

7

AUGMENTATION SET HAS WIDE RANGE

Continued from Page Fourteen.

and in fact there are on the market one or two makes of variable-couplers, which can be purchased and rewound for this circuit.

The side view, showing the three windings on the stator, is shown in Fig. 3A. This member of the coupler is made of 18 inch length of three (3) inch outside diameter tubing-bakelite. The number of turns, proper connections for the leads, and the spacing and gauge of wire are shown on this drawing.

An assembled view of the coupler is shown in Fig. 3B. This illustration shows the booster or augmentor coil in its position of minimum coupling. This illustration gives the direction of the turns, the proper connections for the plate and "B" battery to the booster coil (incidentally this connection is in just the reverse direction to that which it would take were the circuit a single tube resonator). The proper booster turns are also shown here. Fig. 4 is a cutaway section of the assembled coupler unit, showing the proper

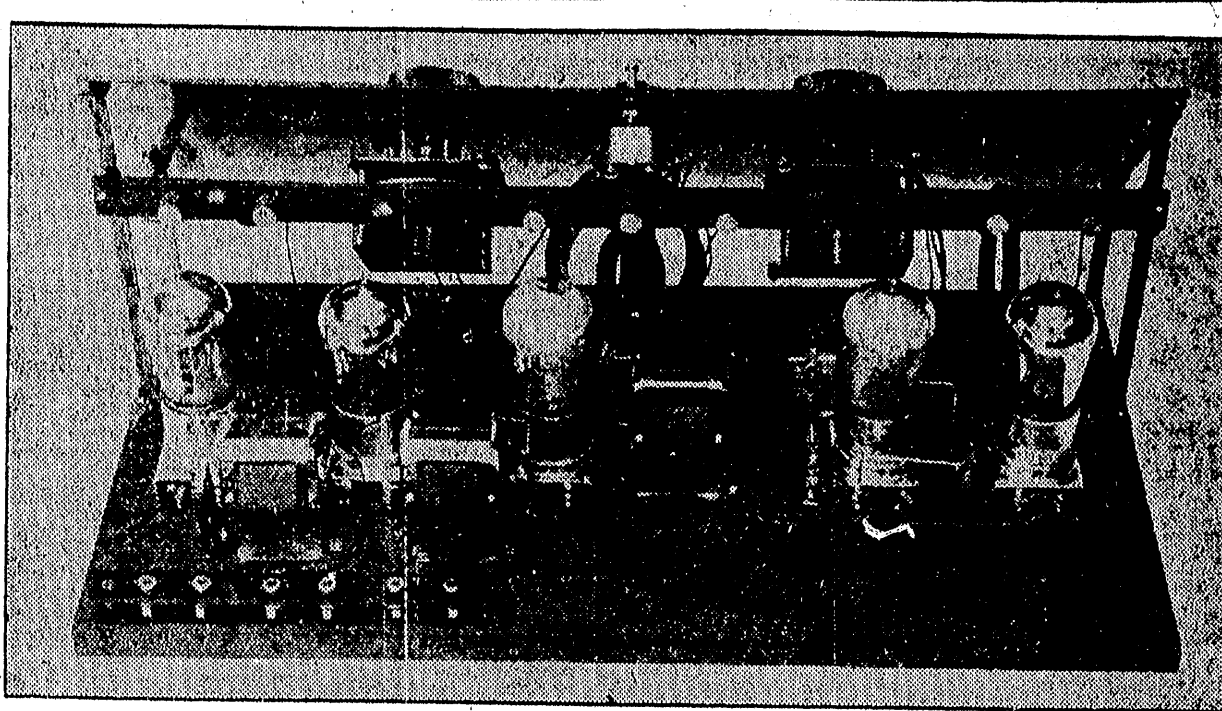
relation of the booster coil winding to the i.f. or detector winding. This relation is very important, and in the event of an error of consequence the booster may fail to operate, usually this can be compensated by removing a few turns therefrom. But it is highly desirable to avoid the necessity of this adjustment.

The tuned transformer for the radio frequency tube has not been shown in an illustration. This was not deemed necessary because of its simplicity.

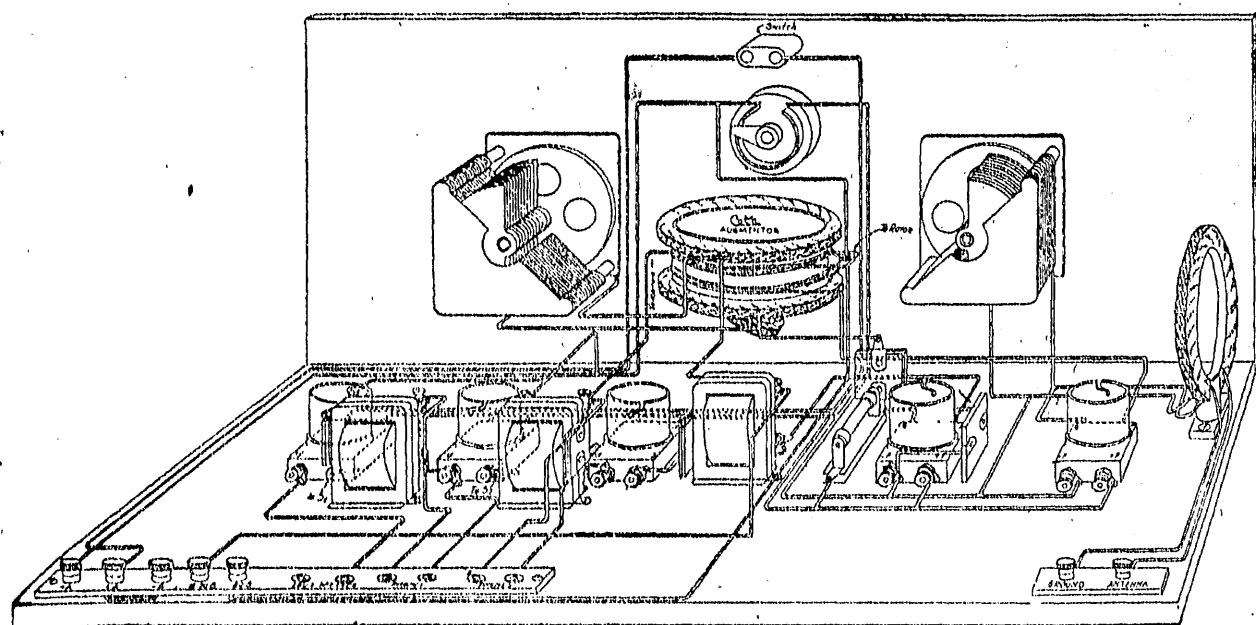
This coil is made by winding 50 turns of No. 28 D. S. C. wire on a piece of three-inch outside diameter tubing of any length which best suits the purpose of the builder.

Careful study of the complete wiring diagram will instantly show that it is but an evolution of the "fundamental circuit" as ordinarily applied. It should be born in mind that the system of signal augmentation is fundamentally a new circuit to which radio or audio frequency stages of amplification may be added at the will of the constructor. The diagram shows herewith is that of the five-tube receiver which substantially affords two stages of radio frequency amplification, a detector and three stages of audio frequency amplification.

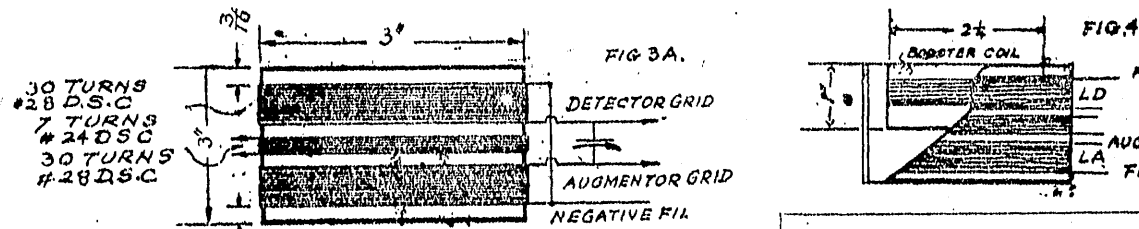
It will be seen from the foregoing that the home constructor can construct the fundamental circuit and then add to it either radio or audio frequency amplification as rapidly as it pleases him to progress with his experiments.



Layout of Hoyt's Augmentor on Circuit



Wiring Diagram Showing Layout of Apparatus in the Hoyt Set



RADIO PROGRAMMES

The week's special radio programmes announced by local stations begin to-day with two celebrations in connection with the 150th anniversary of the Battle of Lexington which will be put on the air by WJAB. Additional exercises and concerts will be broadcast by that station to-morrow. Saturday, WJAB offers three special programmes, a meeting of the Southern New England Textile Club at which Senators Mendenhall and Moses will speak, the opera "Pagliacci" and the traditional dinner to Gen. Pershing, the last two events being relayed from New York. WJAB schedules a concert for this afternoon.

WEAN, THE SHEPARD STORES (720 METRES)

TO-DAY.
11:00 a. m.—Service from Grace Church.
1:30 p. m.—Concert from Young's Chinese-American Restaurant, relayed from station WNAC.
3:00 p. m.—Broadcast direct from the Green at Lexington, relayed from WNAC. Anniversary Celebration of the Battle of Lexington, relayed from station WNAC.
7:30 p. m.—Broadcast from Lexington Town Hall of 150th anniversary celebration of Battle of Lexington, relayed from WNAC.

MONDAY.
11:55 a. m.—Time signals.
12:00 p. m.—Colonial Concert Orchestra.
12:10 p. m.—Weather report.
12:15 p. m.—Musical programme.
3:30 p. m.—Broadcast direct from the Green at Lexington, Mass. Exercises in observance of the 150th anniversary of the Battle of Lexington. Concert by the Aleppo Temple Fife and Drum Corps (Shriners' Band), relayed from WNAC.
8:00 p. m.—Concert by "The Janssen Entertainers."
9:00 p. m.—Orchestra, fife club and soloists of Mount Ida School, relayed from station WNAC.

TUESDAY.
10:00 a. m.—Message to housewives by Miss Gladys J. L. Peckham, home service department, Providence Gas Company.
11:55 a. m.—Time signals.
12:00 p. m.—Colonial Concert Orchestra.
12:10 p. m.—Weather report.
12:15 p. m.—Musical programme.
4:00 p. m.—Colonial Dance Orchestra.
4:30 p. m.—Weather report.
4:40 p. m.—Colonial Dance Orchestra.
8:00 p. m.—Incidental music by the Emory Theatre Concert Orchestra, William J. Pauchet, director, broadcast from the Emory Theatre.
8:30 p. m.—Weather report.
8:45 p. m.—Colonial Dance Orchestra.
9:00 p. m.—Shepard Colonial Orchestra.
9:15 p. m.—Hofman Battery String Trio.
9:30 p. m.—Colonial Dance Orchestra.
9:40 p. m.—Musical readings by M. Louise Leopold.
9:50 p. m.—Colonial Dance Orchestra.
10:00 p. m.—Orchestra, relayed from station WNAC, Boston.

WEDNESDAY.
11:55 a. m.—Time signals.
12:00 p. m.—Colonial Concert Orchestra.
12:10 p. m.—Weather report.
12:15 p. m.—Musical programme.
4:00 p. m.—Colonial Dance Orchestra.
4:30 p. m.—Weather report.
4:40 p. m.—Colonial Dance Orchestra.
8:00 p. m.—Dinner dance from Cheever Inn, Cheever Inn Orchestra, relayed from station WNAC.
8:10 p. m.—Programme arranged by Mary Delaney Hall, relayed from WNAC.
8:20 p. m.—Dance music, Rhodes Orchestra, direction Charles E. Culverwell.
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12:15 p. m.—Musical programme.
4:00 p. m.—Colonial Dance Orchestra.
4:30 p. m.—Weather report.
4:40 p. m.—Colonial Dance Orchestra.
8:00 p. m.—WBAN dinner dance, "Kaula Hawaiian String Quartet," Ep Westcott, by Allebaugh, Dick Barker, Red Phillips.
FRIDAY.
11:55 a. m.—Time signals.
12:00 p. m.—Colonial Concert Orchestra.
12:10 p. m.—Weather report.
12:15 p. m.—WBAN Noonday Club.
4:00 p. m.—Colonial Dance Orchestra.
4:30 p. m.—Weather report.
4:45 p. m.—Talk, "Book Reviews," by a member of the Providence Public Library.
8:00 p. m.—Programme to be announced.
9:15 p. m.—Criterion Concert Company.
10:00 p. m.—Emory Theatre Concert Orchestra, William J. Pauchet, director.

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11:55 a. m.—Time signals.
12:00 p. m.—Colonial Concert Orchestra.
12:10 p. m.—Weather report.
12:15 p. m.—Musical programme.
4:00 p. m.—Colonial Dance Orchestra.
4:30 p. m.—Weather report.
4:40 p. m.—Colonial Dance Orchestra.
8:30 p. m.—Dinner dance, Shepard Colonial Orchestra.
9:00 p. m.—Orpheus Male Quartet.
9:10 p. m.—Children's Hospital benefit, broadcast from Cadet Armory, extensive programme of bands, orchestras and entertainers, relayed from station WNAC.

WJAR, THE OUTLET COMPANY. (800 METRES.)

TO-DAY.
7:20 p. m.—Musical programme by "Rex and His Gang" direct from the Capitol Theatre, New York city, by courtesy of the Capitol Theatre management and S. L. Rothafel (Rox). The first part of the programme will be taken direct from the stage of the theatre and will consist of music by the featured artists and part of the programme will consist of a special presentation by Mr. Rothafel of vocal and instrumental artists direct from the Broadway theatre in the theatre.
9:15 p. m.—Organ recital direct from the studio of the Skinner Organ Company, New York city.

MONDAY.
10:00 a. m.—Housewives Radio Exchange. A department conducted by Mrs. Wood on all matters of household interest.
1:05 p. m.—Juliana Allen, soprano; Carl Agornick, Miss Alice McHugh, reader.
7:45 p. m.—Mrs. George Hall, speaking under the auspices of the National Federation of Music Clubs at the biennial convention of the federation to be held in Portland, Or., in June.
8:00 p. m.—Programme under the direction of Marguerite D. Eastwood, contralto, Vera Eastwood Miller, accompanist, assisted by William Hughes, accompanied by Frank G. Streeter.
9:00 p. m.—A. & F. Gypsy String Band, relayed from New York studio.
7:30 p. m.—Frank Mayo, screen star in "Six Days," will talk through the courtesy of the Japs Theatre management.
TUESDAY.
1:05 p. m.—Providence Biltmore Hotel Orchestra under the direction of Edwin White relayed from the hotel.
7:30 p. m.—Burton Selgel, violinist; J. Bennett Kelly, Dublinian.
8:00 p. m.—H. T. Zambrano, speaking under the auspices of the Providence Safety Council. Subject, "Good Housekeeping in Industrial Plants."

8:05 p. m.—Fred C. Dett, bass soloist.
8:15 p. m.—Roy Partington, tenor soloist.
8:30 p. m.—Gold Dust Twins direct from New York studio.
9:00 p. m.—"Everyday Hour."

WEDNESDAY.
10:00 a. m.—Housewives Radio Exchange. A department conducted by Mrs. Wood on all matters of household interest.
1:05 p. m.—Studio programme.
7:30 p. m.—Programme from our New York studio, Concert by the United States Marine Band under the direction of Capt. William H. Santelmann, direct from Marine Barracks, Washington, D. C.
9:00 p. m.—Chalmers Ensemble assisted by Boston Kent, tenor, and Raymond O'Brien, baritone.
10:00 p. m.—Spanish programme with Knickerbocker Trio, William Tucker, baritone; Thomas Fletcher, tenor, and Vera Madina, contralto.
THURSDAY.
1:05 p. m.—Studio.
7:30 p. m.—Eugene P. McKenna, tenor soloist.
7:45 p. m.—Eto and Chris, English entertainers.
8:00 p. m.—Beethoven Quartet consisting of Mrs. May Evans Scott, Harry C. Webb, Mrs. Grace E. Johnson, Mrs. Carolyn Bongarty.
9:00 p. m.—"Atwater Kent Radio Artists."
10:00 p. m.—"The Silvertown Chord Orchestra," under the direction of Joseph Knecht.

FRIDAY.
10:00 a. m.—Housewives Radio Exchange. A department conducted by Mrs. Wood on all matters of household interest.
1:05 p. m.—The Woodstock Orchestra under the direction of Martha J. Casey.
8:00 p. m.—Programme under the direction of Florence Mulvey Vassena.
9:00 p. m.—"The Maine Creamery Hour."
11:30 p. m.—Providence Biltmore Hotel Dance Orchestra under the direction of the Providence Biltmore Hotel.

SATURDAY.
2:30 p. m.—Southern New England Textile Club dinner from the ball room of the Providence Biltmore Hotel. Speakers, Senator Jesse H. Macgill of Rhode Island, "Some Experiences of a New Senator," Senator George H. Moses of New Hampshire, "Taxation in Its Relation to the Enterprise of the Country."
10:00 p. m.—Programme relayed from our New York city studio. Leon Cavallo's "Pagliacci," conducted by Cesare Sordani, will include grand opera performers with 50 picked men from the American Orchestral Society.
11:30 p. m.—American Legion National testimonial to Gen. John J. Pershing, Commanding General of the American Expeditionary Forces during the World War, relayed from the New York Hippodrome. Speakers, Gen. Drann, National Com-

**COLLINS
AWNINGS**
Union 4683-W
291 Dyer St. Prov., R. I.

Attention, Farmers!
What about FERTILIZERS this season?
If you want Fertilizers of quality, we have them. If price is your only consideration, regardless of quality, we are not interested.
We are maintaining our usual high standard, and wish to emphasize the fact that we use blood, bone and meat in our goods for the source of organic nitrogen, and not sludge acid, garbage tankage, leather soup or peat. For chemicals we use the high grade Nitrates of Soda and Sulphate of Ammonia, and the highest grade of Potash. Prices are low for the quality of the goods.
Pawtucket Rendering Company
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PAWTUCKET, R. I. Tel. "Pawt. 8005"

mander of the American Legion; Hon. Newton D. Baker, ex-Secretary of War, and Gen. John J. Pershing. The entertaining features on the programme will include Mme. Jeritza, Mme. Schumann Heine, John McCormack, Reinald Werrenrath, George M. Cohan, Al. Telen, Eddie Cantor, Marilyn Miller, Jutta Arthur and Augustus Thomas, master of ceremonies.

WDWF, DUTEE W. FLINT, INC. (441 METRES)

TO-DAY.
5:00 p. m.—Concert, Venetian Soranaders; John Fitzpatrick, organist.
THURSDAY.
7:30 p. m.—Organ recital by Aurele Forest.

WGBM, T. N. SAATY (284 METRES)

WEDNESDAY.
6:30 p. m.—Violin recital by Max Millman, pupil of Miss Evangeline Lamy.
THURSDAY.
8:00 p. m.—Concert by Sullivan's Orchestra.
9:00 p. m.—Announcement of programme of classical music, and concerts arranged.

WCTS, WORCESTER, MASS. (268 METRES)

TO-DAY.
7:20 p. m.—"Rox and His Gang."
9:15 p. m.—Organ recital.

WBZ, SPRINGFIELD, MASS. (393.3 METRES)

TO-DAY.
10:55—Church services from the Church of the Unity, the Rev. Charles A. Wing, pastor. Music by the Philharmonia Male quartet, Raymond C. Hodge, first tenor; William H. Lippmann, baritone; George B. Dowd, bass, and Robert W. Field, organist and director.
8:15—Broadcast direct from Faneuil Hall, Boston, commemorative exercises of the 150th anniversary of the start of the American revolution. Speakers will include Gen. Pershing, city and state officials.
7:00 P. M.—Concert by the Copley-Plaza orchestra, under the direction of W. Edward Boyle, with assisting soloist.
8:00—Concert by Elizabeth Bates, contralto, accompanist by Juliette Houll.

**Liberty
RADIO**
85 Washington St.
Strand Theatre Bldg.
SPECIALS FOR
MONDAY AND TUESDAY

Single Circuit
Jacks.....15c
B Batteries.....57c and up
Lowloss Condensers, 25-plate.....\$1.36
Crystal Sets.....63c and up
Magnavox M-1 Loud Speaker, \$80 list \$16.99
Solid Mahogany Cabl \$2.29
nets, 7x24 or 7x26.

**PROVIDENCE
DISTRIBUTORS**
Watts Auto Supply Co.
64 Exchange Pl.
Young, Leonard & Harrell Co.
52 Pine St.

8:30—Patriotic talk by Col. Branton Winship.
9:00—Concert broadcast direct from the Estey organ studio of organ solos by John Herman Loud.
**WHN, NEW YORK CITY
(801 METRES)**
TO-DAY.
1:00 p. m.—Organ Recital, Loew's Lexington theatre.
3:00 p. m.—Queens County Christian Endeavor program.
4:00 p. m.—Silvio Volpe, baritone.
4:15 p. m.—Music Lovers' Association.
5:00 p. m.—Roseland Dance Orchestra.
5:30 p. m.—Olcott Vail and His String Trio.
10:00 p. m.—Gem Razor Entertainers.

WJAB, NEW YORK CITY (720 METRES)

TO-DAY.
11:00 a. m.—Communion breakfast of the Catholic Daughters of America, Court St. Catherine, 770, direct from Hotel St. George.
Kathryn J. Smith, presiding; speakers, Mgr. John B. Belford, Mrs. William H. Good, Grover A. Whalen, Judge V. Bernard Vause, Judge Alonzo G. McLaughlin and Edward T. O'Loughlin, park commissioner.
9:00 p. m.—Programme from the stage and studio of the Brooklyn Mark Strand Theatre, direction of Edward L. Hyman.

KDKA, EAST PITTSBURGH, PA. (800 METRES)

TO-DAY.
11:00 a. m.—Services of the First Unitarian Church, Pittsburgh, Rev. C. Walter Mason, pastor. Dr. Kiropp Lake of Harvard University, will preach, the subject being "The Religion of To-morrow."
2:30 p. m.—Concert by the Westinghouse Symphony Orchestra, conducted by Victor Saudek.
4:00 p. m.—Organ recital by Dr. Charles Heinroth, director of music of Carnegie Music Hall, Pittsburgh, broadcast directly from Carnegie Music Hall, Pittsburgh.
4:45 p. m.—Vesper services of the Shady Side Presbyterian Church, Rev. Hugh Thomson Kerr, pastor.
6:30 p. m.—Dinner concert by the Pittsburgh Athletic Association Orchestra, under the direction of Gregorio Scalzo.
7:30 p. m.—Services of the Calvary Episcopal Church, Pittsburgh. Rev. E. J. Van Etten, pastor.

KGO, OAKLAND, CAL. (801 METRES)

TO-DAY.
2:00 p. m.—Service of St. Luke's Episcopal Church, San Francisco, Rev. W. W. Jennings, rector.
6:30 p. m.—Concert, KGO Little Symphony Orchestra, Carl Rhododan, conductor; Arthur S. Garbutt, musical interpretative writer; guest artists.
11:00 p. m.—Service of St. Luke's Episcopal Church, San Francisco, Rev. W. W. Jennings, rector.

KGW, PORTLAND, ORE. (401 METRES)

TO-DAY.
1:30 p. m.—Service from First Presbyterian Church, Dr. Harold Leonard Bowman, pastor.
9:00 p. m.—Church services provided by Portland Council of Churches.
10:00 p. m.—Dinner concert by Colburn

WNYC, NEW YORK CITY (528 METRES)

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10:45 p. m.—Janssen's Hofbrau Commanders Orchestra.
11:15 p. m.—Standing by for DX fans.

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4:00 p. m.—Organ recital by Dr. Charles Heinroth, director of music of Carnegie Music Hall, Pittsburgh, broadcast directly from Carnegie Music Hall, Pittsburgh.
4:45 p. m.—Vesper services of the Shady Side Presbyterian Church, Rev. Hugh Thomson Kerr, pastor.
6:30 p. m.—Dinner concert by the Pittsburgh Athletic Association Orchestra, under the direction of Gregorio Scalzo.
7:30 p. m.—Services of the Calvary Episcopal Church, Pittsburgh. Rev. E. J. Van Etten, pastor.

KGO, OAKLAND, CAL. (801 METRES)

TO-DAY.
2:00 p. m.—Service of St. Luke's Episcopal Church, San Francisco, Rev. W. W. Jennings, rector.

KGW, PORTLAND, ORE. (401 METRES)

TO-DAY.
1:30 p. m.—Service from First Presbyterian Church, Dr. Harold Leonard Bowman, pastor.
9:00 p. m.—Church services provided by Portland Council of Churches.
10:00 p. m.—Dinner concert

OPERATES RADIO WITH ONE HAND

Disabled War Veteran Tunes in
on Distant Stations.

Five-Tube Receiver Means of Bring-
ing Entertainment and Content-
ment to Patients in Government
Hospital.—Doctor Praises Neu-
rological Effect of Wireless.

"The best one-handed radio operator in the world," is the title bestowed on Robert F. Birmingham, a disabled World War veteran in the United States Veterans' Bureau Hospital at New Haven, Conn. Birmingham learned to operate his radio receiving set with one hand during two years he has been in the hospital. His body and right hand encased in a plaster cast. His eyes and operates a five-tube neodymium set with a loud speaker attached that brings the entertainment of the air to several bed patients in a surgical ward.

Making one-handed adjustments and tunings, Birmingham has picked up California, Cuba, Porto Rico and stations throughout the United States and Canada. He now is angling for South American stations.

"These health, the beneficial effects of radio are to be noted," Dr. L. B. Rogers, medical officer in charge, said regarding the case, "for Birmingham's condition is such that rest and contentment are two most important factors. In fact, rest is by far the most important."

April 25 will be a big day for Birmingham, when a national tribute will be paid to him, presiding by the American Legion and the program broadcast from New York. The National Commander of the Legion, James A. Brady, will deliver an address, through a national tie-up of stations, on the needs and purposes of the American Legion Endowment Fund for the

disabled veterans and the orphans of former service men.

Birmingham enlisted in Battery F, Third Hundred and Fifth Field Artillery, Seventy-seventh Division, and was sent overseas one month after he entered the service. He served in all the engagements of the Seventy-seventh Division until September of 1918, when he was sent back from the lines suffering from amoebic dysentery, contracted in Camp DoSough, France.

Birmingham was gradually invalided back to the United States, and upon discharge returned to his pre-war job as a salesman. He then became manager of an art department in a New York city store. Although his physical condition was not good he stuck to his work for two years, consulting with doctors almost continually in an endeavor to cure the ailment.

Finally A. L. G. Fritz, Commander of Richmond Hill Post, No. 212, of the American Legion, of which Birmingham was a member, led him to the bureau and set about obtaining the affidavits and other data necessary to establish his claim.

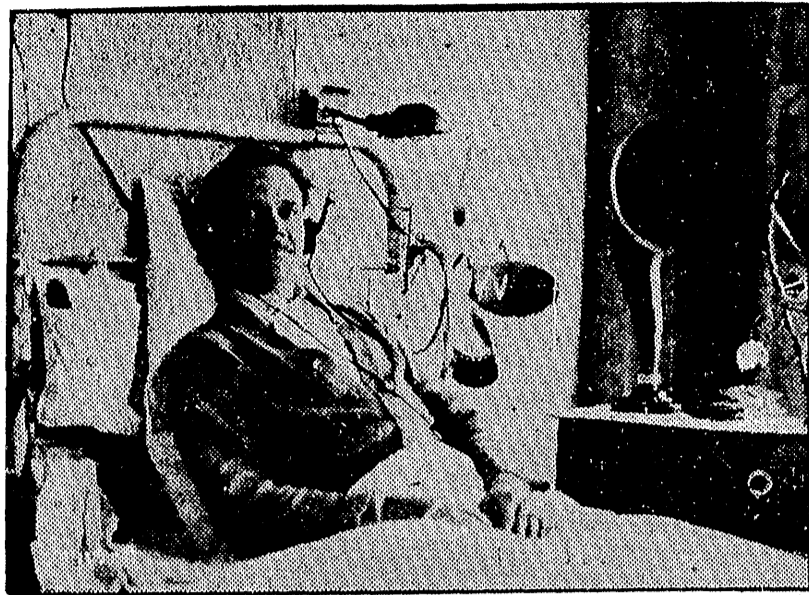
Birmingham was sent to the Veterans' Bureau Hospital at New Haven, where the disease from which he had been suffering was cured. At the hospital it was found that he had a serious ailment of his spine and his right hand. For virtually two years he was kept absolutely recumbent in a plaster of paris shell. Only during the last year has he been able to assume an erect posture, supported by a steel spinal brace.

The beneficial effects of radio are given credit for Birmingham's steady improvement during the last two years. With the radio, hours that formerly dragged for the sick veteran were filled in such a manner that he was given no time to become discontented and restless. In eliminating that slight discontent which often overcomes even the most cheerful disposition under similar circumstances, the radio performed invaluable service.

Although he now is looking forward with considerable certainty to his discharge from the hospital, Birmingham still wears the steel spinal brace, casts and sleeps in it, and his friends expect him, with his penchant for adapting all things to his own use, soon to be using the brace as a aerial, at least.

Birmingham is a Canadian citizen, but one of his first acts on leaving the hospital, he states, will be to obtain his final papers as a citizen of the United States.

Brings In DX With One Hand



Tuning Record Claimed for Robert F. Birmingham, Disabled Veteran in New Haven Hospital

Church, Minneapolis, Rev. Lucius H. Bug-

9:15 p. m.—Classical concert—Miss Evelyn Hanson, pianist; Miss Legeborg, Oland, pianist; Paul Davis, tenor; Mrs. Eleanor Freeman, accompanist.

WEEI, BOSTON, MASS.

(470 METERS)

TO-DAY.

7:20 p. m.—"Roxy and His Gang."

9:20 p. m.—Organ recital.

WOAP, WASHINGTON, D. C.

(460 METERS)

TO-DAY.

11:00 a. m.—Service from the First Church of Christ, Scientist, of Washington, D. C., pastor, Dr. J. B. Hays.

11:30 a. m.—Service from the First Church of Christ, Scientist, of Washington, D. C., pastor, Dr. J. B. Hays.

12:00 p. m.—Service from the First Church of Christ, Scientist, of Washington, D. C., pastor, Dr. J. B. Hays.

1:30 p. m.—Service from the First Church of Christ, Scientist, of Washington, D. C., pastor, Dr. J. B. Hays.

2:00 p. m.—Service from the First Church of Christ, Scientist, of Washington, D. C., pastor, Dr. J. B. Hays.

3:30 p. m.—Service from the First Church of Christ, Scientist, of Washington, D. C., pastor, Dr. J. B. Hays.

4:00 p. m.—Service from the First Church of Christ, Scientist, of Washington, D. C., pastor, Dr. J. B. Hays.

5:30 p. m.—Service from the First Church of Christ, Scientist, of Washington, D. C., pastor, Dr. J. B. Hays.

7:00 p. m.—Service from the First Church of Christ, Scientist, of Washington, D. C., pastor, Dr. J. B. Hays.

8:30 p. m.—Service from the First Church of Christ, Scientist, of Washington, D. C., pastor, Dr. J. B. Hays.

9:15 p. m.—Organ recital.

WFBL, SYRACUSE, N. Y.

(332 METERS)

TO-DAY.

6:30 p. m.—Bob Alphonso and his orchestra.

WGWS, NEW YORK CITY

(310 METERS)

TO-DAY.

5:30 p. m.—Musical programme from the Broadway Theatre.

9:30 p. m.—Verdi's "Traviata," by the Orchestra D'America. Complete chorus and orchestra.

WGR, BUFFALO, N. Y.

(310 METERS)

TO-DAY.

8:00 p. m.—Vesper services by the Lay Evangelist Club.

4:00 p. m.—Organ recital by Robert Demming.

7:15 p. m.—Pre-service organ recital, direct from Central Presbyterian Church, William Wall Whitford.

7:30 p. m.—Evening service, Rev. R. J. MacAlpine, D. D., minister.

WWJ, DETROIT, MICH.

(308 METERS)

TO-DAY.

11:00 a. m.—Services at St. Paul's Episcopal Cathedral, broadcast from the cathedral.

2:30 p. m.—The Detroit News Orchestra, Charles A. Payne, speaker.

7:20 p. m.—"Roxy and His Gang."

9:15 p. m.—Organ recital.

WHAS, LOUISVILLE, KY.

(460 METERS)

TO-DAY.

10:57 a. m.—Organ music.

11:00 a. m.—Church service, under auspices of the Broadway Christian Church, the Rev. Dr. W. N. Briney, pastor.

6:00 p. m.—Vesper song service, under the auspices of the First Unitarian Church, the Rev. Dr. L. R. Cull, minister.

7:00 p. m.—Concert, under the auspices of the Philadelphia Music League, broadcast direct from the Academy of Fine Arts, Philadelphia.

WJY, NEW YORK CITY

(405 METERS)

TO-DAY.

8:15 p. m.—Bernhard Levittow's Hotel Commodore Concert Orchestra.

10:00 p. m.—"Reminiscences of a Reporter," William H. Crawford.

WJZ, NEW YORK CITY

(455 METERS)

TO-DAY.

9:00 a. m.—Children's hour: Original stories by the authors, music by the composers; comic stories by the originators of famous comedies.

11:00 a. m.—West End Presbyterian Church services; sermon by Dr. A. M. Klegwin.

2:30 p. m.—Radio Bible class, under auspices of Greater New York Federation of Churches; Church Community Chorus, under direction of Clarence W. Allen.

7:00 p. m.—Edith Connor, harpist.

8:35 p. m.—St. George's Episcopal Church vesper services; Sixteenth Street and Bayview square; rector, Dr. Karl Rolland; organist and choirmaster, George W. Kenner; Mozelle Bennett, violinist.

7:00 p. m.—Nathan Abas's Hotel Pennsylvania Concert Orchestra.

8:00 p. m.—Viola K. Sherer, soprano.

8:15 p. m.—American Orchestral Society, direct from Cooper Union.

9:30 p. m.—Godfrey Ludlow, violinist.

WLT, PHILADELPHIA, PA.

(304 METERS)

TO-DAY.

2:00 p. m.—Special concert by the Arcadia Concert Orchestra, Prof. Fori Sarkoz, director.

6:00 p. m.—Benjamin Franklin Hotel

TRANSOCEANIC PHONE

London-New York Service Within Year, Predicted.

Scarcely a month ago two eminent American radio experts made the prediction that within a year telephone subscribers in New York would be able to ring up London from their own homes; and now experiments being carried out by the British Post Office at its plant at Rugby seem to indicate that that prophecy will soon materialize into fact.

The main difficulty in establishing a line of this sort is the problem of maintaining a reliable service during the day-time when heavy atmospheric noise has made long-distance wireless telephony almost impossible. But with the recent invention of the thermionic tube, and the addition of improved apparatus which is now in use it is thought that this difficulty may be almost entirely overcome.

Clear two-way telephone communication has already been accomplished by the Rugby station with America, and it is the aim of the Post Office to establish a service by which subscribers may be connected with New York within five minutes, while calls for Chicago and other cities will be relayed from New York.

COMPOSERS WIN

German Stations Must Give Percentage to Writers.

The German broadcasting system has received an adverse decision in the verdict given by the Court of Appeals against the high governmental authorities behind the wireless programmes in a case brought by Germany's greatest dramatic author and novel writer, Gerhart Hauptmann. At the same time Hauptmann complained that bits from his works were being read by actors, the librettist of Richard Strauss's operas, Hugo von Hofmannsthal, ran a parallel case.

The court has decided in favor of the writers, who stand to lose too much in the way of royalties, it is claimed, while the broadcasting companies make too much out of their talents if radio performances are given free of all percentages to the writers of plays, songs and books.

The authors' standpoint in the controversy was that every actor is paid, and every member of an orchestra who engages in broadcasting, so that they saw no reason why the brains behind the whole should be the only losers.

Battery Causes Fading.

Fading of distant stations may be caused at the receiving end through a slight drop in the voltage of the "A" or "B" battery. This condition may be recognized by tuning when the signal begins to fall, indicating battery trouble if the signal can be brought back immediately.

How's Your Appetite?

Ever spend the day fishing 'way up in Maine, then come back to camp and hear them sizzle in the frying pan?

Even the wife who hates to cook won't let anyone else prepare the fish she has landed 'way up in Maine.

GET THE BOOK

"In the Maine Woods 1925." It proves that women do fish in Maine. More than that it gives the practical waterman—the fisher for guides—hunts—camp—distances from the R. I. stations. It assures you that you and your family can be as safe and as cozy in the shade of old Mt. Katahdin as you are at home. It answers your vacation problem.

Mailed for Ten Cents Anywhere

Address: Vacation Bureau, Dept. 6.

Bangor & Aroostook R. R.

BANGOR, ME.

Geo. M. Houghton, Gen'l Passenger Agent.

RADIO PROGRAMMES

Continued from Page Fifteen.

Concert Orchestra of Hotel Portland; intermission solos.

KNX, LOS ANGELES, CAL.

(337 METERS)

TO-DAY.

1:00 p. m.—First Presbyterian Church of Hollywood.

8:00 p. m.—Radio sunset service, Willsboro Congregational Church, conducted by Rev. Charles P. Ashford, D. D., D. D., and Rev. Frank Ford, D. D.

10:30 p. m.—First Presbyterian Church of Hollywood.

11:00 p. m.—Ambassador Concert Orchestra, Josef Tosenfeld, leader.

12:00 Midnight—Programme by R. C. Durant.

KOA, DENVER, COL.

(322 METERS)

TO-DAY.

1:00 p. m.—Service of Trinity Methodist Episcopal Church, Denver, Rev. Loren M. Edwards, D. D., minister.

6:00 p. m.—Sunday afternoon music hour; organ and Trinity Orchestra recital from Trinity Methodist Episcopal Church, Denver; Shad J. Tinsley, organist and director.

9:30 a. m.—Service of Trinity Methodist Episcopal Church, Denver, Thomas M. Greene, Chaplain General, National Society of the Sons of the Revolution, speaker.

WEAF, NEW YORK CITY

(191 METERS)

TO-DAY.

3:00 p. m.—"Sunday Hymn Sing," under the auspices of the Greater New York Federation of Churches, Dr. William B. Miller, presiding officer.

4:00 p. m.—International services under the auspices of the Greater New York Federation of Churches. Address by Rev. E. W. Miller, pastor, Pleasanton Baptist Church, Pleasanton, N. J. Music by the Federation Radio Group and Male Quartet, consisting of Louis Canon, tenor; Ralph Hallett Frank, soprano; William H. Thwaiter, bass and organist; Mildred Bryers, contralto; Arthur Billings Hunt,

baritone and musical director; George Yause, accompanist, and Aldo Brass Quartet, consisting of Clara Haven, Helen Haldolter, Eleanor Helds and Cora Sauter.

7:20 p. m.—"Roxy and His Gang."

9:15 p. m.—Organ recital.

KYW, CHICAGO, ILL.

(330 METERS)

TO-DAY.

12:00 Noon—Central Church service from Orchestra Hall, Chicago, Rev. Dr. P. P. Shannon, pastor.

5:00 p. m.—Studio concert.

8:00 p. m.—Chicago Sunday Evening Club service from Orchestra Hall, Chicago.

The musical programme will be under the direction of Edgar Nelson. The speaker of the evening will be Henry Van Dyke, Princeton, N. J.

WCAE, PITTSBURGH, PA.

(401 METERS)

TO-DAY.

10:45 a. m.—Services from Rodef Shalom Temple.

3:00 p. m.—People's Radio Church services.

4:00 p. m.—Piano recital by Prof. Otto Kallies.

6:30 p. m.—Dinner concert transmitted from William Penn Hotel.

WEMO, BERRIER SPRINGS, MICH.

(285 METERS)

TO-DAY.

12:00 noon—Studio Chapel service: Miss Opal Hoover, saxophonist; Miss Mary Lamson, reader; sermon, Pastor, W. R. French.

9:15 p. m.—Ross Room Studio Chapel service: Ernest Hard, tenor; Radio Light-house Choir; sermon, Pastor John Knox.

WCCO, MINNEAPOLIS-ST. PAUL

(410 METERS)

TO-DAY.

10:20 a. m.—Plymouth Congregational Church, Minneapolis, Rev. H. P. Dewey, D. D., pastor.

3:30 p. m.—Surprise programme.

7:45 p. m.—Hennepin Avenue M. R.

To-day's Programmes in Brief

For the convenience of radio fans, the following hourly schedule of broadcasting to-day is given in brief form, the complete programme being given under the regular listing of announcements.

The hours are based on Eastern Standard time.

LOCAL STATIONS

11:00—Church, WGAN.

1:30—Concert, WGAN.

3:00—Patriotic programme, WGAN.

5:00—Recital, WDW.

7:20—Roxy, WJAR.

7:30—Patriotic programme, WGAN.

9:15—Organ recital, WJAR.

OUT-OF-TOWN STATIONS

9:00—Children's hour, WJZ.

10:20—Church, WCCO.

Chimes, WREO.

10:30—Church, WJY.

Church, WREO.

10:45—Church, WJY.

Church, WREO.

10:55—Church, WJZ.

11:00—Church, WHAS.

Church, KDKA.

Addresses, WNYC.

Church, WCAP.

Church, WJZ.

Church, WOAW.

Church, WJY.

Church, WEMO.

Church, KNX.

Church, KOA.

Organ recital, WHN.

1:30—Church, KGV.

2:00—Church, KGO.

Concert, WJY.

4:15—Concert, WOAW.

Muscle, WHN.

4:45—Vespers, KDKA.

5:00—Concert, KYW.

Vespers, WHAS.

Orchestra, WHN.

5:30—String trio, WHN.

6:00—Organ recital, WOO.

Concert, KOA.

Orchestra, WJY.

6:30—Concert, KDKA.

Concert, WJY.

Orchestra, WREO.

Concert, WCAP.

Concert, WJZ.

Church, WOAW.

Church, WJY.

Church, WEMO.

Church, KNX.

Church, KOA.

Vespers, WJZ.

7:15—Patriotic exercises, WHZ.

Concert, WJY.

Recital, WJZ.

7:25—Orchestra, WJY.

7:35—Vespers, WJZ.

4:00—Organ recital, KDKA.

Recital, WHZ.

Piano recital, WCAE.

Church, WCAP.

Church, WCAP.