

Pioneering In Radio

THE ED. G. RASER (W2Z1)
HISTORICAL COLLECTIONS ON
THE ART OF WIRELESS OR
RADIO TELEGRAPHY, RADIO
TELEPHONY AND THE WIRE
(MORSE) TELEGRAPH SYSTEMS.



Compliments of

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CALLED DURING WW II
THE GRAND OLD MAN
OF RADIO

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PIONEERING IN RADIO **BY WILLIAM H. MEDD**

This year, 1938, marks the thirtieth anniversary of the writer, to complete a trip around the world on board the U. S. Maine, and serving as Chief Electrician (Wireless), using an American de Forest Radio set.

Very few people can realize that Radio as it is known today, was used as early as the year 1907, for the transmission of the human voice, as well as to transmit music, so I have decided to write an article telling my own experiences while serving in the U. S. Navy.

The year 1900 found me serving in Europe as an apprentice boy on board one of the last of the U. S. Navy's sailing vessels, the U. S. S. Essex.

During this training cruise I took up signaling in order to become a Signal Boy.

The following year found me on board the U. S. Chicago serving on the European Station, as a signal boy, and Marconi had just commenced to make his first long distance experiments across the English Channel, and a short time later he was to be found transmitting signals across the Atlantic Ocean.



The U.S.S. Essex in 1904.

At this time I was given an opportunity to take up the study of electricity, being fortunate in having a Chief by the name of Starbuck, who had been previously with the General Electric Co., and had been given this rating due to his past experience.

Even at this time the Navy had not progressed very fast with the use of electricity.

What a difference between then and today, when a single ship alone could furnish enough power to supply a small city.

By the year 1903 I had been made an Electrician, the Chicago had been ordered home and the latter part of the year was placed out of commission, so I made application for what was known as the Navy Electrical School, in order to further my progress in the study of Electricity.

In the meantime the Navy Department had sent several enlisted men to Germany, including an old shipmate of mine whom I had served with at a prior date, on board the U.S.S. Dixie, his name being Scanlon (Jack) known by all pioneer radiomen, as well as others up to the year 1935.

The purpose of these men being sent to Europe was to make a special study of what was known as the Slaby Arco (German) System, the Navy Department having contracted for a number of these sets, to be set up on various ships and shore stations, and experimented with.

One reason of the selection of this particular set was the navy had no telegraph operators, and this particular set used a recording tape similar to what Morse first used when wire telegraphy was first put into use.

The Navy Wireless School was organized and was operated in conjunction with the Navy Electrical School, Chief Electrician Bean being in charge.

My prior experience in Electricity and Signaling Visual soon gave me a graduation certificate from both schools, upon completion of same I was ordered to the Naval Wireless Station at Highlands of Navasink, N. J. Close by was the Radio Station erected by Dr. Lee de Forest, to be used for the first time in reporting the results of the international yacht races, to the press. (Lipton)

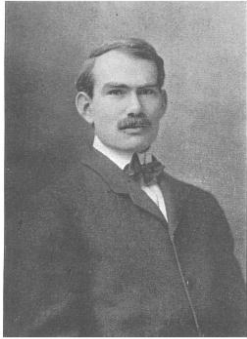
While at the wireless telegraph school myself as well as other students searched Greater New York City for any book that would further our knowledge of the study of wireless, but were unable to find anything in print except a few lines in an electrical manual. On reporting for duty at the Naval Wireless Station, Highlands of Navasink, I found my old friend "Jack" mentioned previously.

This station was twenty miles (Approx.) from the Navy (Wireless) Station in the Brooklyn Navy Yard. I do not believe there were any stations in New York City at this time.

This twenty miles was the distance of reliable communication at this time, with the sets then in use and whenever static was in the air usually grounded the set entirely.

We were sent to this station to learn to stand wireless watches, the operation of gas engines, the charging of storage batteries, as well as to keep house and cook, for most of the shore wireless stations at this time were to be in isolated sections along the coast. To Jack cooking and housekeeping seemed to be foremost thing to learn, for he was a typical navy-man.

In our markings the letters C and H were used for a possible high mark of 5 this was supposed to be for care and handling of wireless apparatus, but Jack always told his men that it was for Cooking and Housekeeping so they always did their best so they would get good marks which is always a factor in future promotion.



DR. LEE DE FOREST
Photo by the Falk Studio, N. Y.

While on duty at this station the Navy Department had several coming wireless inventors to set up their Radio sets, among which were the de Forest, Shoemaker, Stone, Fessenden, all American Electrical and Wireless engineers and inventors.

A foreign set which impressed the writer was a foreign set which resembled a squirrel cage, and was supposed to be selective during transmission of wireless signals.

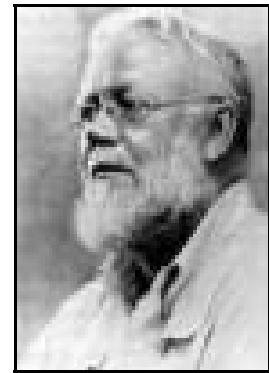
All of this was excellent experience, for wireless was increasing by leaps and bounds, sets going up here and there.

During the St. Louis world's fair in 1903 de Forest had set up a complete sending and receiving set which was in charge of my friend, Frank E. Butler, whom I will speak of later.

Like all early inventions the main drawback in advancing the inventor's ideas was the lack of funds to carry on tests, but as the government had stamped its O. K. on wireless, this gave some of the American inventors a chance to make some sales of their apparatus to be used by the Navy for further tests as to their usefulness.

By this time the writer was to complete his first cruise in the Navy which was about five years service.

Leave of absence to go home in those days was seldom given and as I had not seen much of my parents. I decided to take advantage of the opportunity to visit them for four months, although I hated very much to leave my new found and very interesting work.



Reginald Fessenden



John Stone Stone

The few weeks I spent with my parents seemed to pass very fast, and once again I found myself back in the naval service, already to again take up wireless where I had left off.

I found that wireless was advancing fast, new operators being made daily, apparatus being improved on, the main feature which was in the receiving apparatus.

A Navy man by the name of De Laney had invented what was called an electrolytic detector, which for the time being had revolutionized the reception of wireless.

I went directly to the Navy Department to see what duty I might be assigned to when I returned to active service. I had already been informed that I might be assigned to duty in the Washington Navy Yard as the man in charge would soon be finishing his first cruise.

He was also a former shipmate of mine and made a very good record, leaving the service as a Lieutenant Commander after 30 years service.

I did not make the Washington assignment but was told that the Navy Department had recently contracted with Dr. Lee de Forest, to install wireless stations, at Pensacola, Fla., Key West, Fla., Guantanamo, Cuba, San Juan, Puerto Rico, and Colon, Panama.

I was informed that I could have charge of the station at Pensacola if I so desired, and this was to be the key station.



Harry Shoemaker

At the time this seemed like an almost impossible task for our limit distance then was as previously stated about 20 miles, and to handle distances over a thousand miles seemed incredible.

I refused the offer to take charge of said station, but accepted assignment of duty to the station as one of the crew.

Later my work turned out to be so satisfactory that I regretted not accepting the offer. I was sent to Norfolk, Va., to await the arrival of apparatus at Pensacola and as I desired to keep in practice operating I requested temporary duty at the radio station at the Portsmouth, Va., Navy Yard.

Here I had a most unusual experience while standing after day watch by myself one day. We were using the new Electrolytic Detector, which required the use of head-phones and discovered that the voice could be heard on the head-phones using the Electrolytic Detector.

(As the general public never saw or heard of the two detectors already mentioned I will describe them in brief near the end of this article.)

Suddenly I heard a voice speaking into my ears, and I naturally turned toward the door to see who had entered, but to my surprise saw no one.

I again heard the voice and my knowledge of electricity, grounds, etc., I decided quickly that the Navy Yard telephone system was grounded. While an accident this incident was the cause of the writer being given the opportunity of hearing the human voice on a wireless or radio receiver as early as November, 1904.

The writer later mentioned this incident to certain parties interested in the advancement of wireless, and it was only a few years later that the Radio telephone was on the market.

In December 1904, I left the wireless station at Portsmouth, Va., for duty at Pensacola Navy Yard, Fla. (Wireless).

EARLY LONG DISTANCE WIRELESS AT PENSACOLA, FLA.



Medd at Pensacola in 1905

Upon reporting for duty I found that a new building had been erected to house the wireless apparatus, and men who would be on duty at the station.

However, as yet the station was void of all apparatus, equipment being delayed due to last minute changes of certain pieces of the apparatus.

Dr. de Forest was very desirous of taking no chances of a possible hitch, in the acceptance of this apparatus at these various stations, and I personally honored his confidence of success and achievement and the doctor later appreciated the help, work, and advice that he received from the various Naval operators stationed at the wireless stations he erected.

In fact one or more were later to be his personal wireless engineers.

The necessary apparatus and instruments finally arrived, and Frank E. Butler, also a Mr. Durand, two of de Forest's engineers, along with the Navy operators, installed the set and had everything ready to operate.

Mr. Durand, one of the faculty at the American Wireless Institute at Detroit, Mich. (University Building), was credited, with being the first man to operate over wire cable around the world.

From the first we could operate with nearby ships and later with New Orleans, La., but we could not make connections with Key West our nearest station we were to work.



Pensacola Navy Yard 1905. Medd is second from the right; Frank Butler is third from the right, dressed in a borrowed uniform. (He was not in the Navy.)

It would take too much space to tell of the trials and tribulations we and all the stations concerned had, but in a letter at a later date the writer in conversation, stated, "It was hell on earth" to work through the heat, static, and many other conditions arising of which no one had had any previous experience.

In the beginning the cage type antenna was used almost entirely, on both ship and shore station, but here we tried out types known even to this date.

Our next trouble seemed to be the ground system, the sandy Florida soil, gave us a very poor ground, so we experimented with various types of grounds.

In fact for months we were an experimental station and all the operators and engineers were kept busy almost 24 hours daily.

In a recent letter from Dr. de Forest he stated to me, in part, "if we only had known what the amateur radio operator of today knows about radio, we would have been able to go places," which I think was paying a very high tribute to the present day radio amateurs, even though at present they all apparently have everything to work with, including the past experience of others for the past two generations.

The most efficient amateur (wireless) I contacted in 1905-06-07 was the Superintendent of the Capitol Grounds in Washington, D. C. (Mr. Woods). He was given permission to build and equip a station on the grounds. He wrote Commander Hogg at Pensacola several times concerning my efficiency as a wireless operator.

These wireless stations were finally completed and accepted by the Navy Department, and I am glad to say that for years after I kept in touch with the de Forest engineers I contacted, as well as Dr. de Forest himself.

If you desire to know a little more of your American inventor, of various radio appliances, among which I consider "the heart of radio" the vacuum tubes in your receiver the most important, I refer you to "Who's Who in America."

Up to this time the year 1905, in fact I may extend my time to the year 1912, very few, if any, Naval Officers took an interest in radio, taking it for granted that it was just another form of signaling, and the present operators seemed to be taking care of the situation.

Chiefs like myself had full charge and trained Annapolis graduates to become radio officers.

However, I was taken by surprise, shortly after the acceptance of these stations, to learn that the recent new Captain of the Navy Yard was very much interested in wireless, and also had considerable more knowledge of the subject of wireless than anyone I previously contacted. (Engineer W. S. Hogg). This officer and myself worked together experimenting with wireless, principally receivers, until the time I was transferred to sea, enabling me to obtain the rating of Chief.

I recently had a letter from his son reminding me of the many records I made while on duty at that station, the principle ones of which were several long distance records, the longest of which was 1786 miles from Pensacola to Point Loma, California.

In a way we were amateurs, and used to do like the present ones used to do, that is see how many stations could be heard in a given period.

Even at that early date I think I ran up to 55 which was a record in itself. I also trained my ears to copy through heavy static, which few men seemed to be able to accomplish, even to this date, that is under similar conditions.

The writer also had a heavy fist, in the transmission of signals, the results of which were numerous letters from long distant points, acknowledging the receipt of signals clear and even sending. Due to the heavy static conditions the writer also trained his ears to copy very weak signals which the ordinary operator could not hear.

One operator I chided at a later date, for not being able to hear signals, trained his ears so good that I was given to understand that during the war he was one of the best receivers of long distance signals we had, being stationed at one of the stations contacting European stations.



Kingston Jamaica after the 1907 earthquake.

Returning to Pensacola, I had one of the most unusual experiences concerning the Press, which I will tell in brief.

While on duty on the night of January 14, 1907, from 8 to 12 P. M. I commenced to copy the startling news of the almost destruction of Kingston, Jamaica, by earthquake and fire at 3 P. M. This was indeed news, but upon telephoning this information to the Pensacola Journal, then going to press, was informed by the editor, I quote from memory "that this

periodical could not publish this report due to the fact," again quote? "The Associated Press would have reported the disaster had such happened."

Here was an opportunity for a newspaper to be the first in the United States to publish this scoop of important news, but doubtful and lack of confidence in the radio at this time, failed to take advantage of the opportunity.

Confirmation the following day by cable and telegraph verified the authenticity of the radio report, and since that time, radio has been accepted as a reliable medium of dissemination of news.

I was one of the first operators to transmit time signals from Washington. Also baseball scores, news, weather reports, disasters, CQD, now SOS, survived a hurricane, worst in 100 years.

It is impossible for me to write the whole story but will add that U. S. war vessels were soon on the scene, and wireless communications were useful for the first time in history, in aiding during a disaster.

I desire here to say a few words concerning the various codes in use at this time.

At this time the U. S. Fleet used to hold target practice in the vicinity of Pensacola, later they held all drills and practice at Guantanamo, Cuba. I often wondered if the reliability of wireless was partly instrumental in this move?

The writer personally had to use the following' codes in order to communicate with the various ships and stations contacted. The International Morse code, the American Morse code, the Navy code, making three codes in use at that time, and, a knowledge of the Phillips code was of course essential. This placed an additional burden on the writer for he was the only operator at that station to have a knowledge of the Navy code, and, the ship installations were proceeding so fast, the only men they could get for operators were Navy men who already had been trained in that code.

I pioneered in visual signals and learned and used the British Semaphore Visual Code in 1901 in Europe.



Damaged wharf at Pensacola Florida just after the 1906 hurricane.

September 26 and 27, 1906, Pensacola was visited by a severe hurricane, and during this time the wireless station was placed out of commission, due to water, being the cause of severing our connections with the Navy Yard power plant.

This was another lesson of the value of auxiliary apparatus, and of course conditions were remedied at a later date when the government made larger allowances for additional apparatus.

Yellow fever also struck Pensacola during the writer's duty there, as many as 27 dying daily.

I had been recommended to be advanced to the rating of Chief a number of times to the Navy Department on account of the satisfactory work I had performed but the department had a ruling that men must be at sea to acquire said rating, so as bad as my commanding officer hated to lose me he approved of my application for transfer in order not to hold me back.

For this I often thanked him.

TALKING AROUND THE WORLD ON RADIO TELEPHONE



USS Maine 1907

I was sent to the U. S. S. Maine where within a short time I was promoted to the rating of Chief Electrician (Wireless).

The Maine had just recently been flagship and I believe it was the original intention that I do duty with the flag.

Due to transfer of the Flag to the U. S. Connecticut the duty I was to encounter seemed so simple, for all we had to do was to communicate with the ships present and the flagship usually did the communicating with the nearest shore station.

I was fortunate also in having a good crew of operators among which was a boy called Murphy who was a very good operator, and whom I understand gave his life to his country during the late war, while on duty in a plane, which fell over Italy.

Up until December 10, 1907, the wireless work was just routine, with the exception of overhauling the wireless apparatus, making necessary improvements gained by practical knowledge while on duty in Pensacola.

On the above date I was detailed for duty in connection with the first installations (de Forest Wireless Phone) on board the battleship fleet then at anchor at Hampton Roads, Va.

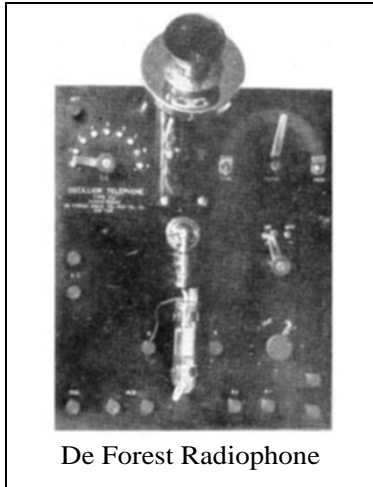
F. E. Butler, one of de Forest's radio engineers, came on board to install the first radio telephone on my ship due to having worked with me at Pensacola, and also as I only had a year to serve in the Navy, we were working plans for myself to be possibly connected with their company as a radio engineer.

I do not remember who coined the word radio but the first radio telephones in use in the Navy were called the De Forest Radio Telephone and Telegraph. (Note with a Capital De) so instead of using the word wireless I will use the word radio as it was about this time that the word was first used. Speaking of first used I refer you to the letter X. I believe I am the first man to use this letter in connection with the missing of a word or words in connection with the reception of a message due to interference by static, interference or otherwise. This was upon the opening of the station at Pensacola. (I refer you to Webster's dictionary) a letter and a meaning thereby added due to the invention of radio.



Medd aboard the Maine

My log shows that on December 12, 1907, I communicated for the first time by "Radio Telephone Voice" with the U. S. S. Alabama. How many of you readers can believe this to be possible. I would say very few.



De Forest Radiophone

There were a total of 16 battleships equipped with these sets, and all ships were about to start on a cruise around the world.

One of de Forest's engineers, a former navy operator, was to make the cruise to California with the Flagship Connecticut, and requested that a man from each ship be detailed on board the Flagship for a short course in the operation and maintenance of this new telephone. My friend Butler had already given me considerable advance information, however, I was one of the operators to be detailed to the Flagship Connecticut, where we all received the necessary instructions and each man was returned to his respective ship, and placed in charge of this new apparatus regardless of rating.

Daily during this trip around South America this Radio Telephone was tried out.

In explanation to the reader novice or otherwise, you are no doubt at this time familiar, due to listening on the present radio, with what is termed a cruising, or portable set?

This set of which I am speaking while permanently installed can be spoken of as a cruising set, for the ship on which it may be installed, is in motion at intervals, in this case a cruise around the world.

I mention this because these sets were only capable of transmitting or receiving a distance of approximately 15 to 20 miles at the time of installation.

I have in my possession a list of these Radio Telephone operators, of which I suppose that all their experiences were similar to mine with the exception of being able to say they were the first man in the world to talk around the world on radio telephone.

I will at this time explain briefly how this happened. It was due entirely to change of personal, and movements of ships concerned.

Upon arrival at San Francisco, California, the U. S. S. Maine, on which ship I was serving as chief in charge, and the U. S. S. Alabama were detached from the U. S. Fleet and were then known as a Special Service Squadron, and sailed from the west coast of the U. S. prior to the fleet and arrived on the east coast at the Navy Yard, Portsmouth, N. H., the same year, October 19, 1908. The Fleet or the balance of the ships did not return to the east coast until the following year, some months after the arrival of the writer with his set on board the U. S. S. Maine.

So while at the beginning other operators were involved circumstances, gave to the writer beyond doubt the privilege of saying he was the first man to talk around the world on radio, a fact unknown and almost unbelievable to the public.

I must return to my story, and will return to the other operators mentioned of which I will mention only the one man and that is J. A. Pohl.

While I have not seen the above man for about 30 years he was the cause (indirectly) of making myself known as a Pioneer in Radio.

A year ago I read an article in a newspaper giving a certain man credit for being the first man to broadcast music.

From a commercial point of view this may be true, otherwise it is far from being true.

This man Pohl while on the trip around the world conceived the idea to entertain the operators on watch by transmitting music by the use of records. During the trip around South America I heard this music many times, and also heard band music, that happened to be being played close to the Radio Telephone Mike, however, these band pieces were merely accidental. I have recently been informed that this man Pohl transmitted music whenever requested on the entire trip around the world, so he may safely say that he transmitted music around the world as early as the years 1907, 1908, and 1909.

I hope the said man is living and reads this article if published in the future. If I remember right he was serving on board the U. S. S. Ohio, I do not have my record with me at the present time.

For the benefit of readers interested in radio, as well as users of the mike, I will quote from a book of instructions in my possession, our instructions on how to talk and the use of the Microphone.

Talking. The small switch on transmitter arm is thrown to its upper position for talking. Hold mouth close in front of mouthpiece and talk directly therein. Speak clearly and distinctly, not too rapidly. Talk loudly but do not shout.

Do not thrust the lips into the mouthpiece, as this renders the words muffled and indistinct. Megaphone will increase the action on the transmitter.

Invert it and speak directly into the larger end.

Microphone. The buttons become warm but not injuriously so. It is well to occasionally tap upon the case of the microphones with a screwdriver to shake up the carbon granules. If your own transmission is good you should hear this tapping in your own head-receiver very clearly.

If you cannot hear this (your receiver of course being in proper adjustment) try adjusting the arc, etc., until you do. The larger the ammeter reading (if steady) the better the transmission. A frying or scratching sound in the adjacent receiver accompanies the proper oscillating arc.

In part you will notice how well the instructions fill in for the present use of the mike. By the way speaking of mikes the writer while a pioneer in radio has not spoken into a mike since the year 1920, or about 18 years, and before the average public ever heard there was such a thing as radio.

Continuing the trip around the world on June 8, 1908, the U. S. S. Maine took the then Secretary of Interior Garfield on board and sailed for Honolulu leaving the fleet behind and a few hours later was out of radio communication with same for the rest of the trip around the world.

However, I carried on with the use of the telephone and whenever I got in touch with ships or stations I would talk with the wireless operators to let them know how the voice sounded over the radio. This of course amused and interested many. Upon approaching Honolulu, the operators at the Navy Wireless Station heard my voice for a distance of about 40 miles thereby breaking a record and almost doubling the old record for distance, this is far as the Navy was concerned. This transmission made the writer's voice to be the first Radio Voice to ever be heard in the Hawaiian Islands, date June 18, 1908.



Guam Senoritas 1908

To be repeated at Guam, Ladron Islands, July 6, 1908, and at Manila (on ships) also Cavite, Philippine Islands as well as other parts and on board ships during the rest of the trip.

The above places mentioned should be very much interested in the above statement, for to most of the world this is news and this year celebrates the Thirtieth Anniversary, 1938, of the radio voice being heard on the mentioned islands.

I was sent ashore to inspect the radio stations mentioned above, to especially recommend any changes as may be made to improve conditions of the stations or make any recommendations as to change of apparatus location, etc., I will speak only of the station at Guam, L. I.

The wireless station had been erected on top of a mountain and in order to reach same I had to have a guide to lead me through the jungle path, directing me to the station.

My prior experience at Pensacola with antenna's and their heights taught me height did not make much difference as to the difference and transmission of signals, so I recommended that the station be moved to the lower land.

I noticed a few years later that this was done and while I do not believe I was the cause of the move, I am glad that it was made. While I am not sure due to being away from the radio game so long, I believe the present towers at Arlington, Va., would not have been

erected if the officials knew at that time the results of heights as regards transmission of signals. I suppose that I will be told that the vacuum tubes used at the present time is what effects the present height of antennas used.

All pioneer radio men (few of whom are at present known) should be given credit for their years of hard work in the past which enables the public to enjoy the radio programs daily.

The U. S. S. Maine finished the trip around the world without anything unusual happening, that is as far as radio is concerned and while I give Portsmouth, N. H., as the point of completion, of "The first man to talk around the world by radio telephone" in reality was completed on a point a little west of 30 degrees longitude.

I again left the Naval service on November 7, 1908, and fully expected to accept a position as an installer of radio apparatus, however, my friend Butler informed me he was planning to open up a Radio School to be known as the American Wireless Institute.

Before the year of 1908 had ended and in the beginning of 1909 the first pioneer and exclusive "School of Wireless Telegraphy and Telephony" in the University Building at Grand River Ave. and Farmer Street, Detroit, Mich.

This was the first commercial radio school in the world. I think by this time Marconi, Inc., had a school but was for the exclusive use of their operators, or the training of wire operators to become wireless operators.

The writer was instructor of Engineering, in the course of Radio Engineering. A Mr. Durand, formerly of Oberlin, Ohio, and a telegraph instructor, was the instructor of telegraphy.

Due to the lack of being able to place graduates in paying positions, Marconi training all his own operators the school only lasted a little over a year.

The writer and staff installed a complete de Forest telephone set in this building, and with their knowledge of radio could have easily filled the city of Detroit with crystal detector receiving: sets, started the transmission of music as had already been accomplished, and no doubt have made a fortune. I suppose it was entirely due to the lack of commercializing our knowledge, as was done 12 to 14 years later at Pittsburgh, Pa.

I was later offered a position by the United Fruit Co. at their station at Swan Island, a station then used to relay their messages from their stations in Central America to the main land, New Orleans, La.

I also was offered a position at a Navy yard to install radio sets on Destroyers for prior to this time only the mother ship had radio.

These offers I refused for I still hoped for a future in the use of the Radio Telephone, which I believed would soon connect all of the larger cities, thereby displacing all cables and wires connecting same.

I went to work for a salesman selling stock in the Radio Telephone, this to enable manufacturers to carry on further tests, but the public was hard to convince as to the usefulness of same.

I erected a portable sending and receiving set at Georgetown, S. C. which no doubt was one of the first towns in the country to have the Radio Telephone installed.

Citizens were given the opportunity to talk over the radio if they so desired, but apparatus seemed a little mysterious to them. I suppose that this town mentioned has forgotten all about this incident.

In 1912 like today happenings in Europe were a little similar as they are today, and the Navy Department was looking for experienced men so I went to Washington to try to enter the Navy air service, as the Navy had just purchased a plane or two, and I thought they would possibly use the Radio Telephone to communicate with the ground.



Naval Wireless Station
Porto Bello, Panama 1912.

However, the department would not allow me to become a pioneer man of the air and instead offered me a shore station at Colon, Panama. I accepted and was soon on the way with my wife and two children to help build the canal.

There I reported for duty to Smedley Butler, the fighting Marine, as we had no naval officers on the canal at that time so I served with the Marines at Porto Bello, Panama, for some time, when the department sent down a radio officer to take charge of communications on the Canal Zone.

This was practically the beginning of a Naval Officer in the Radio Communication, although an officer recently made an Admiral, was interested in radio as early as 1907 and has made an enviable record in Radio Engineering.

Before I left Panama a new large radio station at Gatun had been completed, the water turned into the canal.

Part of the equipment at this station was two powered boats for use of the crew attached at the said mentioned station, the writer and other members of the Station took these Navy boats into the locks and canal (by the way I thought I had lost the boat due to the sudden onrush of water into the lock, but by fast work made the boat more secure to the dock) I have often wondered if these boats were the first Navy boats to enter the Panama Canal and run through same.

While stationed at Panama we tuned in the daily time signals sent out at noon daily from Washington, and relayed by the Key West Radio. This also received on an Electrolytic detector in the daytime.

At Porto Bello I took care daily of tide measure instruments and installed them at waterfronts at Lima, Peru, all Navy wireless stations were locked up and keys turned in to the executive officer. This for some American operators saying via wireless that the local operators were interfering with their receipt of transmission. During World War I, I was selected by the Director of Naval Communications as his officer in charge of Radio on board the U.S.S. Pittsburgh, David Todd, commander. He had mail transferred to a ship going to the U.S. First time ever done.

At Charleston, S.C., my crew hoisted weather signals daily. Also I was officer in charge of first Distant Control Station, and had the first all electric radio receivers installed while there, using a motor generator as well as batteries.

I also used de Forest's first vacuum tubes being tried out by the government, 1906-1907. Tube of filament was too short but successfully used. I am a Spanish War veteran, World War No. 1 and 2. I served 5½ years in World War II and served with the Navy and U. S. Maritime Service at the Radio School to train men as radio officers in the Merchant Marine. I served under Harry Manning who made time records on S. S. United States crossing Atlantic from East to West.

Last duty I served at Radar School Naval Base, Philadelphia, Pa. Received first training in coil on the U.S.S. Constellation. Also served on the U.S.S. Olympia during World War II in Europe and the U.S.S. Hartford, at Charleston, S.C.



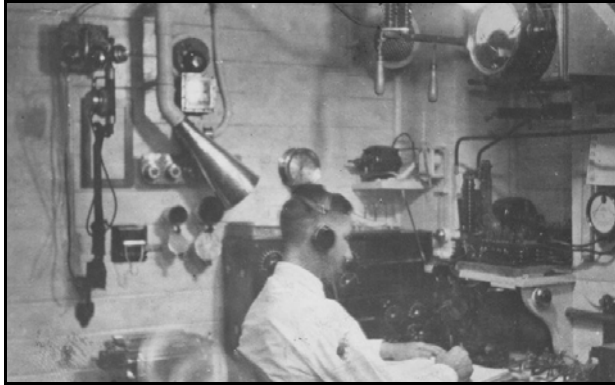
Early DeForest Audion

Made training and cruise (European) on board the U.S.S. Essex, 1900 (a Bark Rigg'd Ship) so one of last of the old sailing ship men.

I also believe I sent out the first time signals ever sent from Washington by wire to Pensacola, Fla., and then retransmitted by wireless to ships as well as other stations.

This Station was also one of the first to transmit weather reports.

In 1914 I was transferred to the U. S. S. Michigan, being again fortunate in having a good crew of radio operators all of whom were willing to work hard for me, which means so much during competition. The Navy has what is called an efficiency pennant, white with a red ball, which is commonly known as a meat ball. For the first time the Navy Department included radio, giving a certain percent for radio efficiency. In order to be leading ship you had to come on top with numerous events. My ship seemed to take most, if not all of them. I will only mention one.



Chief in Charge aboard the USS Michigan, 1914.

Each ship was to pack a portable radio set in a boat, land same, carry same up a hill, erect and start transmitting signals. I trained my men and when the time came they worked like troopers, thereby winning the contest. Upon returning on board ship the commanding officer sent for me and congratulated me personally for the well done duty performed by my men as well as myself.

For this work the Fleet Radio Officer, now an Admiral, rewarded me by offering me duty at a shore radio station if I so desired, having recently had a daughter born while serving in Cuba, and I had not seen her, I really accepted.

While serving on the U. S. S. Michigan about 1914 I was ordered to Washington, to receive a short course of instructions on the arc as well as the new vacuum tubes which were coming on the market. I received instructions on the Pulsen Arc at Arlington, Va., from my old friend, Jack, and was sent to the Bureau of Standards, Washington, D. C., for instructions in the audion tube.

Here I heard loud speakers which could be heard plainly for several blocks.

Also at this time experiments were again being made with the transmission of the voice and I was given to understand that the voice was plainly heard at Honolulu and in Paris, France, at the same time. I was not connected with this experiment, merely mention same to let the public know that radio is by no means new.

My new station was to be Charleston, S. C.

Here nothing unusual happened, only the Navy Department installed what was then known as the distant control system, a system enabling the operator to send and receive signals at the same time, which at this date was considered a big advancement in the use of radio.

At the receiving station we also were equipped with receiving apparatus capable of using batteries or current direct off the lighting system by use of a motor generator. I merely mention this because a number of years later, the R. C. A. had certain men checking on the use of certain radio patents they were obtaining.



On the Deck at Guantanamo, Cuba

I was serving at this station when the World War broke out and the entire radio force as well as the writer's family served behind a barbed wire fence highly charged with electricity.

While here I was also recommended for a commission in the naval service, which of course was to be temporary, and due to certain conditions which may eventually have effected my standing in the Naval Reserve, well understood by a number of warrant officers now on the retired list like myself. I was given an appointment as acting gunner (Radio), this appointment being signed by the present President Franklin D. Roosevelt, who was at the time mentioned, Assistant Secretary of the U. S. Navy.

I am naturally proud of this appointment.

My crew presented me with what is known as a presentation sword, and, needless to say, is my most cherished possession.

Before peace was signed I found myself on the way to Europe on board the USS Pittsburgh. In middle of the Atlantic the Commanding Officer gave me orders to locate a nearby vessel, and later we transferred mail to this vessel which was on her way to New York. This gave parents a chance to hear from their sons at least 10 days ahead of time. This was also the first time I ever heard of mail being transferred in the middle of the Atlantic, which would have been impossible without the use of radio.

The war revived the use of the Radio Telephone, for it was almost a human impossibility to train men for duty as operators as speedily as would have been necessary.

At the completion of the war thousands of young men who had been trained in the use of radio were sent home and their knowledge of radio caused them to build and erect sets of their own.

This in turn created a demand for radio apparatus aroused the curiosity of thousands of other new men which filled the country with amateurs, thereby helping to a great extent the use of broadcasting radio as it is known today.

However the writer left radio in 1920, for after about 20 years of fighting static, experimenting, passing down knowledge of the radio art to others, he made up his mind to leave the carrying on of this work to others, and glad to see that this has been well done.

I am often told how much radio has advanced since I have left it, and that I would not know radio as it is today, however, this is a mistake for to me or any other pioneer radio is radio, for once you study and learn an art it is never to be forgotten, and, I always lived in the future, or should I say looked ahead concerning the future use of radio.

My last duty was at the Navy Radio School, as Officer in Charge, of said school at Naval Operating Base, Norfolk, Va.

Here we gave men who desired to take up radio a preliminary training.

I highly recommend young men of today who desire to take up the study of radio to go to the nearest recruiting station (Navy) where he may obtain necessary information regarding radio schools, etc.

In closing this article kindly allow me the privilege of thanking all officers and men I ever served under and with, for in radio as well as other work everyone must work together to be successful.

This article is also just one man's experience, and his own personal views.

APPENDIX

Where I mentioned using three codes is "Similar to a person speaking three languages."

Ear training for receiving weak signals was part of my success in receiving signals. Many wireless operators could not hear them.

Pioneer wireless operators receiving messages had a mental picture of happenings similar to viewing T. V. The operator was there, and I predict the time will come when humans will be able to read one another's minds at great distances.

In the year 1912, I went to the Navy Department, Washington, D. C., to see if I could be assigned to a ground crew of the Navy's first plane at Charleston, S. C., Navy Yard. High naval officers questioned me and asked seriously whether I thought planes would ever use wireless. I said it was possible. They thought otherwise so I was ordered to report to Commanding Officer at Marine Camp on the zone Smedley Butler was commanding and stayed there about two years helping to build the canal (wireless duty) in charge of Porto Bello Station, where the rock came from to build the locks and breakwater at Colon and other points on the canal.

Conclusion by John Dilks, K2TQN, Editor

More than 99% of this book is William H. Medd's original document. Only a few words were changed, or filled in, to make it easier to read. Bill wrote many letters to all his friends promising them copies of his book as soon as it was finished. Many received the book, and a few did not, because they became Silent Keys before it was completed.

With this replication and free distribution it is hoped that many will read, learn and enjoy the story of Pioneering in Radio as Bill had lived it; for he loved radio and loved telling his story.

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