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THE ARRL BOARD OF DIRECTORS – HISTORICAL COMMITTEE
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THE HISTORIAN'S VIEW
THE EARLY LOGBOOKS OF HIRAM PERCY MAXIM
A Glimpse into the early era of wireless in the United States

Under the auspices of the Historical Committee, appointed by the ARRL Board of Directors, the volunteer Historian and Archivist at headquarters has been cataloging the previously unrecorded assemblage of paper material contained in the League files. This is the material that was not catalogued in the earlier effort done in the Microsoft *Word* program and which occupies more than 40 file drawers.

To continue the project, a new format was developed utilizing the Microsoft *Access* data base program for ease of “finding.” In the past two years 24 file drawers of specifically recorded material, and 145 boxes of general and executive correspondence have been catalogued, and stored in an archival containers.

In the process of cataloging this material several discoveries of documents of historical import have been made. These documents had been preserved but not previously recorded.

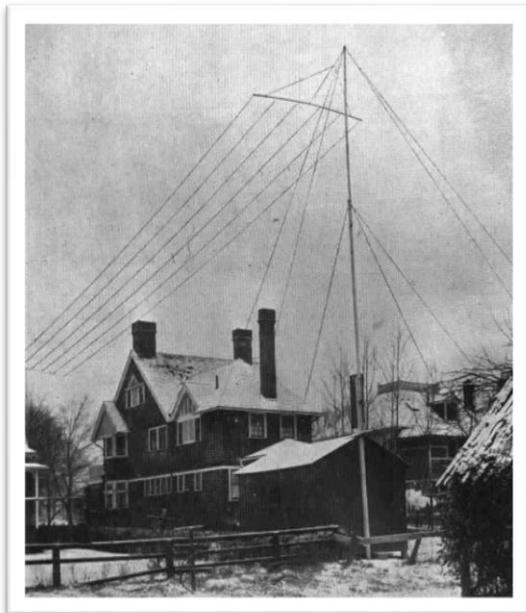
The following are comments on one of these finds-the *Logbooks of 1ZM and 1AW*.

The logs are contained in two common ruled school notebooks. The entries are mostly in ink and remarkably clear after almost 100 years of storage -only a few pages are illegible.

The first book labeled, “French Notebook, H.H.Maxim”, with the first page entered as “Log of 1ZM”, covers the period May 14, 1919 to March 18, 1920. The second book, labeled “Log No. 2, Radio Station 1AW”, covers the entry periods March 2, 1920 to

December 16, 1921; September 26 to September 29, 1922; and contains at the end a number of fragmentary entries and typewritten attachments and insertions.

These post World War I logs are likely not the very first written logs of ARRL founder Hiram Percy Maxim and his son Hiram Hamilton Maxim. They began operating in 1911 as SNY and SNW and in 1913 with official licensing as 1WH and 1ZH. They continued actively through the time of the founding of ARRL in 1914 and up to the government radio World War 1 silence imposed in April 1917. After the war, the station call 1AW was issued to Maxim senior.

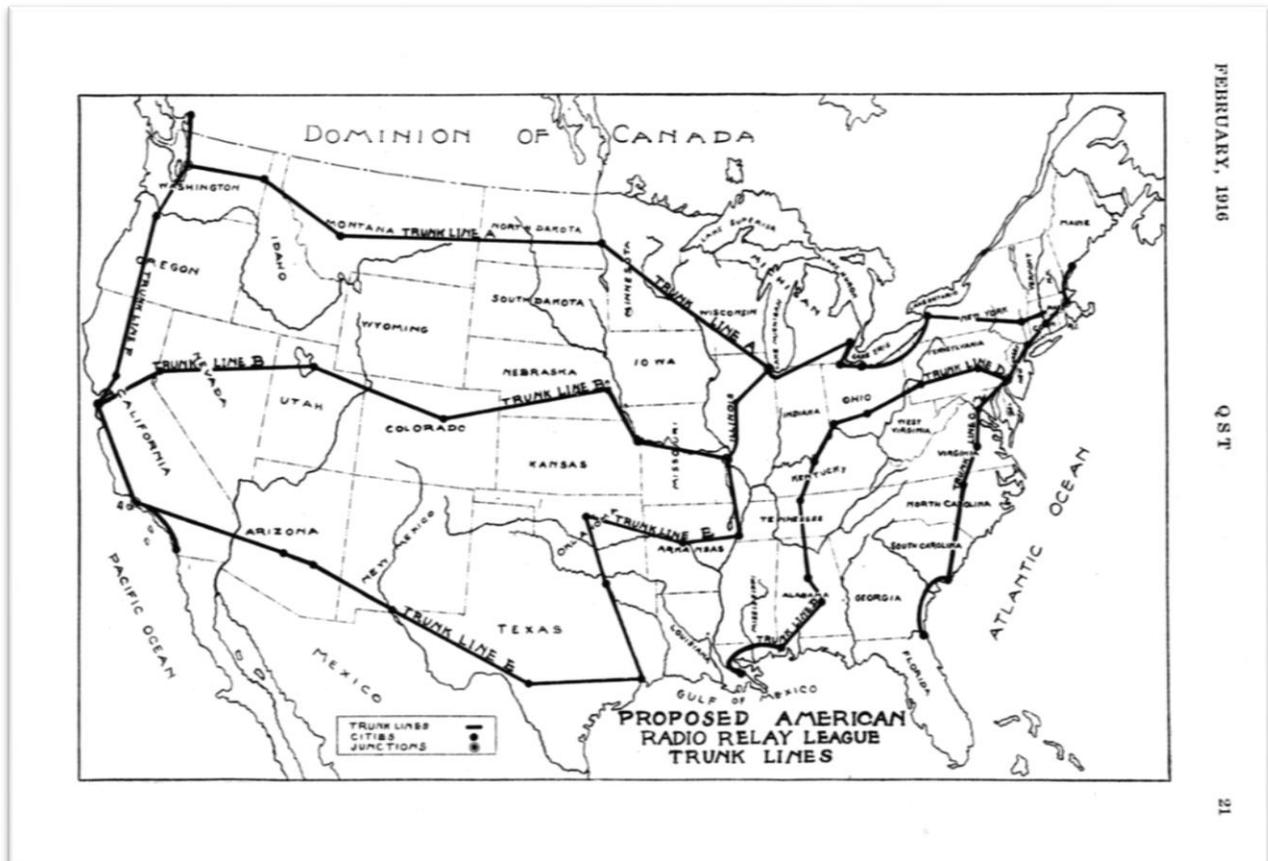


MAXIM RESIDENCE WITH LATER ANTENNA



MAXIM SPARK TRANSMITTER –“Old Betsy”

From its inception the station was a major relay link in the National Traffic System (NTS) the founding principal of the ARRL. During these early years the station not only handled traffic but also originated and transmitted bulletins and announcements addressed *QST*, “to all radio amateurs”.



NATIONAL TRAFFIC SYSTEM PRELIMINARY CONCEPT

The U.S. ban on radio operations was not lifted for amateurs until November 1919. In anticipation of an imminent return to the air the first entries in the log book, from May through August are concerned with copying the code transmissions of government and permitted commercial stations and preparation of the station. Finally, on November 24, the first contacts were made with 1FD and 2ZS. Subsequent entries record the reemergence of

the NTS, number of messages handled, band conditions, and the maintenance and performance of the station. The individual stations heard and worked were recorded and later transcribed to appear in *QST*.

Throughout, the names and signatures of visitors appear. Besides Hiram Percy Maxim, , notable and frequent operators were ARRL functionaries General Manager, K.B. Warner; Communications Manager, F.D. Schnell; Secretary C.D. Tuska and two of the six original Directors, D.L. Moore and R.S. Kruse. This crew engaged in handling traffic and broadcasting announcements of events of interest to the growing member ranks. Each either signed or initialed their individual logbook entries. In addition to those that operated, the station hosted observing visitors too numerous to mention. Accordingly, the book contains the signatures of several early wireless dignitaries.

A typical and significant extract from the first logbook, as entered in penciled script, follows:

Dec. 3 On at eleven P.M. Heard usual run
of 2's, 8's and 3's. Called ICM, IAN, IAU
repeatedly for msg relay but no answer.
Unable to get msg east of here so far.
Worked 8AD 8JZ Off at 12.00

Dec. 4. Worked 8DA and took first trans -
continental relay since war. Was from
6EA Los Angeles. Read -
to Hiram Percy Maxim^{Hartford, Conn.}, via 6EA, 6LF, 9BT
8JZ, 8DA from Los Angeles Calif

Regards from 6EA sig Seepred.

Worked IAP - Manchester - (used entire word each
time. Called IAN, IAU, IAS, ICM but no
answer. Impossible to get east.

10.30 to 11 worked 9214. Took msg to
K.BW from ~~W.H.G.M.~~^{R.H.G.M.} reading Pse hold ~~data~~
data until check curve will write ~~data~~
R.H.G.M.

This extract records the receipt of the first message relayed across the continent since the end of the war. The 10:30 (PM) entry concerns a message to K.B.Warner, ARRL General Manager from R.H.G. Matthews, ARRL Vice President)

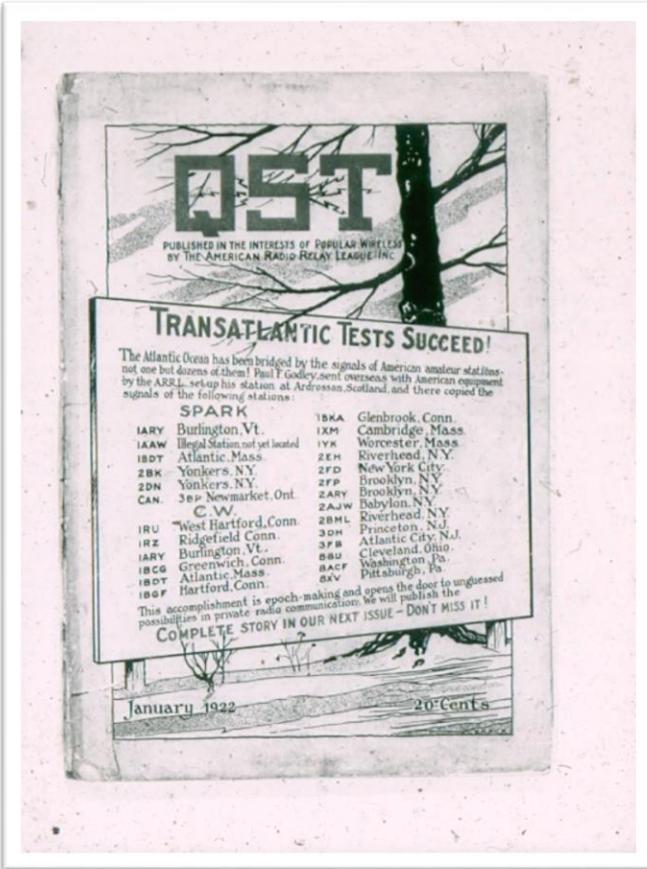
Many log entries complain of noisy/static conditions (QRN) and fading signals (QSS)¹. In an effort to understand the nature and cause of fading the ARRL and the U.S. Bureau of Standards undertook a cooperative program of study. Two hundred and forty-three receiving stations were enlisted to record the simultaneous transmissions of 17 sending stations including W1AW. The logs indicate that W1AW with Hiram Percy Maxim operating, made the first transmission in the test on June 1, 1920 and that the station was a consistent participant in the program until its conclusion in the spring of 1921. Although the resultant data was inconclusive, it did provide insights into short wave propagation.² The 1920's roared in with a rush of interest in radiophone. Broadcasters appeared competing with amateurs and commercials for wavelength. This situation was relieved in 1922 when the U.S. Department of Commerce recognized amateurs as a distinct entity and imposed precise frequency allocations separating the services. In March of 1920 Tuska installed gear and introduced W1AW to the phone mode. The station sporadically utilized the mode to send announcements but, rarely to make contacts.

Two major operating events occupied the staff during 1921. The first of these were the transcontinental tests which were held between the nights of January 14-15, and January 17-18. The object of the tests was to send a message from one U.S. coast to the other and receive an answering message in response in the least amount of time. The standing record was one hour and 20 minutes-east coast to west coast round trip. The efficiency of the National Traffic System (NTS) and the competence of its relay operators were challenged

in this event. After several other round trip relays had been completed successfully a new record was established just before the east coast dawn on the last night of the event. 1AW (Hartford) sent a message via 9ZN (Chicago) and 5ZA (Roswell, New Mexico) which was received by 6JD in San Francisco who dispatched a response which traveled back over the same route in the total elapsed round trip time of six and a half minutes. The back of the logbook has a number of typewritten pages stapled in, which is draft of the report of the event which later appeared in *QST*.³

The second operating event was the first transatlantic test which was run the following month during early February. The objective was for pre-qualified U.S. stations to be heard by British amateurs. On February 5-6, F.S. Schnell had recorded in the log, "Ran off transatlantic on time – not much hope." This signified that 1AW had transmitted the signal that had been assigned to the station, at the precisely designated time on 200 meters. The carefully orchestrated event was a failure-not one of the 25 US stations, was heard by the 250 or so listening Englishmen. But, this was not the last thrust in this effort. ⁴

In early August the station was inactive as the staff attended the First ARRL National Convention in Chicago. At this event, the Board of Directors met and considered actions to reverse the failure of the first transatlantic tests. The Board of Directors determined to conduct a second test in early December with an official U.S. listener posted in Britain. The log records the stations heard in the qualification preliminaries in November, the actual tests in December, and Schnell engaging the station in the "free for all" finale on December 16-17. The event was a big success but, not for 1AW which was not among the 30 U.S. and Canadian stations heard. This event also settled a controversy – spark was dethroned and CW was crowned king.



Hiram Percy Maxim's May 13, log entry states, "No regular log kept up to here-station not operated regularly because of pressure of other affairs". The discipline of the log deteriorates from this point onward with fragmentary and some unintelligible records. The operations of the station at the Maxim home were gradually assumed by expanding operations from the League's confined Hartford offices utilizing the call 1MK. In 1928, these functions were fully assumed by a modern station constructed at the newly created suburban airport, Brainard Field. The most advanced Amateur Radio station of its time, W1MK became the loud voice of the League. This station was destroyed by flood in 1936 and replaced in 1938 with the ultimate Amateur Radio station the renowned W1AW -The Hiram Percy Maxim Memorial Station in Newington, Connecticut.



W1MK LAYOUT



HARTFORD OFFICES



EARLY W1AW ARRANGEMENT

Overall the logs provide insights into the operations of a significant wireless era institution.

It fills in a great deal about the nature of this eventful period and provokes questions of detail and background that suggest further research.

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¹ Later changed to the current Q signal QSB.

² "First Report of the Fading Tests", ARRL, *QST* August, 1923 pp 29 , and other articles accessible from the online *QST* archives.

³ Warner, K.B. "The Story of the Transcons", ARRL, *QST* March, 1921, pp5.

⁴ Marinaro, M.W. "The Transatlantic Tests, ARRL, *QST* May, 2014, pp72