



The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

February 2024

Volume 30 Issue 2



The *Jersey Broadcaster* is distributed to members of the New Jersey Antique Radio Club via email as a PDF file. Back issues of many of our newsletters are available on the club's website:

www.njarc.org/broadcaster/

Meeting Notice

Our February meeting will take place on Friday, 2/9 at Bowen Hall, Princeton University. Professor Mike Littman will be sharing with us an aspect of his work entitled "From Radio Frequencies to the Visible" using a wide-band tunable laser for optical filter measurements.

We plan to livestream the meeting on our YouTube channel, so if you aren't able to make it there in person, please join us online. www.youtube.com/@njarc

Meeting Review

Our January meeting included an introduction to our annual Broadcast Band DX Contest and our annual Member-only auction. You can watch a recording of the meeting on [YouTube](#).

Calendar of Events

February 9: NJARC monthly meeting, Princeton
February 13: DVHRC monthly meeting, Telford PA
February 16: HARPS monthly meeting, Suffern NY
February 17: NJARC Winter Repair Clinic, InfoAge
March 8: NJARC monthly meeting, InfoAge
March 12: DVHRC monthly meeting, Telford PA
March 16: NJARC Spring Hamfest/Swapmeet, Parsippany
April 12: NJARC monthly meeting, Princeton
April 19: HARPS monthly meeting, Suffern NY
April 26-27: International Marconi Day, InfoAge
May 4: NJARC Spring Repair Clinic, InfoAge
May 9-11: Kutztown Radio Show, Kutztown PA
May 17: NJARC monthly meeting, InfoAge
May 22: Wall High School Scholarship Awards
May 24: HARPS monthly meeting, Suffern NY
June 14: NJARC monthly meeting, Princeton
June 21: ARRL Field Day, InfoAge
June 21: HARPS monthly meeting, Suffern NY
July 12: NJARC monthly meeting, Princeton
July 27: NJARC Summer Hamfest/Swapmeet, InfoAge
August 9: NJARC monthly meeting, Princeton
August 24: NJARC Summer Repair Clinic, InfoAge
September 13: NJARC monthly meeting, InfoAge
September 19-21: Kutztown Radio Show, Kutztown PA
October 1-5: AWA Annual Conference, Henrietta NY
October 11: NJARC monthly meeting, Princeton
October 26: Fall Repair Clinic, InfoAge
November 8: NJARC monthly meeting, Princeton
Nov. 16: NJARC Fall Hamfest/Swapmeet, Parsippany
December 14: NJARC Holiday Party, Jackson

From the President's Workbench

Greetings Fellow Enthusiasts!

On a beautiful clear Fall day, I revisited one of the most inspiring places in New Jersey, Navesink Twin Lights! It's located in the borough of Highlands, off of Rt. 36 just before you cross the Highlands Reach Bridge over the Navesink/Shrewsbury River. It's a State & National Historic Site Museum with visiting hours daily of 9 am to 4 pm in season, Memorial Day through October.



Sitting 246 ft. above sea level, one of the highest elevations in New Jersey, the Atlantic ocean vistas from the South Light tower are breathtaking and worth navigating the 65 twisting steps. The site has had lighthouse towers since 1828 but was sub-

(Continued on next page)

THE JERSEY BROADCASTER is the newsletter of the New Jersey Antique Radio Club (NJARC) which is dedicated to preserving the history and enhancing the knowledge of radio and related disciplines. Dues are \$25 per year and meetings are held on the second Friday of each month either at InfoAge or at Princeton University. Neither the editor nor NJARC is liable for any other use of the contents of this publication other than for information.

PRESIDENT:

Richard Lee (914) 589-3751
radiorich@prodigy.net

VICE PRESIDENT:

Sal Brisindi (732) 308-1748
salb203@yahoo.com

SECRETARY:

(Position open)

TREASURER:

Harry Klancer (732) 238-1083
klancer2@comcast.net

NEWSLETTER EDITOR:

Dave Sica (732) 382-0618
newsletter@njarc.org

SERGEANT-AT-ARMS (WEST):

Darren Hoffman (732) 928-0594

SERGEANT-AT-ARMS (EAST):

(Rotating)

TRUSTEES:

Ray Chase (908) 757-9741
raydio862@verizon.net
 Phil Vourtsis (732) 208-4284
philvourtsis@gmail.com
 Bill Zukowski (732) 833-1224
njveg@optonline.net

TECHNICAL COORDINATOR:

Al Klase (908) 892-5465
ark@ar88.net

TUBE PROGRAM:

Al Klase tubes@njarc.org

SCHEMATIC PROGRAM:

Aaron Hunter (609) 267-3065
ahunter01@comcast.net

CAPACITOR PROGRAM:

Richard Lee (914) 589-3751
radiorich@prodigy.net

MUSEUM CURATOR:

Ray Chase (908) 757-9741

WEBSITE COORDINATOR:

Dave Sica webmaster@njarc.org

MEMBERSHIP SECRETARY:

Marsha Simkin (609) 660-8160
 33 Lakeland Drive, Barnegat NJ 08005
mhsimkin@comcast.net

President's Workbench

(Continued)

substantially improved with the current "twin lights" castle-like structure using Fresnel lens illumination. It was built in 1862 during the American Civil War. There is an incredible amount of history pertaining to this site and the area. [Visit www.twinlightslighthouse.org]



Our point of historical interest was the America's Cup sailboat race on October 3rd, 1899, Guglielmo Marconi used his wireless telegraph apparatus to report on the contest between the Shamrock and Columbia. But, the race report was preempted a few days before on September 30th, by a naval review commissioned by President Roosevelt, celebrating Commodore Dewey's fleet at the Battle of Manila Bay. So the first "practical demonstration" of wireless telegraphy was sent from the Twin Lights on September 30th, 1899.



Be sure to visit!

— Richard Lee, Pres. NJARC

President's Workbench

(Continued)



Lighthouse clockwork mechanism

More on our February meeting:

Following our Tech Talk presentation, we will have an auction of two very popular communication receivers: a Hammarlund HQ 180 with clock and a Hammarlund HQ 129-X.

Also:

Don't forget that our Winter repair clinic will be held at InfoAge in room 9032a on Saturday, February 17th. For an appointment email me, radioricardo61@gmail.com.

And finally:

2024 NJARC **dues are due!** Please renew your membership ASAP.



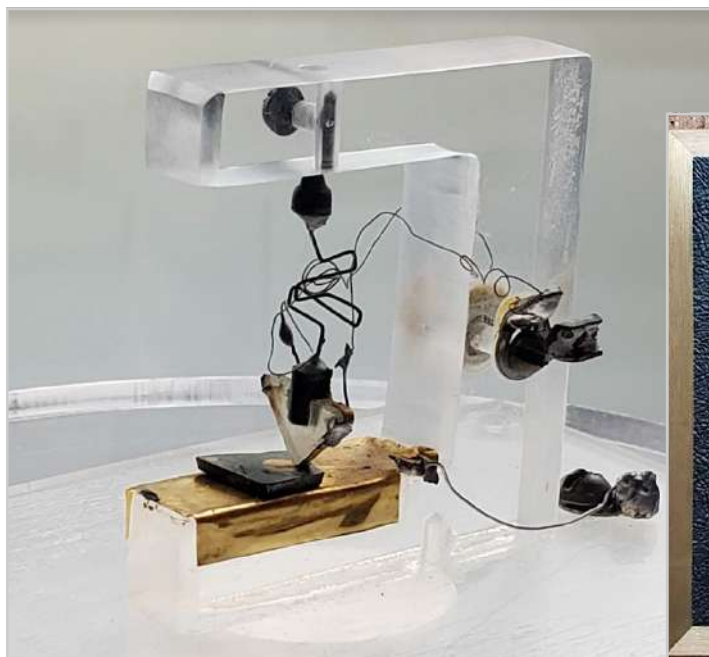
Visiting the Bell Labs Technology Showcase

Matt Reynolds

In March of 2022 I had the opportunity to visit The Bell Labs Technology Showcase, a museum at the historic Murray Hill campus of what is now known as Nokia Bell Labs. This visit was a continuation of my efforts to see as many of the remaining historic Bell Labs\electronics\engineering history locations in NJ that I could find, which started in 2020.

You may remember that Ray Chase wrote an article about his recent visit in the March 2023 issue of The Jersey Broadcaster. I'll try not to recap too much of his writing, but I do agree with his assertion that it's well worth a visit (while you still can!), and for those interested in technology history should check it out. Rather than give a history on Bell Labs\Bell System\electronics history, I would rather just show some of my favorite exhibits that were on display while I was there, to try and entice you to visit the museum in person.

We'll go ahead and get The Transistor out of the way first! Most of you know it was invented here. You've probably seen replicas of it (we have one of our own in the Radio Technology Museum), but it's still cool to see the real first one:



The first transistor



IEEE Landmark plaque

The display card accompanying the exhibit reads: *The first transistor ever made, built by Walter H. Brattain of Bell Labs in 1947. It is a point-contact transistor consisting of a strip of gold foil wrapped over the end of a plastic triangle and pressed into a crystal of the semiconductor, germanium. The gold strip was sliced by a razor blade at the tip of the triangle to create a 0.005 centimeter gap.*

To amplify an electrical signal like that from a microphone, a small voltage signal is applied to the left half of the foil, along with a steady voltage from a battery. The signal emerging on the right half of the foil is 100 times more powerful, having drawn energy from the battery. This transistor is the world's first working solid-state amplifier.

Visiting the Bell Labs Technology Showcase (continued)

Being the research lab for a company focusing on communications innovation (among other things,) there were some great engineering artifacts. The following are some of my favorites:



**A piece of the 1956 Transatlantic cable with
in-cable repeater tube**



A flight backup Telstar satellite. (Look familiar?)



A replica of Alexander Graham Bell's 1876 prototype phone



**Prototype touch-tone phone.
Notice the lack of # and ***

Visiting the Bell Labs Technology Showcase

(continued)



Picturephone

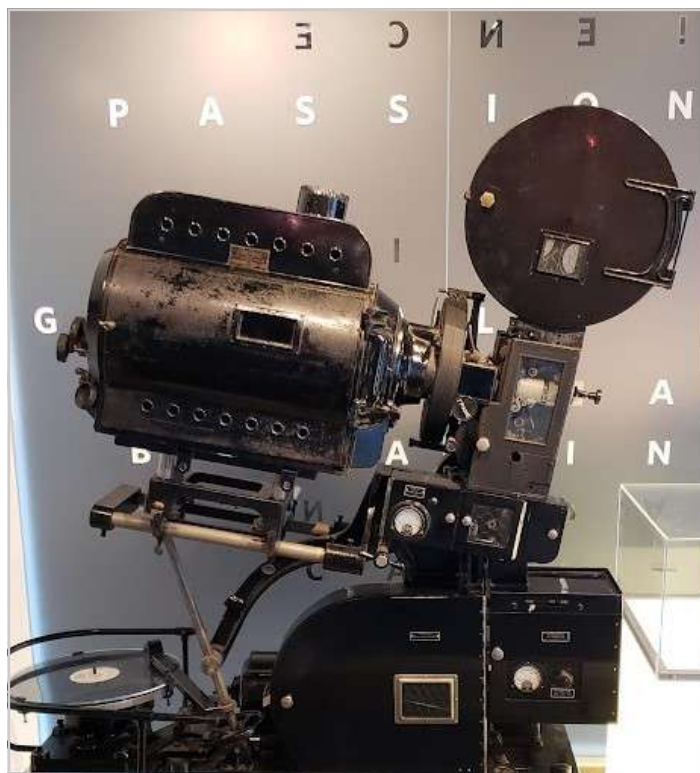
The display card accompanying the exhibit reads: *Bell Labs introduced the Picturephone, which permitted hands-free, two-way, audiovisual communication. In addition to providing face-to-face contact, the set also transmitted data. A control unit enabled the user to adjust the volume, control the camera's field of view, or prevent a picture from being transmitted.*

Though research and development began in the late 1950s, the Picturephone made its first debut to the public at the New York World's Fair in 1964, the same year the first transcontinental Picturephone call was made between New York and California.

The display card accompanying the exhibit reads: *Sound Movies. In 1926, Bell Labs developed the first commercially successful system for recording and reproducing sound motion pictures. The system produced a much more realistic and higher quality sound than competing sound movie systems.*

"Don Juan," a Warner Brothers film starring John Barrymore, premiered the technology in 1926 with a pre-recorded musical score and sound effects. A year later, Al Jolson's "The Jazz Singer," considered the first true sound movie, became the first feature film with dialogue and singing.

The original technology recorded sound on disks, but this gave way to another Bell Labs innovation, sound-on-film, a few years later.



Vitaphone Sound & Film projector.
Notice the turntable on the bottom left?

Visiting the Bell Labs Technology Showcase (continued)



Mechanical artificial larynx, electronic artificial larynx.

There were plenty of other engineering/technology exhibits to see (I don't want to spoil them all), along with exhibits from areas of research that I had no idea Bell Labs did work in. For example, did any of you know that scientist Robert Runnels Williams invented synthesized thiamine (Vitamin B1) while working at Bell Labs? This one was a surprise to me. Both the artificial mechanical, and eventually electronic, Larynx were also inventions I had no idea Bell Labs scientists developed.

If you are planning to visit the museum, don't put it off too long. Nokia has announced that they are relocating off of the Murray Hill Campus to their New Brunswick location by 2028. As of the time of this writing it is not yet evident what the fate of the museum will be.

The Bell Labs Technology Showcase museum is to the immediate right of the main lobby.



Nokia Bell Labs Main Lobby Bldg.

The museum is free to the public and open during normal business hours M-F. For more information on Nokia Bell Labs and visiting the museum at Murray Hill, visit the following url: <https://www.bell-labs.com/about/locations/murray-hill-new-jersey-us/#gref>

Theoretics Demystified

Fred Wawra, W2ABE

The **SUN** and **SUNSPOTS** is the topic of choice since we have had some long and sometimes hot summers [although I can remember many a summer in the '50s when it was just as hot but in those days we went to the nearby lake or even took a dip in the brook behind our house!] Getting back to the topic, most people do not think about sunspots or even know of their existence, but we as **hams** do because it is the sun and its activities that drive the 'winds' of propagation.

Propagation is the effect of the ability of signals to travel from one area on the globe to another as determined by the ionosphere which reflects upward traveling electromagnetic signals back down to earth to a distant or not so distant receiver. The ability to do this is determined by the sun's effect on the ionosphere. Daytime signals are reflected differently than those at night. This is because the D layer attenuates broadcast and HF signals during the day [due to the presence of sunlight] at night the F layer, which is much higher in altitude, is the only layer that has an effect on propagation so that reflected signals have a longer way to travel and therefore the 'skip' distance is greater so you can listen to distant stations and this is called DX!

This is not to be confused with sporadic E, which is another phenomenon entirely unto itself. Do you remember in the old days of VHF TV, particularly channels 2 through 6, when turning to channel 3 or 6 which were not allocated in this area that you could get, and sometimes clearly, that distant station from Philadelphia or elsewhere? That was sporadic E, and not to be confused with daytime/nighttime lower band propagation, or 'skip'.

But getting back to the sun and its spots. Sunspot activity can have a great effect on radio communication as high sunspot activity is associated with the increase of longer communication distances on the HF bands and particularly on the higher radio bands, even up to 6 meters!

Sunspots were observed as early as 800BC, written about by the Greeks in 300BC, and astronomically observed in 1600AD.

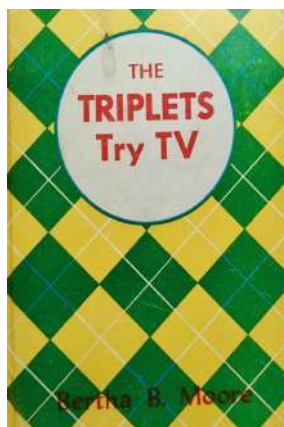
The life cycle of a sunspot is measured in days to weeks and the size can be from 10 miles to 100,00 miles. They appear as dark spots to us, but they are relatively only slightly cooler than the rest of the sun! This leads us to finally coronal Mass Ejections, which is when there is a significant release of plasma and magnetic field from the sun's corona into the heliosphere or the outermost layer of the sun. A CME, or Coronal Mass Ejection is often associated with solar flares which are intense localized eruptions of electromagnetic radiation. CMEs travel on the solar wind and can reach the earth anywhere from about 4 to 80 days, whereas the light from the sun reaches us in about 8 minutes. CMEs when reaching earth can disrupt communications or greatly enhance them.

There is the possibility that a strong enough CME could cause failure of many of our microprocessor-controlled devices [almost everything] including the power grid. The shock wave associated with a CME can disrupt the earth's magnetosphere and wreak havoc or just produce an aurora that is beautiful to watch. This is brought on by the CME traveling on the solar wind which is plasma from the sun traveling outward towards the planets and outer space. There is so much more to this, but the intent is to give the average reader a starting point and maybe kindle an interest towards more research on the subject.

Collecting Juvenile Communications Fiction - Part 2

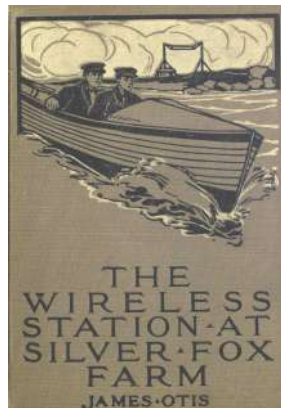
By Marsha Simkin (Continued from January 2024 issue)

The Triplet Series - Bertha Moore



Christian fiction series about the happy Baer family and how the enthusiastic triplets cope with exciting adventures that come their way.

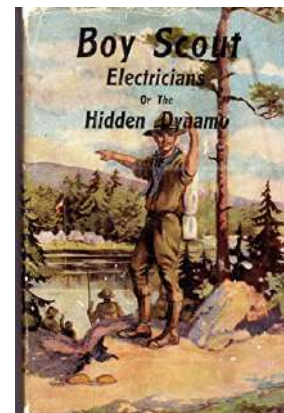
The Silver Fox Farm Series - James Otis



The Wireless Station at Silver Fox Farm - 1910

Series about the adventures of two friends in helping one of their fathers start a farm for raising silver foxes on an island off the coast of Maine.

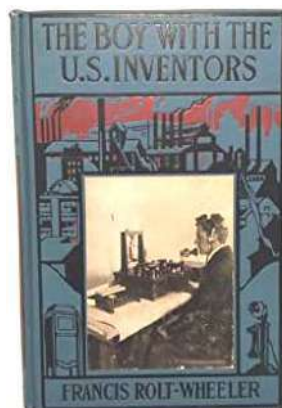
Victory Boy Scouts Series - G Harvey Ralphson



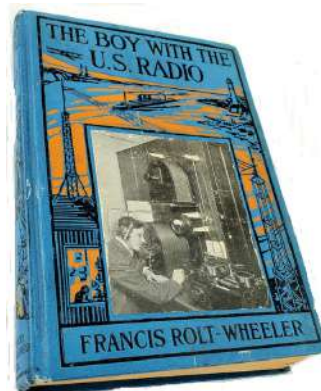
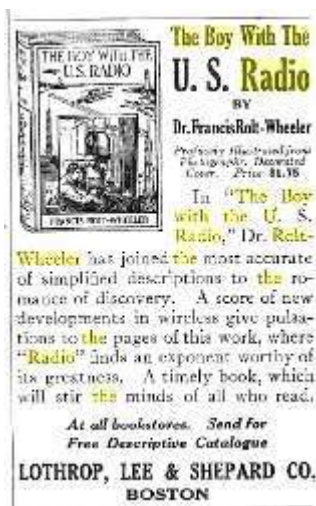
Boy Scout Electricians - 1913

Another of the many Boy Scout series for the youth of the time.

U S Service Series - Francis Rolt-Wheeler



The Boy with the US Inventors
1920



The Boy with the US Radio
1924

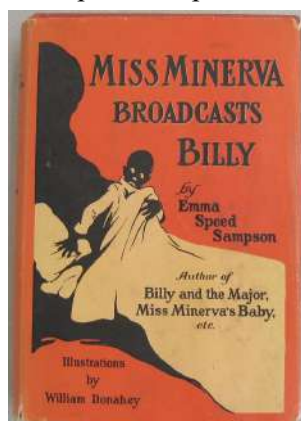
U.S. Service Series where each volume highlights a different department of the U.S. government.

Collecting Juvenile Communications Fiction - Part 2

(continued)

Miss Minerva Series

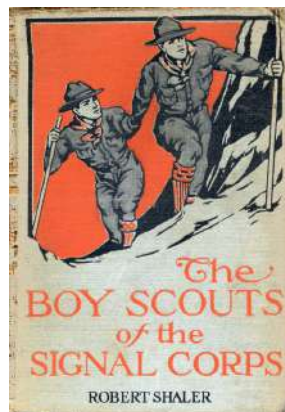
Emma Speed Sampson



Broadcasts Billy - 1925

A series with characters from and settings in the South.

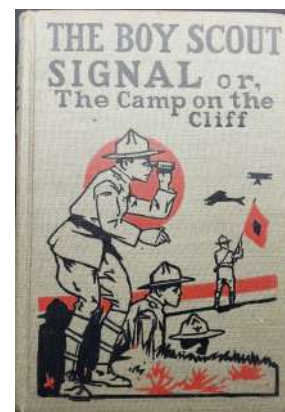
Boy Scouts Series - Shaler



Of the Signal Corps
1914

Two additional Boy Scout series. Scouting was very popular with young boys during these times and that is definitely reflected in the literature aimed at this audience.

Boy Scouts Series - Sherman



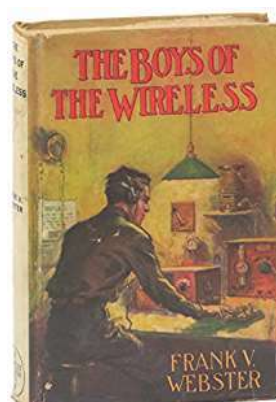
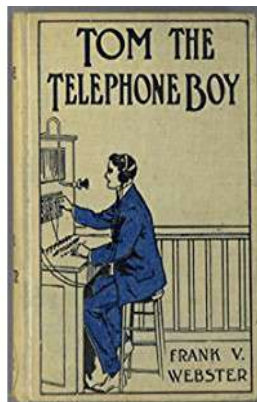
Signal - 1913

This was an "author's series" -- the books have no common characters or setting. "Frank V. Webster" was a Stratemeyer Syndicate pseudonym. The stories settings are varied. Typically, the hero is a poor boy, often an orphan, who must fend for himself, thwarted by evil adults or "enemy boys" in the same vein as the popular Horatio Alger characters.

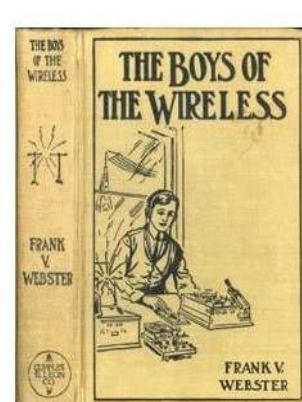
Webster Series - Frank V. Webster



Tom, the Telephone Boy



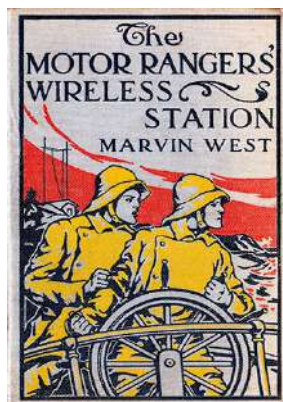
The Boys of the Wireless



Collecting Juvenile Communications Fiction - Part 2

(continued)

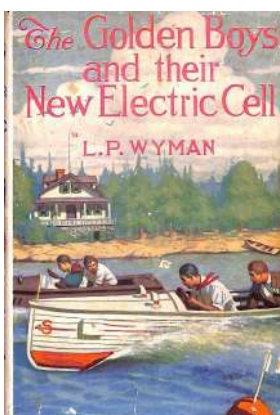
The Motor Ranger Series - Marvin West



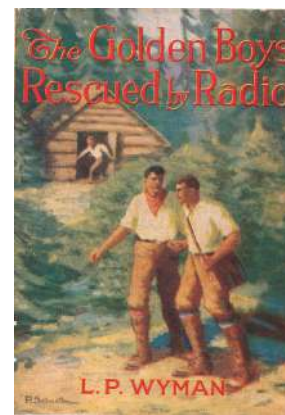
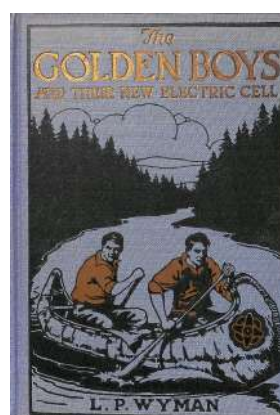
Wireless Station
1913

Series devoted to three chums and their adventures on air, land and sea.

Golden Boys Series - L P Wyman



And their New Electric Cell - 1923



Rescued by Radio - 1923

The adventures of two brothers from Maine with curious minds and adventurous hearts. Together, often alongside a trusted friend, they use their problem-solving skills and wilderness experience to overcome danger, discover strange places, and grow into fine young men.

Resources

A L Burt Company

Altemus Books

Amazon.com

Cupples and Leon Publishers

Goodreads.com

Hurst Publishing

University of Missouri - Kansas
City

c.web.umkc.edu/crossonm

Wikipedia.com

www.Barnes&Noble.com

www.proquest.com

The End

NJARC 2024 Broadcast Band DX Contest



The results of the 2024 NJARC BCB-DX Contest will be reported in the next issue of *The Broadcaster*. Please send in photos of your listening setup for publication in our March newsletter. In the meantime, we have this photo of one contestant whose performance in the crystal set category was really smokin'.



New Jersey Antique Radio Club's

Spring Swap Meet and Ham Fest



Parsippany PAL Building

33 Baldwin Road

Parsippany, NJ 07054

Just off Route 46,

Adjacent to Smith Field



Saturday March 16th, 2024



Refreshments Available

(40) 8 Foot Tables

\$30.00 for members

\$35.00 for non-members

Reserve Additional tables \$25.00

At the door \$30.00

Open to the Public

8am to 12 noon

Vendor setup at 7:15am

\$7.00 Entrance Fee

Club Donation

For Directions

Visit our website: www.njarc.org

or use your favorite phone app

33 Baldwin Road

Parsippany NJ 07054

Vendors Make Your Reservations Now!

Contacts:

President

Richard Lee

(914) 589-3751

radiatorich@prodigy.net

Vice President

Sal Brisindi

(732) 857-7250

salb203@aol.com