



Story by: Sid. B. Maddams.

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November 1, 1962.

This short autobiography was written at the request of Haraden Pratt, retired Chief Engineer and Director of Mackay Radio and Telegraph Company, and Electronics advisor to President Harry Truman.

My Dear Haraden:

Your request poses quite a problem to me. I am 77 years old now and my memory is fading badly, especially of names and dates. I think the best thing for me to do is to give you a sketchy autobiography and let you pick out whatever you can use. I hope that the extraneous matter will not bore you too much.

I was 13 years old when my father sent me to King's College Junior Division, in London where I was born. This School specialized in preparing it's students to compete in examinations for employment in the British Government Civil Service, which included the Postal and Telegraph Services, Indian Civil Service etc. My father's idea was for me to study for the Indian Consular Service and to sit at as many examinations in the meantime to get acquainted with the procedures. This would entail about ten years of schooling before I could be eligible to sit for the Indian Service exams. (Incidentally John Fleming was professor of Mathematics at King's College. He invented the Fleming Valve.)

When I was 16 (1901) I sat for my first Civil Service Exam which was for Telegraphist in the British Government Telegraph Service. There were 10 vacancies open with about 2000 competing. I placed 15th on the list and due to some eliminations of the first ten, I was offered the appointment and promptly accepted it, much to my fathers disgust as he wanted me to continue at King's for a much more important job. So, after attending the Government Telegraph School for three months, where we learned to send and receive at 30 words per minute on the Sounder, Double Plate Sounder, Single Needle and the Tape Puncher which perforated a tape and was put through a Siemens Relay and came out at the receiving point as dots and dashes. This was used mostly for the handling of Press, and I became a fully fledged Telegraphist and was assigned to the Central Telegraph Office in London, (TS), where there were 3000 men operators manning the Provincial circuits and 2000 women operators handling the Metropolitan London circuits. Double quads were used to handle business to the larger cities. That is there were eight men receiving and eight sending on the same wire. These circuits had to be very finely balanced by means of relays. I mention this appointment because it was destined to play a major part in my entry into Radio Communications later for the Canadian Government, in 1907. In the British Service we used to Continental Code which differs from the American Morse in that it has no space letters in it and was universally adopted for use in radio.

SOCIETY OF WIRELESS PIONEERS  
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It was while I was at TS that Marconi was being financed by the British Government in his experiments with wireless as it was then called. He built a station at Poldhu Cornwall and worked out of the Cable Office in London. As he was not an operator and did not even know the Code, the Government loaned him the services of some of us young brass pounders at TS to do the sending and receiving for him. Now this fact has been misconstrued as indicating that we were radio men and worked with Marconi, whereas none of us knew a thing about Radio or electricity for that matter. All we did was to send the letter "S" for 15 minutes and then listen for 15 minutes for the Poldhu signal. This was in 1901. These tests proved to be a success and Marconi, aged about 31 at the time, was at Poldhu and gave vent to his Italian temperament by jumping up and down and slapping the operators on the back. There was one sour note however and many times during my early experience in Radio Communications, I have chuckled at what happened. First of all the farmers in Cornwall complained bitterly that Marconi's antenna brought rain on their ripening wheat crops. This must have been around August or September 1901 as the crops were ripe. The second incident happened during one of Marconi's first transmissions. Right in the middle of one of Poldhu's sending periods we, in London, began to get some interfering signals loud and clear. What we wrote down was a quotation from Shakespeare's Merchant of Venice. "All that glitters is not gold. Often have ye heard this told. Many a man his life has sold. But my outside to behold." This was the woman lawyer Portia speaking. It seems that there was a group of Magicians called Maskelyne and Cook who put on a wonderful performance at Egyptian Hall London which included Levitation, the Box Escape trick, catching live goldfish out of the air over the heads of the audience etc. Many times I have sat through their performance in fascination and awe as a boy. It appears that they had constructed a Radio Transmitter and were purposely transmitting during our tests to embarrass Marconi who had assured the British Government that his system could not be intercepted.

How many times later in my experience as a Commercial Radio operator have I suffered from amateur Radio interference while struggling desperately to get a position message from a ship at sea with static playing a merry tune. If I remember correctly you were one of the offenders with your 5 kw set in Berkeley when I was operating the United Wireless station (PH) on Russian Hill in San Francisco in 1908.

Getting back to my personal history which, I hope is not too boring. After three and a half years service at TS in London when I reached the age of 19 and received one pound a week with the prospect of a pension at 60 years of age, I looked around at my older snuff taking contemporaries and decided that I would not like to look like them in my senior years. So I quit the Government Service and sailed aboard the S. S. Victoria from Liverpool with another lad from TS named Billy Briegman. We landed at Halifax on March 3rd 1905. We were both going to Canada to learn farming and later to take up a 160 acre free homestead. I quickly found out that I was not cut out for a farmer. I did not even know how to harness the four bronchos with which I was supposed to plough, harrow and seed 200 acres.

I signed on with a Scotch Canadian named Sandy McRae at Strathclair Manitoba receiving \$5.00 per month and my board which consisted of Oatmeal mush, home made Bread and Butter and Tea three times a day with an occasional piece of salt pork for supper as an extra treat. I had to milk 5 cows twice a day and had to milk them wherever I found them feeding on the open prairie with nothing to tether them to. I bet I covered several miles a day trying to keep up with them as I tried to milk them. My only compensation came when I was separating the milk in the barn. I had a cup hidden away and never failed to drink one cup of rich cream to fortify myself for the day's work.

Following is an abbreviated schedule of my movements from the day I left home:-

Sailed from Liverpool March 23rd. 1905.

Started working for McRae at Strathclair April 3rd. When I started to plough, the soil had thawed out about 4 or 5 inches deep and the plough often struck frozen soil.

Left McRae at Strathclair June 1st 1905 after completeing seeding his wheat. McRae came down with violent rheumatism the day I reported to him and never left his bed all the time I was with him. I hurt my hand and could no longer do a good job for him and no milking cows. (What a relief that was.) The wheat began to sprout and show above the surface before I left and you never saw such crooked rows and missed spots. Returned to Winnipeg 185 miles on a bicycle over the prairie (No roads) and signed on with a construction company which was building a dam across the Rainy River at International Falls on the American border. I was to be their timekeeper. A Hydro-Electric Plant was to be built jointly by the Canadian and American Company but there was some dispute about the distribution of the Electric Power developed and the whole works shut down 2 days before I arrived.

Returned to Winnipeg working at odd jobs on the way including digging a grave for \$2.00, loading railroad ties on to railroad cars at \$3.00 a car ; packed Shingles at a small sawmill for one week at \$7.00. The boss said he had employed a girl previously who could pack three times as many shingles a day as I could. This was a ten hour a day job. Running out of eating money I climbed aboard a freight train at Ft. Francis and stole a ride to Winnipeg like any other bum. This was 160 miles and took 16 hours. Just before we started from Ft. Francis another guy climbed in through the trap door. Our car was half loaded with wet lumber and this other guy, being a real bum knew all the ropes. He said the first thing we should do was level off the lumber which was piled higher on one side than the other and would naturally fall down on us when the train got in motion. In the middle of the night we were shunted on to a siding and the bum looked out and said he knew where we were and would be gone for a short time to get some grub. He came back with a loaf of bread and a large chunk of Balogna sausage. I have never enjoyed any meal so much in all my life as I had had nothing to eat for about 36 hours. He was not going all the way to Winnipeg so told me to watch the telegraph poles and when we came to a certain number to jump off the train because a few miles beyond we would cross the Rainy River in Winnipeg and would enter the freight yards where I might get caught and thrown into jail. When I came to my number the train was running on top of a ten foot embankment but was not going very fast so I jumped and rolled over and over several times on landing.

On July 10th 1905 I signed on with a half breed Indian farmer named Alec McGregor at Clandeboye a few miles north of Winnipeg. I did not know he was part Indian as they did not mention it at the Employment Office. He was a good guy however and treated me fine, much better than he treated his Indian wife and kids. We spent six weeks making hay on the free marsh lands and lived mostly on bacon and bread fried in butter or bacon fat. (I still enjoy a slice of bread fried in butter or bacon fat, much to my wife's dismay as she thinks it is too fattening.) After the hay was all cut, raked and stacked in 40 foot long stacks, we both joined a harvesting crew which went from farm to farm threshing out the neighbors wheat. We slept on the bare prairie under the stars, pounding out a depression in the ground to fit our body. We worked from 5 am until about 10 pm when there was still some light left in that latitude. I received \$2.00 per day and board but what board! Each farmer's wife tried to outdo the others in feeding the threshing gang and we lived high on the hog.

From this point on I worked one winter at 40 below zero in a Bakery in Selkirk about 30 miles north of Winnipeg on Lake Winnipegosis. I had to deliver 200 loaves of bread a day and had a one horse sled to carry the bread in. My route extended about 35 miles to a Hudson's Bay Post where I usually left about 75 loaves. I froze my nose and chin every day but carried a bottle of kerosene with me to rub on to keep my nose from getting too solid.

The following spring and summer I worked for the Red Deer Lumber Company up near the Hudson Bay, scaling lumber. We cut 150,000 board feet a day and I had a crew of Russian Doukabors loading the planks on to trucks according to their dimensions. It was my job to tally up the footage on each truck before it was pushed out on a track to the yards to be stacked. Every evening around 5 pm, the mosquitoes made their attack and we had to wear nets to cover our heads and neck. How these mosquitoes survive the winter at 40 below zero beats me. When the Mill closed down in October the Company asked me to stay on and go into the woods and scale the winter's cut of logs. I declined and returned to Winnipeg to work in the General Postoffice for awhile and with the Canadian Pacific Railroad Company checking the movement of freight cars. This took me to October 1st, 1907. I am writing all this because it leads up to my first job in Radio. Incidentally when my friend Bill Bridgman and I cross-ed the Atlantic on the S.S. Victoria the ship was equipped with Marconi Radio apparatus and we frequently stood outside the Radio cabin and listened to the operator communicating with other ships. This was in March 1905 remember? Poor Bill couldn't read a single word but it came naturally to me. As operators in England we were used only to the click of the sounder, whereas the Radio signals were a prolonged buzz, long or short according to whether a dot or dash. I guess I was really destined to be a Radio operator.

Not wishing to spend another severe winter in Manitoba I took off for British Columbia and landed in Victoria on Vancouver Island. The man I boarded with in Victoria was a Western Union Telegraph Operator and he told me that the Canadian Department of Marine and Fisheries was building a number of Radio Stations around the Island coasts. The central station was in Victoria and there was one at Pachena Point, 80 miles north of Victoria and another at Estaven Point 80 miles north of Pachena and a third on the east coast at Grays Point. Each of these stations had a Lighthouse and a Fog Alarm in connection with the station.



They had no operators available who could read the Continental Code so when I applied for the job they snapped me up. It was supposed to be a Civil Service job so I was advised that my appointment was only temporary. The engineer building the Stations was named Hughes. I cannot remember his first name but he was a little chap about 5ft.3. I was assigned to the Pachena Point Station where the Lighthouse and Fog Alarm were already in operation. Also the Radio building and sleeping quarters for the operator and the Radio antenna were also ready. It was our job to get the apparatus to the Station and install it. The Fog Alarm was run by compressed air which required the use of a 25 horsepower gasoline engine. This fact proved to be a life saver to me because I knew nothing about Gas engines or Radio installations for that matter. Pachena Point Station (KPD at that time) stands on a bluff about 500 feet above sea level and practically on the edge of the cliff overlooking the ocean. We were supposed to land all the apparatus and food supplies from a ship's boat lowered from the ship which was laying about a half mile off that very dangerous coast. The Lighthouse and Fog Alarm men would then lower a sling by means of a derrick to the ocean surface and as each wave raised the boat high enough, the crew would toss the freight into the sling which would be hauled up to a landing and then returned for another load. It was a tricky business as the waves were sometimes ten feet high.

On about December 10th, 1907 Mr. Hughes and I boarded the ocean going Tug William Jolliffe, with all the apparatus on board except the Gas engine and Generator which had already been installed. We ran down the Straits of Juan De Fuca but there was such a heavy sea running outside that the Captain decided to heave to all night and proceed on our way next morning as soon as it was light. What a pounding we took all night. I had a small bunk forward with a glass skylight in the ceiling and the waves kept sweeping over my cabin and the racket was terrific. However we proceeded on our way early next morning in 50 mile winds and tremendous seas. We arrived off Pachena, 80 miles north of Victoria 16 hours but it was impossible to lower a boat in that sea, so after bouncing around all night, the Captain decided to go back to Victoria. He warned us to hold tight to something as he was going to turn around on his course to Victoria. I really thought we would capsize as we came broadside on to the waves. I was hanging on to a metal collar around the smoke stack with my back to the stack. One moment I was practically laying on the stack as the Tug heeled over and the next I was bent over double as she flipped the other way. I remember seeing Mr. Hughes, who was on the bridge in his sou'wester come sliding face down from port to starboard and all that saved him from going overboard was a low and flimsy guard rail. After we had turned around and were safely on our way the Captain, who was a five by five Englishman came strolling along the tilting deck with a cup of tea and asked me if I would like some. If so I could go below and get it. I was still holding on to the smoke stack and decided I had better not let go.

After many consultations at the Marine and Fisheries office Captain Gaudin who was the boss there, decided to send us out again, this time on the Lighthouse Tender Quadra. The instructions were to make another attempt to land us at Pachena but if that proved impossible, to take us on to Bamfield Creek where the Cable to Australia lands. Bamfield is 21 miles north of Pachena. We were told to pack as much of the

apparatus on our backs and travel over the 21 mile blazed trail to the Station. We were allowed to hire Canadian packers for the heavier stuff but Hughes and I personally packed 60 pounds a piece and it was several days before our shoulders returned to normal and ceased to raise up every time we stood up. The trail has over 20 rivers and gorges to cross and wherever the builders came to one of these they felled a big Cedar tree across it and this was the bridge we had to cross on. The bark on some of the logs had stripped off leaving a slick surface on which it was no trick at all to slip and skid. However we had no mishaps and on December 16th, 1907 we started installing the Radio equipment, wiring in the generator and other items. Mr. Richardson the Fog Alarm Engineer was greatly interested and helped us out with the installation. He was also a Gas engine man. I knew nothing of Gas engines or Radio stuff at this point so, when we had the installation completed and Mr. Hughes turned to me and said "All right Maddams start up the engine" I turned to Richardson and said "Ok Rich lets go." He was out in the engine room in a jiffy with me tagging along, turned on the ignition which was sparked by a wet battery, cranked the fly wheel with a steel bar and we were off to the races. The procedure was so simple that I never had any trouble starting the engine myself from that time on.

If I remember correctly the transmitter was a Shoemaker open spark gapset. The antenna had an Anchor gap in it to prevent injury to the receiver when we were transmitting. It also helped in tuning the transmitter, the heavier the spark in the gap the nearer we were to the correct frequency to operate on. For receiving we had Slide Tuner and the Detector was a glass enclosed Wollaston wire and we had a small whetstone to polish the end of the wire and remove corrosion. The crystal was carborundum, or galena, not quite sure which. The transmitter was the open spark gap type with the customary helix for tuning up the set and, although it is a bit fuzzy in my memory, I believe our frequency was determined by the capacity of the antenna and the density of the spark we could get across the gap and the anchor gap.

I hammered away all day to the Victoria Station but could get no response from him. I could read many U. S. Navy Stations up and down the West Coast of the United States starting with Tatoosh at Cape Flattery at the entrance to the Straits of Juan De Fuca about 80 miles south of me, Portland, Ft. Bragg, Point Arguello and San Diego. Also Bremerton Navy Yard about 50 miles S. W. of Victoria. On the second day of testing (I must have done some interfering with the Navy Stations as I kept up a running call and listen schedule all day) Tatoosh came in and asked "Who is KPD and where are you?) So I went right back to him and we chewed the rag for awhile and I asked him if he would call Victoria for me and tell them we were trying to contact them. He said he would try out communications in that area were very tricky. For instance Tatoosh was unable to contact Bremerton about 60 miles away so while he was trying for Victoria I called Bremerton and established a fine contact with him. For several weeks after that tatoosh relayed my stuff to Victoria and I relayed his to Bremerton. It seems there are a lot of heavy copper deposits in the area and Mr. Hughes believed this had something to do with our trouble. There was a mountain of copper between us and Victoria and in many caves on the shore below Pachena there are visible outcroppings of copper. (Fools gold.)

We tried all kinds of things to overcome our difficulties and finally spread a counterpoise of chicken wire on the ground under the antenna with one roll of wire dumped over the cliff into a small river flowing into the ocean close by. This improved communications with Victoria to the extent that it was no longer necessary to use the relay but it was never what you could call good during the time I operated this station. My duties were very light however. Twice a day I reported the movements of shipping in and out of the Straits and also had a small weather station to report wind pressures and other weather conditions. I had to pay particular attention to sailing vessels trying to beat their way up the Straits to Seattle or Tacoma and other ports. Towing fees were pretty high for that distance and those old sailing masters used to keep on trying even though the wind used to change to off the land every night and blew them out to sea again. Once in awhile one of them would get into a hazardous position and signal frantically for a tow. This I would radio to Victoria. I had powerful binoculars including night glasses with which to follow ship movements after dark.

The west coast of Vancouver Island is very rugged and dangerous with heavy fog shrouding it a lot of the time and frequent gales at certain seasons making navigation very difficult for sailing vessels in that area. It is called the graveyard and many ships have met their doom on the reefs and rocks there. That is why the Canadian Government built the Lighthouse, Fog Alarm and Radio Stations as a life saving project. Included in the wrecks was that of the S. S. Valencia in 1906 just below my Pachena Station with the loss of 117 lives. Boats were lowered but there was no place for them to come ashore and they were dashed against the rocks and a few people on the cliffs watched the people drown without being able to do a thing to help them. The full rigged ship West Hartelpool 40 days out of Valparaiso tried to make the Straits for three consecutive days before Christmas Day and was blown out to sea each night when the wind came off the land. The third night my wind gauge registered 70 miles an hour and I stayed all night watching her with my night glasses until she got out of range. She never did come back and about three weeks later the operator at the Estavan Station north of me picked up a model lifeboat which some sailor had carved out of a chunk of wood and pencilled on the bow was S. S. West-Hartelpool. That was all that came ashore.

A little south of Pachena Point the cliffs break away and there is a 5 mile stretch of beach which it was my duty to patrol once a week. I picked up quite a bit of wreckage to adorn my cabin with but one of the grim items was a set of human bones which I wired together and had a complete skeleton. I dont know from which wreck it came. The Siwash Indian who used to travel the trail to clear the Telephone line of fallen trees used to drop in to see me and his comment on the skeleton was "Skookam, skookam, no good."

The Lighthouse keeper, Fog Alarm Engineer and I took turns once a week to travel over that 21 mile trail to Bamfield to get our mail. I carried a rifle after my first trip because I was followed by a Jaguar (Mountain Lion to you.) He would stop every time I did and glare at me with his long heavy tail lashing back and forth. He made no attempt to attack however.

Along around February 1908 we ran out of provisions. The Quadra had been lying off Pachena with our groceries for a couple of days waiting for the sea to go down but it was too rough for them to lower a boat so they went on to Bamfield and beyond. We had a few potatoes left and were able to gather shell fish off the rocks, Mostly mussels. Later Richardson and I blazed a four mile trail to what appeared to be a lake. Only one shore had been surveyed the rest was represented by a dotted line, on our map. We were rewarded by finding the lake teeming with the finest trout which fed eagerly on the little green frogs we used for bait. So, for awhile the food situation was somewhat relieved, but became critical again later on as the Quadra was unable to unload for us, so I radioed to Victoria and asked for a relief. By this time the Department had a number of trained operators so there was no difficulty in relieving me. I left KPD on March 27th 1908 and boarded the Whaling Steamer Tees at Bamfield and returned to Victoria. I have never been seasick in the roughest kind of weather but I came very close to it on the Tees which reeked of whale oil. You could even taste it in every bit of food you ate.

Reporting to the Chief Operator in Victoria he asked me if I would accept a job with an American Company named United Wireless Company, with headquarters in San Francisco. The United Wireless Co. had Stations in Seattle, Portland and on Telegraph Hill in San Francisco overlooking the beautiful San Francisco Bay, also the Barbary Coast which was running full blast in those days. I accepted the offer and the Victoria operator radioed Seattle offering them my services as an experienced Wireless Operator and they sent me to San Francisco on the Coastal Steamer S. S. Watson which was equipped with United Wireless equipment. Mr. Jessup was Manager at San Francisco and John Watson was their installation engineer, the same Watson that later worked for Federal and Mackay Radio. On May 10th 1908 I took charge of PH on Telegraph Hill and worked the ships including the Matson sugar boats Hilonian and Enterprise running to Honolulu and Hilo respectively. There were also some American Hawaiian Steamship Company vessels and some China Mail and Japanese Marus equipped with Radio and a smaller Matson passenger boat named Alameda.

J. O. WATKINS  
Per GWC

It was while I was at PH that Teddy Roosevelt's White Fleet was making its round the world "Speak softly but carry a big stick" voyage. At that time it was anchored in San Francisco Bay in sight of my Station. One evening while I was trying to receive a position and weather message from the Enterprise through plenty of static and some interference from amateur Stations across the Bay, I suddenly heard music on the air. This was early in 1908. The tune being played was "The Merry Widow Waltz." As soon as the music stopped a voice came on and asked if anybody had heard the music. I threw in my transmitter switch and replied "Yes I heard it very loud and clear. What is it? Please come back on voice." The voice came right back and said "This is a wireless man on the Battleship Connecticut, the Flagship of the Fleet anchored in San Francisco Bay and I have fixed up a home made arc transmitter into which I am playing records." I told him who I was and asked him to continue playing while I called up the San Francisco Examiner and asked them to send up a reporter to listen to music by wireless on the air. I heard the Examiner man say "Hey there is a Wireless operator up on Telegraph Hill wireless station who has gone crazy. He thinks he is hearing the angels singing in heaven."



I cut in and gave him a few more details so they finally sent up a woman reporter and we got quite a story in the Examiner next day. The Examiner later gave me \$10 for the story. I wish I could remember the exact date but it escapes me. It could, however be established by a search of the Examiners files. I have reason to believe that it was the first broadcast of music ever heard on the Radio.

About this period in communications it was possible to work the ships only 250 miles at night and much less than that in the daytime. The operator on the Hilonian was an ex Western Union operator making his first trip as a Radio man. He did not have any luck on his first trip to Honolulu and deserted the ship in Honolulu and went to work for the Honolulu Iron Works. So Jessup asked me if I would make one round trip on her and try to discover what the trouble was. They were paying ship operators \$40 per month in those days. The Captain received only \$250. I was getting \$75 at PH, but Jessup said he would give me \$60 per month on the Hilonian and I would get my meals free on the ship which took 10 days to make the trip each way. We carried 40 passengers and returned from Honolulu loaded with raw sugar. The installation was the usual open spark job which crashed away inside the customary helix. The receiver included a Slide Tuner and a carborundum crystal detector with cat whisker contact. The frequency was decided by the antenna capacity etc as at Pachena. The Slide Tuner was quite a contraption. Every time I heard a new signal from a ship or land station I would mark the tune location on the side of the box so I knew where to look for almost any Station's signal, and believe me, they were all differently located.

The only thing I could find wrong was in the antenna installation. It consisted of four wires attached to a spreader which was anchored to the masts with, of course, the necessary insulation. The contacts on the tuner were badly corroded and I cleaned everything up as well as I could. I had a hunch that the antenna wires were too close together so, when I returned to San Francisco, I ordered new spreaders twice the length of the old ones, allowing much wider separation of the wires. I was persuaded to make another trip to Honolulu to see if my idea worked out ok and was amazed when I stayed in contact with PH for over 1000 miles at night and then picked up the Hawaiian Station at Lahaina Maui, I also worked around 500 miles in the daytime. We were never out of touch with land at night during the entire trip. The same thing on the return trip to San Francisco. I was greeted as a real hero and very soon each ship that came into San Francisco installed wide antenna spreaders and long distance communication became an established fact. I really dont take any credit for it because I was not a Radio engineer but merely had a lucky hunch.

Jessup would not let me go and I made 14 round trips on the Hilonian or until May 27th 1909. On my last trip to Honolulu one of our passengers was Mr. John A. Balch, President and owner of the Mutual Wireless Company (now known as the Hawaiian Telephone Company.) of Honolulu. Balch had stations on Hawaii, Maui, Oahu and Kauai. The Maui Station was at Lahaina and was the one I did all my work with from the ship. Balch told me he was building a modern Radio Station at Kahuku on Oahu which would have two transmitters, one to work the Inter Island Service and a higher powered one to work the ships.

Also he had ambitions to establish a Commercial Radio service to San Francisco connecting with the Federal Telegraph Company there. Balch asked me if I would take charge of his Kahuku Station where he would build and furnish a house for me and pay me \$110 per month. The Station was in a pretty wild spot right on the sand dunes close to the water's edge. The Kahuku Sugar Plantation was about three quarters of a mile inland and employed the only haoles (whites) on that side of the Island, including a dozen families, the Manager, Mill Engineer, Sugar Boiler, Bookkeeping staff and a few lunas (Field supervisors). The balance of the population of Kahuku was either Filipino or Japanese including Jap women who worked in the fields along side the men.

Captain Matson was very proud of his "vireless man" and did not want me to leave the Hilonian and offered me a combination Purser and Operator's position at \$120 per month. This would have entailed replacing the Purser, John Drew, who had been a great friend to me during the year I was on the ship and I could not see doing that to him. Also I was anxious to come ashore and send to England for the girl I was engaged to and who I had met at TS where she was also a Telegraphist, four years previously. I sent for Laura in March of 1910 and she arrived in Honolulu on April 2nd and we were married that night at the home of Jack Balch's sister on the slopes of Punchbowl.

I accepted Balch's offer and returned to San Francisco to sign off the ship and resign from United Wireless Co. Returning to Honolulu on the Hilonian at Balch's expense on May 27, 1909 I found that the Kahuku Station was not quite finished so I relieved Balch's operator at Barber's Point for vacation. What a mess of junk the apparatus was at Barber's Point Station. There was a wheezy old Gas Engine and run down Generator with a Mercury Arc Interrupter to supply the A.C. current. The Mercury had to be dumped out of the metal pot twice a day and cleaned through a chamois and the steel nozzles on the revolving part through which the mercury was sprayed used to burn off about once a week. The Receiver included a Marconi Magnetic Detector which, if I remember correctly, had a wire vibrating between two magnets. You will probably know what I mean. It was remarkable what good signals we received from the other stations and the large volume of business we handled, with this bunch of baling wire junk. It was the only means of communication with the outside Islands and was set up by the Marconi Company around 1900. I believe the Hawaiian Telephone Company still has some of this ancient equipment in a sort of museum. The original Company failed and Jack Balch bought out the whole system at public auction for \$85000. The Mutual Tel. Company subsequently merged with the Mutual Wireless and now includes Radio Telephone Service between the Islands and across the Pacific connecting with the A. T. and T. and quite recently participated in the laying of a multiple channel cable from Honolulu to San Francisco for A. T. and T. Jack Balch was president of all these Companies and is now deceased.

The Kahuku Station to which I gave the Call Letters HU was now ready. It was built by a Radio Engineer named Arthur Isbell. Late in March as mentioned before, I sent for my bride and she arrived in Honolulu on April 2nd 1910 22 days from London via Canada. Our honeymoon was cut short because my assistant who handled the Inter Island service managed to burn up something on my high powered set which was used to communicate with the ships, and I had to hurry back and make repairs.

The Inter Island Transmitter was a Massie using a Rotary Spark Gap, the first I had ever seen. Later we installed a high frequency Generator but the outside Island operators did not like it. They said it was like a cat squealing and was hard to tune in and lacked volume. One good thing about it was that the signal cut through static of which we had plenty in that tropical area. I am afraid the boys did not care for any innovations but they soon got used to the high pitched signals.

Balch still had that Trans Pacific Commercial circuit in his mind and went to San Francisco to talk it over with the Federal Telegraph people. We built a big umbrella antenna at Kahuku stretched between two 250 foot poles about 300 feet apart. Federal sent down an engineer with some Poulsen receiving equipment including a Tikker made in Copenhagen. We went to work every night for many nights cooped up in a little dog house we built on the beach and listened for signals from San Francisco. I had the original Poulsen receiving circuit which A. Y. Tuel sent me but it was too simple for the Federal engineer. He did not know the code and every time a little static came through he thought it was San Francisco sending to us. Every day he would try a new receiving circuit of his own and they became more and more complicated and the contacts became green with corrosion from the salt air. He would not let me touch anything but after he decided that it was no go and left for San Francisco on the S. S. Siberia, I cleaned up the whole mess and restored the original simple Poulsen circuit and, that night, I copied several hundred words from Federal's San Francisco Station and also heard Phoenix Ariz. and El Paso Tex. I sent the information out to the man on the Siberia and afterwards I learned that he told his people that I had sabotaged the deal while he was conducting the tests.

Federal Tel. Co. became very interested in the possibility of a Trans-Pacific Circuit as a result of my tests and their President, Beach Thompson accompanied by A. Y. Tuel came to Honolulu to look the situation over. They visited my Kanuku Station and that was my first contact with Tuel which ripened into a very warm mutual friendship which lasted right through to Tuel's tragic and fatal illness.

I don't know what negotiations went on between Balch and Thompson but after he and Tuel returned to San Francisco, Balch and I built an antenna across the Nuuanu Pali Gap, anchoring it high up on the cliffs on either side of the drop off. It was a ticklish business but fortunately the heavy winds blew inland so we were not afraid of falling over the precipice. We built a little shack right in the crevice below the road on the left hand side about 20 feet from the sheer drop off of about 1500 feet. The wind pressure in the gap was so great that we had to use quarter inch galvanized wire for the antenna.

We installed the Poulsen receiving equipment in the shack and I camped out in the valley in a tent just above the dam about three quarters of a mile town side of the Pali. It was my job every night to walk out to my little receiving Station and listen for signals from the Mainland, using the same old Copenhagen Tikker. This was late in 1910 before we had flashlights so I had to use an oil lantern which blew out almost every time I rounded the curve toward the Pali.

I had to practically crawl down on my hands and knees and hope that I wouldn't slide too far and go over the precipice especially when it was raining and the red volcanic soil was extremely slippery. When there was no moon it was particularly dangerous.

Radio reception was remarkable and night after night I copied reams of stuff from the Mainland from many Stations. I am not aware of what went on between Balch and Federal as a result of these tests but I think Federal gave Jack the cold shoulder which indicated to me that they had plans of their own to build a Station in Hawaii. Anyway, not long after, Balch went to New York to try and interest American Marcona (Now RCA) in his project but they turned him down cold as they were also making plans to invade the Islands. They threatened Balch with a suit for using some of their patented equipment without permission in his Inter Island Service. (Doesn't that sound familiar to you ?) The upshot of it was that American Marconi agreed not to sue Balch if he would assist them in obtaining required franchises in Hawaii. This was done and later, in 1914 (Two years after Federal started their service from Hawaii) they built their high powered Alexanderson Alternator Station at Kahuku forcing Balch to move HU to Wahiawa. They also built a million dollar combined Receiving Station and Hotel for their staff near Koko Head. Federal beat them to it having started commercial operations in 1912 from Heeia but RCA still maintains that they were first in the field, ignoring the fact that I personally started the first commercial Radio circuit to San Francisco.

Early in 1912 Federal came in and built their station at Heeia with C. F. Elwell as their Chief Engineer and Ralph Beebe as Construction Engineer, I think Elwell was financially interested in Poulsen Wireless because he introduced it from Copenhagen. You probably know more definite data on that point. Late in 1912 Elwell visited me at Kahuku and offered me the position of Chief Operator at Heeia paying \$125 per month and providing a furnished house, free. I was not getting anywhere with Balch who was a terrific driver, and seldom showed any appreciation for the long hours I put in for him in addition to my regular ship watch and he also failed to keep some promises he made to me to promote me to Assistant Manager of Mutual but put a Portuguese in the job instead. My wife and I were both getting rather tired of living on the sand dunes away from everyone so I accepted Elwell's offer and went to work for him at Heeia on July 3rd, 1912.

The 618 foot three sided redwood tower and the 2 450 foot towers were brought around from Honolulu by Sampan as the timbers were too long to negotiate the hairpin turns on the Pali road. I had the privilege of driving the first rivets for the 618 foot tower which was, at that time, to be the highest wooden structure in the world. The tremendous umbrella antenna was being laid out on the ground ready to hoist into position as soon as the towers were in place. One of the cement anchors for the high tower had to be built out in the bay. A caisson had to be set down first but when the men broke through the coral their drilling tools dropped out of sight in quick sand. This was quite a problem for Beebe who was a Stanford graduate so he cabled to Professor Marlen at Stanford for advice on how to handle this situation and evidently got some good dope because the work proceeded without further hitch.



The steel guy cables supporting the towers were broken up at intervals by the insertion of one cubic foot blocks of granite which were salvaged from the San Francisco City Hall which was destroyed in the great earthquake and fire of 1906. On one of the 450 foot towers we used lignum vitae blocks to break up radiation from the guy cables.

The Arc Transmitter and the receiving equipment as well as the two Fairbanks Morse Marine Engines and four generators which had to be in synchrony, were not yet installed and we also had to dig a well for our drinking water and for the Gas Engines cooling system. All this was on land leased from Harold Castle by the Hawaiian Pineapple Co. and was smack in the middle of a pineapple field with luscious pines ripening all around. Later when the Station was in operation the operators used to steal the pineapples at night to such an extent that I felt it necessary to advise the plantation Manager and offer to pay for any damage. He told me to forget it and to tell the boys to eat all the pineapples they could hold and to pick out the largest ones. He even sent us a large crate of the biggest pines I have ever seen for the boys to eat. It wasn't long before they were completely surfeited and could not look a pineapple in the face. The Manager's strategy had worked.

A Stanford graduate named Bailey and I proceeded to make the Station installations and we hired some men to install the Gas Engines and generators in the engine room building which was about 500 yards from the transmitter building. Incidentally there was no electric power on the Heeia side of the Island so Federal had to pay Hawaiian Electric Company to string a power line over the Pali and along the coast to Heeia. It cost us \$10000 but we received some rebate monthly on power bill. The understanding was that Hawaiian Electric would extend the system beyond Heeia and that that side of the Island received electricity for their homes for the first time.

Finally the time came to make the first tests with San Francisco which we arranged by Cable. A. Y. Tuel was at the key on the San Francisco end and informed me that present at the inauguration would be the Company President and other officials, each with a set of ear phones. A. Y. came through in fine style and told me to say something for the listeners in San Francisco. He would write it down and read it to them. I was so excited that I could not think of anything appropriate to say about the inauguration so sent the following...."When a diplomat says "Yes" he means "No", when a lawyer says "Yes" he means "Maybe", but when a lady says "Yes" she is no lady. That was actually the first message by Radio from Honolulu to San Francisco. A. Y. told me later that it made a big hit with VIP's.

Some time after we established Commercial service to the Mainland C. F. Elwell was in Arlington Virginia trying to interest the Navy in using Arcs on the ships. He had already installed one Arc at Arlington for demonstration purposes and one night, when I was struggling to receive 2000 words of press for the Star Bulletin, San Francisco interrupted his transmission and told me to listen for Arlington who was going to test with me on the same frequency that San Francisco was using. I thought they were pulling my leg as communication over 5000

miles was inconceivable. I replied "lets get on with the press. We have to meet a deadline and the static is pretty bad." S.F. insisted that Arlington was going to send to me so I told him to go ahead and sure enough, the signals came in loud and strong and much better than San Francisco's. I thought this might give us a good opportunity to get some publicity for Federal Tel. Co. as we were trying to capitalize by selling stock in the Company at that time. So I sent the following message to President Taft in Washington... "Greetings from across the sea and Aloha from the people of Hawaii. This marks the annihilation of space by Wireless etc etc, and I signed it Mayor Fern." I did not know how long the contact might last so had no time to call Mayor Fern on the telephone to get his permission to sign his name to the message. This was a world's record long distance Radio communication at the time. It was about two a.m. in Washington so the message was not delivered to the President until the next morning. The next night contact was again made with Arlington and they sent me the following from President Taft.. To Mayor Fern, Honolulu, Hawaii. "Many thanks for your warm greeting from Hawaii which we heartily reciprocate." There was more to it but I have forgotten the rest. Now came the task of delivering the message to Mayor Fern and facing the confession that I had signed his name to a message without his consent. I hopped on the one lung Reo Truck which used to chug chug over the Pali and back once a day and proceeded to the City Hall to deliver the message. Mayor Fern was a genial and lovable Hawaiian giant and very dark skinned and was not too with English reading. After explaining what I had done he had his Secretary read it to him. He beamed all over his really fine Hawaiian face and grabbing the message, flew down the steps of City Hall waving the telegram in his hand and yelling to all and sundry "A message from President Taft to me." It never occurred to him that I had forged his signature so I decided to let sleeping dogs lie.

It was while I was at Heeia that Dr. Lee De Forest, who was working at the Federal Factory in Palo Alto, sent me his audio amplifier which he had developed at the Factory and gave me instructions on how to hook it up to the Tikker. We were then using a Tikker developed by Watkins which consisted of a fine wire traveling in a groove in a revolving disc. The Amplifier was all sealed up but there were binding posts on the outside of the case to attach A. B. and C. Batteries and other wires to. It was the first time I had come in contact with a Radio tube and the use of Batteries. It was supposed to be very hush hush and in fact I had never seen anything like it before. We played around with it during periods when we were not handling traffic and found it very temperamental. When we did get it properly adjusted it really did amplify the signals producing a very high pitched tone which cut through static pretty well. But most of the time it just howled and squealed to high heaven. I am afraid my inexperience with that type of equipment had a lot to do with our difficulties. This must have been around late 1913 because I was promoted to Manager of the Company soon after and was relieved by Harold Rodman. I am not sure what success Rodman had with the Amplifier but I know he continued to experiment with it.

At Heeia I assisted Dr. Leonard Fuller in some experiments in which he had me tabulate the percentage of increased radiation and signal strength of the arc to the increased power input and what was the ratio of increased radiation to increased power input. I remember

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that beyond a certain point when a maximum was reached, the radiation percentage began to drop. We ran the power up to such a point that I was afraid that something would burn out. Each day I would Radio the results to Fuller at Palo Alto. I learned later that he wrote a thesis on these experiments and received some sort of a Degree at University of California at Berkeley. I imagine there was much more to the thesis than the results of our experiments.

In 1915 my health began to break down. Six years without a day off and long hours of pioneering the industry in that tropical climate was too much for me. So, very regretfully I had to resign and return to California with my wife and two daughters. There was a hiatus of 6 years while my wife and I recovered our health on a small ranch I purchased near Petaluma. In November 1921 A. Y. Tuel asked me to come to work for him and I was put in charge of the Federal's central Station at Palo Alto, the Marsh Station. I thought I was walking into a boiler factory when I entered the Station on my first day. So many changes in apparatus during the six years of my absence from Radio that I did not recognize anything.

From that time on you are familiar with my history. I stayed at the Marsh Station until July 1st. 1930 when A. Y. Tuel sent me to Honolulu as District Manager of Mackay Radio and was retired in June 1946.

I hope this story has not been too boring. I know it contains a lot of matter not related to Radio but, inasmuch as my memory is fading a bit, I thought it wise to tell the whole story so as to achieve some sort of continuity. Also I thought you might be interested in hearing about some of the early beginnings of Radio Communication. We older old timers were not College trained engineers. We learned what we knew mostly by experience and the cut and try method and as I sit in my armchair and take my 5 pills a day I like to think that, perhaps, I did contribute a little bit to the advancement of Radio Communications in the Pacific area.

I must apologize for my awful typing. I have only one good finger on each hand. The rest are bent almost double with Depreton contractions and frequently one bent finger next to my typing one will strike a key by mistake.

Best Regards,

(Signed)

*Sid B Maddams.*  
*Sid B Maddams*

S.B.M.

*Sid Died in Honolulu*

*April 11 1964*