

# FRANK DAWSON BLILEY'S JOURNAL & PHOTO ALBUM 1920 (14 Yrs) –1921 (15 Yrs)

*Comments by Charles A. Bliley  
March 28, 2016*

## INTRODUCTION

This document is a general description of a 33-page journal / album of my father, Frank Dawson Bliley from his youth. I found it in the late 1950s in some personal papers in our family home in Erie, Pennsylvania.

The following is more of a set of notes and general description than an analysis of its contents. However, the journal itself does describe my father's very first ham radio stations and his activities.

## PHYSICAL DESCRIPTION

Container: Two-ring binder  
Size: 8-1/2 x 5-1/2 Inches, Approximately  
Cover: Black, cloth texture  
Paper: Light grey

## ABOUT THE JOURNAL AND MY CONNECTION

In 1959 I developed an interest in ham radio in what I now know was an attempt to understand the man who was father and passed away when I was just nine years old. In truth, by exploring his hobby, I hoped to gain insight to a passion he had throughout his life and one that became the foundation of his livelihood.

The Bliley family moved to Boulder, Colorado around 1920 to aide in the recovery of Dawson's father, Frank Anderson Bliley, whom they thought had tuberculosis. That turned out not to be true, and the family returned to their hometown of Erie, Pennsylvania, apparently in June 1921. The moved into a duplex home at 450 West 9th Street, Erie, Pennsylvania.

Most of the content is from his very early years activity in ham radio and how he made money doing odd jobs and a newspaper route. The newspaper account was located in the first part of the journal, but it certainly was from the later period when he lived in Erie, based on the street address of his customers. I certainly would have expected his ham radio notes to be first as they represented the more exciting activity in his young life.

He delivered newspapers, cut grass and did odd jobs for a wage. He even noted being paid 16 cents to help out a stranger get gasoline. Apparently,

ever penny counted. The account grew to over fifty dollars of which he "banked" eight in his father's wallet.

His boyhood entrepreneurship and technology interests were the foundation of his interest in becoming a radio engineer and later founding a manufacturing company based on his ham radio hobby at the age of 24.

Notations reflect the investment of some of these earnings in radio equipment and Christmas presents.

## HAM RADIO CONTENT

Dawson was an early adopter of the new hobby of amateur radio, which was just 14 years old in April of 1920. Ham radio was then the equivalent of the public gaining access to the Internet in the 1980s. It was an exciting world with seemingly endless possibilities. Early operation was uncontrolled by national governments. Amateur radio was permitted on a non-interfering basis on what was considered a wasteland above 1,500 kHz. The hams soon learned that much longer communications could be realized the higher in frequency they went, albeit less predictable. There were book and magazine articles being written about the excitement of radio communication and the adventures of young practitioners, such as "Radio Boys". Many of these characters were the superheroes of the day and most readers fantasized about being just like them.

He first operated as a listener and as an unlicensed operator. Two-way contacts were a challenge. Operators often logged signals of stations they heard and sent in these lists to radio magazines to let the stations know they were being heard further than they could receive stations in return. In Dawson's journal, you will find several such lists at his stations in Erie and Boulder. One of them is typed; no doubt, this was created on the machine at his father's law office about five blocks from the family home. The lists include stations that were located many hundreds miles, and several a thousand miles away.

It was a practice of ham radio operators to ritually exchange descriptions of their station equipment and comment on its merit. In this way, you could learn from other operator's successes and failures, and consider an adjustment to your own station to improve its effectiveness.

There are several pages of detailed descriptions of his stations, and a few photos. The photos lack quality, but they reflect his interest and pride in his hobby.

The station callsign, 8AGR, credited on the back as 1920, is a callsign from the Eight amateur radio district of the time. It was later subdivided with Erie being assigned to the Third district. This would suggest the family was in Erie when he was first licensed. His callsign in Boulder appears to be 9AXT as Boulder was located in the Ninth District.

A loose photo of his station, 8AGR dated 1920, was found in the journal as well as a technical description of this station in Erie, PA. The receiver equipment is located on the left and the transmitter to the right.

The back cover lists callsigns of stations he send cards confirming two-way radio contact. These cards are referred to as "QSL" or acknowledgment cards and certify contacts for awards or just bragging rights. These were often mere blank postal cards with vital information relating to the contact. Some included graphics drawn by the operator and others were commercially printed with personal graphics or on the back of off-the-shelf photo post cards. This practice is still being used in 2016, albeit at a less frequent level with the advent of computer generated contact confirmations.

### **RADIO NOTES BY DAWSON BLILEY ABOUT 9AXT & 8AGR**

The following are transcriptions from two sheets in his radio journal.

#### ***Description of 8AGR***

***From Sept 12 to Nov 6—1920***

*Two Aerials—sending was L aerial  
60 ft. long and 25 ft high. Lead-in  
40 ft. long—grn. [ground] 12 ft. Receiving —  
120 ft. long 25 ft high — T Aerial  
leadin 50 ft long—grn 12 ft.  
Sending—one in. [inch] spark coil  
leadin made of 16 strands of  
#35 cotton covered [wire]. Diagram —  
[notes to right of diagram]  
good results with this set. Later  
bought a ½ K.W. [kilowatt] set for \$6—  
not such good results with this.  
used Edison Storage Bat. [battery] for \$14  
for both sending and receiving.*

*8AGR — Con.*

*Receiving— In Erie all  
I heard (except for hams in Erie) was  
commercial and those I heard from  
Tampa Fla to New York to Chicago  
and Sault St. Marie, Can. I  
use the Electron relay—which  
I find about one of the best  
Audions. But critical adjustment  
plate voltage 45 V. [Volts] Filament  
6 V. Fones [headphones] Murdock 2000 ohms—  
find them very good. Loose  
coupler — Sears & Roebuck abt [about]*

*the best made for the price. 3,000  
meters cap. [capability] I find this receiving  
diagram for crystals best heard  
far and good with it—  
Diagram*

*To this day Nov. 6, 1920*

**Boulder Colo.—Description of 9AXT**

**Arial— [Diagram of aerial]**

*58 ft. from end to end – bicycle  
hoops – lead-in is ten ft (10)  
made of 7 strands of No. 18 –  
bare. Ground is 10 ft. and 15 ft.  
Aerial is 20 and 30 ft high—  
Of 2 of aluminum [aluminum] and 3 of copper.  
All lead-in very well insulated.  
Sending – ½ K.W. Packard Trans. [spark transformer]  
Con. [consisting of] 15 [glass] plates oil emersed—  
double tone rotary – O.T. [output transformer] 3 turns  
Pri [primary coil] – 9 turns Sec. [secondary] Key 1 K.W.  
power double layer knob 8 No  
Rec. [receive] switch is small type.  
{Diagram on left}  
O.T. [output transformer coil] abt 4 in.  
apart – wave about 200 M. [meter wavelength]  
Bed springs  
for one ground.  
lites flicker  
badly.*

*9AXT – cont.*

*Receiving— Aerial same  
ground same. Sears & Roebuck  
loose coupler – All parts assembled  
myself— Audion panel –  
[Diagram w/ legend]  
A—Audio – hole in panel. [for inspection of vacuum tube]  
B—Ticker  
C—Revstat. [Rheostat/variable resistor]  
D—grid lead – not much used.  
F—Fone block  
F—Sec. V. Condenser. [Secondary voltage condenser/capacitor]  
G—A. Bat. [battery] short circuit plug.  
H—Sec. & B. Bat. [Terminals for secondary and plate battery]  
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Both Pri and Sec.*

*are tapped at abt. 250 meters.  
Which give better results. Dia-  
gram —  
[Diagram]  
Fones — Murdock — bought  
in April — as good as any other fones.  
Audion — second broke other in  
Or about Dec. 6, 1920 — now Autiotron  
then Electron Relay, find fixed to Eletron  
better. All hams come in good with this.*

*To this day — Feb. 9, 1921 — 9axt*

### **Description of Aerial at 9AXT in Boulder**

*“58 ft. from end to end — bicycle hoops — leadin is ten ft (10) made of 7 strands of No. 18 — bare.”*

This antenna (aerial) was popular at the time for ships and terrestrial stations. It provided greater range of operation than single-wire antennas. If you look at the diagram in the journal, you will see rings at each end of the antenna. These were bicycle rims used as spreaders and anchors for the seven wires stung between both ends. While a high-desired antenna, it was difficult to keep the rims from spinning and ending up twisting the seven wires into a knot. Considering the relatively small lot size in Boulder, he must have had some cooperation from the neighbors to erect his antenna of such a long length.

The antenna he used at home in Erie for 8AGR was similar but simpler with just three wires spread horizontally across a wooden rod. The Boulder antenna would be marginally better.

### **MISCELLANEOUS NOTES**

#### **Dates**

It would appear this journal was started in based on the entry inside the front cover that the family was moving in June of 1921. The exact date of arrival in Boulder is unknown at the time of this writing.

- February 9, 1921
- June 1, 1921
- Dec. 13, 1926

#### **“Bulbs”—Inside Front Cover**

On the bottom right side of the inside of the front cover is a list of “bulbs”. These are vacuum tubes and are listed by brand names: Edison Radio, Marconi Radio, and General Electric. One or more of these may have been used in his vacuum tube transmitters and receivers. The GE CG-1144 was a

popular tube for airplane radios. There is little doubt that Dawson experimented with several designs presented in hand-drawn sketches and blueprints.

### **“Whittier School —Eight Grade”— Front Cover Inscription**

While in Boulder, it appears Dawson attended the eight grade at the Whittier School, a public school, about one-half mile away—a short 15-minute walk. His sister, Josephine (age 10), also must have attended this school.

Profile from the Web,

*Built in 1882, Whittier is a designated Historic Landmark, Colorado’s oldest continuously operating school. The original Pine Street School was renamed for poet John Greenleaf Whittier, after he wrote back to student Effie Titus, an early Boulder 6th grader, who was in love with his poem, “Snowbound.”*



Whittier School, Boulder, Colorado, C1900 (L) and 2016 (R)

Charles A. Bliley  
March 29, 2016

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