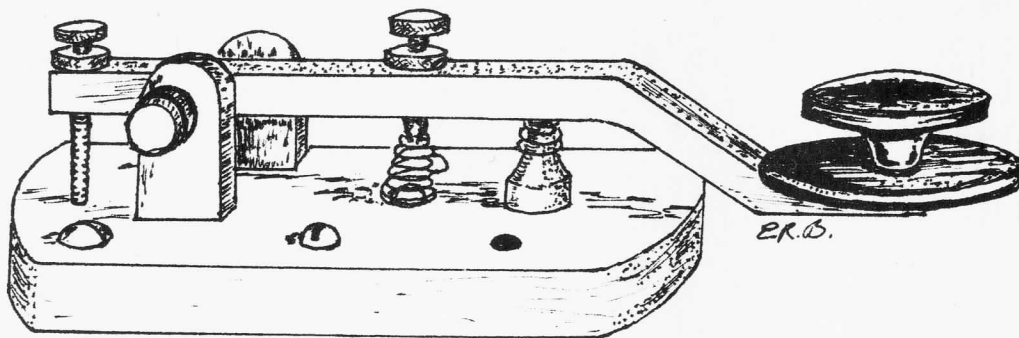


MAY 1989

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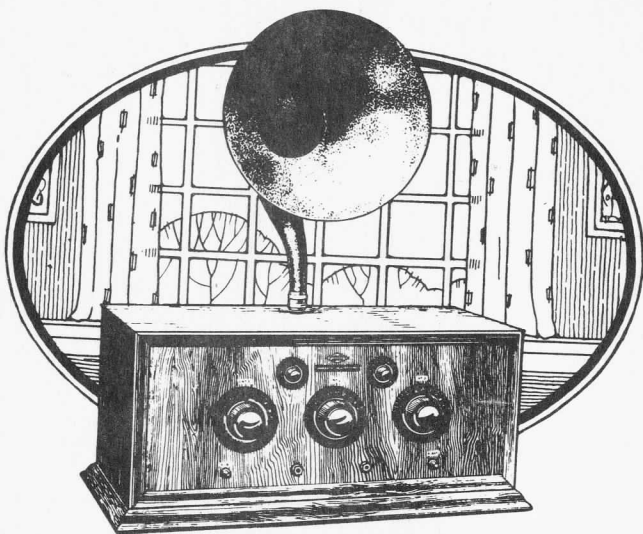
CHRS JOURNAL

CALIFORNIA HISTORICAL RADIO SOCIETY



IN THIS ISSUE:

RESTORATION CORNER
RADIO SPIES -- PT. 2
SPARK CW DECODED
FEATURED SET
WANT ADS



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The California Historical Radio Society is a non-profit corporation chartered in the State of California, and was formed to promote the restoration and preservation of early radio and broadcasting. Our goal is to provide the opportunity to exchange ideas and information on the history of radio, particularly in the West, with emphasis in the areas such as: collecting, literature, programs, and restoration of early equipment. The *Journal* of the CHRS is published quarterly, alternately in printed and audio tape format, and is furnished free of charge to members. Yearly membership dues are \$15.00.

Production notes: This issue of the *Journal* was composed on a Macintosh SE computer using Microsoft Word, version 3.02. Camera-ready copy was produced on an Apple LaserWriter II NT printer. The Times and Palatino fonts were used. Comments and suggestions, articles, stories, classified ads, and other material for the *Journal* are welcomed and must be submitted to the Editor at least 60 days prior to the cover date.

Fine Print: The enclosed membership directory addendum covers members who have joined or renewed since the directory was printed in late January 1989. **NOTICE:** The Directory is published with the intent for personal use only, enabling members to contact others with similar interests. Commercial use of any kind, whatsoever, is unethical and therefore is discouraged.

PRESIDENT'S MESSAGE

By PAUL BOURBIN

Welcome to the first edition of the Journal in our new format. This will allow us to produce a nicer Journal. We will be able to deliver more material much easier. This is one of our many ongoing efforts to improve the Journal. Please send material for publication.

The reason that this Journal is later than usual is that I wanted to be able to tell you how our first regular and first regional meets of the year turned out. The meet at Foothill in February was quite successful for a winter meet that was threatened by rain. In addition to regular swap-meet activities, there was an auction (including a nice old RME receiver) that netted \$240 for the Society's treasury. The membership meeting was attended by twenty-eight members and friends. Much was accomplished.

The Perham Foundation Foothill Electronics Museum is continuing and improving. They are in need of volunteers to serve as docents and to help with the operation of the Museum. Any donations of time or money can be handled through members Will Jensby and George Durfey. Both are on the Board of Directors of the Museum.

The regional meet in Concord was about the same size as last year. There were thirteen sellers. A large amount of material changed hands and much was sold to the attendees of the regular Flea Market held at the same location.

The remaining swap-meet for the year are as follows: Foothill College on 13, May; 12, August and 11, November. Regional meets at San Luis Obispo on 24, June at a new and better location (SCARS members are especially invited to attend). The San Francisco meet

will be on 15 July at Saint Anne of the Sunset Church playground, Irving and Funston Streets (same as last year). The membership picnic and battery set party will be in Sept. or Oct. There is the possibility that a regional meet will be held at a railroad museum in Solano County. Details on these meets will follow.

This has been the year for exhibits. The Society's exhibit at the Half Moon Bay Public Library was very well received. Thanks to Al-Tipsword for his efforts. The exhibit in San Francisco has been going on for three days as I write this and the manager of the bank has told me that his bank has never been so crowded! The word got around the neighborhood as so many locals dropped by to see it. Our next exhibit will be with the San Jose Museum at Kelly Park. It will be in conjunction with their "Living History Days" on 21-22 May. Many interesting activities occur during Living History Days so please plan to attend and drop by our exhibit. Our exhibit will be in the Bank building. See you there!

That's it for now. Contact me anytime at 25 Greenvue Ct., San Francisco, CA 94131 or call (415) 648-8489. Thanks.

AMERICA'S FIRST RADIO SPIES -- PART TWO

By BART LEE (xWPE2DLT)
327 Filbert Steps
San Francisco, CA 94133
(415) 788 - 4072

for the

JOURNAL OF THE CALIFORNIA
HISTORICAL RADIO SOCIETY

a companion article to

CHRS RADIO NEWS Audio Journal Edition
of March, 1989:

NBC Broadcast Interview with Charles
Apgar, 1934 about Recording the Sayville
Station in 1915.

INTRODUCTION:

With the work of Charles Apgar, 2MN, for the Secret Service in 1915, and the monitoring on the Texas border by the Signal Corps of the Army, (both set forth in Part One of this article), the United States entered the age of Signals Intelligence. The 1934 interview of Charles Apgar in the most recent CHRS RADIO NEWS Audio Journal tells in detail what Apgar did and how he did it, in his own words, and how his recordings led to the U.S. seizure of the Telefunken radio station WSL of Sayville, Long Island, New York, in August, 1915.

Doubt has occasionally been expressed that even the Secret Service could have quickly enough penetrated any codes or ciphers used by WSL. All the evidence nonetheless points to Apgar's work as being as instrumental in

disclosing the non-neutral and violative transmissions of WSL to POZ at Nauen, Germany as it has been made out to be, and was at the time (see, e.g., *Why Sayville Radio Station Was Closed*, THE ELECTRICAL EXPERIMENTER, Sept., 1915 at p. 210). On the other hand, intelligence agencies love cover stories, red herrings and disinformation, and it has since become known that an Allied spy appearing loyal to Germany had been placed in the station itself and helped to operate WSL.

An Allied spymaster named Voska, working for the British, had placed agents throughout Germany's assets in the United States in 1915: "one was an operator at the Sayville wireless station on Long Island, which was used by the Germans for communications overseas." (Barbara Tuckman, THE ZIMMERMAN TELEGRAM, (N.Y., 1958, Ballantine ed. 1979) at p. 71). So exactly who did what to whom, as usual, is lost in what the late James Jesus Angleton, late of the C.I.A. as its fired Chief of Counter-Intelligence, called "the Wilderness of Mirrors."

What is so striking in retrospect is the continuing role that WSL played in wireless intrigue even after its seizure by the U.S. Navy in August, 1915. (Tuckman, supra, at pp. 97-98, 100). The infamous Zimmerman Telegram went through Sayville, and the cables arranging munitions for Mexican revolutionaries in early 1917 may have gone through Sayville as well, although there is no provinance known for them beyond Flicke's report after World War II (Wilhelm F. Flicke, WAR SECRETS IN THE ETHER (N.S.A., 1954) at p. 56). Nonetheless "every German wireless message was being grasped out of the ether and read in "Room 40" of the British Admiralty, whatever went via POZ at Nauen and WSL at Sayville. (Tuckman, supra, at p. 7, 9).

Mexico was the prize Imperial Germany wanted, to tie up U.S. warpower at our own southern border and thus to keep us out of

ACTIVE DIVISION
INTELLIGENCE BRANCH

In replying refer to

WAR DEPARTMENT
OFFICE OF THE CHIEF OF STAFF
WASHINGTON

[C.B. 10898 W.D.]

[65-33D 2242]

May 21st, 1919.

[Radio message intercepted by Tractor Unit No. 33,
McAllen, Texas, May 2d, 1919.]

From Unknown

To Unknown

[Message with cipher numerals 28 21 32 31 24 13 etc.]

[DECIPHERMENT:]

-----vinieron mas cuatrocientos hombres-----ayer partido
llamado socialismo Yucatan recorrieron calles lanzando
injurias y gritos susersivos contra este gobierno. Poli-
cia mantuvose prudente sin interrumpir manifestacion.
A continuacion reunieronse meeting en balcones hotel
frente plaza principal. Hablo coronel---orden luego
Santiago Hernandez injuriando personalidades partido
contrario invitando publico derrocar bandidos acupan
gobierno etc.

TRANSLATION:

-----more than 400 men arrived-----yesterday of the so called
Socialist party. They paraded thru the streets shouting
insults and indecent things against this government. The police
were prudent and did not interfere with the manifestations.
The party afterwards held a meeting and from the balcony of the
hotel opposite the main square colonel spoke---Immediately there-
after Santiago Hernandez insulted the chief members of the oppo-
sition parties, inviting the public to oust the bandits who at
present hold the government etc.

VE. DIVISION
TELLIGENCE BRAI
replying refer to

WAR DEPARTMENT
OFFICE OF THE CHIEF OF STAFF
WASHINGTON.

[C.B. 10900 W.D.]

[6543D 2470]

May 21st, 1919.

[Radio message intercepted by Tractor Unit No. 43,
Pecos, Texas, May 2d, 1919.]

From J. Mucel

To Unknown

[Message with Cipher Numerals 10 31 24 33 20 etc.]

trans. ph.

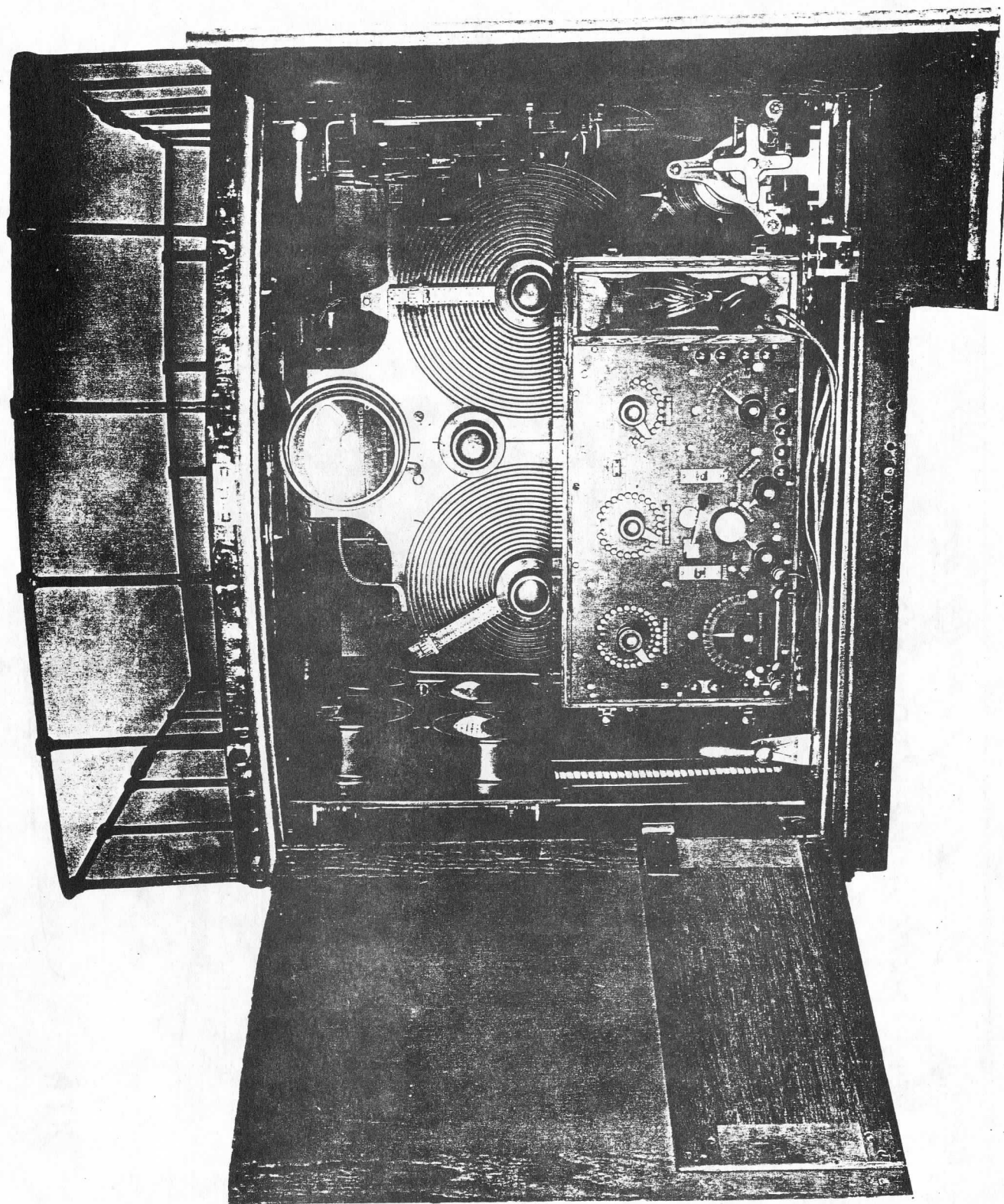
[DECIPHERMENT:]

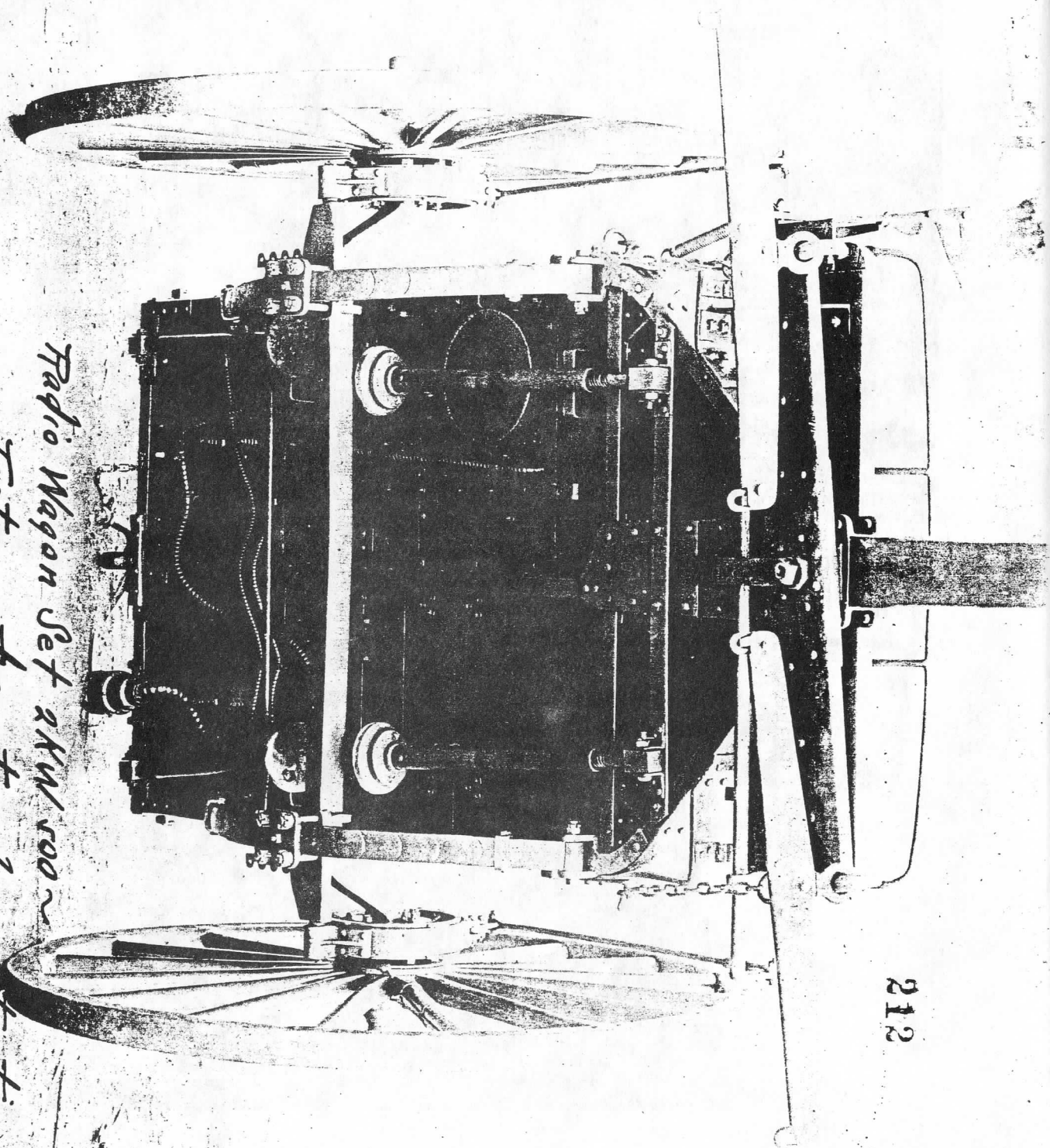
----que conducto debe observarse con elementos Yucatecos algunas
armadas que en mas vengan a verificar hechos como el presente
policia recogio distintivos y tarjetas identificaciones son da lis-
tas Yucatecos agradecerle tambien de sirva ordenar se recuerde a
la guarnicion el contenido de los articulos quinientos cuarenta y
cinco, un mil trece, un mil diecisiete y un mil dieciocho de la
ordenanza general del ejercito y ciento quince y ciento veinte-
nueve constitucion general republica.

[On May 2d, J. Mucel, location unknown, sent following
to unknown address.] TRANSLATION:

---[what action should I take with Yucatanians? Some of them are
armed and might gather in large crowds and commit acts like the one
described. Police has taken up the badges and identification cards
with lists of Yucatanians. I will be obliged if you will issue
orders to have the attention of the garrison called to the contents
of articles 540, 1013, 1017 and 1018 of the general army code and
115 and 129 of the constitution of the republic.]

J. Mucel.





Radio Wagon Set 2KW 500~
Instrument cart under construction 2-1-18

the European war that Germany hoped to win by attrition. Wireless played an important role in the game.

As early as the winter of 1914 -15, Germany agitated U.S. and Mexican friction by planting rumors of a hostile Japanese Army in Mexico, using the wireless of the Imperial Cruiser Geier while in port in Pearl Harbor. (Tuckman, above, at p. 55). German wireless operators were running Mexico's main receiving station. (Tuckman, above, at p. 66). Germany had a secret wireless station in Mexico as late as 1918, ferreted out by an American spy in April (C. Harris & L. Sadler, *THE BORDER AND THE REVOLUTION*, (N.M.S.U. 1988) at p. 123 (hereinafter "BORDER"))).

With whatever German support or connivance (BORDER, p. 93) Francisco "Pancho" Villa raided Columbus, New Mexico, killing 17 Americans, on March 9, 1916, and about ten days later General Pershing invaded Mexico, on March 18, 1916. Two days after the incursion by Pershing's Punitive Expedition "there arrived the first direct news by wireless from our Army in Mexico, telling the whereabouts of the bandits who had perpetrated the massacre." (The Epic of the Mexican Border, 3(NS) *WIRELESS AGE*, August, 1916 at p. 751). [This sequence of events was garbled in Part One, p. 14]. The same report of Wireless Age that "Villa was located by radio" may mean that his approximate location was reported out of Mexico, or it may mean that the U.S. Army Signal Corps located Villa by wireless interception.

Villa did not have wireless equipment. Villa's hostile fellow revolutionary, "Don Venustiano" Carranza, was the most recent government, and his forces did use wireless. Looking for Villa, the Signal Corps Radio Tractors monitored the Carranzistas, in America's first military use of technical intelligence collection. (J.P. Finnegan, *MILITARY INTELLIGENCE: A PICTURE HISTORY*, (U.S. Army Intelligence

and Security Command, 1984; reprinted by Cloak & Dagger Publications, Hooper, Utah, 1988) at p. 13 (hereinafter "INTELLIGENCE")). Carranza retains sufficient respect in present day Mexico to appear on the obverse of the 1984 Mexican 100 Peso coin, looking like a woolly- bearded Teddy Roosevelt.

The Signal Corps and the Military Intelligence Division set up a chain of monitoring stations along the border as early as 1916, to listen to German activity as much as Mexican; a photo of the receivers in one such station accompanies this Note (From INTELLIGENCE, supra, p. 23). The program of interception was very successful, although the product has only recently been declassified as a result of N.M.S.U. Professor Ray Sadler's Freedom of Information Act Request 70 years later.

The Signal Corps receiver at the monitoring station appears to be National Electric Supply Company equipment using a horizontal, external catswhisker galena or silicon detector. (Compare H. Greenwood & M. McMahon, *VINTAGE RADIO* (3d ed. Palos Verdes, 1981) at p. 63). It may include a vacuum tube within it (the white circle to the left of the detector arm looks like tube glow through a porthole). The receiver also appears to be accompanied by possibly two, two- vacuum- tube audio amplifiers (the two boxes with dark portholes). The receiver's nomenclature appears to be [something] COUPLED RECEIVER/ SIGNAL CORPS [etc.] and it has a rotary switch for SHORT WAVES, MEDIUM WAVES and LONG WAVES just beneath the detector arm, a vertical white on/ off switch for BUZZER, and a half circle face for COUPLING CONDENSER[?] just above the detector arm, along with the rotary inductance taps.

The Signal Corps equipment was certainly as good as the Mexicans' receivers, with a night range of half a continent. So reports Wireless Age in 1915: a Carranza opponent had two portable wireless sets in Merida, and

established a fixed station, of which the operator wrote; "I was able to receive 800 miles during the daytime and 1,500 miles at night." His transmitting power was 1.5 kilowatts. (F. Urcelay, *The Wireless Age in a Revolution*, 2 (NS) *WIRELESS AGE*, Aug. 1915 at p. 812-13).

Pershing's forces used the mobile Radio Tractors (depicted in Part One) to listen for word of Villa from the Caranzistas (*INTELLIGENCE* at p. 13). Accompanying this Note are photoreproductions of two such Mexican intercepts from the Signal Corps Radio Tractors still in use three years later at Pecos and McAllen Texas, in May of 1919 (courtesy of the National Archives and Historian John Taylor). A brief moving picture from about 1918 of such a radio tractor in operation in France, with about a seven foot square multiwire loop antenna on top, is included in the PBS television series on U.S. Intelligence, aired recently. (The Army's new Bradley Fighting Vehicle reportedly will also be fitted out as a modern day, state of the art Radio Tractor).

For its own communications as well as intercepts, the Punitive Expedition in 1916 used horse drawn Radio Wagons, as depicted in Part One, each with two carriages, on the model of the caisson and limber of the field artillery. Accompanying this Note are a set of photos of such radio wagons under construction (from the private collection of CHRS Founder Norm Berge). The description on the photos is "Radio Wagon Set 2 KW 500~[cycle] Instrument cart under construction 2-1-[19]18" One carriage held the generator unit and the other the radio equipment. The cover photo of the August, 1916 *Wireless Age*, reproduced in Part One, shows a Signal Corp radioman operating just such a receiver and transmitter in a Radio Cart.

The receiver is a crystal detector with a catswhisker on a horizontal arm. The labels on the rotary inductance taps across the top of the set read (left to right): LARGE PR COIL,

SMALL PR COIL and SEC COIL. The two half circle dials on the far left and far right read COUPLING CONDENSER and SECONDARY CONDENSER respectively. The catswhisker arm is horizontal between two white vertical lever switches, the left one reading BUZZER. There are two rotary switches beneath the white vertical switches; the one on the right reads TUNED/ SECONDARY/ UNTUNED.

CONCLUSION TO PART TWO:

Wireless intercepts played an important role in providing America with much needed information about the intentions and activities of both Germany, a European beligerent with hostile intentions, and Mexican factions, potential German allies, both before and during the First World War. It has been the purpose of this second part to America's First Radio Spies to bring out previously unpublished materials about these episodes, and to seek to connect the technology of the time to its history.

APPENDIX ONE: KEYING SAYVILLE:

Part One reported recent and contemporary inference that the Sayville station, when it transmitted at high speed, employed a telegraphone to key the transmitter. The evidence for this is all secondary or derivative. The strongest piece is: "By 1922, the government was willing to admit that there had been at least one Telegraphone on which messages had been recorded in Morse code at standard speed. The tape was played at high speed, re-recorded in Germany, and played back at the original recording speed. There was no code to be broken afterall." (Robert Angus, 75 Years of Magnetic Recording, *HIGH FIDELITY MAGAZINE*, March, 1973 at p. 42, 45). Angus also writes: "The Sayville station, ... utilized ... automatic transmission systems which used paper tape and piano wire (the latter system, in fact, was an American Telegraphone)." (R. Angus,

History of Magnetic Recording, AUDIO, August, 1984 at pp. 27, 28).

Tom Kneitel, K2AES, in his very thorough 1984 article on the Sayville station, says: "Sayville's transmissions [after routine traffic] became a strange chatter. This was the sound made by the telegraphone." (T. Kneitel, Germany's High Power Spy Station - In the U.S.A!, POPULAR COMMUNICATIONS, Oct. 1984 at pp. 16, 18).

On the other hand, very knowledgeable experts doubt that the telegraphone wire recorder could key a powerful spark transmitter, even by modulation as opposed to interruption. For example, Bruce Kelly, W2ICE, of the AWA and Paul Bourbin and Ed Sharpe of CHRS do not think it could be done. Detected signals off the air could surely be recorded as audio on a telegraphone, and replayed more slowly, but there does not (albeit at this remove) appear to be a way to use the telegraphone to transmit speeded-up signals.

Ed Sharpe points out that paper tape keying was already very fast, citing Dr. J. Zenneck, WIRELESS TELEGRAPHY (N.Y., 1915). Zenneck was an engineer at Sayville, and his book reports speeds up to 300 words per minute by paper tape keying, which must have been a buzz indeed (pp. 302 note two, & 203); 100 words per minute was common in Europe. In San Francisco in 1912, Deforest keyed at 90 words a minute with paper tape and received it in Los Angeles with a telegraphone recording the output of an audio amplifier. (G. Carneal, A CONQUEROR OF SPACE -- an Authorized Biography of the Life and Work of Lee DeForest (N.Y. 1930) at p. 243; also courtesy of Ed Sharpe). Ed Sharpe also supplies the Sept. 1915 ELECTRICAL EXPERIMENTER article on Sayville describing 24 contact keying relays transmitting at 150 words per minute keyed by perforated tape (p. 209).

It is likely that Sayville used its telegraphone to record the Nauen Buzz transmitted

by POZ from Germany, and used paper tape keying to transmit when it chose to transmit faster than monitors could copy by ear. Telefunken could well have inferred that its transmissions were monitored (as they were, by the U.S. Navy at NAA and elsewhere). Telefunken could also correctly assume (until Apgar, anyway) that no such device as the telegraphone was available to the monitors to slow down its faster transmissions in order to copy and decipher or decode them. The telegraphone was an important secret communications tool to Imperial Germany, found even on its submarines (so reports Angus, above, in HIGH FIDELITY at p. 45.) So, yet again, it is simply not known what steps may have been taken to deceive, or to disguise; in this case, the true mode of operation of the Sayville station.

Ed Sharpe also notes that it has been suggested that the transmitter at Sayville was a Goldschmidt alternator, and therefore not the old Nauen 35 KW quench gap or the later Navy installed Poulsen arc (17 A.W.A. Old Timers' Bulletin, No. 1, June, 1976 at p. 28). Dr. Goldschmidt, however, was the engineer at Telefunken's Tuckerton (N.J.) station WGG (later NWW after Navy seizure), and his alternator was installed at Tuckerton. A photo of a Tuckerton station alternator appears on the cover of 2 A.W.A. Review (1987), but this one is an Alexanderson type. Kneitel (above) gives WGG's frequency as 9200 kHz, which is an error for 9200 meters (or 32.59 kHz; he lists NWW at 32.6 Khz in his RADIO STATION TREASURY at p. 20). 9,200 meters or 33 kHz is within the operational range of a cascading Goldschmidt alternator, which worked by frequency multiplication of a mechanically generated fundamental frequency in the order of magnitude of 10 kHz. S. Gernsback's RADIO ENCYCLOPEDIA of 1927 discusses alternators and gives biographies of Goldschmidt and Alexanderson. In any event, the photographs of the Nauen quenched gap of 1909 and the Sayville transmitter of 1915 match, as cited in

Part One, and the 1915 Sayville transmitter is clearly not an alternator.

APPENDIX TWO: THE PROVINANCE OF THE APGAR INTERVIEW AND THE CONTINUING SEARCH FOR SPARK RECORDINGS:

The 1934 interview with Charles Apgar, including his off- the- air recordings from 1915 of WSL and WHD, which was presented as the latest edition of the CHRS RADIO NEWS Audio Journal, comes from a tape courtesy of Robert Angus. Part of it appeared as a tipped- in phonograph record "sound sheet" in the Journal AUDIO for August, 1984, (accompanying R. Angus, Magnetic Recording, An Aural History at p. 32).

The original interview by NBC announcer George Hicks was broadcast on Dec. 27, 1934 on WJZ of NBC in New York on the occasion of the opening of its museum of radio (since dispersed). It was recorded on four sides of two vertically cut aluminum disks. Charles Apgar's late son Lawrence Apgar gave the disks to A.W.A. member Rexford M. Matlack, W3CFC. Mr. Matlack presented them to the A.W.A. museum in 1976 (16 A.W.A. Old Timers' Bulletin, No. 4, March 1976, p. 30: Rare Recordings) along with a master tape he had made of them. Mr. Angus obtained his tape from A.W.A. courtesy of Bruce Kelly, W2ICE, and it is with Mr. Kelly's permission that CHRS reproduced this tape for the RADIO NEWS.

Mr. Matlack published an article on Apgar (The Quiet Spy -- Amateur Uncovers Spy Ring in US!, 73 MAGAZINE, Nov. 1976, p. 188) and has given a slide and tape presentation to A.W.A. on Apgar's adventures. The 73 article reproduces a newspaper article datelined Westfield, N.J., Aug. 1, 1934 indicating that Apgar intercepted coded German wireless traffic for the United States government as early as the days just before the outbreak of hostilities in August, 1914 (thus matching the work of the English

Marconi Company engineers reported in SPYCATCHER cited in Part One).

CHRS continues its quest for off- the- air recordings of spark transmitters. Inquiries continue as to the whereabouts, if indeed they survive, of Apgar's 1915 cylinders. They are last heard- of about to go to the Museum of Science and Industry in Chicago in 1940 (R.C.A. Historian George H. Clark writing in 1940, Smithsonian # CWC 6-1960A), but Chicago says it doesn't have them now, if it ever did, although it has some other Apgar gear. A.W.A. happens to have Apgar's amateur license, and a Sayville keying relay. Angus's 1984 report that Apgar cylinders had been released by the Government is in error.

Information leading to these or other off- the- air- recordings of spark transmitters will be greatly appreciated.

ACKNOWLEDGMENTS FOR PART TWO: Grateful (and alphabetical) thanks to:

ROBERT ANGUS for the Apgar interview tape;

NORM BERGE, CHRS, for the Radio Cart photos;

PAUL BOURBIN, President, CHRS, for his encouragement and for authorising publication by CHRS of this Note and issuance of the CHRS Radio News issues with the Apgar recordings of WSL and WHD and his interview;

DAVID DINTENFASS, PSARA and NWVRS, for his note Sound Recording on Magnetic Wire: A Selected Chronology, and copies of Angus articles;

WILL JENSBY, (W0EOM/6), CHRS, for continuing encouragement;

BRUCE KELLY, (W2ICE), AWA, curator of the Antique Wireless Association Museum

in Holcomb, New York for permission to reproduce the Apgar interview of 1934;

REXFORD M. MATLACK, (W3CFC), AWA, for the provinance of the Apgar recordings;

ED SHARPE, CHRS, for Dr. Zenneck, DeForest, OTB, Wireless Age and the Electrical Experimenter, and lots of good insight and analysis;

JOHN TAYLOR, National Archives, Washington, D.C., for the wireless intercepts in connection with the Mexican Border (National Archives #RG457);

MY ERRORS REMAIN MY OWN, BUT ONLY WITH THE HELP OF THESE PEOPLE HAS THIS NOTE COME TOGETHER IN ITS PRESENT FORM. TNX.

73

###

THANKS TO ED SHARPE



U. S. Government and Police Experts Were Much Surprised to Find That the Cabinet Here Shown, Which Was Recently Seized with Max Wax, a German Spy, Was Capable of Receiving Secret Radio Messages from Germany.

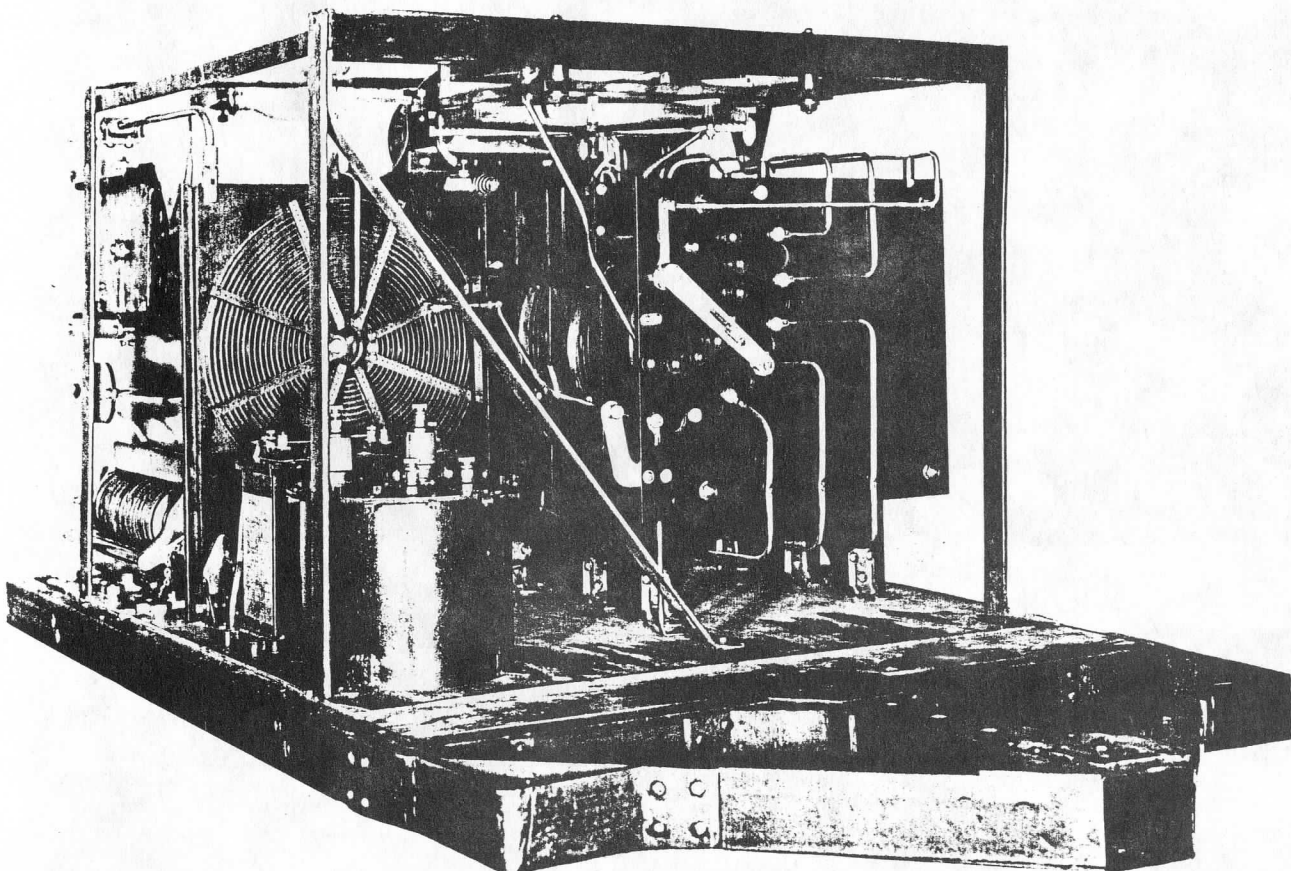
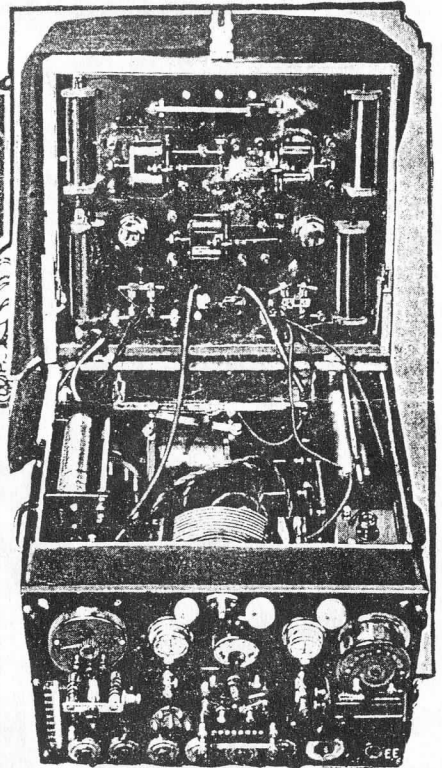
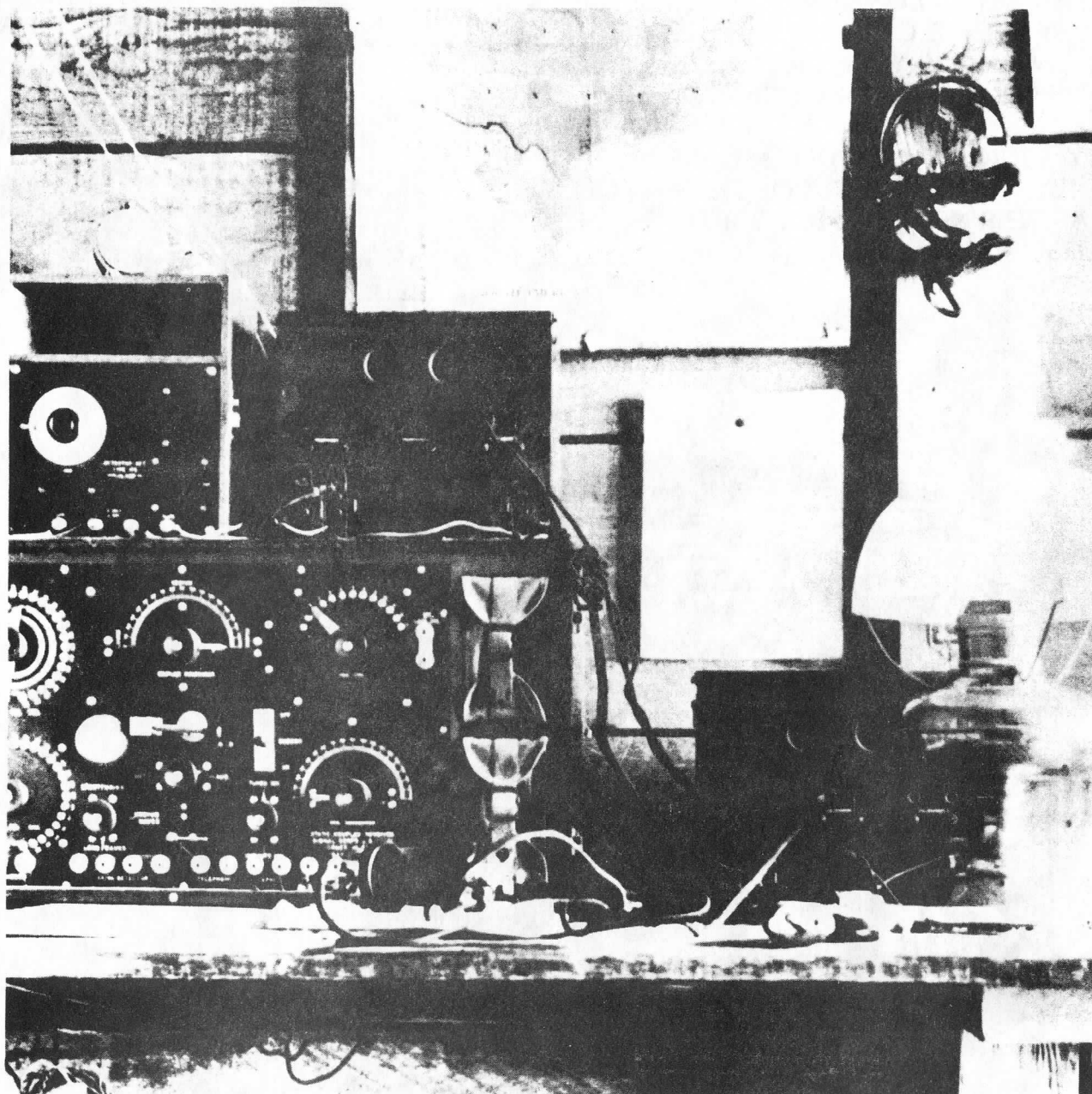


Photo of Mexican Border intercept station courtesy of Cloak & Dagger Publications from its copyrighted reprint of Military Intelligence, A Picture History (1984) by John Patrick Finnegan. The Signal Corps equipment is circa 1918 and appears to use a crystal detector.



The interior of a Signal Corps intercept station on the Mexican border in 1918. MID set up a chain of these stations during World War I to monitor German diplomatic and agent activity.

COPYING WHD AS RECORDED BY CHARLES APGAR, 2MN, IN 1915

By JAMES A. MAXWELL, W6CFC, Redwood Estates, CA.

The latest CHRS tape, Vol. 13 No. 1, is a very interesting tape. The transcriptions were not all that easy to understand at times, but considering their age and the state of recording technology 50 to 70 years back, they are in remarkably good condition.

Here's the text of the WHD transmission:

MNY K BT INVESTIGATION SHOWS MISSING BANK CLERK HENRY BRADLEY
MERCHANTS NATL BANK SHORT HUNDRED FIFTY THOUSAND PLAYED RACES
PLUNGED STOX

Note:

1. This Morse was hand sent.
2. The recoding starts in the middle of a transmission. It isn't clear what was going on prior to the BT (pause). MNY is a common abbreviation for "many" and K is an invitation to transmit. It is possible that this represents a fragment of a conversation between the operators prior to going on with the news. The entire transmission seems somewhat informal - note the use of the abbreviation NATL for National, and STOX probably for STOCKS.
3. In the word MERCHANTS the two letters CH were sent using the Morse sequence "----" (four dashes). This is not commonly used these days except among Spanish speaking operators.
4. The word PLUNGED is actually somewhat ambiguous. The manual sending was good throughout, with a slight swing, but easy to copy. But when the letter G was followed by a very brief hesitation and either a long dot (E) or a short dash (T). The possibilities are thus GE, GT, Q or Z, resulting in the four possible words PLUNGED, PLUNGTD, PLUNGD, or PLUNZD. Only PLUNGED makes and sense here, referring to "Plunging" (investing heavily) into the stock market or stocks plunging in value.
5. There was another character following STOX, but it faded into the noise at the end of the transmission.

Overall, It seems as if a report was being given of a missing bank clerk who had been playing the races and the stock market. Too bad we don't have more information on it. Someone with access to back issues of the New York Times (the SF Public Library has them going many years back on microfilm), could probably put together a very interesting story.

APGAR'S 1915 WIRELESS RECORDING OF WSL

By DICK DILLMAN, N6VS, (xWPE2VT),
San Francisco, CA.

I've just read the note "America's First Radio Spies -- And Counterspy" in the current number of the CHRS Journal and listened to the accompanying tape [CHRS RADIO NEWS Audio Journal, Special Edition, Nov. 1988, Charles Apgar's Recording of WSL in 1915]. Please accept my thanks for the work you did to produce both of these. The recording of the WSL spark transmitter is especially interesting.

As you specially requested of me before publication, I have copied and annotated the WSL transmission presented on the tape.

Apparently, the station was engaged in transmitting meteorological data at the time - although given the information in your note this innocent appearing transmission might actually have been a coded report to POZ in Germany. In any case, here is the text WSL was transmitting:

R84 TEMP 54 NORTHWEST CLEAR 34
MILES ? ? BAR 29R84 TEMP 54 MORTHWEST
CLEA

The R in the barometric pressure report is standard telegraphic code for a decimal point. Based on the above, it appears that the station was repeating the same information several times. The tape begins with the last half of the barometric report (R84) that we see again as the message is repeated. The telegraphic "?" sign (..--..) is often also used to mean "I repeat".

The information in the transmission is nothing like the weather information still transmitted today by coast stations using Morse code. At what location was it 54 degrees with a

barometric pressure of 29.84? There is no point of reference, unless it is Sayville itself. These days, visibility readings over 20 miles are not typically reported by aeronautical stations and some nautical stations only report visibilities when they are less than 5 miles. Yet the apparently precise figure of 34 miles is given. Could it be that this figure does not relate to visibility?

Perhaps this message would make good sense to a radioman in 1915, but to modern ears it seems strange.

In addition, the message seems to have been hand sent. The numeral 4 (....-) in the barometric pressure report is sent normally at the beginning of the tape, but when it is repeated the last dash has a significantly longer duration. I believe this shows that the transmission did not originate from an automatic sending device.

And speaking of automatic sending, I'm curious about how exactly they keyed the WSL transmitter with the high speed Morse code that produced the "Nauen Buzz". Even today, keying a transmitter accurately at that high speed might be difficult. In the days of spark transmission it must have been a formidable task indeed. Does your literature reveal any details of how this was done, beyond the use of a Telegraphone to speed up the transmission?

[Editors' note: Thanks to Dick Dillman for the nice commentary on WSL as recorded by Charles Apgar, 2MN, in 1915. Jeff Wakefield writes to suggest that the numbers in the "weather report" could well be a simple code for a vessel's position to arrange a submarine rendezvous (or sinking!). As to how WSL was keyed, see the first appendix to Part Two of RadioSpies, this issue.]

FEATURED SET: Stromberg Carlson

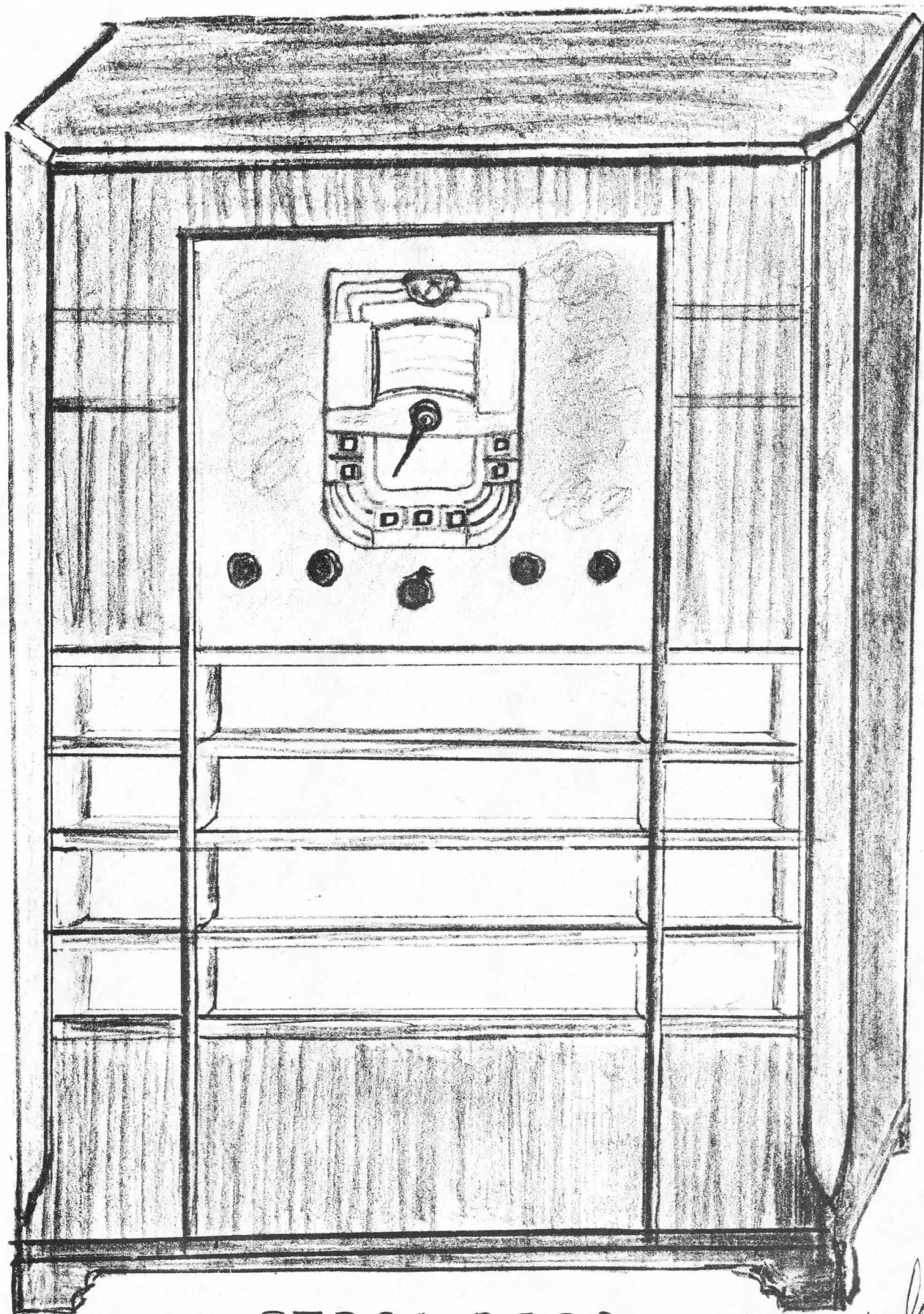
*Drawing and text
by George Murdock*

Although looking like something like a juke-box this was one of the finest radios made in the late thirties. The exceptional tone quality was due in part to the "Acoustical Labyrinth" speaker compartment. The two ten inch speakers were driven by two 6L6 tubes in push-pull. The set had what was called "Flash Tuning." To activate this you turned in the AFC control (lower center knob) and then selected the station by turning a lever (behind the tuning control) until it locked and one of the seven call letter lights came on behind the station's call letters and the audio was heard. A muting circuit was connected to the lever and no audio was heard when selecting a station using "Flash Tuning." The set up for Flash Tuning was on back of the tuning condenser and only had to be set once.

The treble control (far left) cut the high notes when turned counter-clockwise, and broadened the bandwidth of the I.F. amplifiers and allowed full highs when turned clockwise. The volume control and loudness was loudness compensated, and was the second knob from the left. The tuning range was from 550 KHz to 60 MHz, in five bands. The bandswitch is second from the right. The sound of TV channels 2 and 3 can be heard on the high band!

The right hand control was off, on, bass boost, and had a great boost in the bass reproduction of the set. The sensitivity of this radio was as good as a communications receiver, and the selectivity was adjustable (by the treble control).

The tube line-up was: five 6K7's, one 6A8, two 6J7's, two 6H6's, one 6C5, one 6Q7, two 6L6's, one 6G5, and a 5U4 rectifier. This 16 tube radio is a joy to operate and listen to. If you ever find one... GRAB IT!



STROMBERG

CARLSON

260

by M. Ward

RESTORATION CORNER

REPAIRING RADIOLA IIIA AUDIO TRANSFORMERS

By TED STEWART, W6NPB, Oakland, CA.

STEP ONE: Terminals on the transformers are numbered, referring to the wiring schematic. Measure the resistances of the primary and secondary windings. Record these winding resistances together with a diagram of the terminals and their numbers.

Note: The example measurements here are ones taken during the writing of this article. The first audio primary winding measured 647 ohms D. C. R., the secondary over 1 Megohm. The primary is from #1 to #2, the secondary from #3 to #4. After repair, the secondary winding measured 8388 ohms D. C. R. The interstage transformer has a primary that measured 810 ohms D. C. R. The secondary is centertapped and is numbered 1-3-5 with #3 being the center tap. My transformer measured infinity from terminal #1 to #3, terminal #3 to #5 measured 5270 ohms. The conclusions are that both transformers have problems and step #2 will begin the attempted repairs.

STEP TWO: After unsoldering the terminals, removing the transformers, removing the covers of the coil, carefully remove beeswax, using caution not to damage leads into coil. Attach tabs to leads to identify numbers, since you will be making measurements and its easy to mistake unmarked leads. Unsolder leads from terminal block.

STEP THREE: You should now have a stainless steel or equivalent small pot to heat paraffin or candle wax to warm up the coil assembly. Use a hot plate or soldering iron for the heat source. In a few minutes you should find the coils will separate, and if you use caution, the leads will easily come, too. In the case of the centertapped interstage, the primary telescoped into half of the secondary winding and the other half of the secondary telescoped into the primary. Observation: the construction of the transformer was apparently in stages of separately wound coils, since each coil had enough insulation and wrapping to allow separation without damaging the lead attachment.

STEP FOUR: Identify the defective coil. Remove all excess material not involved in the repair for a square foot at least. Lay the coil on a clean white cloth or paper, position your ohmmeter nearby and use a small alligator clip on one lead with a probe of copper wire on the other. It may be necessary to use something stronger, a paper clip perhaps. At least you will find it necessary to gently probe into the enamel covered wire (.0025 dia.)

STEP FIVE: At this point, the work will pay off or not. Connect one alligator clip to one lead of the defective coil. With the other lead equipped with a probe, locate the continuity of this lead to the coil winding you see at some point on the winding, by a removal of the enamel, but not damaging the wire. After you verify that the lead you have attached does have a good connection to the coil winding visible, take the probe to the other coil position and probe in the area of the attachment of the other lead and as in the case of my repair, was just underneath the insulation but did require removal of about 1/4 inch of winding to pick up continuity. I found it necessary to use a magnifying eye loupe in all of the coil probing and resoldering operations.

STEP SIX: The same process is used for the other transformers. Be careful not to break off new terminations by tight insertions of the other coil. I ran ten (10) milliamps through all repaired windings after repair to insure good solder connections were made. Each .0025 inch wire was cleaned of enamel by 00 sandpaper. Burning enamel off will work with care. Removal by chemical removers is OK too if cleaned after use. The safe method I use is to simply flood the wire with rosin core solder until visible tinning has taken place.

Finally, the overall satisfaction of the repairs was good because the transformers were well made and not difficult to repair with care. This method does take perhaps more time and care than replacing with a standard interstage coil available, but there is a pleasure to be had knowing it is an original with the thorn taken out!

It may be worthwhile to bake the completed repair in some type of compound, but if repairs are ever to be done again, maybe not. At least paraffin would not be a problem to remove in case of re-entry.

STEP SEVEN: Take and note final measurements on the transformers; in this case:

Interstage

Pri 1-2 647 ohms DCR 9 Hy Q=2.0

Sec 3-4 8388 ohms DCR 400 Hy Q=1.7

Interstage Centertapped

Pri 2-4 810 ohms DCR

Sec 1-3 7870 ohms DCR

Sec 5-3 5420 ohms DCR

Final measurements made with ESI 250 DA DC bridge.

[Editors' note: this kind of careful procedure should work with other sorts of audio transformers, one of the trickier aspects of restoration of vintage radios.]

##

THE LYSOL SOLUTION! Quick Clean-up on Old Finishes.

By ED SHARPE, Phoenix, AZ

One afternoon at my computer business, I took some time out to clean up some old wireless gear I had sitting in the back room. Since some of this equipment haled from storage sheds (with lots of mouse crap on it!), I wanted to make sure it was disinfected as well as clean.

I got my usual supply of cleaning implements out along with a spray can of Lysol disinfectant. I suppose it was thus quite by accident that I discovered a new unique use for Lysol.

Lysol when sprayed on a rag and rubbed over a messy dirty finish, will clean the dirt off, as well as soften and strip just a small layer of the top of the finish. The effect of this is to clean the item and also soften and slightly blend the finish so that small cracks and nicks get covered over.

I believe that Lysol has it's cleaning effect due to the alcohol that is in it.

I find this technique really useful when working on old pieces of pre- 1920 wireless gear that are mounted on wood bases that I want cleaned up but do not wish to strip and refinish. It is great to have an old piece of equipment looking cleaned up, but really out of place if it is refinished to the point it looks like it has just come from the woodworker.

Do not use this technique to clean something that has a nice lacquered piano finish that can be cleaned by other methods, because it will diminish the finish.

I am not certain that the above mentioned technique can be used on all finishes, but has been highly successful on some of the old equipment I have used it on. I would suppose the best bet is to try it on a small hard to see part first.

Not only does this 'Secret Process' clean, but it will also kill germs and fungus that might be living on that fine old piece of wireless gear. It is real good for mouse crap.

There are times that I have achieved the same effect as what the Lysol does by using Acetone or Lacquer thinner. The effects of these two substances is more pronounced than the effect of the Lysol, but there are two disadvantages to these two substances. The first is that they are so fast acting that you can quickly damage a finish when you least suspect it. The second problem is that both of these substances are extremely harmful to the body if they are breathed or come in contact to your skin.

Many of the substances that we use to clean old equipment can cause many health problems, either in the immediate mode, or many years later after continuing periods of exposure. Read the warning labels of all of these products, and figure whatever they say will be an understatement, as undoubtedly years from now they will have discovered additional undesirable effects from a product.

TIPS FOR SAFE USE OF SOLVENTS AND CLEANERS:

1. Work in a well ventilated area, or better yet, outside!
2. Wear gloves to keep physical contact with cleaner or solvent to a minimum!
3. Don't spill any of the cleaner or solvent on yourself, and if you do immediately flush the area of contact.
4. Wear a set of safety goggles not only from the front, but also from the sides. These are available in any store that sells shop tools. REMEMBER -- Wearing glasses will not save your eyes of something splashes in from the sides. In case you get some radical solvent in your eyes, flush with water and seek medical attention immediately. Have a hose ready before you start to work.
5. Since many solvents and cleaners are extremely flammable:

- A. Do not smoke when using them!
- B. Do not use near any open flame!
- C. Do not use them near a heater!

COMMON SENSE:

The basic thing is to use common sense. If you do not have any common sense there are two things you can do to remedy the situation:

1. Have some one else use cleaner or solvents for you.
2. Imagine the following, either as a separate incident or happening at once:

- A. Cancer of the Liver
- B. Kidney failure
- C. Total blindness for the rest of life
- D. Your house burning to the ground
- E. Your favorite radio burning
- F. Brain damage
- G. Various other forms of cancers causing:

- (i). Death
- (ii). Body parts having to be amputated
- (iii). Generally overall disgusting appearance

I am sure at this point after visualizing one or more of these bizarre happenings you will acquire common sense.

The same rules mentioned in this article also hold true for finish products such as lacquer and varnishes.

[Editors' note: Also be careful sanding or filing an old chassis. Cadmium was used to plate the steel so that wires could be soldered on. Cadmium is a very poisonous heavy metal, worse than lead. If you can't remember your name or see straight after an afternoon (or a decade) of restoration work, you should have more adequately ventilated, gloved, goggled and washed.]

WIRELESS RESCUE AT SEA! DIRIGIBLE DOWN! ALL SAVED! 1910!

THE LOG OF THE FIRST ATTEMPT AT TRANSATLANTIC DIRIGIBLE FLIGHT AND THE RESCUE OF THE CREW OF THIS FIRST WIRELESS EQUIPPED AIRSHIP.

The original log is owned and contributed by Norm Berge; it has been transcribed by Paul Bourbin.

J. R. (Jack) Irwin, Marconi Wireless operator aboard the dirigible, America, kept this log. It is an original autograph radio log on eight legal length sheets with printed headings, "American Wireless Telegraph Co, of America," and it is signed.

On October 15, 1910 the Verman dirigible "America," made the first attempt to cross the Atlantic. The flight lasted 71 1/2 hours and covered a distance of 1008 miles before it was forced to descend to the sea where it was rescued by the "S. S. Trent" which had been summoned by wireless. This extremely interesting document gives an hour by hour account of the flight and subsequent rescue. [This log has been described, but not transcribed in the CHRS Journal, Vol. 1 No. 1, Sept. 1975]

TRANSCRIPTION:

Marconi Wireless Telgraphy Co. of America 15 October 1910 page 1651.

8:50 AM Leave Ax [Atlantic City, N. J.]

9:50 AM Unable do anything until they fix equilibrium.

10 AM Tuning up call Ax. CQ:ND Hear DDV Mph [Marconi Station] made change to Sk Mph [Marconi station] working message - 1 message bad.

10:30 In Communication with Ax.

11:05 Sent 8 [messages?] to Ax.

12:25PM Signal R2 [strength] Ax.

1:30PM R15 Sent 2 more Ax. Everything going fine. Sensation. Very Fine. All happy.

2:10PM Received message from Ax, re: weather.

2:45PM Signal Received Ax ND. Dynamo not working -- Now go easy. On battery; am unable say if dynamo will be put in order.

3:30PM Received one from Ax.: from Rullen whilst motor stopped. Tried get reply off but Ax jammed continuously. Motor now started. Unable say if Ax got it, as impossible to hear any signals whilst engines running.

8:00PM ND unable to hear owing to engines running. Have passed one steamer.

16th Oct. 2 sailing ships - last sailer was within 50 yards of us.

5:50AM Hear MSG working ships -- also hear MAI call Marconi station -- MFC calling MRC. HAH [Nantuckett?] calling me. Engines now stopped. Call CQ ND. Dense fog throughout night all well. [Oct 16th Cont. Page 6152] Hear MSK and MSC. Working MSK tells MSC we were 60 Southeast of Scottia LV at 6:50 PM last night -- That was when we passed that steamer.

8:00AM Signals now strong but no answers to my repeated calls. MLG calling MSG.

8:10AM Newport tells Nantuckett LV that we started yesterday and to report any news of us. Motors now permanently out of commission.

8:20AM Calling CQ and MSC ND. Signal now strong.

9:15 Sending message to Sc. [Scottia?]

10:35AM S2 MSL

11:00 MSC working MSK gives him our "all well" and Sk gives it to Ax - Sc and SK exchange signals re "W" [Wellman? Master of the Dirigible?] Noon Heard Sr call CQ

12:30PM Signals MSC

4:45PM Its all up. Arranging take to boat - serious problems. Calling CQD [Distress] Station DK seems strong.

October 17 page 6153

7:00AM Already during night to leave in boat but breeze too strong for launching. Listened in and got DK very strong, but he didn't answer my repeated calls. Now hear MSR sending a message for Wellman to some ship -- copy it -- It is from Vananda Times -- regards to weather.

7:10AM Hear CC good signals calling MSB with messages.

7:20AM Navagator just got a sight for long[itude]. We are 210 miles East of Nantuckett.(approx). Longitude 65.51 West. Hear MSC and MCC. Hear CC send a message to MSC for us, from ham phones magazine but only got last 3 words as tail keeps coming out of water. Will use small tail of wire soon. Unable know Latitude till noon.

8:00AM Drifting due SW.

9:00AM Went up 2600 Ft. now down again second time this morning. We have been in clouds.

9:20AM Hear CC and SC talking and working. SC gives MHZ QTR.

1:00PM ND slept and eaten.

NOON Postition Latt. 88N Long 66W.

1:15PM Can hear CC working very faint.

2:40PM Still Drifting -- along getting ready to make a getaway in boat -- question of launching being discussed for hours -- the danger lies in the tail hitting the boat when we are launched.

2:45 Hear New York calling RS -- weak -- MS -- calls Ax weak.

3:12PM SC gives DKG then calls DKP, DKP calling Wellman

7:00PM Hear wireless station working from SR to Southern States.

Oct. 18 Page 8154

Notes made after arrival onboard [SS] Trent, made from memory and notes of Trent's operator.

Remain on watch until 3AM listening to various wireless working transmissions very bad, unable to read CC but heard him working, sounded very much like home. Turned in at 3 AM and was awakened about an hour after my calls of ship in sight, descended into lifeboat. Called CQD -- nothing doing -- Then got small electric torch and commencing calling in Morse lamp fashion. Was eventually answered by the Trent and signaled him we were in trouble and required help -- also conveyed to him we were equipped with wireless. The Trent's operator was awakened and he called as I had my phones on all the time and answered him and instant communication was established. I am indebted to W. Quinsberg for the copies of the Following:

[Page 6155 Oct 18] Messages which were copied by him[, I] did not do so[,] merely reading out his messages to Mister Wellman as he sent them.

To W - Do you want our assistance?

To RWR (Trent) - Yes, at once, in distress. We are drifting, not under control.

To W - What do you want us to do?

To RWR - Come Ahead full Speed but keep astern as we have a heavy tail dragging.

To W - OK standing by the wireless in case of trouble.

To RWR - You will pick us up at daylight. You will be better able to see us then.

To W - OK

To RWR - Come in Close and put bow of your ship under us, we will drop you a line but don't stop your ship as you will capsize us.

To W - OK

To RWR - Who are you and where Bound?

[Page 6156 Oct 18]

To W - SS Trent from New York.

To RWR - Have one of your boats ready to launch as we will probably capsize when we launch our boat.

To W - OK, boat Manned.

To W - Are we gaining on you?

To RWR - Yes - we are getting ready to launch.

To W - Shall we stop for now?

To RWR - Don't stop we will drop a sea anchor and try and check our ship.

To RWR - We have a motor going above me can't hear your signals now. Will say when I can. We are pumping air into airship, ready to bring her down level.

To W - We are going full speed waiting for your orders.

To RWR - We are going to launch boat stand by to pick us up.

Wireless Then Closed.

[Page 6157 Oct 18, 1910] I then cut aerial and earth wires, put watertight doors on the opening of the wireless cupboard and stood by -- The boat was successfully launched, a most dangerous operation -- we were going 15 knots an hour with the boat swinging beam on the sea and behind the ton-and-a-half trailer composed of heavy tanks of gasoline. At the signal "Let go" both clutches holding the boat were jerked, they acted beautifully, the boat fell into the water, lurched gunwale under then righted the equilibrator - trailer, hit W. Lord (first asst. Engineer) and myself and stove a small hole in the wireless compartment of the boat, but did not injure either of us or impair the stability of our boat.

The greatest danger of the whole eventful 3 days now occurred. The Trent was following full speed right in our wake and she bore right down our lifeboat for a few seconds, [page 6158 Oct 18, 1910] which seemed hours, it appeared we were to be cut in two. I prepared to jump overboard and swim clear of the propellers of the big ship, but fortunately at the instant I thought to do so, the Trent cleared us and we grazed along her sides. After two or three attempts to row to the ship with two small oars, we waited wallowing in a heavy sea, for the ship to come about, this she did and ranged at slow speed along side us. The lines were thrown but although we hung on, the speed was too great for us to hold on and again we were left astern.

Once again, this maneuver was executed and we got near enough to the liner to row the boat close enough to catch a line. We came along side and climbed aboard by a rope ladder (all wireless saved).

[Signed:] J. R. Swain, Operator

CLASSIFIED ADVERTISEMENTS

WANTED: Patterson Model PR-10 Ham Radio (10 tubes - 1934) Chris Potempa, 433 Frederick ##4 San Francisco, CA 94117 (415) 665-9749 Home or 896-5408 work.

WANTED: Hallicrafters SX28 or SX28A in near mint condition with speaker; Hammarlund Comet Pro or Super Pro SP-10 and HQ 170 with short wave bandsread; Pilot Wasp; National NC 156 or RBH; NC 100 with the red front; interesting short wave or communications receivers of the 30's and 40's. Documentation on Heath AR-2, Heath GR-98 Portable VHF Aircraft Band Receiver, Echophone Commercial. BART LEE, 327 Filbert Steps, San Francisco, CA 94133.

WANTED: RCA 811K or 913K chassis or just the auto tuning motor reversing Switch. Jim Coleman, P. O. Box 2348, Pasadena, CA 91102 (818) 449-4000 ext. 173

WANTED: I am looking for publications of the Hollywood Radio And Television Institutes correspondence course and their radio kits. Can you help with any source or references? B. Ali, 710B Highpoint Ave, Waterloo, Ontario, Canada N2V 1G4

WANTED: Leutz Radio Receiver. Lillian Leutz Ault, 774 Cynthia Drive, Watsonville, CA 95076, (408) 722-1025.

WANTED: Contact with people interested in collecting and trading recordings of radio Airchecks. Bill Eckart, Box 800015, Bethany, OK 73008-8001.

WANTED: Base and Driver for A-K model M horn, 213 rectifier tube, RCA Data Book Vol. 3 (III), old style rheostat with mounting holes with 1 3/4 inches between centers. Paul Bourbin, 25 Greenview Ct., San Francisco, CA 94131 (415) 648-8489.

FOR SALE: Celuloid Air King Skyscraper model white in color. Restored \$2000.00. GE Cathedral model K50-P, small size, good original condition, \$500.00. Telechron bakelite skyscraper clock from early thirties \$100.00. Telechron clock sunburst model with silver and black inlay from late twenties or early thirties, \$300.00. Another clock same as above except with gold finish \$250.00. Pink glass large crescent shape clock (Telechron) etched center about 12 inches long, \$300.00. Stromberg-Carlson smoked mirror glass, chairside model, restored in good condition, \$700.00. Bob Crockett, 212 Marmona Dr., Menlo Park, CA 94025 (415) 324-8235.

FOR SALE: RCA "Radiola 33" (1929) with 100-A loudspeaker, needs new on-off switch, works great. \$120.00 or best offer or trade for above. Chris Potempa, 433 Frederick ##4 San Francisco, CA 94117 (415) 665-9749 home or 896-5408 work.

FOR SALE: 1933 Mickey Mouse Emerson Radio; Sparton Bluebird mirrored radio; and 1960's Pepsi dispenser radio. Best offer on each. All work and are in exceptionally nice condition. Bob Lane, 10332 Mohawk Lane, Leawood, KS 66206 (913) 648-5296.

FOR SALE: Xerox copies of radio service manuals and related literature, mostly AC with some battery, spanning late twenties through mid thirties with some material into fifties. Many manufacturers both large and obscure including, Amrad, King Colonial, Zenith, Silver-Marshall, Grebe, Capehart, Scott, Federal, Kennedy, Steinite, Bush and Lane, Buckingham, and many more. Prices from \$3.00 and up. Send SASE for list. Paul Bourbin, 25 Greenview Ct., San Francisco, CA 94131 (415) 648-8489.

SERVICES AVAILABLE:

1) For radio and jukebox repair and restoration in the Peninsula, contact JOHN EKLAND at: (415) 323-0101.

2) For radio, television (Philco Predictas a speciality) and VCR repair in the East Bay, contact GEORGE MURDOCK, (415) 682-8255.

3) For excellent cabinet repair, restoration, and refinishing contact LARRY BOYSEN, JR. (415) 681-8352.

4) For antique phonograph (hand crank types) repair and restoration, contact PAUL BOURBIN, (415) 648-8489.

CHRS RECOMMENDS THESE BOOKS:

1) THE VINTAGE RADIO SKETCHBOOKS and Monographs of D. H. Moore are available at special prices through CHRS with a portion of the purchase price donated to the Society. These include the new monographs on the early Superheterodynes and the RCA Catacombs as well as the only treatise on the reflex circuit. For information contact: The Editorial Group, P. O. Box 521, Palo Alto, CA 94302

2) SHORT WAVE MANUAL (1936 ed) by the late Don C. Wallace, W6AM. This is a wonderful collection of pieces from the 1930's by the famous Don Wallace, who worked EVERY country from his Southern California Rhombic Farm. He had been President Wilson's Radio Operator and enjoyed a distinguished career as a radio amateur. The book is full of receiver and transmitter circuits and fascinating commentary on the hobby as it was then. It is \$10 from his estate, and an original print, not a reprint: Jan D. Perkins, N6AW, 28503 Highridge Road, Rancho Palos Verdes, CA 90274.

3) 1934 OFFICIAL SHORT WAVE MANUAL, Hugo Gernsback, Editor, reprinted Lindsay Publications, 1987. This is a collection of articles from Short Wave Craft covering most of the interesting receiver circuits and receivers of the day, with commentary as well. Lindsay puts at the back a good article about updating the circuits with FETs, and reprints some

related materials. \$14.95, Lindsay Publications, P.O. Box 12, Bradley, IL 60915.

4) a) SHORTWAVE BEGINNER'S BOOK; b) SHORT WAVE RADIO QUIZ BOOK AND KINKS; c) HAMMARLUND SHORT WAVE MANUAL. These are three short Lindsay reprints in the same vein as the 1934 manual. Among them you will find just about everything else you could ever learn about 1930's homebrew circuits and techniques. They cost \$4.95 each. Lindsay Publications, P.O. Box 12, Bradley, IL 60915.

WIRELESS INTRIGUE CONTEST WINNERS!

First Place went to Ted Stewart, W6NPB, Oakland, CA, for first decoding the 1919 WSL transmission. He won a CHRS Memorial Tube Tester and Continuity Checker (NOS). Ted's article on rewinding audio transformers also appears in this issue.

Second Place to Robert (Bud) Larson, Medford, OR who won a CHRS reprint of the 1919 Young & McCombs catalog of Radio Telephone and Telegraph Apparatus of Merit. Bud's decoding of the examples of spark transmissions used by George Grammer, W1DF, in the A.R.R.L. demonstration appears in this issue.

First to decode the 1915 WHD transmission recorded by Apgar and preserved in the 1934 interview CHRS reproduced in the last RADIO NEWS Audio Journal was James A. Maxwell, W6CFC, Redwood Estates, CA, whose article also appears in this issue.

TEXT OF TRAFFIC USED AS EXAMPLES OF HOW THE VARIOUS TYPES OF
SPARK TRANSMITTERS SOUND BY GEORGE GRAMMER, W1DF, OF THE
A.R.R.L. AS PRESENTED IN THE SPECIAL EDITION OF THE CHRS RADIO
NEWS AUDIO JOURNAL, NOV. 1988.

By ROBERT (Bud) LARSON, Medford, OR.

Information in [brackets] is added explanation of the text.

[Rotary Spark] TNT [adjusting?] WB WB WB [initials; used by unlicensed stations] DE [from] HG
HG HG--DE HG AR

WAS [wait]

HG HG HG DE WB WB WB T GE QRK? [How copy?] I AR K [over]

WB AB WB DE HG GH GH GE [good evening] UR [your] TONE IS OK AR DQ

GE OM [old man] HW [how] DOES MI [MY] NEW THOR[ardson] SOUND? JUST GOT HER
HOOKED UP HW I

WHAVEN CONN BT [SEPERATING SIGN] HOPE TO SEE YOU SUNDAY BT SIG JOHN AR NM
[NO MORE] TONITE K

1RAY DE 1CK RR [ROGER] OK HV [HAVE] SKED [SCHEDULED CALL] WITH 1AW IN FEW
MINS ES [&] WILL QSR [foward message] THRU HIM BT NIL HR NW 73 [REGARDS] GE VA
1CK

1AW 1AW DE 2ARY 2ARY HR 1 QSR QRK [HOW COPY?]

9ZN 9ZN DE 1AW 1AW MSG [message] AK
VVV CQ [GENERAL CALL] CQ CQ DE 1TS 1TS 1TS AR K

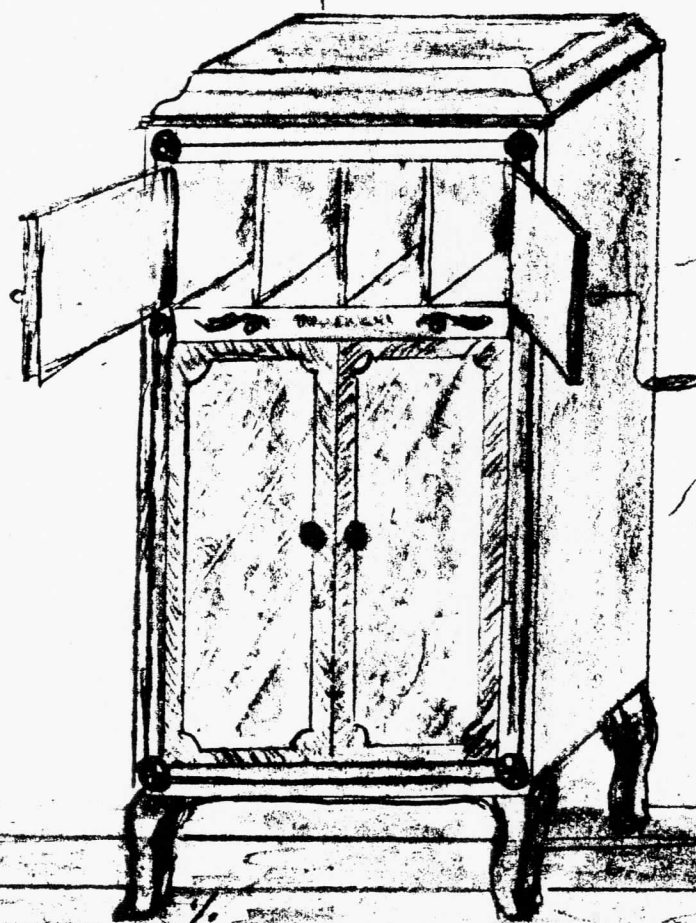
[synch. rotary] 3BZ DE 2RK QSL [ROGER] UR NOS QRV [NO MORE] CHTMW GE VA [OUT]

[con't Quench?] QST DE NAH NAH USWB AND HYORO BULLETIN X X WARNING TO ALL
MARINERS ICEBERGS FARTHER SOUTH I

[CW chirpy] CQ CQ CQ DX DX [call for distant stations] CQ CQ CQ CQ CQ DX DX CQ CQ CQ CQ DX
DX CQ

[Editors' note: The Editors are very grateful to Bud Larson and others who have provided reliable
decoding of the CHRS collection of spark transmissions.]

VIEW OF OUR NEW MUSEUM:



"BIG POND"
DUCK CLUB
1957



Samuel

DONATIONS ARE DESPERATELY NEEDED !!