

U. S. FIRMS FIGHT RADIO STEAL

OFFICIALS FOR RADIO SHOW ARE NAMED

Selection of committee chairmen to handle the various activities of the second annual Pacific Radio Exposition, to be held in the Civic Auditorium, Aug. 16 to 21, inclusive, and the naming of the six days of the show were announced today by A. S. Lindstrom, chairman of the executive committee in charge.

The opening day of the show will be San Francisco Day, to be followed in the order named by Eastbay Day, Great Valley Day, Peninsula and Santa Clara Valley Day, Los Angeles Day and North Coast Day.

Lindstrom, who will remain in general charge, stated that the appointments are expected to facilitate the working out of elaborate plans being made for the entertainment of the 100,000 persons expected to visit the show. He also announced that the directors of all the large broadcasting stations of the west as well as all the leading manufacturers and radio engineers of the United States have been invited to attend the local show.

The following members of the executive committee have been named chairmen and each will select two members to work with him: Don Lippincott, publicity, reception and entertainment of technical men and golf; H. W. Dickow, parade, program and prizes; F. J. Cramm, finance, hotel and transportation, and C. C. Langevin, professional and special programs.

A. R. R. L. Directors Hold Annual Meet

The annual meeting of American Radio Relay League directors, called by Pres. Hiram Percy Maxim, was held in Hartford, Conn., the morning of July 25. The directors represent all the A. R. R. L. divisions in the United States and Canada.

The directors listened to reports of amateur progress during the past year and discussed radio legislation, international amateur radio and kindred subjects.

All of the directors were present with the exception of Allen H. Babcock of the Pacific Division and Harry F. Dobbs of the East Gulf Division. H. L. Reid of Atlanta, Ga., sat in at the meeting as Mr. Dobbs' alternate. The following were present: George L. Bidwell, Washington, D. C.; Clyde E. Darr, Detroit, Mich.; Cyril M. Jansky Jr., Minneapolis, Minn.; Benjamin F. Painter, Chattanooga, Tenn.; L. Boyd Laizure, Kansas City, Mo.; George H. Pinney, South Manchester, Conn.; Karl W. Weingarten, Tacoma, Wash.; Tredway Gravely, Danville, Va.; Paul M. Segal, Denver, Colo.; Frank M. Corlett, Dallas, Tex., and A. H. K. Russell, Canadian general manager, Toronto, Canada.

CHANGE CALL LETTERS

Stations of the Canadian National Railways have had their call letters changed, each station to begin with the initials of the railways, CNR, and end with the initial of the town in which it is situated. The call letters formerly were those of Morocco, which has ceded them to the Canadian National Railways.

TWENTY ORCHESTRAS

Station WTAS, Elgin, Ill., has arranged for a variety broadcasting program of more than 20 orchestras weekly. Wire lines will connect the station with ballrooms in Chicago.

CLEAN JOINT NEEDED

A good soldering job requires a clean joint. After this the joint must be heated to make the solder effective. A slight touch of rosin as flux is all that is necessary for the operation.

ON RADIO HONEYMOON TOUR



Mr. and Mrs. Wendell Hall

WED BY RADIO, COUPLE HERE ON HONEYMOON

A radio courtship, a radio wedding and now a radio honeymoon trip.

That is the sequence of romantic events experienced in this age of scientific miracles by Wendell Hall, the radio artist known as the Eveready entertainer, and Mrs. Hall, who was Miss Marion Martin, a Chicago newspaper woman.

The honeymoon trip brings the radio bride and bridegroom to this city in the course of a tour of the west.

On June 4, Miss Martin and Mr. Hall were married in the technical presence of 4,000,000 guests, when the ceremony was broadcast through a hookup of four powerful stations.

The actual ceremony was performed in the studio of station WEAJ in New York City and relayed to Chicago, Washington and a New England station. Thousands among the countless number of guests wrote the happy couple of their pleasure in being invited to the wedding. Mr. Hall, since the first of the year, had made friends throughout the east and middle west by his chuckling crooning of songs and nonsensical ditties. He toured the eastern section of the country, covering over 4000 miles and appearing at nearly 50 stations.

It was an unending practice every night prior to June 4 for the Eveready entertainer to sing at least one song especially for the "little girl back in Chicago." Miss Martin was listening in every night. Many of the songs that he sang and that she heard had been written by Mr. Hall under the inspiration he received from her. There was a courtship by radio. Then, early in May, their engagement was announced over the air while Mr. Hall was singing in Atlanta. The radio wedding followed in June.

Local fans will be within easy tuning distance when Mr. Hall entertains at west coast stations. His schedule of appearances follows:

San Francisco, Halo Bros., Inc. KPO; Thursday, Aug. 28; Saturday, Aug. 30.
Oakland, Oakland Tribune, KIX, Monday, Aug. 4; Wednesday, Aug. 27; Friday, Aug. 29.
Los Angeles, Earl C. Anthony's, KFI; Sept. 1, 2, 3, 4, 5 and 6.

NEW RADIO HOTEL

Nashville, Tenn., is to have a radio apartment hotel. Every suite in it will be equipped with a receiving set. The hotel is planned to cost \$2,000,000.

SWEDEN LIFTS BAN

Sweden has raised the ban on amateur radio transmission. Thirty licenses have already been issued to amateurs.

Return of German Patents Is Opposed

WASHINGTON, Aug. 4.—

American radio inventors and manufacturers are combining their influence to prevent passage of a bill pending in Congress for the return of German or other enemy patents seized during the war.

They see in this proposal loss of the rights to the basic ideas that have resulted in the marvelous growth of the radio industry in this country and in the enormous popularity of the science.

The bill in question was introduced in the last session of Congress by Rep. Harry B. Hawes of St. Louis. It provides for the termination of power with the alien property custodian and for the return, under certain limitations, of seized property to the original owners.

One of its provisions calls for the return of seized patents, "except in so far as the United States government may desire to take over any particular patents by eminent domain, on payment of compensation."

It is to this provision that radio interests object. They point to the patents formerly controlled by the Telefunken Co., which had been seized by the government and handed over to the Navy Department.

Free to Americans

Among the patents were those covering radio frequency amplification, tuned radio frequency and reflex, originally owned by the Germans, Schloemilch and Von Bronk. These patents, they say, are the basic ideas on which practically the entire American radio industry has been developed—thanks to the war and American seizure of alien property.

With the government in control of the patents, any American citizen was entitled to help himself to them and develop them along individual lines. That they were taken up and developed is attested by the numerous radio frequency and reflex circuits now on the market under American names.

But if the Hawes bill goes through as drawn up, and the American government returns these radio patents to the Telefunken Co., the American radio industry will be tied hand and foot, say opponents.

They believe the returned patents may be turned over under a licensing arrangement to the Radio Corp. of America. And then, a single corporation will have a practical monopoly of radio inventions and products in this country.

Two Ways Out

However, government officials point to two conditions which point to retention of these patent ideas by this country.

One is the provision in the bill for retention of those patents that the government may desire to take over, on condition that the inventors be paid for them.

The other is the contention of naval officials that the alien property custodian sold these patents outright to the American navy, and that no patents sold outright could be returned to the original owners. But this is questioned by those opposing the Hawes bill, who insist that the Navy Department is merely the custodian of the patents and that the patents really come under the provisions of the bill.

The bill has been referred to the committee on interstate and foreign commerce.

UNION TO BROADCAST

The Brotherhood of Locomotive Engineers is planning a powerful broadcasting station in connection with the construction of its new bank skyscraper in Cleveland. Several other stations are being planned for this city.

Phones Deaf But Not Fan

Radio dealers often come in contact with the funny side of life.

Conrad Richter, who is a pioneer among San Francisco radio dealers, relates an amusing incident.

"Recently a radio fan, who seemed to be very much stricken by radioitis," came in to invest in a set of earphones," Richter stated.

"While the pair was in good order when he bought them, upon his arrival home he found he couldn't hear in one receiver.

"It never occurred to him that one of the earphones might have become damaged when he dropped it on the floor. It cost him \$10 to find out from an ear specialist that it was this, and nothing else, which was the apparent cause of his deafness."

Eastbay Dealers Form New Body

With closer co-operation and stability in the radio industry for their object, local jobbers and wholesalers of radio materials in the East Bay district have organized a new association, to be known as the Radio Jobbers' Ass'n.

A preliminary organization has been formed with O. A. Huber of the United Radio Supplies Co. as president, and L. H. Reyburn of the Braun Corp. as secretary.

The next meeting is scheduled for Wednesday, Aug. 13, when permanent officers will be chosen.

SAVAHI HEARS JAZZ

"Concerts given by KGO are enjoyed here," writes W. R. Ragsdale, trader, at Savahi, the last primitive island of Polynesia. "The jazz dance music from San Francisco is great and is very much appreciated by the natives, who listen in regularly over the loud speaker." The tribal tomtom is said to have lost much of its appeal.

FROM OCEAN BOTTOM

Station WIP, at Philadelphia, will be first to broadcast from the bottom of the sea. A deep sea diver will take a microphone down to the floor of the Atlantic, off Atlantic City, and describe the sea bottom there to listeners, through the remote control system. The novel stunt will be performed on July 31, at 3 and 8 o'clock.

RADIO TORPEDO

The British war office announces development of an aerial torpedo controlled by radio. It is carried by one airplane, while it can be controlled by radio apparatus on another plane.

Radio Helps To Keep Farm Folks Happy

CHICAGO, July 21 — "Our women-folk have quit listening in on the party line and have taken up radio."

So answers one caustic rural correspondent to a questionnaire on radio sent out by the Illinois Agricultural Ass'n.

The radio broadcasters are awake to this new interest down on the farm. Nearly every station puts on programs which are aimed as definitely as a mail order catalog at the farm population. An even more definite and a far broader program for rural consumption is being shaped by the American Farm Bureau Federation.

A year and a half ago, federation headquarters here pioneered into the broadcasting field. According to H. R. Kibler, director of information of the federation and arranger of the radio programs, it has just got started.

"We want to make the farm radio programs a combination of

university, newspaper and chaletauqua," says Kibler.

"It isn't to be an exclusive affair. We want the co-operation of all organizations interested in agriculture. Already the National Stock and Meat Board, the National Live Stock Producers' Ass'n, the Committee on Boys' and Girls' Club Work and similar organizations are united with us in the project.

"A forum for agricultural discussion is the ideal. It should work into the broadcasting of a farm program every evening from half a dozen or more scattered stations to bring it within easy range of every part of the country."

Whether the farm audience itself craves the university and forum features in addition to the entertainment, remains to be demonstrated. So far, apparently, folks prefer to hoe the corn to music rather than to lectures.

THIS WEEK'S AIR PROGRAMS

Monday

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

12 M—Bilingual reading of the Scriptures in English and Greek, by Rt. Rev. Athanasios Cavadas, D. D., archimandrite of Holy Trinity Greek Orthodox Church, San Francisco. Time signals.

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

2:30 TO 3:30 P M—Piano solos, Liebestraume No. 3; Military Polonaise; Corinne Day.

Soprano solos, Bowl of Roses; Darby and Joan; May C. Lassen; Margaret McDonald, accompanist.

Piano solos, Scotch Poem; Spirit of the Wind; Corinne Day.

Soprano solos, Absent; In the Garden of My Heart; May C. Lassen; Margaret McDonald, accompanist.

Piano solos, selected; Jessie Woods, pupil of Elsa Naess.

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

7 TO 7:30 P M—Rudy Seiger's Fairmont Hotel Orchestra.

8 TO 8:45 P M—Organ recital by Theodore J. Irwin, official organist, at the Wurliizer.

March of Victory; overture, Raymond; Kamenoi Ostrow-Reve Angelique; light opera selection, Robin Hood; song melody, First Kiss; Intermzzo, Le Secret; The Last Hope (by request); operatic selection, Andrea Chenier; gavotte, Stephanie; fox trot, Somewhere.

8:45 TO 9 P M—Soprano solos, Deep River (negro spiritual); Such a Little Fellow; Ellen Harper Jones; Theodore J. Irwin, accompanist.

9 TO 10 P M—Gen. Thorndwell Mullally will send special greetings to the American Legion convention, now in session.

Violin solos, A Dream; One Hour of Love; Feste G. Aspre, Estella Peterson, accompanist.

Baritone solos, Si Vous l'Avez Compris; Elegie; Ave Maria; Norman Simon, Wallace F. Wenzel, accompanist.

Festo G. Aspre, violin obligato.

Piano solos, selected; Walter Frank Wenzel.

Soprano solos, Care Selve (Atlanta); Hindoo Song; Etta Wilson. Feste G. Aspre, violin obligato; Walter F. Wenzel, accompanist.

Violin solos, Romanza Andaluza; Feste G. Aspre.

Duets for soprano and baritone, Oh, That We Two Were Maying; Still wie die Nacht (Still as the Night); Etta Wilson, Norman Simon.

10 TO 11 P M—E. Max Bradford's Versatile Band.

KGO-General Electric Co., Oakland (312 Meters)

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

3 P M—Studio musical program.

4 TO 5:30 P M—Henry Halstead's Hotel St. Francis Dance Orchestra, San Francisco.

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, weather, stock reports.

8 TO 9 P M—Educational talks by members of the summer session faculty, University of California, and music, broadcast over private leased wires through KLX from Stephens Union Hall, University of California campus.

9 TO 10 P M—Music by American Theater Orchestra (Owen Sweeten directing), broadcast over private leased wires from the American Theater, with song numbers from the KLX studio by Wendell Hall, through courtesy of the National Carbon Co.

Tuesday

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

12 M—Time signals; Scripture.

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

2:30 TO 3:30 P M—Organ recital by Theodore J. Irwin; Fox trot, Gone, But Still in My Heart; mazurka, Dance of the Gypsies; operatic selection, Faust; song melody, The Holy City; Spring Song; musical comedy selection, Irene; Anitra's Dance; song melody, Just an Old Love Song; Rubensque.

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

7 TO 7:30 P M—Rudy Seiger's Fairmont Hotel Orchestra.

8 TO 10 P M—Concert by the Sixth Coast Artillery Band, Guardians of the Golden Gate; Warrant Officer J. C. Coe directing.

War March of the Priquet; overture, Bohemian Girl; characteristic piece, Whisperings of Love.

Address, "The Obligations of Citizenship," Col. Harrison Hall, U. S. A. Grand selection, Attila; mazurka, Menuetto all'antico; waltz, Wine, Women and Song.

Address, "What Defense Day Means to the Pacific Coast," Col. A. V. P. Anderson.

March, Washington Grays; serenade, Serenade d'Amour; song, The Voice of Chimes; waltz, Thousand and One Nights; overture, Romantique.

10 TO 11 P M—E. Max Bradford's Versatile Band.

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10 TO 11 P M—E. Max Bradford's Versatile Band.

Rusticana; Arion Trio.

Soprano solos (a), Irish Love Song; (b), Sing Me to Sleep; Ethel Darling. Piano solos (a), Nocturne (Op. 9, No. 2); (b), Valse; Charles N. Wilson Newell.

Trio selections (a), The Nile; (b), La Visione; San Francisco Trio, Blanche Hamilton Fox, contralto; George van Hagel, cellist; Charles N. Wilson Newell, pianist.

Cornet imitations (a), Maryland, My Maryland; (b), Perfect Day; Ethel Darling.

Instrumental selections (a), Melodie; (b), Orientale; Arion Trio.

Contralto solos (a), Now Sleeps the Crimson Petal; (b), The Night Has a Thousand Eyes; Blanche Hamilton Fox.

Piano solos (a), Selections from "The Merry Widow"; (b), Nola Intermezzo; David Zimet.

Trio selection, Ave Maria; San Francisco Trio.

Cello solos (a), Dream Pictures; (b), Gavotte; George van Hagel.

Instrumental selections (a), Minuet; (b), My Bohemia; Arion Trio.

10 P M TO 11 P M—Henry Halstead's Hotel St. Francis Dance Orchestra, San Francisco.

KLX—Oakland Tribune (509 Meters)

3 TO 5 P M—Baseball.

7 TO 7:30 P M—News, weather, market and financial news.

DISTANT STATIONS

KJH—Los Angeles Times (395 Meters)

8 TO 9 P M—Program arranged through the courtesy of Mary Christine Albin, pianist.

9 TO 10 P M—Program presenting the Filipino String Orchestra, through the courtesy of the Blue Bird Cafeteria.

10 TO 11 P M—Art Hickman's Dance Orchestra from the Biltmore Hotel.

KGW—Oregonian, Portland (492 Meters)

8 P M—Concert arranged by Selberling-Lucas Music Co.

KFI—E. C. Anthony, Inc., Los Angeles (469 Meters)

6:45 TO 8:00 P M—Aeolian organ recital.

8 TO 9 P M—Ambassador Hotel-Cocoanut Grove Orchestra.

9 TO 10 P M—Examiner program.

10 TO 11 P M—Frederick Herrman arranging vocal program.

Wednesday

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

12 M—Time signals; Scripture.

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

2:30 TO 3:30 P M—Piano solo, selected, Maurice Michaels.

Soprano solo, Peace, Peace Mio Dio (from "La Forza del Destino"); Louis Stilson Miller, Maurice Michaels, accompanist.

Bass solos, Der Asra; Tell Me Not of a Lovely Lass; George W. Lane. Soprano solos, With You; The Big Brown Bear; Louis Stilson Miller, Maurice Michaels, accompanist.

Piano solos, selected, Maurice Michaels.

Bass solos, Gold Rolls at My Feet; Shipmates of Mine; George W. Lane. Soprano solos, Just for Today; Enough to Know; Louis Stilson Miller, Maurice Michaels, accompanist.

10 TO 5:30 P M—Rudy Seiger's Fairmont Hotel Orchestra.

7 TO 7:30 P M—Rudy Seiger's Fairmont Hotel Orchestra.

8 TO 11 P M—E. Max Bradford's Versatile Band. Mort Harris will sing popular selections during intermissions, accompanied by Peggy McDonald.

KGO-General 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. Speaker furnished through the courtesy of the Cora L. Williams Institute, Berkeley.

4 TO 5:30 P M—Concert Orchestra of the Hotel St. Francis, San Francisco, Vinton La Ferrara conducting.

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

KLX—Oakland Tribune (509 Meters)

3 TO 5 P M—Baseball.

7 TO 7:30 P M—News, weather, stock reports.

8 TO 10 P M—Studio program. Presentation by the KLX Players of "Only Thirty-eight," a comedy of three acts by A. E. Thomas, under the direction of Etta Wilson Coleman.

During the intermission between parts II and III, Lawrence Drake of the White House book department, San Francisco, will deliver the third of a series of book reviews.

DISTANT STATIONS

KJH—Los Angeles Times (395 Meters)

8 TO 9 P M—Program presented through the courtesy of the Platt Music Co., arranged by Edwin Lester of the Platt Music Co.

9 TO 10 P M—Program presenting Hatch Graham, singer. Dr. Mars Baumgardt, lecturer.

10 TO 11 P M—Art Hickman's Dance Orchestra from the Biltmore Hotel.

KGW—Oregonian, Portland (492 Meters)

8 P M—Concert.

10 P M—Dance music by George Olsen's Metropolitan Orchestra of Hotel Portland.

KFI—E. C. Anthony, Inc., Los Angeles (469 Meters)

6:45 TO 8 P M—Detective stories and vocal concert.

8 TO 9 P M—Evening Herald-Fullerton Radio Broadcasters.

9 TO 10 P M—Examiner program.

10 TO 11 P M—Hollywood Community Orchestra.

11 TO 12 P M—Ambassador Hotel-Cocoanut Grove Orchestra.

KFOA—Rhodes Co., Seattle (455 Meters)

8:30 P M—Special program of dance music by the popular Premier

KUO

San Francisco Examiner—360 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 and garden hint broadcast.

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

6:45 to 6:00 P M—Health bulletin.

Thursday

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

12 M—Time signals; Scripture.

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

2:30 TO 3:30 P M—Piano solo, Mounajat (Arabian song); Kathleen Sherris Luke.

Baritone solos, Where E'er You Walk; At Dawning; Harold Macdougall, Kathleen Sherris Luke, accompanist.

Dramatic soprano solos, Mignonette; Pale Moon; Jean Brightwell (daughter of the south); Lola Gwin Smale, accompanist.

Piano solos, Serenade in the Desert (Arabian song); Bedouin Dance (Arabian song); Kathleen Sherris Luke.

Baritone solos, Lassie o' Mine; My Jean; Harold Macdougall, Kathleen Sherris Luke, accompanist.

Dramatic soprano solos, Last Rose Back to Old Virginia; Larry Rose of Summer; Jean Brightwell; Lola Gwin Smale, accompanist.

Program by Garry Fisher's Amphians of California Cafe:

Step, Henrietta; Sweet Little You; Spain; Blue Evening Blues; Please; Some Day, Sweetheart.

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

7 TO 7:30 P M—Rudy Seiger's Fairmont Hotel Orchestra.

8 TO 9 P M—Organ recital by Theodore J. Irwin.

9 TO 10 P M—Piano duet, A Country Dance; Grace Hendricks and Mabel Jones.

Soprano solos, Aria, One Fine Day (from Madame Butterfly); Twilight Dreams; Hana Shimazumi and Harrison Cole.

Tenor solos, I Love You More; Sun Land; Harrison Cole.

10 TO 11 P M—E. Max Bradford's Versatile Band.

KGO-General 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. Speaker furnished through the courtesy of the Cora L. Williams Institute, Berkeley.

4 TO 5:30 P M—Concert Orchestra of the Hotel St. Francis, San Francisco, Vinton La Ferrara conducting.

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

KLX—Oakland Tribune (509 Meters)

3 TO 5 P M—Baseball.

7 TO 7:30 P M—News, weather, stock reports.

8 TO 10 P M—"Not So Fast," a comedy in three acts, by Conrad Westervelt, presented by the KGO Players, under the direction of Wilda Wilson Church, cast:

Henry Watterson Blake.....Guy B. Kibbee

Mary Standish.....Dorothea Wilson

Rose Standish.....Vera Morse

Robin Standish.....Barry Hopkins

Arabella, a maid in the Standish home.....Ellen Davidson

Sylvester Vane.....Bert Horton

James Barton, actor.....Fred Thomas

Fay Fothergill, actor.....Mary Harper

Place: New York City.

Time: The present.

Instrumental selection, selections from "Faust," KGO Orchestra.

ACT I

A Living Room.

Instrumental selection, Woodland Dreams Waltz, KGO Orchestra.

ACT II

An Office.

Instrumental selection, Aragonaise, KGO Orchestra.

ACT III

Same as Act I

Instrumental selection, Tannhauser March, KGO Orchestra.

RADIO, \$5.95

Wonderful, guaranteed receiving set! Complete, including phone, lead-in, aerial, etc. Nothing more to buy. No tubes or batteries needed. Simple and easy to operate. Brings in local and distant broadcast entertainment clear and loud within a 50-mile radius. Orders filled at sales office.

R. & O. MANUFACTURING CO.

Room 661 Pacific Bldg., San Francisco

KLX—Oakland Tribune (509 Meters)

3 TO 5 P M—Baseball.

7 TO 7:30 P M—News, weather, stock reports.

DISTANT STATIONS

KJH—Los Angeles Times (395 Meters)

8 TO 9 P M—Program presenting the Piggly-Wiggly Trio, arranged by Miss Chibred.

9 TO 10 P M—Program presenting G. Allison Phelps, speaker. Al Schiller, pianist.

10 TO 11 P M—Art Hickman's Dance Orchestra from the Biltmore Hotel.

KGW—Oregonian, Portland (492 Meters)

10 P M—Dance music by George Olsen's Metropolitan Orchestra of Hotel Portland.

KFI—E. C. Anthony, Inc., Los Angeles (469 Meters)

6:45 TO 8 P M—Y. M. C. A. lecture and Bon Ton Orchestra.

8 TO 9 P M—Ambassador Hotel-Cocoanut Grove Orchestra.

9 TO 10 P M—Examiner program.

10 TO 11 P M—Instrumental program.

Friday

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

12 M—Time signals; Scripture.

12:45 P M—Talk broadcast from 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.

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

KGO-General Electric Co., Oakland (312 Meters)

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

3 P M—Studio musical program.

4 TO 5:30 P M—Concert Orchestra of the Hotel St. Francis, San Francisco, Vinton La Ferrara conducting.

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

KLX—Oakland Tribune (509 Meters)

3 TO 5 P M—Baseball.

7 TO 7:30 P M—News, weather, stock reports.

8 TO 9 P M—Studio program: Presented by the Berkeley branch of the Mercantile Trust Company of California, under the direction of Ethel Irvine.

Soprano solos (a), The Wren; (b), In the Time of Roses; Mrs. Grace G. Bear, Miss Ethel Irvine, accompanist.

Bass solos (a), Drink to Me Only With Thine Eyes; (b), Annie Laurie; (c), Irish Names; Albert E. Bear, Mrs. Grace G. Bear, accompanist.

Violin solos, selected; Mrs. Claire Ferrin Thatcher, Mrs. Jane Ralphs Bessette, accompanist.

Whistling solos (a), Nocturne; (b), Sunflower Dance; Miss Shirley Irvine, Miss Ethel Irvine, accompanist.

Talk, "An Unpleasant Subject," G. C. Pettygrove, vice-president, Mercantile Trust Co.

Tenor solos (a), The Old Road; (b), I Know a Hill; (c), Jean; Nelson C. McGee; Miss Ethel Irvine, accompanist.

Duet for soprano and bass, Passage Bird; Farewell; Albert E. and Mrs. Grace Bear, Ethel Irvine, accompanist.

Whistling solos (a), An Open Secret; (b), Allah; Shirley Irvine, Ethel Irvine, accompanist.

Violin solos, selected; Mrs. Claire Ferrin Thatcher, Mrs. Jane R. Bessette, accompanist.

Duet for tenor and bass, La Forza del Destino; Nelson McGee and Albert Bear, Ethel Irvine, accompanist.

Dialogue, "The Will and the Way," G. C. Pettygrove, vice-president, Mercantile Trust Co., and P. L. Naylor Jr., assistant cashier.

Tenor solos (a), Bird of the Wilderness; (b), Vale; Nelson McGee, Ethel Irvine, accompanist.

Bass solos (a), Vision Fugitive; (b), Hear Me, Ye Winds and Waves; Albert E. Bear, Mrs. Grace Bear, accompanist.

Soprano solos (a), Song of the Soul; (b), Elegie; Grace G. Bear, Ethel Irvine, accompanist.

DISTANT STATIONS

KJH—Los Angeles Times (395 Meters)

8 TO 9:30 P M—Program presented through the courtesy of Mr. and Mrs. J. L. Hunter, owners of the Raven at Laguna and San Juan Inn, San Juan Capistrano; arranged by Julia Kellar, pianist.

9:30 TO 10 P M—Program presenting Charlie Wellman, jazz tenor, and Bill Hatch, pianist.

10 TO 11 P M—Art Hickman's Dance Orchestra from the Biltmore Hotel.

KGW—Oregonian, Portland (492 Meters)

8:15 P M—Studio concert by George Olsen's Metropolitan Orchestra.

tra of the Hotel Portland; Herman

Kenin, director.

10:30 P M—Hoot Owls.

KFI—E. C. Anthony, Inc., Los Angeles (469 Meters)

6:45 TO 8 P M—Aeolian organ recital.

8 TO 9 P M—Evening Herald-Fisher's Melo-Jazz Orchestra.

9 TO 10 P M—Examiner program.

10 TO 11 P M—Los Feliz Trio.

11 TO 12 P M—Ambassador Hotel-Cocoanut Grove Orchestra.

KFOA—Rhodes Co., Seattle (

S. F. R. C. WILL HAVE DISPLAY AT BIG SHOW

The San Francisco Radio club has completed plans for its exhibits at the Pacific Radio Show, to be held at the Exposition auditorium, Aug. 16 to 21. The club will entertain visitors in its booth with music received over a Remler Superheterodyne. Tickets will be sold for a radio set, which will be given away the last night of the show.

To attempt to regulate the jam in the local air traffic, a committee has been appointed by the S. F. R. C. and the Pioneer club. Much disturbance has been caused by users of phone sets and I. C. W. sets operating on short wave lengths, while CWs endeavor to get DX between 10:30 p. m. and midnight. Most of the offenders are reported to be new "hams."

6CFL is putting up an outside aerial. He has been working the bay district with an aerial set up in his attic. Now he hopes to get good DX results.

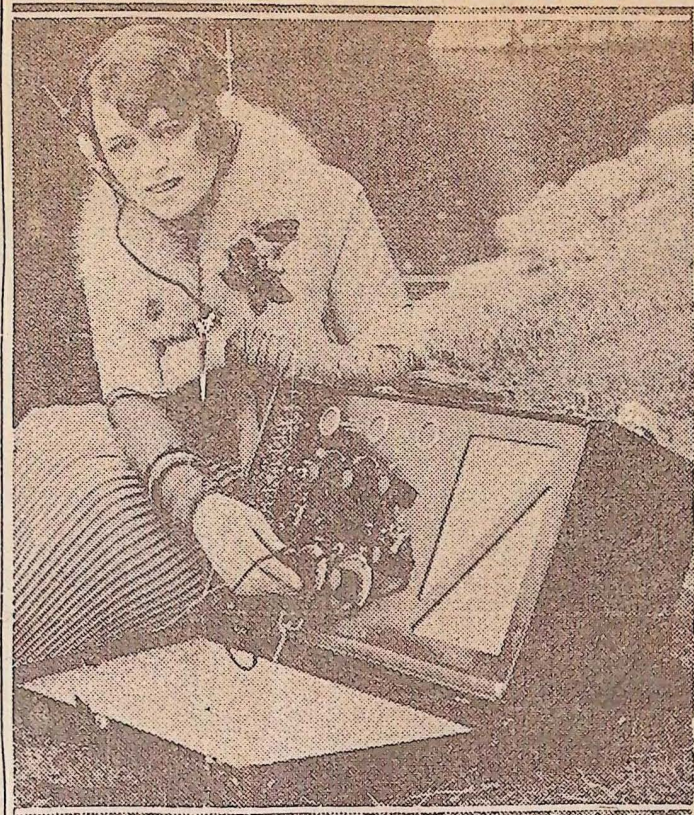
Rio Nido seems to have been the mecca for a large number of the local ham colony. Among those who are spending their vacations in the sunny northland are 6CEE, 6TI, 6CJ, 6AFM, 6PW, 6CW, 6APK and 6CATV. The hams report that although Los Angeles and Portland can be heard very clearly, reception from San Francisco and Oakland is poor, owing to a dead spot in Rio Nido.

6CMM, otherwise Dick Warner, has just returned from Rio Nido, with a coat of tan, blisters and sunburn. Dick will join the forces of the air this week.

Local hams report that they can hear 6AGN of Napa as clearly as the calls received from S. F. hams. 6AGN received a card from a French "8," who had picked up his station in France. 6AGN will be remembered as formerly having been 6BIH of Merced.

6AWT is on the air with a synchronous rectifier, which was especially made for him in

RADIO SET FOR VACATIONISTS



Summer radio is fast winning popular favor with vacationists. Here is shown Miss Marie Hogan listening in to radio music while far from San Francisco streets. Latest models to be exhibited at the Pacific Radio Show at Exposition Auditorium Aug. 16 to 21.

WIRELESS EDUCATION

England is going to adopt the system of education by radio now in vogue in various parts of the country. Besides broadcasting for school children, the big stations also will broadcast weather reports and other official announcements which the government previously had in charge.

Los Angeles. This set will handle anything up to 6000 volts.

With the opening of the fall semester of school drawing near, the Poly Radio club is going over the club transmitter and tuning up for the winter season.

Victims of Storm to Entertain Fans

A group of Lorain, Ohio, people, some of whom lost relatives or friends and some of whom were rendered homeless by the tornado which nearly wiped out the city June 28, are to entertain radio listeners. They will stand in front of the same microphone at station WTAM that told of the loss of their loved ones and summoned aid to the homeless, and sing.

French amateur has suggested that boys under 18 or 20 be barred from use of radio receivers.

'HAMS' SEND SIGNALS FROM MOVING TRAIN

LONDON, Aug. 4.—Experiments having to do with the reception and transmission of radio signals from a moving train have been carried out here successfully by a number of radio amateurs connected with the Radio Society of Great Britain. On a run from this city to Newcastle, a distance of 276 miles, messages were exchanged with station 6XX here and amateur stations along the route.

A special car was attached to the "Scotch Express" through the courtesy of the London and Northeastern Railway Co. This was fitted up with an amateur transmitter and short wave receivers. Unlike most experiments of this kind the aerial, instead of being strung along the top of the coach, was located inside. There were two antenna wires stretched through the car from end to end.

Some of the two-way communication with amateur stations was carried on over a distance

ANSWERS

Raymond Oeuial, 287 Church-st, San Francisco, asks:

(1) Could a loud speaker be attached to the Copp circuit that was published in The Daily News Radio Magazine section on Monday, July 14?

(2) What size tubes shall I use on the receiver? (3) Shall I make 17 turns on both sides of the ball rotor or just one side?

(1) With the addition of a two-stage amplifier a loud speaker may be attached. (2) Use UV 201-A or UV 199 tubes for both detector and amplifier. (3) The rotor should be wound with 17 turns on both halves, in the same direction, and connected together.

Station WKAQ, at Porto Rico, is being heard regularly in Europe.

of 100 miles. The power used was very small and consisted of only a few watts. Although a complete record of the tests has not been made public, it is understood that railway officials are much impressed with the results.

PROGRAM CONTINUED

(Concluded from Page Two)

Morton H. Gleason.
Violin solo, Josephine Holub.
Soprano solos (a), Ah! Love But a Day; (b), The Owl; Miriam Sellander.
Vocal selection, Festival Te Deum; Chanson Quartet.

Duet for contralto and bass, Singing to You; Helen E. Halst and Morton H. Gleason.
Cello solo, Margaret Avery.
Bass solo, Song of Hybras the Cretan; Morton H. Gleason.
Duet for soprano and tenor, Serenade; Miriam Sellander and Philip Ashcraft.

Vocal selections (a), As I Was Going to St. Ives; (b), Bless the Lord, O My Soul; Chanson Quartet.

Instrumental selection, Beauty's Eyes; Arlon Trio.

10 P. M. TO 1 A. M.—Henry Halstead's Hotel St. Francis Dance Orchestra, San Francisco.

KLX—Oakland Tribune (509 Meters)

3 TO 5 P. M.—Baseball.

7 TO 7:30 P. M.—News, weather, stock reports.

KRE—Berkeley Gazette (278 Meters)

8 TO 12 P. M.—Dance music by Grace Heidt's Orchestra of the Hotel Claremont.

KESG—Angelus Temple, Los Angeles (278 Meters)

7:30 TO 9:15 P. M.—Auditorium service. Sermon on divine healing by Almee Semple McPherson. Music by Temple choir; Marion McGlashen Muller, Salvation Army, soloist, and Sarah Karcher, violinist.

9:15 TO 10 P. M.—Gray studio program.

10 TO 11 P. M.—Organ recital and program through courtesy of Roy R. Brignall, organist, with assisting artists.

DISTANT STATIONS

KHJ—Los Angeles Times (395 Meters)

8 TO 10 P. M.—Program presenting the Naval Reserve Band; M. L. Brock, director.

10 TO 11 P. M.—Art Hickman's Dance Orchestra from the Biltmore Hotel.

KGW—Oregonian, Portland (492 Meters)

10 P. M.—Police reports, baseball scores, weather-forecast and music by George Olsen's Metropolitan Orchestra of the Hotel Portland (two hours).

KFI—E. C. Anthony, Inc., Los Angeles (469 Meters)

6:45 TO 8:00 P. M.—Hennessy's Paramount Players.

8 TO 9 P. M.—Althea Oliver, mezzo-soprano, arranging concert.

9 TO 10 P. M.—Examiner program.

10 TO 11 P. M.—Popular song program.

11 TO 12 P. M.—Ambassador Hotel-Cocoanut Grove Orchestra.

Sunday

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

10 A. M.—Hebrew services, Rabbi Fried.

11 A. M. TO 12 M.—Non-sectarian church services; organ prelude, Theo J. Irwin; sermon and prayers, Dr. R. F. Donaldson; soloist, Martha Jane Tackabury, contralto.

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

KLS—Warner Bros., Oakland (360 Meters)

12 M TO 1 P. M.—Radio Church of America, Rev. Dr. George Chambers; music in charge of Charles Dickens.

KLX—Oakland Tribune (509 Meters)

9:30 TO 10 P. M.—Church services, First Baptist Church, Oakland; Rev. J. L. Snape. Sermon, prayers.

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

11 A. M.—Services from the First Methodist Church, Oakland.

Prelude, "Chant Bubonheur." Quartet, "Hark, Hark, My Soul!"

Tenor selections, E. C. Woodward. Sermon, "A Radiant Religion," Rev. John Stevens.

Postlude, "War March of the Priests," Rev. John Stevens.

3:30 P. M.—Concert by KGO Little Symphony and vocalists; Carl Rhodhamel conducting.

Waltz, Fin de Siecle.

Overture, Hungarian Lustspiel (a), Minute, The Poser; (b) Out of the Night.

Soprano solos (a), "The Lord Is My Shepherd"; (b), "Teach Me to Pray"; Margaret N. Bunting.

Plano solo, Turkish March; Dorothy Wines Reed.

Soprano solos (a), "When Roses Bloom"; (b), "I Heard You Go By"; Margaret N. Bunting.

Plano solo, "Sunrise"; Dorothy Wines Reed.

Ballad suite, "La Source" (Suite II); march, "Pomp and Circumstance"; old song series (No. 13), "Call Me Thine Own"; KGO Little Symphony Orchestra.

7:30 P. M.—Evening services from the First Methodist Church, Oakland.

Prelude, "The Curfew."

Quartet, "Listen, O Isles Unto Me" (contralto solo, Mrs. Cyrus Anderson).

Baritone solo, selected; Robert Baxter Todd.

Sermon, "The Faith of an American," Rev. John Stevens.

Postlude, "March from Tannhauser"; Mrs. Eugene W. Rolland.

DISTANT STATIONS

KFI—E. C. Anthony, Inc., L. A. (469 Meters)

10 TO 10:45 A. M.—Los Angeles Church Federation service.

6:45 TO 8 P. M.—Metropolitan theater program.

8 TO 9 P. M.—Ambassador hotel concert orchestra.

9 TO 10 P. M.—Examiner program.

10 TO 11 P. M.—Packard Six orchestra.

KHJ—Los Angeles Times (395 Meters)

10 A. M.—Sermon from KHJ studio by Rev. J. F. Humphrey, pastor of Central Methodist Episcopal church, Long Beach.

10:30 A. M. TO 12:30 P. M.—Organ recital and entire religious service from the First Methodist Episcopal church; Arthur Blakeley, organist, and Rev. Elmer E. Helms, pastor.

6:30 TO 7 P. M.—Art Hickman's concert orchestra from the Biltmore hotel.

7 TO 7:30 P. M.—Organ recital from the First Methodist Episcopal church, Arthur Blakeley, organist.

8 TO 10 P. M.—Program presented through the courtesy of William Edson Strowbridge, manager of the Hollywood Bowl Ass'n.

KGW—Oregonian, Portland (492 Meters)

6 P. M.—Church services.

RADIO FROM THE GROUND UP

Not differing from audio amplification in its essential principles, radio frequency amplification handles the impulses received from the aerial in their original form, oscillations of hundreds of thousands of times per second, and strengthens them before they are delivered to the detector. In this way signals from great distances may be heard which to the detector tube alone would be entirely out of range.

A most useful circuit for adding the stage of radio frequency to the regenerative receiver is shown herewith. The antenna is coupled to the set through the "untuned" coil of fifteen turns, as described for the simple regenerator. The secondary winding of this fixed coupler has fifty turns of wire spaced about one-eighth inch from the primary, and this secondary is tuned by a .0005 mfd. variable condenser. Since the tube is an amplifier one side of the secondary is connected directly to the grid of the tube, while the other side normally is placed on the negative of the filament circuit.

The audio transformer has a primary and a secondary winding, and the radio transformer also is so constructed. Of course, on account of the much higher frequencies to be handled, the windings are very much smaller, and the transformer or coupler is made exactly as was the variocoupler in the previous lesson. There is a primary of fifteen turns, a secondary of fifty and a tickler coil of forty turns to make the detector tube regenerative.

Now, with as many as fifteen turns on the primary of the radio transformer the radio frequency amplifier tube will oscillate when the two variable condensers are set for the same wave length. The effect is then much like the tuned plate circuit, where regeneration is secured by tuning both grid and plate circuits of a tube. To control this oscillation the return lead from the secondary of the radio frequency (R.F.) tube is not made direct to the negative

of the filament but to the movable contact arm of a potentiometer. This instrument consists of a resistance winding of about 300 or 400 ohms, whose ends are connected across the filament battery. Any desired voltage may be impressed upon the grid, within the limits of the filament battery, by adjustments of the movable contact, and in this way the tube may be brought fairly close to the point of oscillation. The actual regeneration is really obtained in the detector circuit by means of the tickler coil, and the circuit as a whole is a very satisfactory and sensitive method of reception, for both radio frequency amplification and regeneration are employed.

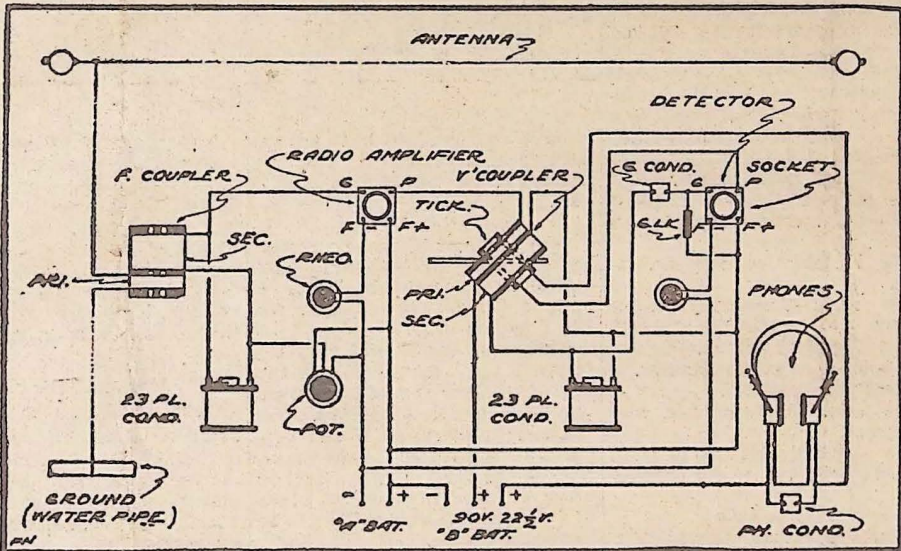
Two or three stages of radio amplification are often used for greater sensitivity. Great care is then required to keep the system from oscillating on account of the presence of a number of tuned circuits set to the same wave length. The feedback of

energy takes place both by plain induction between the coils and through the small capacity formed by the elements of the R. F. amplifier tubes. Coils, however, are usually mounted so as to have no inductive coupling between them.

Neutralization

Several methods are in use for overcoming this tendency toward oscillation in a multistage radio frequency amplifier. The neutrodyne utilizes a novel method, involving a condenser of small dimensions equal to the tube capacity between the grid and a portion of the secondary of radio frequency transformer so as to pick off and impress on the grid a charge equal in intensity but opposite in polarity to the charge causing oscillation of the tube. This condenser is called a neutrodon and the transformer a "neturoformer"—these being coined names, however.

The circuit uses two stages of radio frequency neutralized in this fashion. Another scheme, which is quite popular and under the control of the operator, employs a small variable condenser for the same purpose. Here, however, a special coil is provided to pick up the opposing charge, and this extra coil is equal in size and closely coupled to the primary of the transformer. It carries an extra plate which is connected to the filament. A variation of the neutralizing or "compensating" condenser would change the tuning of the tube's grid circuit without this extra plate. But with it a reduction in capacity between the neutralizing plate and the grid electrode of the condenser is automatically accompanied by an equal increase between the grid electrode and the filament, thus keeping the tuning constant while adjusting to control oscillation.



FLOOD OF NEW RADIO STYLES DUE THIS FALL

BY STUART ROGERS

By the middle of September, at the latest, the annual battle of cabinets and hookups will be in full swing. It will be one series of "shock attacks" after another, with the purchasing public on the receiving end, for there are more innovations in process of manufacture and more changes in style to be introduced than the hectic game has known in its three short but fiery years.

From what San Francisco radio dealers forecast, nearly 45 per cent of the 1925 models in radio receiving sets will be of the console, writing desk or tabouret type.

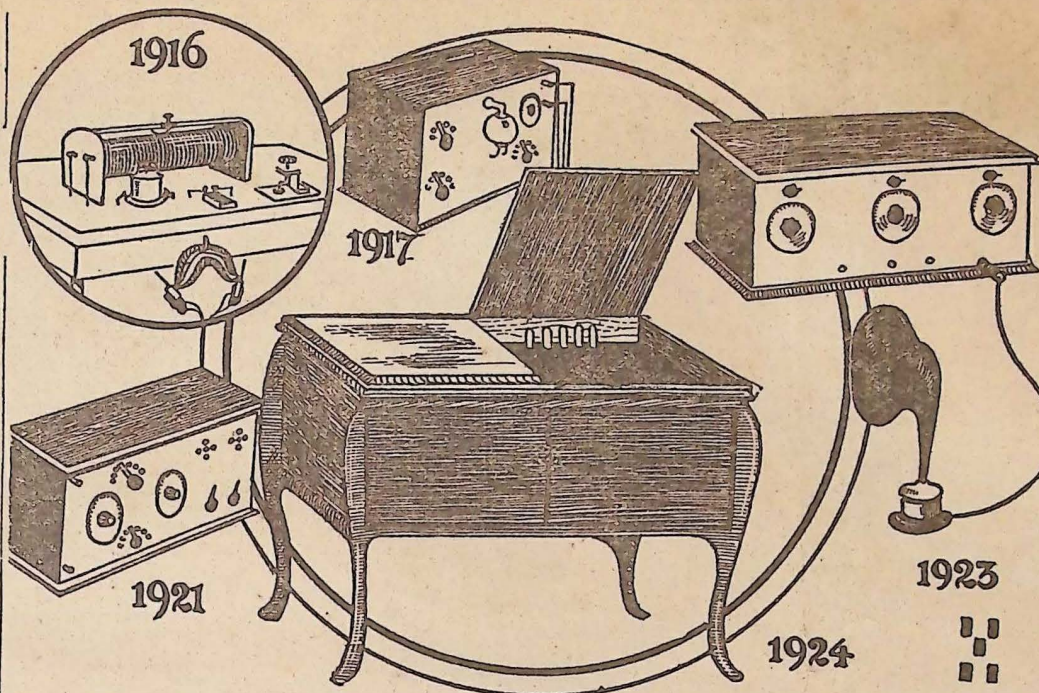
There is also a decided trend toward the incorporation of sets in upright phonograph cabinets. Four concerns will go even farther and combine the two instruments.

Receivers De Luxe

Most of these "ritzy" outfits have the radio unit built into the cabinet, below the screened horn of the phonograph and just above the place for storing records.

Two models which have come to our attention have the tubes, tuning dials, panel and all the other parts set into the cover, which, when raised, permits the set to be tuned with the panel in a horizontal position, in accordance with standard practice. The phonograph horn, as would naturally be supposed, is made to serve as the radio loud speaker also.

Mechanically all of these sets are masterfully constructed, with five or six tube circuits predominating. It was notice-



The world moves and so does radio. The antiquated coil and spark gap outfit used in 1916 is as obsolete now as the Dinosaur. In lesser and lesser degree, so are the other types of sound catchers shown here. The latest is the up-to-the-minute console model. What new wonders in sets radio has in store for us can well be imagined from the remarkable strides in development of types as graphically illustrated here.

able, also, that the favorite hookup will be two stages of radio frequency, tube detector and two stages of audio, with dry cell tubes employed throughout.

Quite an advancement from the old days of the single slide tuner and the crystal with the cat's whiskers.

No More Clutter

Everywhere there is a noticeable trend to rid installations of

their unsightliness, with myriad wires leading out from the sides and the back of the cabinets to various batteries scattered about the tables and on the floors, indicating that manufacturers are beginning to take the housewife's interests into consideration.

Larger "B" battery units supplying increased amounts of voltage are also making their ap-

pearance gradually, and smaller units are being made in new shapes to fit into hidden corners behind transformers, condensers and coils.

Wave traps as standard equipment are being placed in a few of the ready-made receivers, along with some of the more desirable accessories such as log-cards, set-in clocks and voltmeters.

Aside from sets, loud speakers are receiving the most attention from engineers. All sorts of refinements have been added. In part these consist of doing away with the old-fashioned, top-heavy horn and the building of modified forms of this style speaker into lamps, shades, vases, and in fact, almost every conceivable item of parlor and living room decoration, save the chafing dish. More and more English makes of speakers are finding their way into this country, too.

Tube Improvements

Even in the matter of tubes there will be some surprises. Metal bases are slowly passing out and composition bases, cutting down losses, are coming in. Most interesting of all is the report that a new tube is being built for direct attachment to the house lighting current and possessing the necessary elements for rectifying a. c. and passing it on without a hum to the radio frequency, detector and audio frequency tubes.

Parts have not been neglected, either, especially variable condensers. Here we find a decided swing to the straight line effect and to low-loss construction. Even the lowly little grid leak is coming in for attention. These are being made more durable and with better leakage paths.

Standardize Transformers

Preparing for a winter that will see the almost universal adoption of radio frequency, manufacturers of transformers are getting into quantity production of these units in preference to audio transformers, which have about reached the point of minimum price and maximum efficiency on a wholesale basis.

FIGHT SENATE BROADCASTING OF SPEECHES

WASHINGTON, Aug. 4.—Reasons for opposition to proposed broadcasting of Senate proceedings were brought out here by Sen. James W. Wadsworth Jr. of New York.

"I do not believe that broadcasting the proceedings of the Senate will contribute anything toward a better understanding of what is going on," he says. "I am convinced it would restrict real freedom of debate and, at the same time, greatly extend it. Spontaneity of debate would be ruined. Consideration would be paid only to the political effects of what one had to say on a given subject."

"There is too much 'speaking for the record' now. This human propensity to advance political fortunes would consume an even larger part of the time if radio were installed. The proceedings of Congress are available to anyone in the Congressional Record. By means of many news services and correspondents, all the essential facts are accurately reported to the public."

British stations will broadcast zoo sounds regularly.

RADIO ACTOR IS INSURED

What is a radio entertainment worth?

A recent insurance policy tells the tale. It was written by Lloyd's of London to insure the entertainment by Ernie Young and his musical revue company, broadcast from WOR Newark, against possible S. O. S. calls or atmospheric disturbance.

The policy called for a \$50,000 amount to which the company might be liable. This is taken as the estimated value of Ernie Young's entertainment from WOR, Newark, to the radio public for one night.

A producer of musical comedies recently estimated that his weekly gross business was increased by \$3000 for several weeks following broadcasting of a single act of his production.

TUNING BANS OSCILLATIONS

BY ISRAEL KLEIN

NEA Radio Editor

Radio frequency amplification is no proof against local oscillation. But tuned radio frequency is—to a certain extent.

For a good three-tube set, with a stage of radio and one of radio frequency amplification, therefore, it is advisable to use a tuned inductance rather than a radio-frequency transformer in the plate of the first tube and a similar inductance in the aerial circuit.

This is the principle upon which this week's hook-up is based. To insure further against any possible squeals or howls, a potentiometer is placed across the filament circuit of the radio-amplifying tube. The result is a stable, radio-audio frequency amplifier with practically no loss in selectivity and volume.

The parts of this set include:

- Two fixed couplers of 1 to 4 ratio.
- Two variable condensers, 13-plate.
- One audio-frequency transformer, 4 to 1 ratio.
- Two 6-ohm rheostats.
- One 400-ohm potentiometer.
- Three-tube sockets.
- One variable grid leak and condenser.
- One single-circuit phone jack.
- No. 14 copper wire for connections.

Cost Is Low

This, excluding tubes, batteries and loud speaker, should not cost more than \$20.

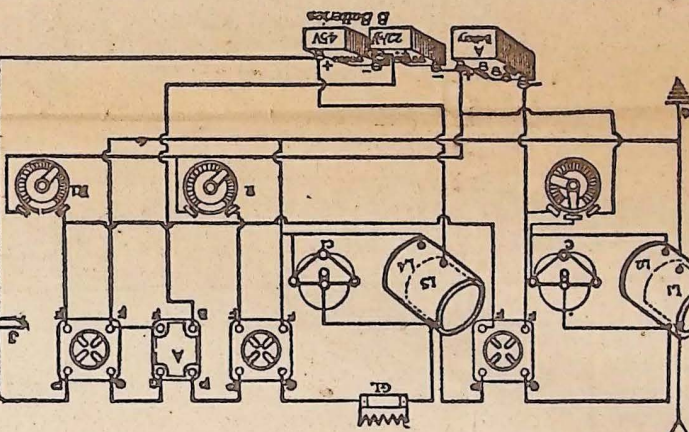
The two fixed couplers in the aerial and in the first tube's plate circuit are exactly alike. They can be made as follows:

On a tube 3 1/2 inches in diameter by 2 inches high, wind 15 turns of No. 22 DCC wire. Wind 60 turns of the same wire, the same way, on another tube of slightly larger diameter and 4 inches long. Fit the smaller winding into the larger tube by braces or screws, so as to keep them in permanent relationship to each other.

Repeat this with the other inductance. The connections are made as shown in the diagram. They should be as short and direct as possible.

The best way to connect these inductances is to attach each to its condenser by a brace. Care should be taken that the inductances are at right angles to each other.

Thirteen-plate condensers



have been found of best advantage in this hook-up. Their capacity would be around .00025 mfd.

Double Duty

One rheostat of 6 ohms resistance is used for both radio and audio amplifying tubes, and a similar rheostat is employed for the detector tube.

The grid leak should vary between 1 and 2 megohms and the grid condenser should have a capacity of about .0005 mfd.

The regular round No. 14 copper wire is advised for the leads, instead of the rectangular bus wire, because the square edges of the bus wire are conducive to radiating losses.

This set is best adapted to the use of UV-200 tube for detector and UV-201-A tubes for the amplifiers.

LET'S SWAP

TO SWAP—Brand new tubes, UV199 or C299 or C300; will swap one for audio-freq. transformer or new 45-volt battery; or will sell each for \$3.50. Call at 2711 Bryant-st between 7:30 and 9 p. m.

TO SWAP—One-stage audio frequency amplifier in cabinet, for other radio equipment. R. W. Kispert, 320 Frederick-st.

TO SWAP—Two Cymo variometers, 1 Remior variometer, 2 variocouplers, 1 Regal inductance switch for radio parts or cash. E. Schoenfeld, 473 Clementina-st. Kearny 4036.

TO SWAP—Armace receiving set, complete; oak case; also one crystal set. What have you? 21 Winfield-av. city.

TO SWAP—Edison \$36, 6-cell storage "A" battery, for magnavox or

The phone jack and the primary of the second radio frequency inductance may be connected to the positive of a 45-volt B battery, although this may be increased to 67 1/2 or even 90 volts, if more volume is desired. With the increase in volume, it must be remembered, there comes a sacrifice in selectivity.

The tuning of the set depends almost wholly on the two condensers whose highest efficiency will be found at almost similar readings. But the potentiometer comes in for extremely careful adjustment, the moment a squeal is heard in the phones. Once this is taken care of, however, it will be found that the set will work well without further adjustment.

Rolla loud speaker, or what have you? Will sell H. K. Neely, 1654 Page-st. Park 5967.

TO SWAP—One loop, containing over 100 feet of No. 18 d. c. a. wire, for a wireless or telegraph key. Will pay the difference if high price key. William Hansen, 1041 Valencia-st. Mission 6176.

TO SWAP—Mahogany cabinet, takes panel 8x12; two R. F. transformers, 25 and 50-turn honeycomb coils, mounted; 23-plate variable condenser, in case; practice key and buzzer; set of Victor-Marconi code records. What have you? F. L. Leaver, 6245 Avenal-av. Oakland. Elmhurst 1704.

TO SWAP—One audio frequency amplifier on panel, using Kellogg transformer, with "C" batteries, for two slightly used C-299 tubes; or will sell. Valencia 954.

FANS PROTEST SIGNALS FROM N. Y. STATION

NEW YORK, Aug. 4.—The jinx that has been following New York City's broadcasting efforts refuses to leave.

The city's second attempt at broadcasting, considered successful from the broadcasting end, is now being attacked from the receiving end.

The first broadcasting effort, undertaken a year or two ago, had to be given up when it was found that extremely high power and special methods would have to be adopted to overcome the interference offered by the tall steel structures surrounding the municipal tower.

Now, with these believed overcome to some extent, and broadcasting from the tower considered practically accomplished, come objections from radio fans throughout the east. WNYC, the official New York station, is interfering with other broadcasters and practically shutting off all possibilities of getting outside stations.

The objection to New York's station is two-fold. It covers the wave-length of 526 meters, which is said to be just high enough to cause interference from ship stations that transmit 600 meters. And the station is so powerful that it prevents good reception even on smaller wave-lengths.

Station WOAW, at Omaha, Neb., about 1000 miles from New York, has the same wavelength as WNYC. When both stations are broadcasting at the same time, radio fans halfway between them are likely to hear the stations on top of each other, with continual beat notes, and neither station would come in clearly.

Re-allocation of wavelengths, with wider intervals both as to wavelength and distance, may have to be undertaken, to clear up such a tangle.

TOWN SEEKS RADIO

BEDFORD, Ky., Aug. 4.—A pamphlet appealing for funds for a radio-receiving set has been sent out by the 300 residents of the sparsely settled neighborhood of Debord, in order that they may hear distant church services. Debord is a farming village in the mountains of eastern Kentucky, and the village is without church services except once or twice a year, when a minister visits the locality.