

Box 23: Alfred H Cohen Radio Patent Correspondence; Radio Station

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.

The correspondence in this collection reflects the modifications he was required to make to his invention before a patent was approved.

The invoices are for materials needed in his development process.

AH Cohen was approved as a licensed radio station operator on August 13, 1912
Samples documents from each folder are listed below.

Folder 1:

- Memoirs of John Gilliland about his cousin AH Cohen's interest and experiments in Radio communication. [see below]
- Correspondence-Letter to AH Cohen date Apr 25, 1923 from J Warfield offering services of a sales manager
- Typed letter from law offices of D. Swift and Co. Washington, DC no date
- Letter to AH Cohen from a technical publishing company stating regrets that 'Eccles Wireless Telegraphy and telephony...'

Folder 2: Invoices

- 'Account payable' New York, Jan 15, 1916 to AH Cohen, 1440 29th Ave, Oakland, CA to the Institute of Radio Engineers Associate dues \$400-Receipt from Dewey, Strong, and Co date may 7, 1915 for 10 copies 'Magnetic lift for electrodes...'
- Receipt for 'Casturys and Alter pattern' \$2.75 dated Dec 20, 1915 to McLure and Burton Dir Pattern Makers, San Francisco

Folder 3: Radio Station approval and operation

- Typed letter to "Gentlemen" requesting enclosed card to be filled out from Department of Commerce, Navigation Service, Office of Radio Inspector, San Francisco dated 1891
- License for land radio station provisional No 65, Class 3 Experimental (Coast) Aug 13, 1912
- Typed letter to AH Cohen advising that his Experimental Radio Station License No 436 will expire on Dec 12, 1921; includes directions for renewal from Dept of Commerce, Navigation Service, Office of Radio Inspector, San Francisco-Test B (Amateur Radio Operators)announcing a broadcast from Naval Communications Service to Amateurs dated Nov 25, 1916 2 copies
- Public Bill from the 12th Naval District dated Set 10 1918 'For use of radio station at 1440 29th Ave, Fruitvale as a Navy Receiving Station' dated Apr 4, 1917

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 saw 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 connection 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