broadcasting industry. Curator Brown offers his thoughts on this.

"I would argue that there are two epochs of American toy," said Brown. "There is the Gilbert epoch that goes from 1913 or 1914 to 1954, and the Disney epoch, which goes from 1954 to now and forever."

Brown observed that by 1954, the new medium of television had a nationwide reach and an increasing number of media consumers, including children, were moving away from radio listening to TV viewing.

"Gilbert toys are 'radio' toys," said Brown. "It's not like you can sit there and watch television and do what an Erector Set requires, which is concentrate on an elaborate multistep visual process resolution. You can do that and listen to the radio, but you can't do that with television." Brown opined that television shows targeted at young people, particularly those produced by Disney, sounded the death knell for Gilbert's business.

"Like Gilbert, at first, Disney thought you needed to give thoughtful serious content to people and he did amazing nature shows and he did future-oriented shows, but eventually [he realized] that he [could] put almost anything on television and get an audience." Brown stated that Gilbert's business began a downward slide in 1954 and this continued as the TV industry grew.

"It failed from 1954 on," he said. "It was not obvious at first, but they stopped growing in 1954, and they never quite understand television advertising."

The last reminder of the A.C. Gilbert Company's early entry into radio broadcasting was obliterated during the early morning hours of Jan. 8, 1978, when high winds toppled the 125-foot mast used to support one end of WCJ's flattop antenna. The tower remains blocked nearby north-south Amtrak lines until workers could cut the landmark it into pieces and dispose of it as scrap metal [3].

James O'Neal is a frequent contributor to Radio World who often writes about the history of broadcast technology.

REFERENCES

[1] Gilbert, A.C. and McClintock, Marshal, "The Man Who Lives In Paradise," 1954, Heimburger House Publishing Co., Forest Park, Ill., pp. 166-169.

[2] Douglas, Alan, "Radio Manufacturers of the 1920s - Vol. 3," Vestal Press, Vestal, N.Y.' p. 201.

[3] Watson, Bruce, "The Man Who Changed How Boys and Toys Were Made," 2002, Penguin Books, New York; pp. 183, 184.