Box 24-C Alfred H Cohen Radio Patent Applications, drawings, notes

In 1916 Alfred Henry Cohen applied for a patent proposing an improvement on the 'Methods and apparatus for producing oscillating currents at high frequency' which was part of the development of wireless radio communication. Guglielmo Marconi is credited with inventing wireless communication in 1895, expanding on principles Nikola Tesla was also exploring. Wireless (radio) communication rapidly became essential to a modern world and improvements to its methods and apparatus were being proposed from inventors around the world. AH Cohen was an early adaptor to radio and applied his ingenuity to advancing the efficiency of that method of communication.

This collection includes AH Cohen's patent application, drawings related to his invention, and notes about his process of developing his invention and modifications after applying for a patent.
Samples of documents in each folder are listed below.

Folder 1: Radio Patent Application

Folder 2: Radio invention drawings

- Pencil drawing labeled 'Try this and reverse the connections so they are parallel'
- Pencil drawing labeled 'Oscillations pass to ground thru the battery A from the sec of the OT
- What appears to be a photograph of an invention. The paper is dark and the writing is in reverse
- Stationery for Alfred H Cohen pencil drawings
- Pencil drawings on yellow paper
- Pencil drawings on yellow paper
- Pencil drawings on back of envelope cut in half
- Pencil notes and sketch 'Gas discharges…'
- -Pencil notes and sketch on Globe Radio Telephone and Telegraph Co letterhead

Folder 3: Radio invention notes

- Pencil note on Wireless Telegram form '...have you enough coal to last until tomorrow noon…'
- Pencil note on Wireless Telegram form 'we are going to fire large shot from Battery Cranston' no date
- Pencil note on Wireless Telegram form '...this shot will be fired from Cranston…'
- Pencil note on Wireless Telegram form '...let us know by wireless telegraph immediately…'

- Handwritten in ink ‘Morse was the first to discover and use the principles of Electric Wire Telegraph…’
- Handwritten in ink ‘Marconi was the first to discover how to use the Hertzen waves to transmit telegraphic signals without wires…’
- Handwritten in ink ‘Transmitting station-Receiving Station…’
- Handwritten in ink ‘Oscillator of Marconi will not produce speech…’
- Handwritten in ink ‘Marconi claims…’
- Handwritten in ink ‘Marconi has put no apparatus into his system…’
- Handwritten in ink ‘The Means intended which enable a law of science or force of nature to be used…’

John Adam Gilliland P.O. Box 2492 Carmel, CA 93921
“Memories of AH Cohen and Radio”

“Alfred Cohen probably became interested in radio sometime around 1912. Why he abandoned the practice of law for a venture into the field of communications, I do not know, but presumably he say an opportunity to develop a commercial wireless telephone system which could be very rewarding. He was affiliated in some way with a company I think was called National Wireless Telephone Co. (can’t be certain about the name). This company maintained an experimental or demonstration station in the Fairmont Hotel, San Francisco and another station somewhere in San Jose. I don’t recall the name “Globe” was used in connections with Cohen’s station but I think there was a commercial telegraph company known as Globe Wireless.

Mr Cohen started his radio work by installing a receiving station in the tower room of 1440 29th Avenue (Oakland). This room was not suitable for a complete station however, so he built a room by the stable in the rear of the property which was large enough to accommodate all of the apparatus as well as some office furniture. Then he erected two tall masts for the antenna which stretched from one mast by the station to the another at the edge of the creek in the rear of the Cassidy place. These masts must have been at least 60 feet tall and getting them up was quite a feat. All the young men in the neighborhood were enlisted to man the guy wires while the sections were hoisted in place.

The vacuum tube was being developed about that time but it was not suitable for transmitting purposes–at least to the general public. Therefore Mr Cohen’s company used a device known as the Poulsen Arc to generate the high frequency oscillations needed for voice transmission. This was a complicated gadget comprising a carbon arc housed in a heavy brass chamber containing alcohol vapor and cooled by a circulating water system.

The use of alcohol was of course hazardous. One day when Mr Cohen was filling a reservoir for the arc, the alcohol ignited, severely burning him and setting fire to the building which was completely destroyed. However after he recovered, Mr Cohen rebuilt the station over the stable and continued his work with the company.

No regular transmission schedule was maintained by the Cohen station or by any of the other stations. However on occasion they would broadcast phonograph music and once I listened to a live program of vocal music from the Fairmont Hotel. In those days people did not have radios in their homes, so the broadcasts were heard only by amateurs (hams) and audiences at stations of the company.

When the U.S. declared war in 1917, all amateur and private experimental radio stations were sealed by the government and not allowed to operate for the duration. The Cohen station however was taken over by the government for monitoring purposes and was manned around the clock by Navy personnel.

The Poulsen Arc used by Mr Cohen and associates was quite successful for telegraphy but was not adaptable to long distant voice transmission. By the end of the war great progress had been made in the technology and application of the vacuum tube to voice transmission with the result that all other methods became obsolete. The little company with which Mr Cohen was affiliated could not possibly compete with or match the resources of the large corporations who were developing radio as we know it today and so the company fell by the wayside. However it had played a small part in the development of broadcasting and should be remembered as one of the pioneers of the art in the San Francisco Bay area.

The foregoing is about all I can remember of this radio station. As a boy I spent much time in the station with Mr Cohen but then my interest was confined to technical matters and I did not inquire into business matters, hence what I have written about the company may not be entirely correct. The name Hanscom comes to mind. I am not certain of the name but this man impressed me as being the technician of the company and possibly the promoter of the enterprise. Believe he was located in San Jose. Don’t know if he is still living.”

Signed
J. A. Gilliland

Transcribed 6/2024 by Kate McAnaney from 2019 handwritten list by Roberta O’Grady