

Get This Magazine Every Week for Complete Broadcasting Programs

RADIO
MAGAZINE

The Daily News

EVERY
MONDAY

SAN FRANCISCO, MONDAY, MAY 19, 1924

SEC. HOOVER HITS MONOPOLIES

FARMERS GET GRAIN DATA IN 5 SECONDS

CHICAGO, May 19.—In less than five seconds after a transaction is completed at the Board of Trade here, farmers throughout the middle west, and farther, are listening in on the results by radio!

This exemplifies the outstanding advantages of wireless to the country folk.

It is a fixed institution here, so far as activities of the Board of Trade are concerned. It is keeping the farmers up to the minute, almost up to the second, informed as to prevailing prices at which they might sell their crops or stock.

The pioneer in speeding up this information to those most closely concerned about it is the Chicago Board of Trade. Through its station, WDAP, atop the Drake Hotel, the Board of Trade is keeping the farmers in closest possible contact with all factors that might affect the prices of his products.

Owns Own Station

The Board of Trade started broadcasting in the spring of 1922 through station KYW. Success was almost immediate. It encouraged the directors to buy WDAP for its private use. Results were so satisfactory that the station was remodeled so that it is now one of the most complete broadcasting stations in America.

This speed in letting the grower know what is being done to his produce is the result of co-operation between the telegraph ticker and the radio. Three and three-fifths seconds after a broker flashes a transaction to an official recorder, the quotations are ticked off on the tape alongside the blackboard where they are recorded.

Radio Reporter

The price is immediately chalked down, while through a large window a radio reporter looks directly at the blackboard and telephones the latest quotations through WDAP to those listening in.

Every hour, every day, except half day Saturday, and all day Sunday, this operation is repeated. It is followed with important market comment such as receipts and shipments, estimated car lots, Liverpool cables, estimated cattle, hogs and sheep; live stock receipts and prices, weather forecast, and other useful information.

And in the evening, beginning at 7, the farmer may listen in on a musical program, or lectures, from the same station.

According to Henry A. Rumsey, of the Board of Trade radio committee, plans are being made to send out from station WDAP complete educational courses, 10-minute talks, covering various subjects in agriculture.

Radio Helps Defense

Defense of New York City from an invading army was helped considerably recently by the public address system through which commands of officers were issued. The "defense" was undertaken by the Winter Plattsburg of the Quartermaster Reserve Corps of the Second Area.

Royal Receiver

King George of England can listen in on any broadcasting station he desires, in England or elsewhere, with the seven-tube receiver made for him by Capt. F. P. Eckersley, chief engineer of the British Broadcasting Co. The set is in a mahogany cabinet, inlaid with ivory and resting on an ebony stand.

GOVERNMENT OVER RADIO

NEA Service

JEFFERSON CITY, Mo., May 19.—That idea of broadcasting speeches direct from the floor of the Senate in Washington is nothing new to fans of station WOS here.

This is the state-owned broadcasting station, supported by legislative appropriation and designed for the dissemination of state affairs by radio.

An example of the advantage of radio, especially in keeping tab on state officials, was afforded recently, when more than a million dollars worth of road-building contracts were let by the Missouri state highway department.

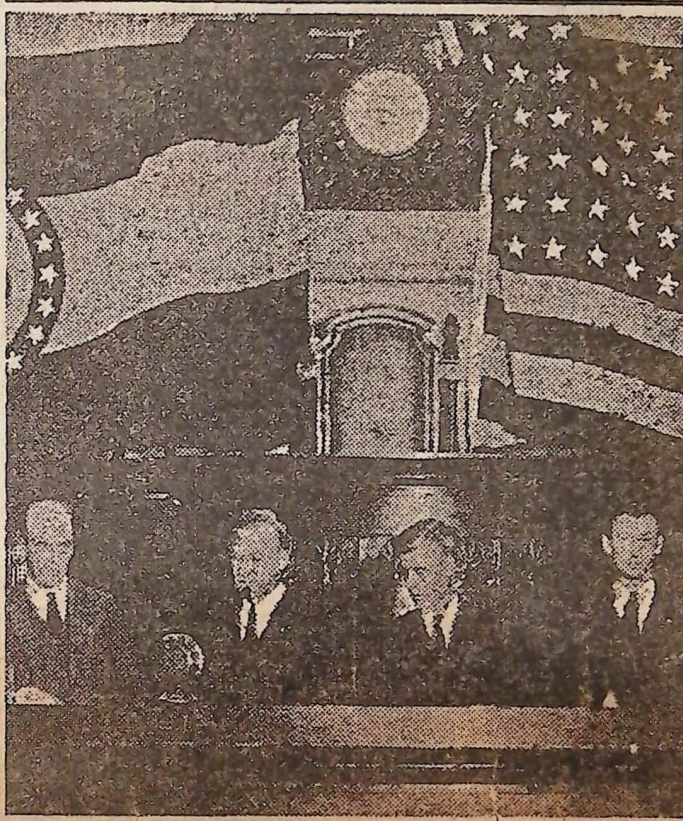
The bids were opened and read aloud by B. H. Piepmeier, state highway engineer, before the state broadcasting station microphone, in the Senate chamber.

All over the state, and beyond, persons interested in Missouri's affairs tuned in on Wos to hear how the bids were being handled. It was the furthest step from secrecy political affairs ever took.

The state broadcasting station broadcasts hourly, for the benefit of farmers, the latest market reports from Kansas City, St. Louis, St. Joseph and Omaha, the points to which the Missouri farmers ship cattle, hogs and grain.

Twice a month WOS broadcasts musical entertainments and prisoners from the state penitentiary furnish part of the program.

There are few paid workers



B. H. Piepmeier, chief engineer (second from left), announcing bids for Missouri state road construction

at WOS, because it is operated by persons doing other state work. The last legislature appropriated \$15,000 for it for two years.

The station is equipped with a 500-watt transmitter, consisting of two 250-watt oscillating tubes and two modulators. It transmits on 441 meters.

ANSWERS

Questions addressed to this department will be answered by L. E. Day of the Day Radio Laboratory, 693 Mission-st. No hookups will be printed.

A. J. Olsen, 1262 Guerrero-st., asks:

Is it possible to connect a tube to a crystal set so that I can work a loud speaker on it?
Yes. Use a standard one-stage amplifier and connect to head-phone terminals.

Vincent Viagi, 1961 Lombard-st., asks:

(1) Am enclosing diagram of crystal set which is claimed to pick up Los Angeles and Salt Lake. How far can I get? (2) Can I use an 11-plate condenser in place of a 437 (3) If I use a Grant A-1 crystal will it help any on a crystal set like this? (4) Would I have to use a loading coil?

(1) The distance of this crystal set is approximately 25 miles. Any long distance reception is probably due to reradiation from some tube set in the neighborhood. (2) If you use an 11-plate condenser you will need more turns of wire or loading coil. (3) A-1 Grant crystals are considered very good. (4) The loading coil you speak of is very good for eliminating interference. If you do not use the loading coil, place the condenser in the aerial circuit.

F. Miller, 4341 23rd-st., asks:

(1) I have a two-stage amplifier, using C-12 tubes. Should this set operate a loud speaker on local stations? (2) I am enclosing a diagram of a five-tube set. Would you suggest a different hookup? How far should I be able to get, using a loud speaker?

(1) A two-stage amplifier is sufficient for the operation of a loud speaker. (2) The diagram enclosed is satisfactory. Would suggest the building of a five-tube neutrodyne set. This set will utilize the same number of tubes as your diagram enclosed and will give you much better satisfaction. You should be able to hear all coast stations on the loud speaker. During winter months it will be easy to get eastern stations.

FINGERPRINTS BY RADIO TO BALK CROOKS

BY KENNETH WATSON

WASHINGTON, May 19.—Broadcasting fingerprints of criminals is the newest use for radio.

As soon as a code is worked out, it will be possible for every police department in the country equipped with a radio to be on the lookout for a murderer or other dangerous criminal within two hours after a crime has been discovered.

William J. Burns, resigning head of the department of justice, who recently outlined the plan to the house committee considering the 1925 appropriation for that bureau, has an expert working out the code.

Burns hopes to have the code completed by July, when the entire plan will be taken up at the convention of the International Police Chiefs' Ass'n, at Montreal. Here's the scheme, according to Burns:

"Suppose a murder is committed in Cleveland and police there know the identity of the escaped slayer. If that man has a criminal record, just as soon as the chief there telegraphs in the fingerprints to our national identification bureau, the telegram will be broadcast from the radio station which sends out the daily market reports."

By the time the convention is held the government bureau of criminal identification will contain fingerprints of more than 900,000 criminals, as the bureau formerly located at Leavenworth prison has been transferred to Washington and is being combined with the national record.

Tight Aerial Best

A loose, swinging antenna produces jerky and uncertain reception. It is best to keep the aerial tightened, to receive clear signals.

LET'S SWAP

These "Swap" advertisements will be published free of cost until further notice in the Monday Radio Magazine of The Daily News. The article to be traded must be radio equipment. Keep the wording concise.

TO SWAP—Two dandy crystal sets, in exchange for phonograph attachment or other parts. H. J. Pratt, 441 4th-av. Phone Bayview 7663.

TO SWAP—Columbia variometer, new, for phonograph loud speaker attachment or something of equal value. C. H. Gereke, 1000 Ashbury-st, Apt. 1.

TO SWAP—Willard rechargeable "A" Battery for something of equal value. M. Finnegan, 120 Eugenia-av, San Francisco.

TO SWAP—Fluwellen receiving set, mahogany cabinet. Fine for distance. For one r. c. loop or something of equal value. J. B. Vassallo, 676 Pennsylvania-av, San Francisco.

TO SWAP—Loose coupler crystal set, complete except for headphones; will exchange for other radio equipment. F. S. Jones, 1410 Milvia-st, Berkeley.

TO SWAP—A dandy crystal set, complete with head-phones; almost new, in fine condition; gets all local stations. What have you? Phone Market 1412.

Mysterious listeners have been sending throat lozenges to the singers of Station WLAG, Minneapolis, Minn.

NO GROUP IS TO DOMINATE RADIO FIELD

WASHINGTON, D. C., May 19.—It is urgent that we have an early and vigorous reorganization of the law in federal regulation of radio, Secy. of Commerce Herbert Hoover told the house committee on merchant marine recently.

"Not only are there questions of orderly conduct between the multitude of radio activities in which more authority must be exerted in the interest of every user, whether sender or receiver, but the question of monopoly in radio communication must be squarely met," he continued.

"It is not conceivable that the American people will allow this newborn system of communication to fall exclusively into the power of any individual group or combination.

"Great as the development of radio distribution has been, we are probably only at the threshold of the development of human discoveries bearing on education, amusement, culture and business communication.

No Domination

"It cannot be thought that any single person or group shall ever have the right to determine what communication may be made to the American people.

"We cannot allow any single person or group to place themselves in position where they can censor the material which shall be broadcast to the public, nor do I believe the government should ever be placed in the position of censoring this material.

"The fundamental thought of any radio legislation should be to retain possession of the ether in the public and to provide rules for orderly conduct of this great system of public communication by temporary permits to use the ether.

"It should be kept open to free and full individual development, and we should assure that there can be no monopoly over the distribution of material."

Camping by Radio

One of the first stations to recognize the approach of summer is WJZ, New York, from which A. H. Van Doran, motor camping expert, will broadcast weekly a series of "Tips for Motor Campers." The talks will be given Friday nights, from 7:10 to 7:20, for five weeks.

Dancing All Day

Four orchestras, broadcasting from WJZ, New York, are making Wednesday a regular radio dance day. At 1 o'clock there's luncheon dance music. At 4:30 a tea concert is picked up. At 7:30 and again at 10:30 two other orchestras entertain the fans.

In Africa at Last

Africa finally can boast of its own broadcasting station. A temporary set has been put up Johannesburg.

Radio Organizations Fight Interference

NEW YORK, May 19.—The American Radio Ass'n has joined with the Interference Radio Conference in a bitter fight against all kinds of reception interference.

"This campaign," explains Prof. L. A. Hazeltine, chairman of the conference, "marks the beginning of the first nationwide determined effort to bring harmony and peace in the air, and it will be followed vigorously

ly until all kinds of interference are eliminated from the air. Unless something is done quickly, the interference problem will seriously affect the progress of radio."

Both organizations will strive to eliminate interference caused by improper use of radiating receivers, by ships and commercial stations, faulty electrical transmission lines and other disturbing influences.

THIS WEEK'S AIR PROGRAMS

Monday, May 19

KFO—Hale Bros., San Francisco (423 Meters)

12 NOON—Time signals from the naval observatory. Reading of the Scripture.

1 TO 2 P M—Rudy Selger's Fairmont Hotel orchestra.

2:30 TO 3:30 P M—Program under the management of Constance Duncan.

Piano solos, Melodie; Wanderer; Constance Duncan. Soprano solos, Jean; The Old Re-frain; Florence Wyatt. Cello solos (unaccompanied), Suite in C Major; Allomande, Serenade Bouree; Edith Larsen. Mezzo solos, If I Were You; Thy Beaming Eyes; Helene Blythe. Soprano solos, I've Been Roaming; Silvia; Helen Frisbee. Double trio, Absent; Thank God for a Garden; Mesdames Menzies, Schimpf, Clausen, Blythe, Washburn and Ward. Constance Duncan, accompanist.

4:30 TO 5:30 P M—Rudy Selger's Fairmont Hotel orchestra.

5:30 TO 6:30 P M—Children's hour. Stories by Big Brother of KFO, taken from the Book of Knowledge; Captain Courageous; Gelert, the Faithful Dog; The Battle of the Bees. Tenor solos, Little Orphan Annie; My Menagerie; Crow's Egg; Erwin Holton.

6:30 TO 7 P M—Program by Hamilton's New Fillmore and New Mission orchestra.

7 TO 7:30 P M—Rudy Selger's Fairmont Hotel orchestra.

8 TO 9 P M—Organ recital by Theodore J. Irwin, official organist, at the Wurliizer.

March, Pomp and Circumstance (by request).

Overture, Stradella.

Largo from "New World Symphony."

Mandolinata.

Allegro, Ballet Egyptienne.

Andante, Ballet Egyptienne.

Light opera selection from "It Happened in Nordland."

Selection, popular airs.

Fox trot, selected.

9 TO 10 P M—Planists, Mrs. Charles S. McKenzie and Mrs. Percy Pogson of San Jose, assisted by Chester Herold, tenor.

Two-piano number, Variation on a Theme, by Beethoven; Mrs. McKenzie and Mrs. Pogson.

Tenor solos, On Wings of Song; Sunset Lights the West; Marie; Chester Herold.

Two-piano numbers, Valse Paraphrase; Original Theme; Mrs. McKenzie and Mrs. Pogson.

10 TO 11 P M—E. Max Bradfield's Versatile Band, playing in Rose Room Bowl of Palace Hotel.

KGO—Gen. Electric Co., Oakland (312 Meters)

1:30 P M—New York Stock Exchange and United States weather bureau reports.

3 P M—Short musical program. Address in connection with series of talks on "The Health of the Child," given by the Parent-Teacher Ass'n.

4 TO 5:30 P M—Hotel St. Francis dance orchestra, San Francisco; Henry Halstead leader.

6:45 P M—Final reading, stock exchange and weather reports, and news items.

8 P M—Educational program, with musical numbers. Courses in agriculture, Spanish, music, economics and literature.

KLX—Oakland Tribune, (509 Meters)

7 TO 7:30 P M—News items; United States Weather Bureau report, market and financial news.

8 TO 9 P M—Educational program, broadcast from the University of California over private leased wires through KLX.

9 TO 10 P M—Dance music by L'Aiglon Ball Room orchestra; Adele Steinbeck, leader and pianist; Raymond Buratt, drums; Sam Madge, saxophone; Willis Bowman, trumpet; Chick Moore, trombone; Raymond Town, banjo, and Stanley Boquest, violin.

10 TO 11 P M—Dance music by L'Aiglon Ball Room orchestra; Adele Steinbeck, leader and pianist; Raymond Buratt, drums; Sam Madge, saxophone; Willis Bowman, trumpet; Chick Moore, trombone; Raymond Town, banjo, and Stanley Boquest, violin.

11 TO 12 P M—Dance music by L'Aiglon Ball Room orchestra; Adele Steinbeck, leader and pianist; Raymond Buratt, drums; Sam Madge, saxophone; Willis Bowman, trumpet; Chick Moore, trombone; Raymond Town, banjo, and Stanley Boquest, violin.

12 TO 1:15 P M—Program presenting Mary Newkirk Bower, soprano, singing the compositions of Helen Lukens-Gant.

KGW—Oregonian, Portland (492 Meters)

7:30 P M—Baseball scores, weather forecast and market reports.

8 P M—Dramatic recital by Mrs. Herbert Garr Reed.

9:30 P M—Program arranged by Hallene Porter.

KHJ—Los Angeles Times, L. A. (395 Meters)

12:30 TO 1:15 P M—Program presenting Mary Newkirk Bower, soprano, singing the compositions of Helen Lukens-Gant.

KFAE—Washington State College (330 Meters)

8:30 TO 9:30 P M—Summer Millinery, E. Belle Alger.

Piano solos—Florence Carpenter.

Mites Control, L. W. Casmel, poultry department.

Mezzo-soprano solos, Floy Fay Bean.

Orchestra selections.

KFOA—Rhodes, Seattle (455 Meters)

5:30 TO 10:30 P M—Pacific States Electric Co. presents one of Seattle's most popular orchestras in a dance program.

Tuesday, May 20

KFO—Hale Bros., San Francisco (423 Meters)

12 NOON—Time signals from the naval observatory. Reading of the Scripture.

1 TO 2 P M—Rudy Selger's Fairmont Hotel orchestra.

2:30 TO 3:30 P M—Organ recital by Theodore J. Irwin, official organist, at the Wurliizer.

Fox trot, Secrets.

Waltz, Artists' Life.

Three Dances, Henry Eighth.

Light opera selection, Yeoman of the Guard.

Popular waltz song, The West, a Nest and You.

Gavotte.

Andante, Concerto.

Dance Orientale.

Fox trot, That Old Gang of Mine.

4:30 TO 5:30 P M—Rudy Selger's Fairmont Hotel orchestra.

5:30 TO 6:30 P M—Children's hour. Stories by Big Brother of KFO, taken from the Book of Knowledge; The Flight in the Moonlight; answers to questions; The Giant's Plaything.

Piano solo, Gavotte in B Flat; Ernest Hart.

Piano duet, selected; Alida and Ernest Hart.

6:30 TO 7:00 P M—Program by Cleveland Six Orchestra of the Chandler-Cleveland Motor Co. under direction of Wilt Gundersdorfer.

I'm Going South; Wonderful One; Stepping.

Saxophone solo, Drigo Serenade; Wilt Gundersdorfer.

SAVE THIS COMPLETE SCHEDULE

This is the only COMPLETE broadcasting program published by a California newspaper. Radio fans are urged to preserve this magazine for reference during the week. Its small page size makes The Daily News Radio Magazine a handy accessory to your receiving set. Phone the Circulation Department if you desire another copy. Tell your friends about it.

Wednesday, May 21

KFO—Hale Bros., San Francisco (423 Meters)

12 NOON—Time signals from naval observatory. Reading of the Scripture.

1 TO 2 P M—Rudy Selger's Fairmont Hotel orchestra.

2:30 TO 3:30 P M—Jack Felt's Entella Cafe orchestra.

4:30 TO 5:30 P M—Rudy Selger's Fairmont Hotel orchestra.

5:30 TO 6:30 P M—Children's hour. Stories by Big Brother of KFO, taken from the Book of Knowledge; Story of Mowgli, the Boy-Wolf; The Wind Slings Down the Chimney. Violin solos by Dennis Kelly, 8 years old.

7 TO 7:30 P M—Rudy Selger's Fairmont Hotel orchestra.

8 TO 11 P M—E. Max Bradfield's Versatile Band, playing in Palace Hotel Rose Room Bowl.

During the intermissions a mixed chorus of whistlers under the management of Blanche Adella Hawkins.

Humoresque, whistling chorus under the direction of Blanche Adella Hawkins, the American Robin. Members of the chorus: Arlessa Hughes, Florence Bush, Harriet Hope, Grace Holbrook, Cynthia and Bryan Scott, George Vahey, J. W. Hawkins.

Mildred Jensen, accompanist.

Roses That Bloom in Picardy, baritone solo by E. M. Holbrook, with bird interpolations by Blanche Adella Hawkins, the American Robin.

Chinese Lullaby; whistling chorus. Love's Old Sweet Song, baritone solo by E. M. Holbrook, with bird interpolations by Blanche Adella Hawkins, the American Robin.

The Swan, whistling solo by Blanche Adella Hawkins, the American Robin.

Shepherdess Dream, whistling chorus.

Tenor solo, Always Mine; Clarence M. Frank, Fernando Ybarra, composer, at piano.

Popular songs by Mort Harris.

KGO—Gen. Electric Co., Oakland (312 Meters)

1:30 P M—New York Stock Exchange and United States weather bureau reports.

3 P M—Short musical program. Address by Louis L. de Jean on the subject, "What is the Social Instinct?"

4 TO 5:30 P M—Concert orchestra of the Hotel St. Francis, San Francisco, Fermin Cardona conducting.

6:45 P M—Final reading, stock exchange and weather reports, and news items.

8 P M—Radio play, "Seven Keys to Baldpate," by George M. Cohan. Music by Arion Trio.

CHARACTERS

Elijah Quimby, the caretaker of Baldpate Inn.

Mrs. Quimby, the caretaker's wife.

William Hallowell Magee, the novelist.

John Bland, the millionaire's right-hand man.

Mary Norton, the newspaper reporter.

Mrs. Rhodes, the charming widow.

Peter, the Hermit of Baldpate.

Myra Thornhill, the blackmailer.

Lou Max, the mayor's man "Friday."

Jim Cargan, the crooked mayor of Reuton.

Thomas Hayden, the president of the R. & E. Suburban R. R.

Jiggs Kennedy, chief of police of Asquewan Falls.

The owner of Baldpate.

Scene: The office of Baldpate Inn. Time: The present.

Instrumental selections—

(a) Quartet from Rigoletto...Verdi

(b) Valse Triste...Sibelius

Arion Trio.

ACT I

Instrumental selections—

(a) I Hear You Calling Me...Marshall

(b) Selections from "The Merry Widow"

10 P M TO 11 P M—Hotel St. Francis dance orchestra, San Francisco; Henry Halstead leader.

KLX—Oakland Tribune, (509 Meters)

3 TO 5 P M—Baseball scores, all leagues.

7 TO 7:30 P M—News items, United States weather bureau report, market and financial news.

8 TO 9 P M—Studio program. Program under direction of Walter Horace Bundy, accompanist, Hjalmar Stromberg, Miss Mildred Hackett, Soloists, Miss Maud Allen, Miss Helen Clevenger, Messrs. Lindquist and Ramsay. Piano soloists, Miss Dorothy Edwards, Miss Margaret Graham.

Male chorus, Eastbay Serenaders; Male chorus, (a) Grand March from "Aida," (a) Anvil Chorus from "Trovatore," Eastbay Serenaders; piano solo, selected, Miss Margaret Graham; mezzo soprano solos, (a) Vissi d'Arte, (b) Minuettonka, Miss Maud Allen; violin solos, (a) Liebesleid, (b) Souvenir, Warren Brauer; soprano solos and male chorus, (a) Carry Me Back to Old Virginia, (b) Mighty Lak a Rose, Miss Margaret Graham and Eastbay Serenaders; vocal duets, (a) "Suei Aria," letter duet from "Marriage of Figaro," (b) A'Addio, Misses Hackett and Hatch; overture by American Theater orchestra, Owen Sweeten, director, broadcast direct from the theater over private leased wires through radio KLX; male chorus, "Soldiers' Chorus" (Faust), Serenaders; violin solos, (a) Meditation, (b) Canto Amoroso, Warren Brauer; male chorus with solos (a) A Song of the Sea, soloists, Messrs. Phillips and Backalew; (b) Asleep in the Deep, Mr. Scheller, soloist, Eastbay Serenaders; vocal solos, (a) Ah, Love But a Day, (b) The Answer, (c) Rain, Miss Maud Allen; piano solos, (a) Chopin's Prelude, (b) Coming of Spring, Miss Dorothy Edwards; male chorus with solos, Hawaiian Waltz, One, Two, Three, Four, soloists, Messrs. Sedwick, Moss and Trimble, Eastbay Serenaders; trio numbers, Serenade, Miss Hackett, Miss Hatch, Mr. Lindquist; solo, with male chorus, Aloha Oe, Mr. Lindquist and Eastbay Serenaders; organ recital of three numbers by Clement Barker, American theater organist, broadcast directly from the theater over private leased wires through KLX.

DISTANT STATIONS

KHJ—L. A. Times (395 Meters)

6 TO 6:30 P M—Art Hickman's concert orchestra from the Biltmore Hotel.

6:30 TO 7 P M—Music Memory contest conducted by the Fitzgerald Music Co., arranged by Raymond Harmon.

7 TO 7:30 P M—Children's program presenting Prof. Walter Sylvester Hertzog telling stories of American history. The weekly visit of the Sandman and Queen Titania. Mimie Elman, pianist, 12 years old. Sarah Gordon, reader. Bedtime story by Uncle John.

8 TO 10 P M—De luxe program.

10 TO 11 P M—Art Hickman's dance orchestra from the Biltmore Hotel.

KGW—Oregonian, Portland (492 Meters)

7:30 P M—Baseball scores, weather forecast and market reports.

7:45 P M—Talk for farmers, Oregon Agricultural College extension service.

KJS—Bible Institute, L. A. (360 Meters)

8 TO 9 P M—Annual festival concert by Church Choral Union; J. F. Trowbridge, director; featuring "The Daughter of Jairus" (Stainer) and a miscellaneous musical program by the chorus; Gudrun Estrad, violinist; and the Harmony Quartette; soloists, Jessie F. Fallis, soprano; C. M. Books, bass; J. B. Trowbridge, tenor; Paul S. McConnell, organist; Mildred H. McConnell, pianist.

KHJ—L. A. Times (395 Meters)

12:30 TO 1:15 P M—Program presenting Lenore Killian, mezzo-soprano, and Claire Forbes Crane, pianist; White's Californians, through the courtesy of the La Raza Palm Grove.

2:30 TO 3:30 P M—Matinee musical.

6 TO 6:30 P M—Art Hickman's orchestra from the Biltmore Hotel.

6:30 TO 7 P M—Music Memory Contest through courtesy of Fitzgerald Music Co.

7 TO 7:30 P M—Children's program presenting Prof. Walter Sylvester Hertzog telling stories of American history; the weekly visit of the Sand-

man and Queen Titania; Mimie Elman, pianist, 12 years old; Sarah Gordon, reader; bedtime story by Uncle John.

test conducted by the Fitzgerald Music Co., arranged by Raymond Harmon.

7 TO 7:30 P M—Children's program presenting Prof. Walter Sylvester Hertzog telling stories of American history. The Payne Children. Bedtime story by Uncle John.

8 TO 10 P M—Program presented by Pomona College. Studebaker Radio Orchestra of Long Beach. Dr. Mars Baumgardt, director.

10 TO 11 P M—Art Hickman's dance orchestra from the Biltmore Hotel.

KFAE—Washington State College (330 Meters)

8:30 TO 9:30 P M—Forage Crops, Prof. O. E. Barbee.

Piano solos—Margaret Rawson, Puyallup; "Phillis," one-act play, students of Mrs. D. C. Miller.

Individuality in Dress, Helen K. Robson.

Weeds on the Farm, Prof. L. Hegnauer.

Soprano solos—Muriel Halloway, Lacrosse, Kansas.

KFOA—Rhodes Co., Seattle (455 Meters)

8:30 TO 9:30 P M—Vocal selections, Song's Your'll Enjoy; Air-Cooled Quartette, R. H. Vivian, Seattle's sunny songster; William H. Butt, master of mellow melodies; Frank M. Moulton, soloist of sweet songs; David Brown, singer of "songs of the sea."

Address—Stories I Have Heard Here and There, Carl Reiter, the "Irish" manager of the Orpheum theater.

Address—The Future Automobile, W. A. Wicks.

KGW—Oregonian, Portland (492 Meters)

7:30 P M—Baseball scores, weather forecast and market reports.

8 P M—Concert by B. P. O. E. Band, Lodge No. 142, Portland, Ore.

9 P M—Alexander Hamilton Institute business talk by James Albert.

10 P M—Dance music by George Olsen's Metropolitan orchestra of the Hotel Portland. Intermission numbers by Rosarian Quartet.

DISTANT STATIONS

KHJ—L. A. Times (395 Meters)

6:30 TO 7 P M—Music Memory contest conducted by the Fitzgerald Music Co., arranged by Raymond Harmon.

7 TO 7:30 P M—Children's program presenting Prof. Walter Sylvester Hertzog telling stories of American history. The weekly visit of Dickie Brandon, screen juvenile; Norma Emert, 12 years old, and Betty McDougal, 12 years old, readers, pupils of Inez Morris Moore. Charles Tounsing, 13 years old, violinist, accompanied by Olga Malinovsky, 16 years old. Bedtime story by Uncle John.

8 TO 9 P M—Program presented through the courtesy of the Fitzgerald Music Co.

9 TO 10 P M—Program presenting Jose Aralas and his orchestra.

10 TO 11 P M—Art Hickman's dance orchestra from the Biltmore Hotel.

KGW—Oregonian, Portland (492 Meters)

7:30 P M—Baseball scores, weather forecast and market reports.

8:15 P M—Studio program of dance music by George Olsen's Metropolitan orchestra of Hotel Portland, Herman Kenin director.

10 P M—Dance music by George Olsen's Metropolitan orchestra of the Hotel Portland. Intermission solos by Mrs. C. L. Neilson, soprano.

Thursday, May 22

KFO—Hale Bros., San Francisco (423 Meters)

12 NOON—Time signals from the naval observatory. Reading of the Scripture.

1 TO 2 P M—Rudy Selger's Fairmont Hotel orchestra.

2:30 TO 3:30 P M—Program under the management of Ruth Sterner.

Piano solos, Fantasia Impromptu; Le Coucou; Doris Loehhauser.

Soprano solos, Since First I Met Thee; Wake Up; Mme. Ainslie.

Violin solos, Cavatine; Romance; Ruth Sterner.

Soprano solos, Love Me; Wind in the Tree; Mme. Ainslie.

Violin solos, Chanson Parole; Adoration; Ruth Sterner.

Soprano solos, Roses in June; For You Alone; Mme. Ainslie. Ruth Sterner, violin obligato.

Piano solos, Impromptu Op. 90; Rustle of Spring; Doris Loehhauser.

Soprano solo, Forever and a Day; Mme. Ainslie.

Violin solo, Romance; Ruth Sterner.

4:30 TO 5:30 P M—Rudy Selger's Fairmont Hotel orchestra.

5:30 TO 6:30 P M—Children's hour. Stories by Big Brother of KFO, taken from the Book of Knowledge; The Who Could Not Sleep; Stories Told to African Children; How Animals Talk to Each Other.

7 TO 7:30 P M—Rudy Selger's Fairmont Hotel orchestra.

8 TO 9 P M—Organ recital by Theodore J. Irwin, official organist, at the Wurliizer.

March from "Aida."

Overture—"Poet and Peasant."

Air de Ballet.

Smiling Through (by request).

Operatic selection from "Faust."

Amayllis.

Musical comedy selection from "Sally."

Old-time popular favorites.

Pierrette.

Fox trot, There's Yes, Yes in Your Eyes.

9 TO 10 P M—Program under the direction of E. Harold Dana.

Duet, soprano and baritone, Rose of My Heart; Agnes Herzer and Harold Dana. Verne Kelsey, accompanist.

Readings—Girl That Wore the Bright Red Shawl; Goblins Nell; Rosalie Harrison (composer reading her own numbers).

The Radio Column

BY CARLTON E. BUTLER
Radio Engineer

Soldering is not as difficult a task as you may suppose. With the proper tools soldering becomes an enjoyable feature of the construction of your radio receiving set.

The apparatus you will need is comparatively inexpensive and can be used for many useful repair jobs about your home after you have finished with building your radio set.

An electric soldering iron is very nice to have, although a trifle expensive in comparison with an ordinary soldering iron. If you do not have an electric iron you must have some means of heating your tool. A gas range works very well, an oil or coal stove can be used, or a gas-line torch. The expense of the latter will exceed the cost of the electric iron considerably, however.

Besides the iron you will need solder and flux and a file or piece of sandpaper to clean the iron. Heat the iron until it is hot enough to melt the solder readily. Now clean the faces of the iron with the file or sandpaper until a clean copper surface is secured.

Place a bit of solder and flux on a piece of tin. Rub the faces of the iron, that you have prepared, on the solder until you

(Concluded on Page 4, Column 1)

Two Aerials Used

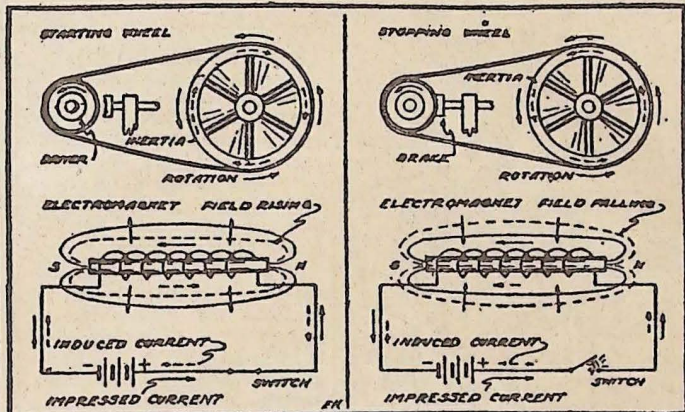
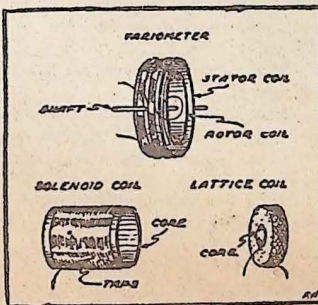
Broadcasting station WEAJ, New York, has been switching between two aerials about two city blocks apart, to learn which of them serves broadcasting best. Because of "dead spots" in the city, certain districts have been unable to hear WEAJ when either aerial was in use.

We are now on the rather undetermined dividing line between electricity proper and radio, for we are to consider one of the magnetic effects of alternating current, or of direct current that is just starting or stopping, with which radio is directly concerned. The electric current passes without noticeable hindrance along a copper wire which is in a straight line. But when that wire is coiled up to form a sort of spiral, we meet something entirely new, called "inductance."

Yet inductance is quite an understandable property of a coil of wire, for it has a direct analogy in the field of mechanics. Inductance is like inertia—that peculiar property in materials that resists any change in motion. If an automobile is running along smoothly it tries to keep going and is hard to stop, but when stopped it is hard to get it going. If a wheel is spinning rapidly its inertia will keep it spinning until friction brings it to a stop. But when it is still, considerable force must be exerted to start it again.

Inertia of a Coil

In other words, the inertia of the wheel opposes the motion of the wheel at the start, but it aids the motion of the wheel when you apply the brake to stop it.



Similarly with current. At the left in the figure the switch has just been closed and current starts to flow. The current cannot immediately jump to its full value because the magnetic field spreading out from the coil caused by that current sets up a pressure in the opposite direction which opposes the flow of current. Finally the current does reach its full value, just as the wheel is made to turn at its maximum speed after the driving force overcomes its inertia.

When the switch is opened the current immediately starts to decrease and the magnetic field begins to contract. The contraction of the field, its "collapse," sets up a voltage which acts along with the current in the coil and tries to keep it flowing even when the switch is opened. This results in a spark at the switch contacts. If an iron core is employed, the inductance of the winding is much greater and the spark on opening the switch is much more in evidence.

An interesting experiment which demonstrates this inertia effect of the coil's inductance is illustrated also. Here we have

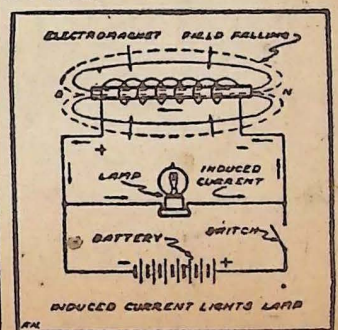
a coil of perhaps 1000 turns of wire on a core of iron, with the terminals connected to a battery. There is a lamp connected across the ends of the coil, too, and a switch to interrupt the battery current. After the switch has been closed a short time it is suddenly pulled open. The current is entirely cut off before the magnetic field has had a chance to collapse to zero, and as it continues to fall it generates a voltage, causing current to continue to flow in the same direction. Since the lamp is still in circuit this current flows through its filament and causes it to light for a second or two.

Forms of Inductance

Inductance is calculated in "henrys," a term derived from the name of a scientific investigator in this work. It may be difficult to comprehend just what a "henry" is, but there is a definition which may perhaps convey the idea. If we have one ampere of current flowing through an inductance of one "henry," the sudden stopping of that current will give rise to an electric pressure of one volt, due

to the collapse of the magnetic field. If one ampere is turned on and off in a coil having one henry inductance, the resulting voltage is one.

Inductances may take many different forms. A layer of wire wound on some sort of tubing forms a plain coil and is known as a "solenoid." Often there are "taps" on this coil, so that more or less of the wire may be switched into circuit, depending upon the amount of inductance required. Often the coils are made in compact form, where the turns are on top of each other in criss-cross fashion. These are called "lattice" coils, "honeycomb" coils, "duo-lateral" coils and the like. The "variometer" is an inductance coil whose value of inductance may be changed by the rotation of one-half of the winding instead of by using connections to various "taps." The variometer, connected end to end (in series, like the batteries). In meter has one coil within another position both coils have the north poles at the same end, and the inductances of each coil aid each other. With the inner coil turned around they oppose, because the north pole of one now coincides with the south pole of the other.



WEEK'S AIR PROGRAMS, CONTINUED

(Concluded From Page 2)

naval observatory. Reading of the Scripture.

12:45 P M—Talk broadcast from the Commonwealth Club luncheon at the Palace Hotel.

1 TO 2 P M—Rudy Seiger's Fairmont Hotel orchestra.

2:30 TO 3:30 P M—Organ recital by Theodore J. Irwin, official organist at the Wuritzer.

Operatic selection from "Carmen." Selection of old English airs.

Chaconne.

Waltz song, Sleep.

Light opera selections from "Princes of Pilsen."

Waltz, Pearl of Iberia.

Song, The Rosary.

Fox trot, selected.

4:30 TO 5:30 P M—Rudy Seiger's Fairmont Hotel orchestra.

KGO—Gen. Electric Co., Oakland (512 Meters)

1:30 P M—New York Stock Exchange and United States weather bureau reports.

3 P M—Short musical program. Clara Dolliver Burthaeil in original poems.

4 TO 5:30 P M—Concert orchestra of the Hotel St. Francis, San Francisco; Fermin Cardona conducting.

6:45 P M—Final reading, stock exchange and weather reports, and news items.

KLX—Oakland Tribune, (509 Meters)

8 TO 5 P M—Baseball scores, all leagues.

7 TO 7:30 P M—News items, United States weather bureau report, market and financial news.

8 TO 10 P M—Studio program. Old time songs.

Soprano solos with violin obligato. Those Songs My Mother Used to Sing. I Cannot Sing the Old Songs, Miss Carolyn Gilman; Miss Beulah Thorpe, piano; Ned Johnson, violin.

Violin solo—Silver Threads Among the Gold, Ned Johnson.

Soprano solos, with violin obligato: Last Rose of Summer, Love's Old Sweet Song, Listen to the Mocking Bird, Miss Carolyn Gilman; Beulah Thorpe, pianist; Ned Johnson, violin.

Old time jigs and reels; Ned Johnson.

Soprano solos: Sweetest Story Ever Told; selected; Miss Carolyn Gilman; Beulah Thorpe, pianist.

Hawaiian music, group 1: Plea's KLX Hawaiians.

Vocal solos: I Shall Be Waiting, All for You, Mrs. Leo Hanly.

Instrumental selections, group 2: Plea's KLX Hawaiians.

Vocal solos: Parisian Flower, E'en as the Flower.

Piano solos: Selected, Catherine Brown.

Vocal duets: Barcelona; selected, Mr. and Mrs. Leo Hanly.

Steel guitar solo: The Rosary, Rollin Plea.

Vocal solos: Group of Scotch songs, Leo Hanly.

Special selections by the American theater orchestra, Owen Sweeten, director; broadcast direct from the theater over private leased wires through KLX.

Instrumental selections: Medley of popular and Hawaiian numbers, Plea's KLX Hawaiians.

DISTANT STATIONS

KHJ—J. A. Times (395 Meters)

6 TO 5:30 P M—Art Hickman's concert orchestra from the Biltmore Hotel.

6:30 TO 7 P M—Music Memory contest conducted by the Fitzgerald Music Co., arranged by Raymond Harmon.

7 TO 7:30 P M—Children's program

presenting Prof. Walter Sylvester Hertzog telling stories of American history. The weekly visit of Richard Headrick, screen juvenile. Bedtime story by Uncle John.

8 TO 9 P M—Program arranged through the courtesy of Myra Belle Vickers.

9 TO 10 P M—Program presenting Hatch Graham, singer and banjoist, Lyllion Wheeler Sarno, dramatic reader.

10 TO 11 P M—Art Hickman's concert orchestra from the Biltmore Hotel.

KFAE—Washington State College (330 Meters)

8:30 TO 9:30 P M—Training for Agriculture, Dean E. C. Johnson. Instrumental selections.

What Sodastol Meant to Washington Farmers, R. M. Turner.

Soprano solos—Anita White, Coeur d'Alene, Idaho.

New Books to Read, Alice L. Webb.

KFOA—Rhodes Co., Seattle (455 Meters)

8:30 TO 9:30 P M—The Metropolitan Building Co. of Seattle will present a diversified program of vocal and instrumental music.

A. A. Bass, editor, Fur Farmer magazine, will give the first of a series of addresses in the interest of the fur industry of the Pacific Northwest, an instructive talk concerning a great future industry.

KGW—Oregonian, Portland (492 Meters)

7:30 P M—Baseball score, weather forecast and market reports.

8 P M—Oratorical contest under auspices of U. of O. division of public speaking.

8:30 P M to 10:30 P M—Silent.

10:30—Hot Ows.

10 P M—Baseball scores, weather forecast and dance music by George Olsen's Metropolitan orchestra of Hotel Portland (2 hours).

Saturday, May 24

KPO—Hale Bros., San Francisco (423 Meters)

12 NOON—Time signals from the naval observatory. Reading of the Scripture.

1 TO 3 P M—Rudy Seiger's Fairmont Hotel orchestra.

3:30 TO 5:30 P M—Program by members of the San Francisco police department, through the courtesy of Chief of Police D. J. O'Brien: Mr. Radio Man; Don't Mind the Rain; Quartet No. 1, John Kelly, lead; Ted Andrus, tenor; William Ward, baritone; Arthur Garrett, basso; Jerome Argenti, pianist.

Stealin' a Virgin, police department orchestra, Frank Mascarelli, banjo; Walter Mathes, banjo; Rudolph Gucci, saxophone; Joseph McMahon, cornet; Gladys La Mar, piano.

Talk on "Co-Operation," by Chief of Police D. J. O'Brien.

Tenor solo, Somewhere in the World; John Kelly.

Song of Love, police department orchestra.

Linger Awhile; What Does the Pussy Cat Mean When She Says "Meow?"—Quartet No. 2, Claude Ireland, lead; John McGreevy, tenor; Ray Harris, baritone; Harry Frustuck, basso; Gladys La Mar, pianist.

Tenor solo, A Bowl of Roses; A Little Gray Home in the West; James McDermott.

Worried; police department orchestra.

Bass solos, Asleep in the Deep; When the Sands of the Desert Grow

KUO

San Francisco Examiner—380 Meters

Daily Except Saturday and Sunday

9:05 A M—Weather forecast.

11:00 TO 11:30 A M—Market reports.

3:30 P M—Financial bulletin.

6:00 TO 6:20 P M—Financial and garden hint broadcast.

6:40 P M—Weather forecast.

Saturday Only

9:05 A M—Weather forecast.

6:00 TO 6:20 P M—Financial and garden hint broadcast.

6:40 P M—Weather forecast.

Sunday Only

9:05 A M—Weather forecast.

6:45 P M—Weather forecast.

Additional Friday

5:45 TO 6:00 P M—Health bulletin.

Cold; Harry Frustuck.

Talk by Capt. W. J. Quinn on "Police Athletic School."

Tenor solo, Tumble Down Shack in Athlone; John McGreevy.

Mamma Loves Papa; police department orchestra.

Tenor solos, Don't Blame It on Me; Every Night I Cry Myself to Sleep Over you; Claude Ireland.

Jokes by Edward Dabbe and Joseph Wickstrom, athletic comedians of San Francisco police department.

That's Everything; police department orchestra.

3:30 TO 5:30 P M—Tea Dances; E. Max Bradford's Versatile Band, playing in the Palace Hotel Rose Room Bowl.

8 P M TO 12 M—Dance music by Art Weidner and his popular orchestra. This orchestra plays at the Fairmont Hotel every Saturday night and the music is broadcast over KPO.

During the intermissions the KPO mond and Harry Hume, will sing popular songs. This is a regular feature at KPO every Saturday.

Trio, Bennie Berman, Jimmie Ray.

KGO—Gen. Electric Co., Oakland (512 Meters)

12:30 P M—New York Stock Exchange and United States weather bureau reports.

4 TO 5:30 P M—Concert orchestra of the St. Francis Hotel, San Francisco; Fermin Cardona conducting.

8 P M—Address, "Humors of the Law," by Archibald Treat. Musical program: Overture—North Pole.....Hayes (Fillmore) McClymonds High School Band, Oakland.

W. R. Douglas, director.

Soprano solos—

(a) When Love Fills Your Heart With Song...Russell (Boosey)

(b) The Garden of Your Heart.....Dorel (Boosey)

Mrs. J. H. Keyser, Elsiebeth Dove, accompanist.

Saxophone quartet—

(a) America's Destiny.....Holmes

(b) Rigoletto Quartet.....Verdi McClymonds High School Saxophone Quartet.

Wilfred Whittehead, first saxophone; Collins Mattheussen, second saxophone; Camillo Bettencourt, tenor saxophone; Leon Rose, baritone saxophone.

Baritone solos—

(a) Border Ballad...Cowan (Boosey)

(b) Dreaming Alone in the Twilight.....Moore (Ditson)

Lauren Wilson, Mrs. Mark Latham, accompanist.

Paper, "Pictures and Picture Hanging," Helen Parker (courtesy Art Dealers' Ass'n of California).

Tenor solo—

Celeste Aida (from "Aida")....Verdi Frank Mueller

Piano solo—

Ballade in G Minor.....Chopin Douglas Soule

Mezzo-soprano solo—

Slumber Boat.....Gaynor Marguerite Weaver

Address, "Humors of the Law," Archibald Treat of San Francisco.

Band selection—Banana Humoresque.....Arr. by W. R. Douglas McClymonds High School Band

Vocal selections—

(a) Sierra Sue.....Carey (Buell Music Co.)

(b) My Old Irish Mother.....Carey (Buell Music Co.)

Marie Wallman

Cornet solo—Inflammatus (Stabat Mater).....Rossini Milton Barnes, Accompanied by band.

Soprano solos—

(a) I Dream That I Hear You Singing...Marshall (Boosey)

(b) As In Old Gardens.....Risher (Schmidt)

Mrs. J. H. Keyser

Brass quartet—

(a) Pilgrim Chorus (Tannhauser).....Wagner

(b) In the Gloaming.....Orred McClymonds High School Brass Quartet.

Milton Barnes, first cornet; Leland Mattheussen, second cornet; Howard Lockwood, alto; Newton Craig, baritone.

Baritone solo—

The Gypsy Trail...Galloway (Presser) Lauren Wilson

Piano solos—

(a) Murmuring Zephyrs.....Jensen

(b) The Butterfly.....Grieg Douglas Soule

Tenor solo—The Break of Day.....Sanderson (Boosey)

Frank Mueller

Mezzo-soprano solo—Absent.....Metcalf (Schmidt)

Marguerite Weaver

March—The Columbian.....Fulton McClymonds High School Band

10 P M TO 1 A M—Hotel St. Francis dance orchestra, San Francisco; Henry Halstead, leader.

KLX—Oakland Tribune, (509 Meters)

3 TO 5 P M—Baseball scores, all leagues.

7 TO 7:30 P M—News items, United States weather bureau bulletin, market and financial news.

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KHJ—J. A. Times (395 Meters)

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7 TO 7:30 P M—Children's program presenting Prof. Walter Sylvester Hertzog telling stories of American history. Giorgio Pepper, 7 years old, violinist. Helene Pirle, screen juvenile. Mrs. George L. Charette, soprano, accompanied by Grace Eaton Dow.

8 TO 10 P M—Program arranged through the courtesy of Beatrice Fenner, composer.

10 TO 11 P M—Art Hickman's dance orchestra from the Biltmore Hotel.

Sunday, May 25

KPO—Hale Bros., S. F. (423 Meters)

11 A M TO 12 M—Organ prelude, Theo. J. Irwin; prayers and sermon, U. S. Chaplain P. L. Kelley, "America's Strongest Defense," soloist, Ruth May Friend, soprano.

8:30 TO 10:30 P M—Rudy Seiger's Fairmont hotel orchestra.

KGO—General Electric Co., Oakland (412 Meters)

3:30 TO 10:30—KGO—Little Smyphony Orchestra.

KLX—Oakland Tribune (509 Meters)

9:30 TO 10:30 A M—Talk, hymns, prayers, Rev. John L. Snape, Oakland First Baptist church.

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"A" Batteries

For Your Radio

100-amp., 6-volt \$12.50

200-amp., 6-volt \$18.50

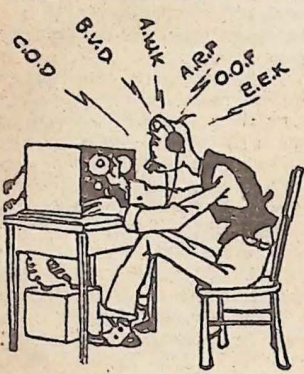
New York Pacific Battery Co.

987 Post St. Prospect 4130

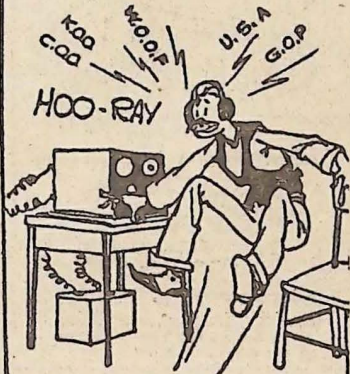
BUGS

By Roy Grove

HE SAT UP EVERY NIGHT FOR SIX MONTHS UNTIL HE FINALLY GOT —



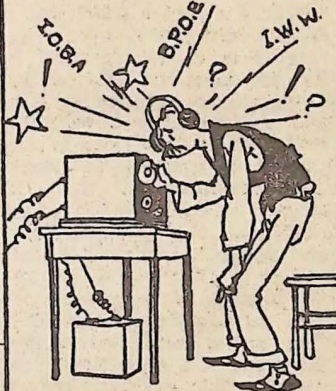
ALL THE STATIONS ON THE MAP TUNED IN —



AND NOW HE SITS UP LATER EVERY NIGHT —



TRYING TO TUNE 'EM ALL OUT



'Do's' And 'Don'ts' For Aerials And Grounds

BY DR. FULTON CUTTING

The radio user who desires efficiency, volume, range and selectivity cannot attach too much importance to insulation of the aerial and ground.

As the collector of feeble radio impulses, the antenna is of supreme importance.

The wave that is sent out from a broadcasting station travels over an ever widening area gradually becoming weaker as it goes hundreds of miles through absorbing atmosphere and over imperfectly conducting ground.

To make use of this feeble impulse, the aerial must be sensitive. Once the wave strikes the wire, it begins a journey to the receiver that may be as weakening as the projection from the distant broadcasting station.

Insulation Leaks

The main cause of this weakening is poor insulation. A point of poor insulation is a point where there is a "leak." That is, the current is able to flow off the aerial wire and into the roof or the walls of the house. This loss manifests itself in weaker signals.

When an antenna is on the roof, the lead-in should be held away by insulation from the sides of buildings. The lead-in should also be run through the wall or window with a porcelain tube or like insulation.

Inside the room short leads are best and should be insulated just as well as the wire on the outside of the house or apartment. The popular theory that inside or outside wooden, stone or brick walls will not deduct from the efficiency of an aerial is false.

Even if the wire has an insulating covering, it should not be run directly against a wall. The very proximity of the wall may cause a loss.

Long Ground Bad

After passing through the receiving instruments, the signal currents flow into the ground, and here insulation is again highly important. At first sight it seems unimportant by what path the impulses get into the ground.

One would think that the more paths that were provided, the better. This, however, is not the case. Only one ground should be provided, and that one the best ground available.

The most important thing about the ground connection is that it have as low resistance as possible. High resistance re-

duces the signal strength. The singular thing about radio currents is that they do not follow the path of least resistance. The easiest path for radio currents is the shortest path.

Suppose a radio receiving installation has two ground connections, one near the receiver and the other at some distance from it. Most of the signal current will flow into the ground through the nearer ground connection. If the nearer ground connection happens to have a large resistance, the signal strength will be reduced.

Now, if the nearer ground is removed, the current must flow through the distant ground connection, and if the resistance of this ground is low the signal strength will be greater than when there were two grounds.

Water pipes are about the best thing onto which to connect the ground wire, and the connection at this point should be as solid as possible.

Free for All

Both Democrats and Republicans will be free to let loose at station WAAM, Newark, N. J., and their remarks will not be censored. But the station owners make it known that whatever is said will not necessarily represent their own attitude.

World Radio Confab

The League of Nations is planning another world conference on radio. To make this effective, however, the United States and other nations not members of the league may have to be called in.

ORDER IT DAILY

There is only one way to be certain of getting the best of the news of the radio world as it occurs daily. That is by having The Daily News sent to your home each afternoon. If you are not a regular subscriber, mail this coupon to the Circulation Department and receive The Daily News. The price is only 50c a month.

Name

Street and number

Send this coupon to The Daily News, 340 9th-st, San Francisco; or just telephone and say, "I want The Daily News."

IDEAL FOR TOURIST FAN

BY ISRAEL KLEIN

NEA Service Writer While DX, the rage for long distance reception, remains popular and broadcasting stations compete with one another for honors, one of the sets demanding attention will be the four-tube superdyne.

It is one of the few receivers that can bring in stations far away with a fair degree of selectivity. It is practically a radio frequency hookup with two stages of audio and is the product of an old idea—the negative feedback principle.

The set described here can easily bring in stations 1000 and 1500 miles away on a loud speaker. Add a push-pull amplifier to the two stages of audio and you have a set almost equaling the super-heterodyne in volume.

An advantage of this set is that it can produce good results without an aerial—a hunch for touring radio fans! It can be built in compact form, bunching all four tubes with short leads. And its construction is comparatively simple.

Parts Required

The parts of the superdyne include:

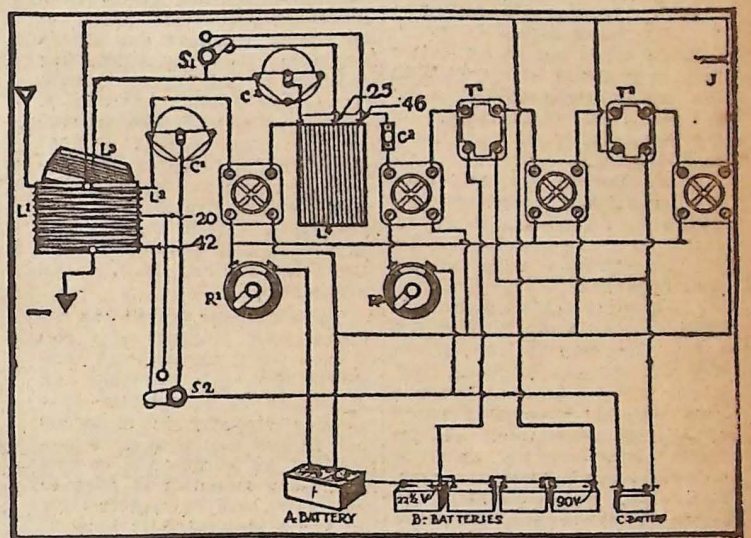
- L-1, L-2, L-3, special variocoupler windings.
- L-4, special plate coil.
- C-1, C-2, variable condensers, 23-plate.
- C-3, grid condenser, .00025 mfd.

- S-1, S-2, two-point switches.
- R-1, 6-ohm reostat.
- R-2, 6-ohm vernier rheostat.
- T-1, T-2, audio frequency transformers, 4-1 ratio.
- J, single circuit phone jack.
- Four tube sockets.

All this, besides the 6-volt storage A battery, 90-volt B battery, with tap at the 22½ volt terminal, a 3-volt C battery, three amplifier tubes, one detector tube, necessary wire and binding posts for winding the coils, the panel and base for the receiver, and wire for leads.

In Small Space

With all four tubes bunched neatly in a square, and the two transformers behind these, the whole set could be put up very neatly on a base about 16 inches long by 8 inches deep,



Hookup diagram of the four-tube superdyne.

and the panel could be 16 inches long by 6 inches high. The knobs controlling the tickler and two condensers may be ranged alongside one another at the left of the panel, and the tubes and transformers at the right.

The coil L-4 can be placed behind the second condenser and its windings could be at right angles to those of the variocoupler.

The four coils are made up as follows:

L-2 is made first on a 4-inch dielectric tube 3½ inches long, and consists of 42 turns of No. 22 D. S. C. wire. Start the winding about an inch from the top and tap at the 20th and the last turn.

Short Primary

L-1 is four turns of the same wire wound in spiral form over L-2 and in the same direction. This is connected directly to binding posts at top and bottom of the tube, to which the antenna and ground are connected, respectively.

L-3 is the tickler, consisting of 36 turns of the same wire wound on a 3½-inch rotor, 18 turns on each side.

L-4 consists of 46 turns No. 22 D. S. C. wire on a 4-inch tube coil, with a tap at the 25th turn and the last turn.

The taps on L-2 and L-4 are connected to the switch points of S-1 and S-2 respectively, the

lower taps being used for lower and the higher for higher, wavelengths.

Keep the grid and the plate leads of the radio frequency tube as far apart as possible and at right angles.

The rheostats are connected so that one controls the detector tube and the other works all three stages of amplification.

A single wire aerial 50 feet long is sufficient to get best results. When used without aerial, the negative of the A battery should be grounded.

Proper connection of the tickler leads may be tested by touching the ground binding post. If there is a howl in the phones, the tickler leads should be reversed.

Operation

To operate the superdyne, turn up filaments until a slight hiss is heard. Set both switches at the lower or higher taps, in accordance with the wavelength you wish to tune in, and bring the tickler into an upright position. Vary the two condensers equally until a slight whistle is heard.

Bring the coil L-3 back slightly until a click is heard and the broadcast program will be audible. Then vary the condenser, C-1, moving it forward slightly until the music is heard with the greatest volume.

The volume can then be controlled by the tickler, L-3.

German Stations Send Jail Threat

BERLIN, May 19.—A sound reprimand, followed by a promise of amnesty, was given Germany's radio pirates by Dr. Bredow, under secretary of state.

In the midst of broadcasting, the voice of Bredow was heard telling illegal listeners how badly they behaved toward their country by not paying the \$5 fee for a license. He promised to send each of them to jail unless they "came across" immediately.

Listeners Organize

The Society of Auditors has been organized in France. It consists of broadcast listeners and is growing fast. At a recent get-together they met many of the prominent broadcasters, whom they had known only by their voices.

N. Y. SEEKS WCNY CALL

NEW YORK, May 19.—Call letters of the transmitting station being put up atop the municipal tower for the city of New York may be WCNY, or KCNY, if the special request of that city's officials is granted.

Call letters in the United States may start with K or W, the letters allotted to this country by the International Radio Conference. But the remaining letters of the call may be indicative of the station broadcasting, as New York hopes to have it.

Radio From the Ground Up, Cont.

(Concluded from Page 3) have a coating of solder over the copper. This is called "tinning" the iron. Be careful to have the TIP of the iron well tinned.

Solder will not stick on the surface of the iron. Melted solder on the surface of the iron has the valuable feature of conducting the heat from the iron to the wires to be soldered. A dirty iron will not heat up the wires because there is a non-conducting medium of air and oxide between the iron and the wires.

Be sure that the iron is hot. Then place one of the faces of the iron on the wires to be soldered. As soon as the wires have become hot enough to melt solder themselves apply a bit of solder and a little flux. The solder will readily flow between the wires. Hold the joint with a pair of pliers until the solder cools.

'Covered Wagon' Carries Radio Set

MEDFORD, Or., May 19.—The T. J. Berrang "covered wagon" has just crossed the plains with an ox team and a radio set.

Berrang and wife, formerly of New Britain, Conn., left there in December, 1923, after their home burned. They bought an ox team and started out to find a new home in Oregon, just like the pioneers of old.

Every night they would draw up alongside the roadway, build their campfire and turn on the radio.

Much of their travel was over out-of-the-way roads. They followed the old Oregon trail whenever possible. The roughest part of their trip, they said, was in the Rocky Mountain states.

Lightning arresters are not necessary when an indoor aerial is used.

Radio Specials

Scientific Headset, world's greatest phone value.....	\$2.95
Swedish-American Headset reg. sells at \$8; sale price.....	\$3.35
Brandes Superior Type Headset, regularly sells at \$6; sale price.....	\$4.85
Brandes Navy Type Headset, regularly \$8; sale price.....	\$6.25
Brandes Table Talker (loud speaker); regularly sell at \$10.50; sale price.....	\$7.95
Amplifier Tubes (6 volts).....	\$3.90
Everready 45-volt 'B' Battery reg. \$5; sale price.....	\$3.80
Everready 22½-volt 'B' Battery, reg. \$2.50; sale.....	\$1.95
Everready 22½-volt 'B' Battery; sale price.....	\$1.65
Crystal Detector, with Crystal.....	59¢
Knocked-Down Crystal Detectors.....	25¢
Dials, 3-16 or ¼ shaft.....	15¢
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