Classical Music Wins Popular Vote

Radio Digest

EVERY WEEK — PROGRAMS Illustrated — TEN CENTS

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No. 10

Daredevils Risk Their Lives to "Mike" Bells; Non-Radiation Unit; Operating the Trirdyn; Willie the Weeper Confesses All; Women's Programs; How the CNR Serves Radio Enroute

UNIVERSITY COURSE NOW GIVEN BY WEAF

'MIKE' ARTS AND SCIENCES DIRECT FROM CAMPUS

Design Program to Meet Needs of Those Who Desire Study Along Cultural Lines

NEW YORK.—WEAF in cooperation with Columbia university in this city, is broadcasting evening lectures by noted speakers on the program of the Institute of Arts and Sciences, direct from the lecture halls on the campus.

Among the more distinctly cultural and recreational features may be mentioned the concerts, and lectures by well-known speakers on art, literature, drama and popular science.

The institute program is frankly popular in the best sense of that word and is designed to meet the needs of those who desire to employ their leisure hours for self-improvement along intellectual and cultural lines. The course covers a wide range of subjects and many of the lectures will be devoted to a discussion of timely social, economic and political questions of national and international importance, in order to promote a more enlightened public opinion and to quicken a sense of individual and collective responsibility.

Schedule of Lectures

The schedule for these lectures is as follows:

Monday afternoon, December 14, at 4:15 p. m., eastern time, Professor Rollo Walter Brown will lecture on "The Creative Spirit and Conduct." Thursday afternoon, December 17, 4:15 p. m., the same speaker will talk on "The Creative Spirit and the American Public."

Thursday afternoon, January 7, 4:15 p. m., Dr. Kate Upson Clark will elcture on "Can Personality Be Acquired."

Monday afternoon, February 8, 4:15 p. m., Miss Mary Proctor will give an illustrated lecture on "Mythsa nd Marvels of Astronomy."

Monday afternoon, February 15, 4:15 p. m., Dr. Montrose J. Moses will lecture on "Current Events of the Theater."

Monday evening, March 29, at 8:15 p. m., Mr. Norman Angell will lecture on "Democracy and the Main Street Mind."

Saturday evening, April 10, at 8:15 p. m., Mr. Horace J. Bridges will lecture on, "Mr. Chesterton on America and Mr. Leacock on England."

Beginning December 2, Dr. Dorothy Brewster, Ph.D., began her series of talks on "Modern European Fiction." This series has created quite a sensation as Dr. Brewster is a noted authority on fiction writing. Her next lecture will be given January 6, and on the first Wednesday of each month thereafter until Easter. It is broadcast at 4:15 p. m.

Program for Housewives

During the day, a special program for housewives has been arranged through the cooperation of the school of practical arts, of teachers' college, Columbia university. From the various lectures given in teachers' college, WEAF has selected a group which are of special interest to housewives and mothers. These lectures are given in a popular form and are also broadcast direct from Columbia university through WEAF.

The morning schedule is as follows, and will continue throughout the year until Easter:

Monday morning at 11:30 a. m., is known as "Mothers' Day." At this time every Monday morning, Dr. Hugh Grant Rowell, A.B., M.D., lecturer on physical education at Columbia, will talk on the "Care of Infants and Small Children."

Course in Thrift

Wednesday mornings at 11:30 a. m., a course is given on "Income Management and Thrift Promotion." These lectures are given by Miss Ruth Parish, B.S., A.M., at the present time instructor in household arts.

Wednesday morning at 12:00, chapel services will be broadcast. Chaplain Knox will be in charge of the services, composed of music by the student body and an address by the chaplain.

Thursday mornings at 11:30 a. m., the housewives program will be in charge of the department of nutrition, foods and cookery of teachers' college of Columbia university. This course will give housewives an opportunity to hear such well-known specialists as Dr. Mary Swartz Rose and Dr. Henry P. Sherman, both of whom are outstanding authorities on the science of nutrition and the proper feeding of the family.

Fundamentals of Cookery

In the series of foods and cookery, lectures are given on the fundamental process of cookery, the planning and serving of meals in the home, with special lectures on advanced cookery, planned to develop a keener appreciation of cooking and special knowledge of the value of flavors and seasonings.

Friday mornings at 11:30, a subject somewhat new to the Radio audience is broadcast by Mrs. Evelyn S. Tobey, B.S., instructor of millinery. Mrs. Tobey is a charming lecturer, whose knowledge and taste in millinery have made her famous throughout the country. She lectures on the selection and adaptation of millinery as suited to the individual woman and her costume.

UKULELE LADY HAS PULCHRITUDE PLUS

So MANY inquiries were received concerning the charming Ukulele Lady doing the hula hula on a feature page of Radio Digest last week that we are risking another picture of the beauty on the cover of this issue. Hope you like it. Her name is Miss Henryetta Turner. She lives in New York and often is heard over Station WEBJ there. Miss Turner, it is said, actually dances the hula hula while broadcasting and thus obtains the right mood to approximate the effect on the listeners that would be obtained from seeing her dance and play on the stage. The psychological effect is considered a parallel to that gained by the playing of music for motion picture actors in producing sentimental or pathetic scenes.

KDKA Innovates New "Book Night"

Station Will Review Recent Books and Read and Discuss Standard Works

PITTSBURGH.—"Book Night" will from now on be used to designate the Monday night program from the University of Pittsburgh studio of Westinghouse KDKA. Each Monday the university period from 7:45 to 8:00 p. m., eastern time, will be devoted to a book program.

Recent books will be reviewed once or twice a month, while on the remaining "book nights" readings accompanied by discussions of standard literary works will be given.

"Public Speaking" Series

"Public Speaking" is the subject of a new series of talks on Tuesday nights. This series will be given by Wayland Maxfield Parrish, assistant professor of public speaking. Professor Parrish's talks will be broadcast as follows:

December 15, "The Basic Psychology of Public Speaking.'

December 22, "Methods of Preparation."

January 5, "Effective Speech Style."

January 12, "Conversational Delivery."

MAIN AIM OF RADIO MUST BE TO SERVE

CONFERENCE SAYS PUBLIC INTEREST IS DOMINANT

Reject Secretary Hoover's Proposal for Local Committees to Govern Industry

By Thomas Stevenson

WASHINGTON.—The fourth national Radio conference has come and gone. Many predictions were made as to what it would do for the industry and for the fans. It was said that the conference would be the most important yet held. Did these predictions eventuate?

Secretary Herbert Hoover, Acting Secretary Stephen Davis, Chief Radio Supervisor W. D. Terrell, and Dr. J. H. Dellinger, chief of the bureau of standards Radio laboratory, have had a chance to analyze the conference recommendations. They all concur that, in its broad aspects, the conference did almost everything that could have been hoped for.

Public Interest Dominant

These four leading government authorities on Radio believe that by far the outstanding accomplishment of the conference was the recognition that public interest and public service should be the dominant consideration.

This simple recommendation, if alone enacted into law, could give the secretary of commerce almost unlimited authority. Here are a few things it might enable him to do:

Limit broadcasting stations, if by so doing the public would be better served through lessened interference.

Close down broadcasting stations which instead of rendering a public service merely interfere with other stations that actually serve the public.

Compel stations to maintain constant frequencies or close them down.

Prevent the broadcasting of advertising when it tends to rob programs of their value.

Must Yield to Demand

Adoption of the recommendation relating to public interest and public service held a significance which perhaps many of the delegates did not grasp. It meant that the manufacturers and broadcasters present placed themselves on record that the public interest must be dominant; that when their own interests conflict with those of the public, they recognize that they, themselves, must yield.

Secretary Hoover does not believe that any one man should be entrusted with the task of interpreting the public will. For this reason he suggested that local regional committees be established to act in an advisory capacity in determining which stations are best capable of serving the public.

Let Region Decide Problem

In making the suggestion Secretary Hoover was looking forward to the day when it will be possible to license additional stations, and when there may be several applicants in a single locality for one broadcasting privilege. Mr. Hoover believes that it would be better for a local regional committee to make the decision as to which of these applicants might best serve the public.

Mr. Hoover's suggestion was rejected by the committee to which it was referred. The basis for the rejection was that it might tend to inject local politics into Radio.

Too Big a Job

Secretary Hoover said he did not feel that any government official should be burdened with a task of such proportions. The responsibility of deciding which of two stations seeking a license to occupy a vacancy in the air would render the best public service would be tremendous. Inevitably, the decision would be challenged by the disappointed applicant. All sorts of things might be charged, such as prejudice, politics, and even graft.

Mr. Hoover believes it would be much better for a local or national advisory committee to assume this responsibility rather than an executive of the government.

CONTENTS

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Looking Ahead

Jose Garcia with 40 Renegades Swept over the Small American Settlement of Topolobampo leaving death, burning embers and bitter anguish. Out of this desolation came Wilfred Glenn, star Radio artist of WEAF. The whole story appears in next Radio Digest.

All Good Californians Who Listen in at the KLX Pond have to belong to the Lake Merritt Ducks of whom the two chief bills are Bill Royle and Bill Seroy. They are from two hard-shelled China eggs, because the fowl language they use is Pigeon English. See 'em and read about 'em in next week's issue.

Brownsville, Texas, Claims to Have the Southermost Broadcaster in the United States. They laugh at Florida's boasted climate and tell the whole northland to come to Brownsville where the warm gulf breezes blow. Read the story of KWWG next week.

It's a Little Town and a Little College, but WEMC, "The Radio Lighthouse" of Berrien Springs, Mich., will soon be on the air with 5,000 watts and the Emanuel Missionary college with the Radio lighthouse will spread its beams up and down this far flung ether wave washed coast. We'll tell you and show you about it next week.

A Super-Heterodyne Giving Selectivity on an Outside Aerial has been worked out by A. Christen, M.A., Dr. Sc., of Montreal, and its construction will be described beginning in the next issue. This receiver has eight tubes but the usual oscillator and mixer tubes have been combined. The set has been assembled in Digest style by Jacques Fournier who will write the articles.

Adjusting and Tuning of Counterphase is the subject of James McDonald's fourth and final article next week. This part is most important due to the necessity of adjusting the "trimmer" condensers and the "Mikro-mikes," both units of which are new wrinkles.

Newsstands Don't Always Have One Left

WHEN YOU WANT

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English Fan Gets Florida Station, WGBU, Regularly

FULFORD-BY-THE-SEA, Fla.—When Radio station WGBU broke through the Florida static the latter part of August and early September to be picked up in Bideford, North Devon, Great Britain, it may have been considered one of the usual freaks in Radio transmission, but a letter received recently by officials of the station shows that it is being picked up at an average of three nights a week.

The report of reception in August and September came from H. F. Fluck and he verified his reception with the names of selections played on three different evenings. The letter received states that he listens to WGBU on alternate mornings from 5 to 7 a. m., Greenwich time, and that there is very little fading.

KING JAZZ TOTTERS ON THRONE

NEWS BRIEFS FROM THE BROADCASTERS

OLD-TIME HOLIDAY MUSIC REVIVED THROUGH RADIO

Christmas Carols at WTIC—Radio Cocktail at WJZ—Stage Drama at KGO

Songs of 1850, melodies of the North Carolina mountains and Christmas carols will make the program given by the Yale Glee club Saturday at WEAF an important Radio event. Tune in at 8:30 p. m. eastern time for this famous glee club.

* *

Christmas carols as presented by singers of hundreds of years ago will be offered by WTIC at Hartford, Conn., on Friday evening, December 18, at 8 o'clock, eastern time. The Travelers Choral club, numbering 70 voices, an organization made up of the men and women employes of the Travelers Insurance company, will broadcast the carols, assisted by the Travelers Symphonic Ensemble.

* *

The Radio Cocktail, a delicacy which fans formerly received from WJZ, New York on Wednesday nights, has become so popular, he has graduated into the class of a highball. Judge, Jr., the name of this very entertaining young man, will now have the permanent hour of 7 p. m., eastern time, Thursday nights.

* *

A stage drama, "The Delinquents," has been revised for Radio and will be broadcast by KGO, Thursday evening, December 17, between 8 and 10 o'clock pacific time. Twelve players will speak the parts of the story.

* *

Holiday music was given during the vesper services of St. Georges recently from WJZ. The choir of this church gave two anthems. Rebecca Pharo, soprano, and Harry T. Burleigh, baritone, were the soloists.

* *

The return of Dr. Frank Sill Rogers to WGY's Sunday afternoon concerts has been welcomed by Radio fans. His fine organ recitals begin at 5 p. m. eastern time.

* *

Students of the Cincinnati Conservatory of Music will meet at WKRC, Thursday, December 17, to give their annual program of Christmas carols. Between the hours of 9 and 10 p. m., central time, these old-time favorites will carry the Christmas spirit out over the ether.

* *

Several thousand notices of the Radio course in international relations, recently instituted by the School of Foreign Service of Georgetown university by Station WRC, have been sent to former graduates of this school, together with others who might be interested. The course was inaugurated recently by Dr. Edmund A. Walsh, S. J., vice-president and regent of the School of Foreign Service, who will be the lecturer until the first of the year.

* *

Proof that religion is keeping step with the times is shown in the announcement by Station WJZ that the Yale divinity school is conducting a series of six lectures on religion by members of the faculty of that school to be broadcast by WJZ every Sunday afternoon at 3:30 o'clock eastern time.

* *

Listeners to the late Wednesday and Saturday night programs of WBBM, Chicago, are rewarded on hearing Spencer, Lavergne and Shayne, the xylophone "Harmony Kings," play the largest xylophone ever made. The unusual instrument measures fourteen feet in length and some keys are as much as two and one-half feet long.

* *

"The Miracle," the superspectacle and the talk of New England, as well as the entire country, was broadcast recently by Stations WNAC, Boston, and WEAN, Providence, so that persons unable to go to the Boston Opera House might receive the inspiration of this spectacle.

Complete Report on Radio Confab Is Being Prepared

WASHINGTON, D. C.—A comprehensive report on the "proceedings and recommendations for regulation of Radio" of the fourth Radio conference is being prepared. This pamphlet will probably by available at the government printing office at 5 cents a copy and will contain the opening speech of Secretary of Commerce Hoover, the personnel of the various committees, and their recommendations, together with the resolutions finally adopted.

VOICE OF TALESTER DISCLOSES IDENTITY

BOSTON.—In a letter received by Westinghouse Station WBZ from Thornton W. Burgess, children's story author, the director of the WBZ Radio Nature league, writes: "Last week I went to New York. When the Pullman conductor came to collect the fare, he said, 'This is Mr. Burgess, isn't it?' I admitted the charge. The conductor asked to shake hands and I inquired how he knew me. 'I recognized your voice,' said he."

GIVES TREAT TO WOR MICROPHONE

Shirley Booth, winsome star in "Laff That Off," showing at Wallack's theater, New York city, who was recently heard over Station WOR. The flood of silent applause that followed her broadcast testified that she has a Radio personality in addition to her beauty and stage talents.

CADMAN TO SPEAK ON HISTORY OF RELIGION

Station WEAF Announces Other Chain Features for Week

NEW YORK.—Dr. S. Parkes Cadman has selected "History's Witness of Religion" as the subject of his address which will be broadcast through WEAF and four other stations at 3:45 p. m., eastern time, Sunday, December 13. Dr. Cadman will answer questions before the microphone following his address.

The scene for the musical revue to be presented to the Radio audience of WEAF on Thursday, December 17, at 10 o'clock by the "Goodrich Zippers" is lain in Pekin, China. The title selected by Lieut. Gitz-Rice, who has arranged this series of musical revues which have proved so popular with the Radio audience, is "Pekin Cupid" and will feature music of the Orient.

"The Vogelhandler" will be the feature number in the program being broadcast by the Eagle trio on Friday evening, December 18, through WEAF at 8:30 p. m.

Radio Program Is Feature of Train Dispatchers Meeting

FORT WORTH, Texas.—At a meeting of the Forth Worth assembly of the American Train Dispatchers association, held recently in the Longhorn room of the Texas hotel here, a Radio program from WBAP, Star-Telegram, was the main feature of the entertainment. From 9:30 to 11 o'clock the meeting listened to the concert through an eight-tube receiver operated by R. T. Rogers of the Buckwater corporation of Chicago.

Radio College Opens in Vienna

VIENNA, Austria.—A college which will broadcast all its lectures and instructions has been inaugurated here. The daily courses will start at 10 p. m. and will last approximately two hours.

CLASSICAL MUSIC IS FAVORED BY MASSES KOA POLL SHOWS

Three Out of Every Five Fans Vote for Old School After Spectacular Competition Between Exponents of Each Side

DENVER.—King Jazz is slipping.

Classical music, via loud speakers and earphones, is favored by the masses.

This trend, said to be completely contrary to all expectations, was revealed by a widely-heralded poll which was conducted by KOA, Denver station of the General Electric chain. Voting was heavily stimulated by a spectacular musical competition between jazz and the classical school, staged as a program novelty over KOA. Leading artists and representative compositions of both factions were featured.

Broadcast listeners, representing all walks of life and sitting virtually as an international musical jury, voted three to two that jazz is falling behind in popular favor and therefore will never replace the works of conventional composers.

Classics Win Three Out of Five

As judges of this studio clash, listeners were invited to vote jazz, classical or for a combination of both types of music. On the face of virtually complete returns from listeners, the classical camp won three of every five votes cast in the race with jazz.

Of the total votes cast, more than 50 per cent favored the classical school, the remainder being split between proponents of jazz and those who lean to a combination of both racy tempos and conventional numbers.

Upsetting the predictions of seasoned dopesters, all but five western states swung to the classical column. Arizona, Wyoming and North Dakota gave an overwhelming choice to rapid-fire syncopation. South Dakota, it was noted, gave its majority to classical. A further check of ballots received, indicates that Arizona and Idaho are on the fence with a tied vote between the opposing musical camps. Voting in Colorado was close.

Canadian voting, generally, was light. Listeners, however, gave their majority to conventional music.

Women Cast Half of Votes

The unique contest was arranged to test the relative popularity of the opposing musical schools. No estimate of the total vote will be available until all returns are in, although several thousand ballots already have been received. Likewise, it would be futile to attempt fixing the size of the audience for this special program.

Women cast approximately half the total ballot, whereas, less than ten months ago, barely one-fifth of all mail addressed to KOA was written by women, it was said.

An unprecedented flow of communications disclosed that the jazz-classic struggle was heard in restaurants, school houses, hospitals, barber shops, hotel lobbies, widely scattered mining camps and even in jails.

GIVE JEWELL TROPHY FOR MILES PER WATT

Award Made to Increase Amateur Wireless Efficiency

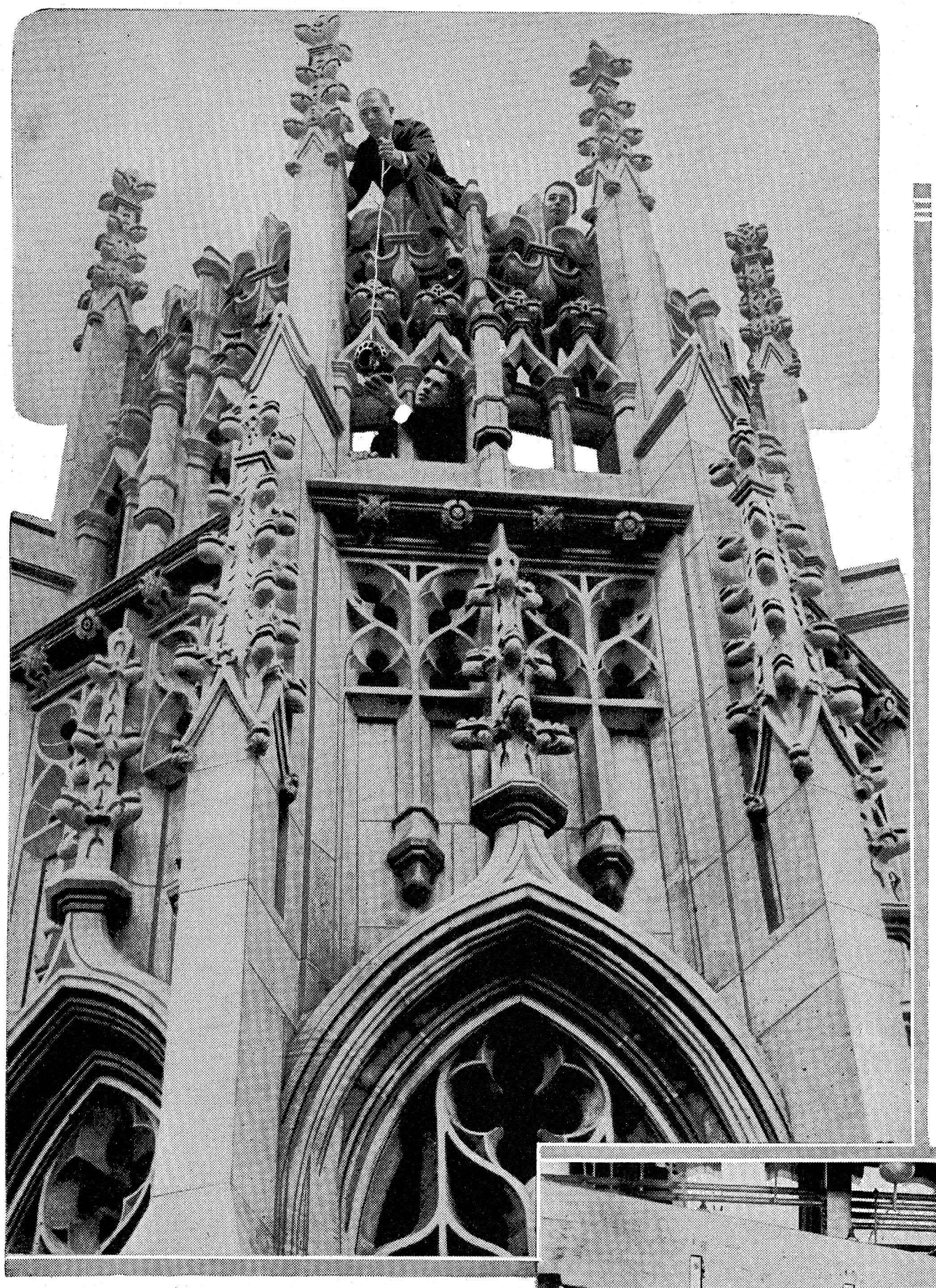
CHICAGO.—To increase the efficiency of amateur transmission of wireless telegraphy, the Jewell Electrical Instrument company of Chicago will award a 21-jewell Lord Elgin watch as the 1926 Jewell trophy for the amateur licensed by the United States and Canadian governments getting the most miles per watt. The input will be taken as the sum of the watts in the filament and the plate circuits of the tube. The contest will close June 1, 1926.

Wilmington Fights Interference

WILMINGTON, N. C.—The Wilmington Radio club has launched an extensive campaign against interference, giving free membership in the club and urging Radio dealers, listeners in and all other agencies interested in or in a position to affect Radio to cooperate in an endeavor to eliminate interference.

The WEAF Grand Opera company is now appearing at 10 p. m., eastern time, Monday night instead of Tuesday.

Daredevil Radio Men Risk Lives For Bells



WE ARE used to finding ourselves on the brink of seething volcanoes, making dizzy airplane plunges, witnessing death and disaster in motor races from the viewpoint of the ubiquitous movie photographer and now we are experiencing the first thrills of the hazards of the Radio operator.

Our ears are our wings and we perch on dangerous, ice-coated parapets to hear the sounds that emanate from high places. Luckily for us we sit in comfortable chairs in our homes, flutter a dial or two for a few notches and we are there—a dozen blocks, ten miles, maybe a thousand. Not so, Mr. Operator, with the microphone and its trailing bit of cable.

He must be there in person. No matter how difficult the task or impossible it may seem, he sees it as a duty and performs it with the same pride in accomplishment as the daredevil camera man.

One of the most perilous feats now being practiced by these Radio pilots is the broadcasting of chimes for the Christmas carols and more particularly the carillon of the Park Avenue Baptist church of New York city.

H. B. Glover of the WJZ-WJY Radio station writes to the Radio Digest concerning the experience their engineer-operators have had in broadcasting the music of this, the world's largest system of bell chimes. He says in part:

"Bells or chimes are problems for the Radio engineer. They are generally placed in inaccessible places such as high towers or belfries, making the placing of the microphones exceedingly difficult. Vibrations or sound waves sent out by bells are exceedingly strong and if the microphones are placed in the same tower which support the bells two things happen which are not to be desired in perfect broadcasting. The powerful sound waves 'blast' or paralyze the microphone and also the action of the hammers and connecting rods give forth rattles and squeaks as they swing on their rusty hinges which mar the beauty of the bells. Therefore, the microphones cannot be placed too close to the bells.

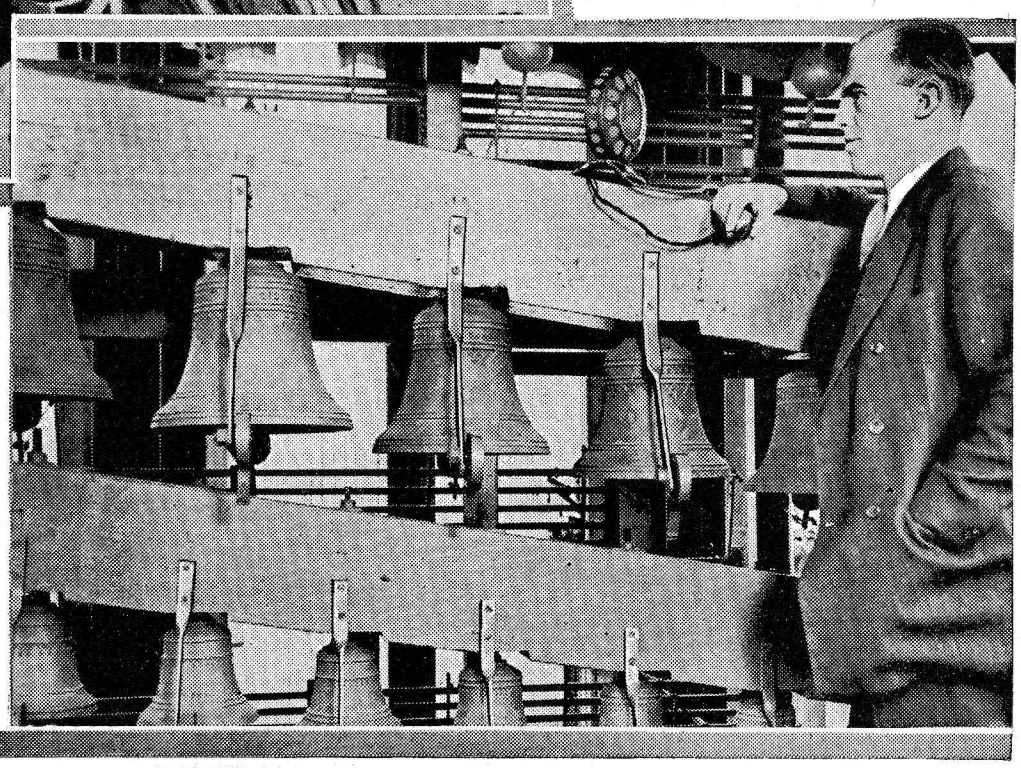
"If, on the other hand, they are too far away, the listener hears his bells with all the extraneous noises of the street—automobile sirens, traffic cop whistles, trolley and elevated traffic rumblings, such as were heard in the attempt to broadcast the Trinity church chimes of last year.

"After much experimentation it was found that the roof of the adjoining building, generally the roof of the church itself is the best place to set the pick-up microphones. This placement is done with considerable risk of life and limb to the engineers. Church roofs usually are of the steeply sloping variety and in icy weather are quite slippery. It so happens that the open season for chimes comes during the holidays when the church gables are the most dangerous.

"A testing process is necessary to determine the exact point at which to locate the microphone. It must be just far enough away to escape the blasting, the noises of the mechanical processes and not so far as to pick up the street noises. Very often this is accomplished through the reflection of sounds.

"The operator hitches himself along astraddle of the jagged crest, scraping loose here and there a scale of melting ice which crashes to the street a hundred feet or more below, and finds a spot which is cut off from the street noises with surrounding walls and yet not in direct line with the belfry. He twists the microphone in various directions until he gets the proper sound reflected from one (*Continued page 12*)

Comes now the intrepid Radio engineer who must be a steeplejack or what not to get "real atmosphere." Herbert Glover (tip-top) testing carillon at Park Avenue Baptist church, New York. Anton Brees, carilloneur, holding mike. Below, some of the smaller bells and Glover.



"Willie the Weeper" Confesses Everything

"ERNIE," said the interviewer, advancing to a desk situated in one corner of the Atlanta Journal's city-room, which desk belongs to one Ernest Rogers, alias "Willie the Weeper," alias "Journal troubadour-reporter-poet-songster-composer-guitarist," "How about divulging a few facts, if any, of your life, past, present, and future, for a story for the Radio Digest?"

"Can't be done. The only interesting things that ever occurred in my life are totally unprintable. However, comma, I'll give you a few true, but entirely uninteresting facts if it will help you out any. I know if I don't you'll go and write something anyway, and I might as well be guilty as be accused of it."

So Ernest slid a sheet of copy paper in an abused Underwood, and gave forth the following, prompted by intelligent questions from his interrogator:

"Born? Certainly. On October 27, 1897. It happened in Atlanta, on Luckie street, and I've been unlucky ever since.

"Married? I don't think so. But it won't be long now—maybe.

"Preferences? Stimulating refreshments and red-haired ladies.

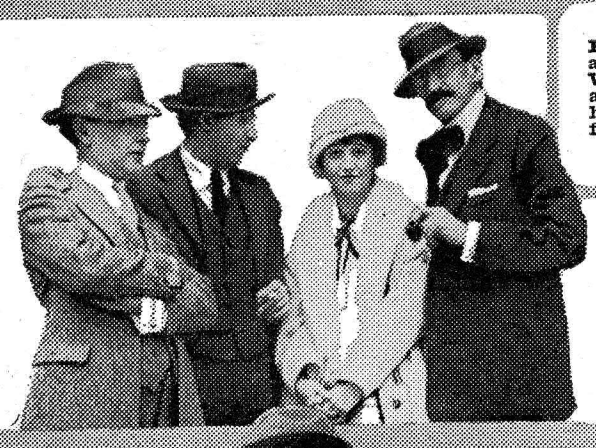
"My hair—negligible. Was red.

"I went to Emory university, which is run by Asa Candler, Sr., the Coco-Cola King. Come near getting fired out of school for promoting a song called 'The Coco-Cola School,' which is now the college spirit song. Toured with Emory glee club for three years. As a matter of fact, I organized the darn thing.

"Wrote my first song, 'Mythological Blues,' for glee club trip in 1918. It was censored. Rewrote it, and it was censored again. Then came back to the original and it was passed.

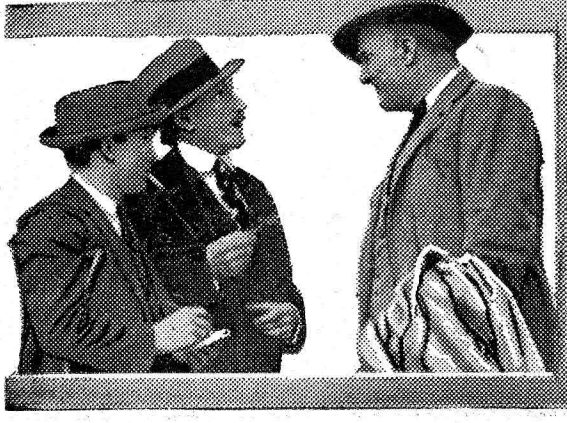
"Got into the news game by mistake, thought it was a business college. Went to work and drew a week's pay before finding out the difference. My first job was on the Dublin (Ga.) Tribune, when I was 22 years old.

"Am what technically is called a general assignment and feature writer with a whole lot of rewrites thrown in between. Also (*Continued on page 12*)



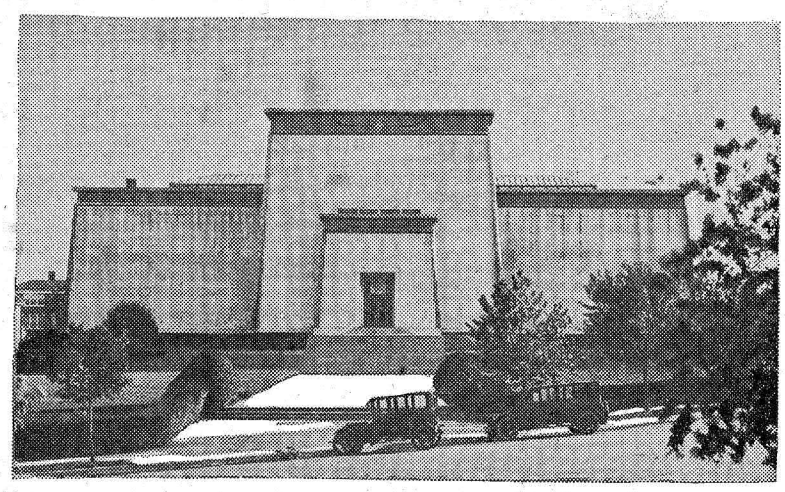
Ernest Rogers, alias "Willie the Weeper," (above) and his African harp, tuning up for a "cry" over WSB.

"Ernie" (left) with his journalistic and microphonic partner, Lambdin Kay, of Atlanta, doing one of their deep-dyed "Rogers and Kay" blue acts.



Above, Ernie interviewing Louise Hunter, Metropolitan opera star. Billy Guard on her left and in the fore is the rehearsal manager. Left, Ernie queries Chaliapin, at right.

Stand By for King Tut at KFVE, St. Louis



Should King Tut find it his pleasure to "go on the air" with observations accumulated during the past 3,000 years he probably would choose Radio Station KFVE in the Egyptian Studios (above) at St. Louis, Mo.

AT LAST everything needed for a spiritual counterpart to provide convenience and comfort for the soul of the boy king, Tutankhamen, had been placed within the tomb. Chariots, canopies, clothing, chairs, bed, jars of food, weapons of war and even the private boat with which to cross the Styx had been put in place. The last mourner had left the opening. Huge granite blocks were maneuvered into position and craftsmen sealed up the final crevasse, blotting out the last ray of sunshine from the interior for three thousand years.

Who knows what happened there after that?

Many gods and many creeds have come and gone. But the tomb and its furnishings have remained. Is King Tut still rowing around hunting an exit with the spiritual replica of the boat placed at his disposal three thousand years ago?

* * *

There is a modern theory that Radio science is on the verge of a discovery—that soon we will be in contact with the departed dead through the medium of the Radio wave.

When that time comes stand by for Radio Station KFVE, Egyptian studios, St. Louis, Mo. Let the spirit world begin its broadcasting here and may King Tut be the first to speak. (Tune in at 240 meters).

For here will the young Pharoah of old find congenial atmosphere—a station that could not be excelled in the splendors of ancient Egypt, had the architects and the artisians of that period undertaken the construction job themselves. Unique and imposing, the building arises to a five story height, its gleaming walls built of marble blocks and windowless. The interior is practically one vast chamber and beneath are mysterious subterranean passages.

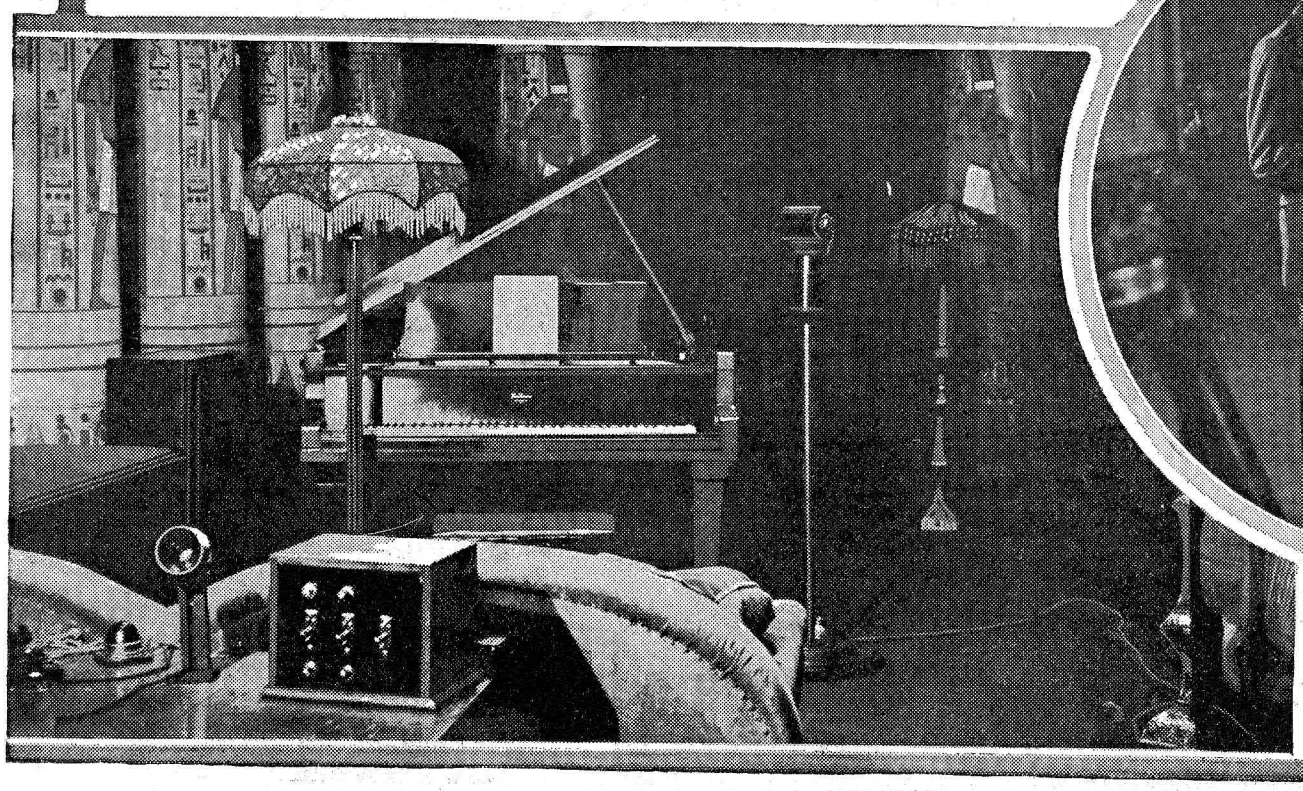
By all means let this long lost wanderer steer his Stygian boat across the Mississippi branch of the Styx and come to port on the terraced plaza that fronts this extraordinary and extra interesting broadcasting station of University City, St. Louis. Ascending the broad steps he will be welcomed within the portals by Romaine Fielding who will be standing in a violet glow of mercury light. Yes, yes, the same Mr. Fielding, for the station is now a moving picture studio as well as a broadcasting station. Mr. Fielding, the picture star, is director of both.

Let your own invisible spirit attend the reception, Romaine broadcasting.

"Welcome King Tutankhamen, Son of Ra, welcome to Station KFVE and the Film Corporation of America. (Camera!) Hope you don't mind our trying to take a few

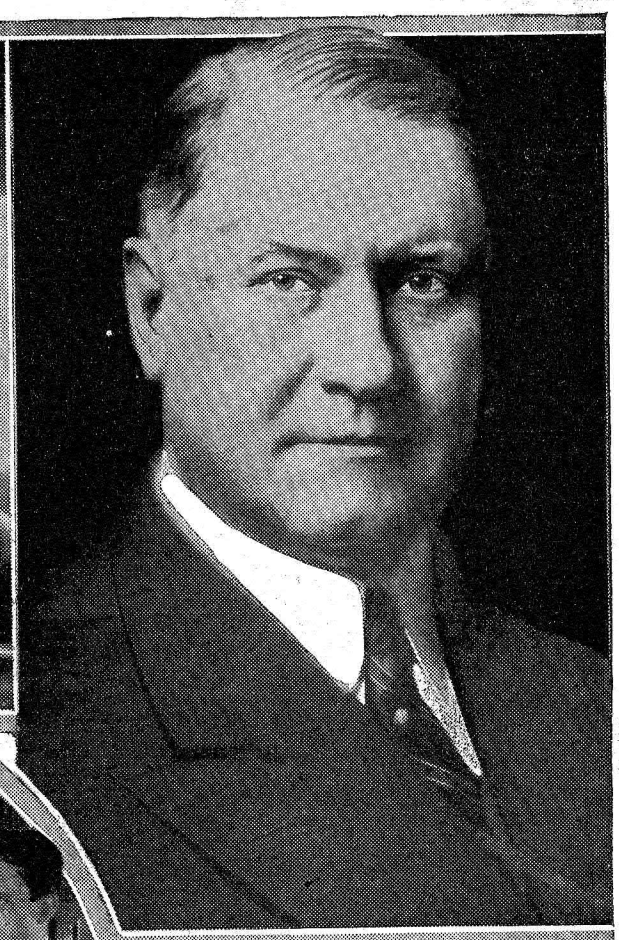
(*Continued on page 10*)

Romaine Fielding (above) famous movie star who directs motion picture production and Radio broadcasting at Station KFVE.



Queen of the Egyptian Radio Studio, KFVE, is Miss Joan Arliss (above) who stars in the movies or sings the classics as occasion demands. Beneath, in the circle is the announcer-artist, "Jack" David Franklin. The small studio, left. Note a touch of the Egyptian motif in background. Some pillars stand five stories high.

Canadian Lines Serve Concerts Enroute



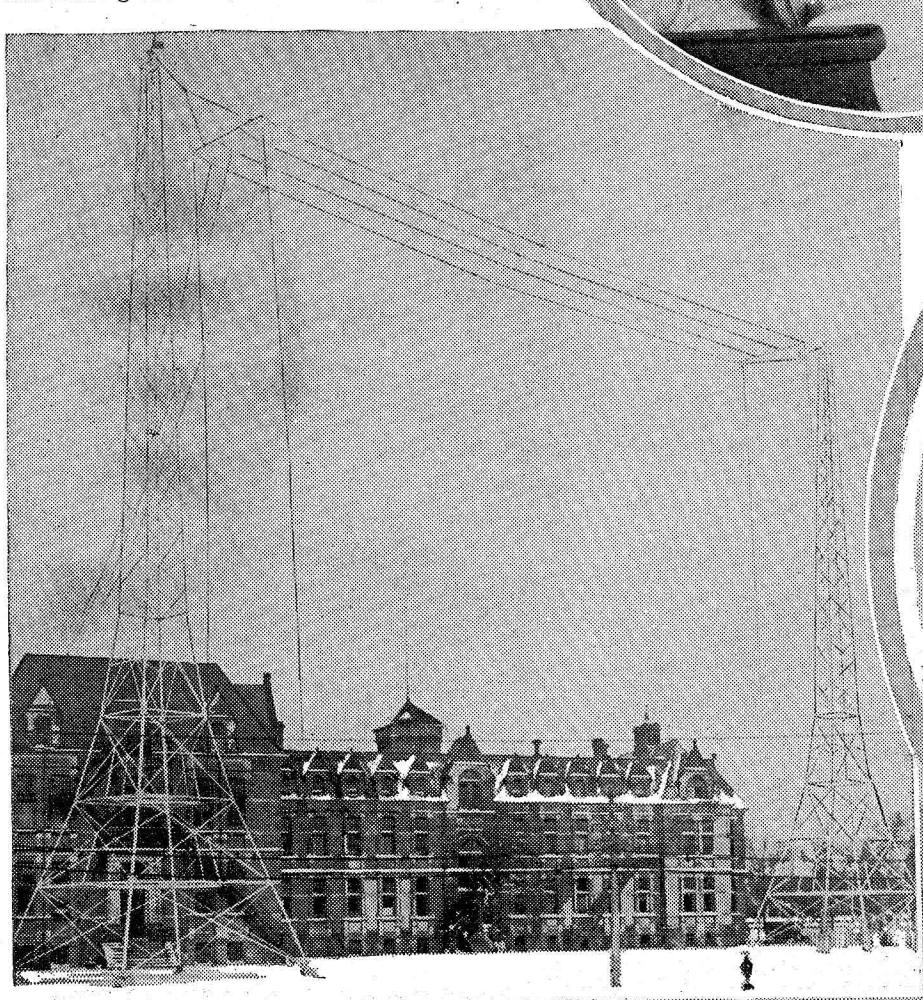
By Wallace Havelock Robb

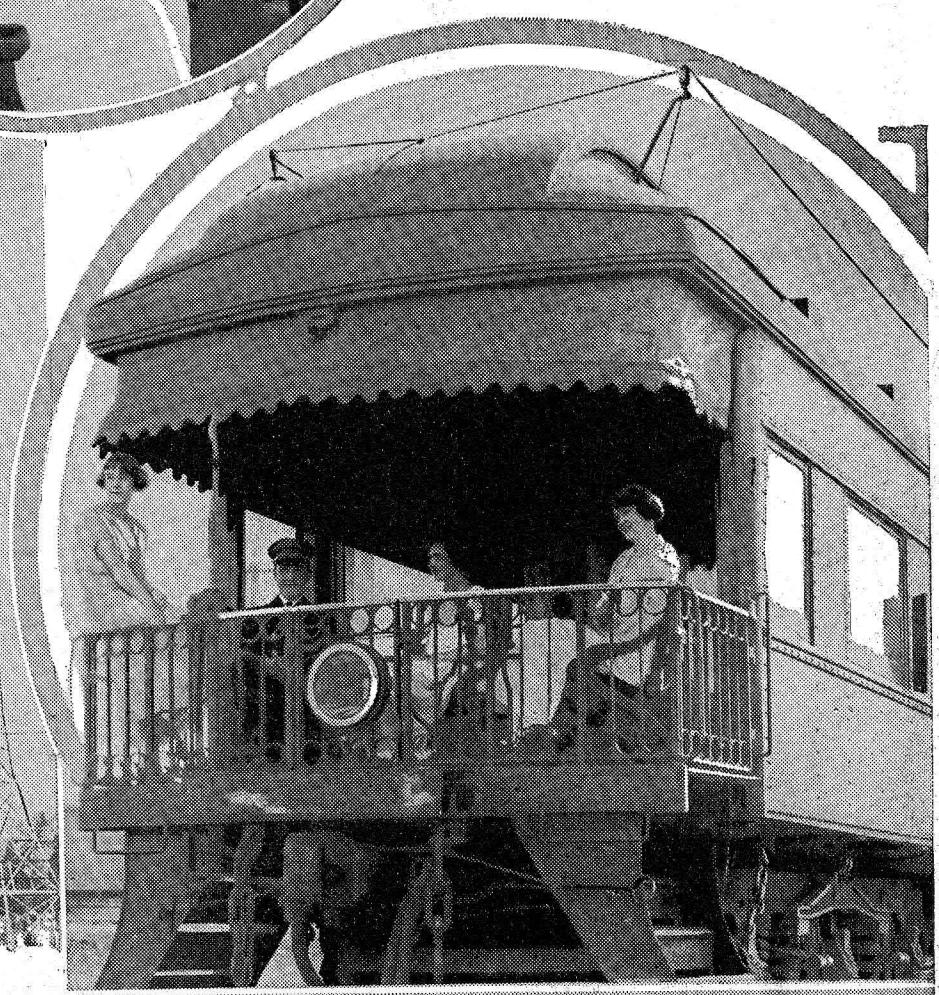
"TRAIN RADIO" has passed the experimental stage and has become a very satisfactory and established fact with the Canadian National Railways. It is not merely one more safety first arrangement whereby an operator can reach a train plunging ahead through the open country to danger, but a very happy medium of entertainment for the bored passenger who, perhaps, has been many times over the same route and is weary of reading and looking at the scenery.

Right now, there are some thirty first-class trains on the Canadian National Railways in Canada, equipped with the last word in Radio receiving sets, head phones and loud speakers. Imagine the result on a long, gloomy trip where the scenery has become monotonous. Yes, and a keen, smart operator on each train, to see that news and programs are coming in to the best advantage.

Two or three years ago, when this train Radio was just past the dreaming stage, and one single set (*Continued on page 10*)

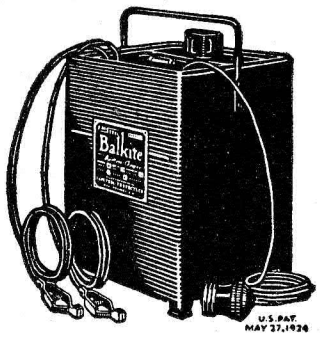
Radio a la Pullman has eliminated much of the tediousness of travel over the Canadian National Railways. Top, left, shows typical Radio entertainment in one of the observation cars. Sir Henry Thornton, K.B.E. (above), chairman and president of the Canadian National Railways, ex-officio head of the ten broadcasting stations operated by this line. Below shows aerial arrangement on roof of observation car—looks like a hard life for the operator on the platform, doesn't it? Lower, left, shows the towers and broadcasting station located at Moncton, New Brunswick. Each of the CNR stations is identified by the letter that follows "CNR."





Simplify and improve radio reception with Balkite Radio Power Units

FOR THE "A" CIRCUIT



Balkite *Battery Charger*

This popular battery charger is entirely noiseless and can be used while the radio set is in operation. If your battery should be low you merely turn on the charger and operate the set. Charging rate 2.5 amperes. Operates from 110-120 AC 60 cycle current. Special model for 50 cycles. Also for 25-40 cycles with 1.5 ampere charging rate.

Price $19.50
West of Rockies, $20
In Canada, $27.50

Balkite *Trickle Charger*

May be connected to any 6 volt radio "A" battery of 30 ampere hour capacity or more and left permanently on charge. Used in this manner it converts your "A" battery into a permanent "A" power unit that operates from the light socket and automatically furnishes full current to the "A" circuit at all times.

With any smaller battery (4 volt or small 6 volt) this charger may be used as an intermittent charger of the usual type. Can also be used as a trickle charger if a resistance is added to cut down the charging rate.

When used as a trickle charger, as an added convenience, some owners add a switch which cuts out the charger during operation. Switches of this type also turn on Balkite "B" when the set is turned on, thus providing an entirely automatic current supply for both circuits.

Size 5½ in. long, 2¾ in. wide, 5 in. high. May be put in the usual dry cell compartment. Charging rate .4 to .5 amperes. Current consumption 1/10¢ per hour. Operates from 110-120 AC 60 cycle current. Special model for 50 cycles.

Price $10
West of Rockies, $10.50
In Canada, $15

Balkite Radio Power Units simplify and improve radio reception. They reduce the amount of attention you must give your set. With their use your current supply is always exactly what is required for each circuit.

The popular Balkite Battery Charger is entirely noiseless. It can be used while the set is in operation.

The Balkite Trickle Charger converts your "A" battery into a permanent "A" power unit that supplies full "A" current at all times from the light socket.

Balkite "B" eliminates "B" batteries entirely and supplies plate current from the light socket. Balkite "B" for sets of 6 tubes or less. Balkite "B" II for sets of 6 tubes or more.

An ideal installation is a Trickle Charger and "A" battery, and Balkite "B." This enables you to operate your set entirely from the light socket.

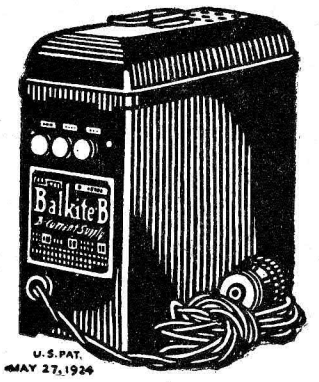
Noiseless—No bulbs—Permanent

All Balkite Radio Power Units are based on the same principle. All are entirely noiseless in operation. They have no moving parts, no bulbs, and nothing to adjust, break or get out of order. They cannot deteriorate through use or disuse—each is a permanent piece of equipment with nothing to wear out or replace. They require no other attention than the infrequent addition of water. They do not interfere with your set or your neighbor's. Their current consumption is remarkably low. They require no changes or additions to your set. *At your dealer's.*

Manufactured by
FANSTEEL PRODUCTS COMPANY, Inc., *North Chicago, Illinois*

FANSTEEL
Balkite *Radio Power Units*

FOR THE "B" CIRCUIT

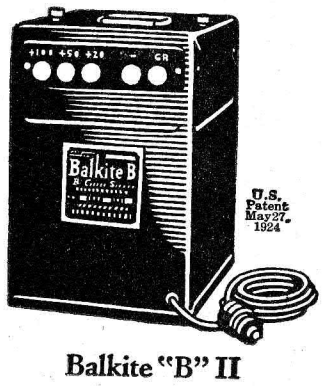


Balkite "B"

Eliminates "B" batteries. Supplies plate current from the light socket. Operates with either storage battery or dry cell tubes. Keeps "B" circuit always operating at maximum efficiency, for with its use the plate current supply is never low. Requires no changes or additions to your set. No bulbs—nothing to replace. Requires no attention other than adding water twice a year.

A new model, designed to serve any set requiring not more than 20 milliamperes at 90 volts—practically all sets of 5 tubes or less, and most 6 tube sets. Size 8¼ in. long, 8 in. high, 3¼ in. wide. Occupies about same space as 45 volt dry "B" battery. Operates from 110-120 AC 60 cycle current. Special model for 50 cycles.

Price $35
In Canada, $49.50



Balkite "B" II

The most outstanding development in radio last season. Same as the new Balkite "B" but will fit any set including those of 8 tubes or more. Current capacity 40 milliamperes at 90 volts. Size 9 in. high, 6¼ in. wide, 7½ in. deep. Operates from 110-120 AC 60 cycle current. Special model for 50 cycles.

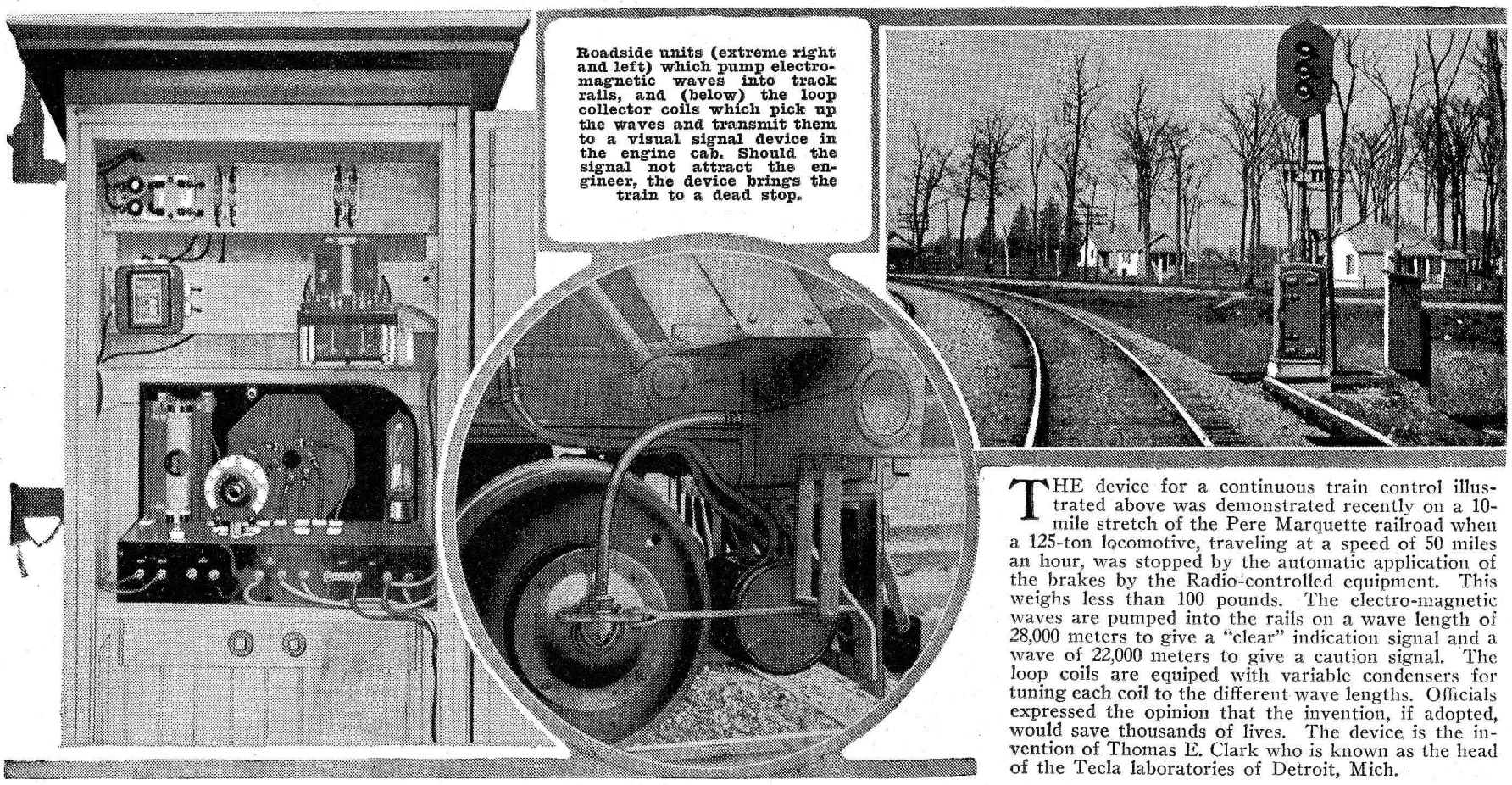
Price $55
In Canada, $75

The Gould Unipower, manufactured by the Gould Storage Battery Company, is equipped with a special Balkite Radio Power Unit

BALKITE BATTERY CHARGER · BALKITE TRICKLE CHARGER · BALKITE "B" · BALKITE "B" II

ALL BALKITE RADIO POWER UNITS ARE TESTED AND LISTED RMA AS STANDARD BY THE UNDERWRITERS' LABORATORIES

RADIO BRAKE STOPS FAST TRAINS



Roadside units (extreme right and left) which pump electro-magnetic waves into track rails, and (below) the loop collector coils which pick up the waves and transmit them to a visual signal device in the engine cab. Should the signal not attract the engineer, the device brings the train to a dead stop.

THE device for a continuous train control illustrated above was demonstrated recently on a 10-mile stretch of the Pere Marquette railroad when a 125-ton locomotive, traveling at a speed of 50 miles an hour, was stopped by the automatic application of the brakes by the Radio-controlled equipment. This weighs less than 100 pounds. The electro-magnetic waves are pumped into the rails on a wave length of 28,000 meters to give a "clear" indication signal and a wave of 22,000 meters to give a caution signal. The loop coils are equiped with variable condensers for tuning each coil to the different wave lengths. Officials expressed the opinion that the invention, if adopted, would save thousands of lives. The device is the invention of Thomas E. Clark who is known as the head of the Tecla laboratories of Detroit, Mich.

RADIO BRIDGE LEADS FALL BROADCASTING

WSAI AND ASSOCIATE STATIONS RECEIVE LETTERS

Fans from Coast to Coast Hear Experts Expound Principles of Popular Card Game

CINCINNATI. — That Radio bridge games is one of the big features of broadcasting this winter is well attested by the hundreds of letters and telegrams received by WSAI and associate stations following the first game that went on the air from numerals of the powerful stations featuring bridge by Radio. The following stations are featuring the series of games each Tuesday: WSAI, Cincinnati; WEAF, New York; WEEI, Boston; WFI, Philadelphia; WGR, Buffalo; WWJ, Detroit; WOC, Davenport; WCCO, Minneapolis-St. Paul; KFOA, Seattle; KGW, Portland; KHJ, Los Angeles, and WGN, Chicago.

The New York hook-up including the first eight stations was handled through Paul A. Greene manager of WSAI who put the first game on the air from the studios of WEAF.

Can Follow Experts Play

The plan of playing the game is so arranged that those listening in on any of the twenty stations broadcasting are able to follow the bids and plays as executed by the experts.

Representative bridge experts from New York and cities where broadcasting stations are located are playing each week against Milton C. Work and Wilbur C. Whitehead of New York who are considered the leading bridge authorities in America. As the experts map out the game bid by bid and play by play, salient points in the hand will be illustrated. Each game broadcast is separate and distinct in itself.

The first game was played between M. C. Work, W. C. Whitehead, Sidney S. Lenz and E. V. Shepard of New York.

Even Coast Will Hear

WSAI and WGN, Chicago, are broadcasting the entire series of twenty-four games in conjunction with the stations on the Pacific coast while on alternate Tuesdays the New York hook-up including WEAF, WEEI, WFI, WGR, WWJ, WOC and WCCO put on the odd-numbered games.

The contestants in the second game were Ralph J. Liebenderfer, New York, and Gratz M. Scott, New York, a prominent member of the Knickerbocker club, against Mr. Whitehead and Mr. Work. Following the second game the contestants are representatives from leading bridge clubs of other cities. The following stations broadcast the second game: WSAI, WSB, KPRC, WFAA, WMC, WDOD, KFOA, KGW KHJ, KOA, WGY, KGO and WGN.

Bridge by Radio

Broadcast by

WSAI, every Tuesday, 9-9:30 p. m., central time.

WEAF, WEEI, WFI, WGR, WWJ, WOC, WCCO, alternate Tuesdays, 10-10:30 p. m., eastern time.

KPRC, WFAA, WMC, WDOD, alternate Tuesdays, 9-9:30 p. m., central time.

WSB, alternate Tuesdays, 9-9:30 p. m., eastern time.

KFOA, every Friday, 8:30-9 p. m., Pacific time.

KGW, every Tuesday, 8:20-8:45 p. m., Pacific time.

KHJ, every Tuesday, 3:30-4 p. m., Pacific time.

WGY, alternate Saturdays, 9-9:30 p. m., eastern time.

KGO, every Tuesday, 9:30-10 p. m., Pacific time.

WGN, every Wednesday, 3-3:30 p. m., central time.

WNAC, alternate Tuesdays, 10-10:30 p. m., eastern time.

WEAN, every Tuesday, 10-10:30 p. m., eastern time.

WSOE, alternate Thursdays, 8-8:30 p. m., central time.

KOA of Denver Now Offers All-Winter Spanish Course

DENVER.—Monday evening is now educational night at KOA, General Electric station here, following announcement that an all-winter course in conversational Spanish, employing the Galeno natural method, would be featured every week.

Special text books to accommodate a Radio class of 10,000 listeners already are being distributed, succeeding the first two lessons. The demand indicates that an additional supply may be required.

One class whose enrollment totals 27 members has been organized by a Spanish enthusiast of Denver, while a social club in New Mexico is arranging for a loud speaker class of a dozen students to receive instruction.

BOYCOTT OF KHJ IS ABOUT TO END

Mutual Interests of Station and Musicians Union to Bring Amiable Agreement

LOS ANGELES.—The boycott of Station KHJ, Los Angeles Times, here, by the local musicians' union, is about to end, according to all information that could be obtained at the station and musicians union headquarters. Union musicians are missing the bookings at the station and the station, to some extent at least, is missing the musicians so it is thought the boycott will soon end with an amiable agreement.

Station KFON at Long Beach, Calif., just recently raised in power to 500 watts, also has had some trouble with the union due to the fact that Long Beach comes under the jurisdiction of the Los Angeles federation. It is thought that KFON will also be freed of restrictions at the same time settlement is made with KHJ.

Jap Broadcasters New On Coast Fans' Dials

Oriental Stations Sound Like Static to Americans

SAN FRANCISCO.—Mail from Alaska, the South Seas, Australia, and Pacific coast states, received at KGO, here, now frequently mentions reception of Japanese broadcasting stations.

Station JOAK, Japanese government owned and located in Tokio, has been reported heard in San Francisco and other Pacific coast points. A recent letter from Nome, Alaska, says "aftering listening to KGO we tuned in Tokio, Japan, but the Jap announcer sounded like static. The music came from a good orchestra but was the wrong brand. Give us jazz instead."

In Queensland, Australia, in the cities of Cairns and Townsville, listeners report intereference with American and even Australian stations by Japanese broadcasters.

Peter MacArthur Goes on Announcing Staff of WOC

DAVENPORT, Iowa.—Peter MacArthur, Scotch baritone and a long-time favorite with WOC listeners, has been assigned to the announcing staff at the Palmer school station here. "Pete" is no stranger to the audience as he has been heard on many programs from the Davenport station, but he will in the future give more of his time in the WOC announcing room than heretofore.

NO STATION LICENSE GIVEN DURING WEEK

CONGESTION IS SO BAD NO ROOM ON AIR REMAINS

New Broadcasters Await Action of Radio Conference Before Making Application

WASHINGTON.—For the first time in almost a year, a week has elapsed without a new broadcaster being licensed by the department of commerce. Heretofore, there have been from three to ten new licenses granted weekly.

The lack of new stations is directly due to the recommendations of the Radio conference that no further stations be licensed until much of the present congestion in the ether has been relieved.

There is reason to believe that there are a large number of prospective new broadcasters who have been holding off on demanding a wave length and a license because of the possibility of new channels being created by the conference.

Many Exert Pressure

With their hopes in this direction shattered, there is a likelihood that the prospective new broadcasters may try to exert pressure on the government in order to get a license before congress has a chance to act upon the matter.

The shortage of wave lengths is acute. A new station, equipped to use 5,000 watts, is ready to broadcast at St. Louis. At the present time it seems almost impossible to provide a wave length for this station, although a desperate effort will be made to squeeze it in somewhere.

Then there is the case of Baltimore, WBAL, "The Voice of Baltimore," which was recently completed. It was constructed to operate on a class B wave length and considerable adjustment of apparatus would be necessary for operation below 280 meters.

Cannot Stay on 375 Meters

The station is working temporarily on 375 meters, but this is the wave length of KVOO, "The Voice of Oklahoma" at Bristow which will be ready to broadcast soon. If Bristow, Baltimore and Hot Springs could work satisfactorily on the same wave length, Baltimore would be allowed to continue on 375 meters. This is not the case, however, and WBAL will be compelled to drop down to 246 meters.

WHT, Deerfield, had the same experience as the Baltimore station, but has temporarily overcome the situation. Constructed to operate on a higher wave, WHT was assigned 238 meters. The station is now using 400 meters, through the courtesy of WHAS, Louisville until it can adjust its apparatus for the lower wave.

KFVE, KING TUT'S OWN

(Continued from page 6)

spirit photographs. If we can get you in the pictures and on the air both it certainly would be a very fine record for our wonderful Egyptian studios.

"Come right in and make yourself at home. We have tried to make the environment congenial. We will go directly to the small studio. It already has been announced that you are to speak tonight. Thousands of letters have been received from fans who are crazy to hear you.

"Guess you never did broadcast before, did you? Nothing to it—just be yourself and talk in your ordinary tone of voice. We have 500 watts, not so large as some stations but being in the center of the country it is great enough. They hear us from coast to coast. You don't have to shout or—excuse me, I almost forgot, you are not vocal. That will take an amplified cerebral wave—telepathic they used to call it. It's all mystery to me but the operator understands. He's a wizard. I just ask him and he does anything.

"Well, let's step along, Your Majesty, and please notice the scenery as you pass down the fairway—the pylon, I mean."

Carved Columns Stand Like Sentinels

Thus they pass through the misty light. Carved columns flank them in serried ranks like giant sentinels whose heads are above the clouds. Through blue squares of lofty skylights twinkling stars may be seen in the distant heavens. Figured tapestries and hieroglyphs tell the history of ancient Egypt on every hand. All of this is pleasing to King Tut and he smiles an astral smile while his guide continues to tell him of the life and activities in the great building.

"It was conceived and constructed some years ago," explains Mr. Fielding, "by E. G. Lewis as the publishing house of the 'Woman's National Daily,' most widely circulated daily in the world at the time. Mr. Lewis was an eccentric genius and sent a delegation to Egypt to get precise data from the originals created by your own artists.

"I see you are smiling. Doubtless you see in some of these hieroglyphics comic strips that amused the Egyptians when you were a boy. We still use the same jokes on the vaudeville stage and they go over as big as ever. Now take that one about the mother-in-law—"

"Excuse me, I believe I have heard that," interrupts Tut, "may I ask is this your broadcasting studio, as I understand it?" They enter a division of the big room.

"Oh, yes. This is the large one. We call it the 'Queen's Room.' We broadcast the concerts from this room. A hundred persons may sing or play here at one time. These musicians are the Washington university orchestra starting the 8:30 program.

King Tut Meets Queen Joan

"I should like very much to present you to our movie queen, Queen Joan Arliss. I didn't tell her that you were coming. I hope she can see you as I do, with the astral eye—."

"Is that her royal robe?"

"Oh, no. She's playing a bride today and is wearing a stock bridal gown. But you should hear her sing—mezzo-soprano. She can always be counted on for a corking recital of classical music. Come on, let's try an introduction."

Fielding essays to present the Potentate of the Nile.

"Say, what's the matter with you. I don't get this jargon about Tut at all. I told you to make the bootlegger try it first—."

"Don't mind her, she can't see you," says the director as they back away. "She's temperamental but she's a peach when it comes to screen business. You know how artists are."

In the small broadcasting room they find "Jack" David Franklin before the mike as they open and close the door noiselessly. Jack has just changed his voice from that of an announcer to a singer and is throwing his soul into the microphone.

Tut Broadcast? Not Much!

The spectral figure of King Tut comes to a dead halt.

"I can never do that, never. It won't work. Do you think I could get up in front of a little cup like that with a whole nation for an audience?" Tut gasps and a cold gust of air swayed the velvet draperies.

"Now, don't get scared," Fielding answers in a soothing voice. "Just be yourself and talk in an ordinary tone of voice—oh, I keep forgetting. Operator!"

"No, thanks, I'm sorry but I never could get up before that thing—never. I-I-I'd die first, if I could. Listen, the boat . . . it's coming . . . 'bye . . ."

The director looks around. There is a sound in his ears as of a distant splash—it may be an oar or a faucet in the wash room. Tut is gone. The operator stands in his place, his eyebrows screwed up into two parallel question marks.

"Never mind," says the chief. "I just had an idea but we'll not bother about it now . . . Funny, isn't it, how some folks, even kings, get so frightened over a little microphone. What would they do with a megaphone?"

GIVES RADIO ENROUTE

(Continued from page 7)

was on a train being tried out, it was my good fortune to happen to poke my nose into the matter. Of course it was none of my business, but human beings are the same the world over, and when I heard a singer coming in, along with razzes and rattles enough to make one want to kill himself or the singer, I let out a whoop of excited joy. I wanted to tell the world about it, but a few very pointed remarks from the men who were doing the pioneer work in these experiments made me hold my tongue.

Radio Is Common Affair

However, time and experiments have passed, and apart from the regular research work, for the advancement of train Radio, the thing is not only an accomplished fact but it is a common affair now on this railroad.

Experiment has determined locations for C. N. R. broadcasting stations, so that passenger trains will be free from interrupted service. Montreal, CNRM, is only 113 miles from Ottawa, CNRO, but was necessary due to difficulty in getting either Ottawa or Toronto at Montreal.

These broadcasting stations, opened and operated by the C. N. Rys., are located at Moncton, N. B., Montreal, Que., Ottawa, Ont., Toronto, Ont., Winnipeg, Man., Regina, Sask., Saskatoon, Sask., Edmonton, Alta., Calgary, Alta., and Vancouver, B. C.

Iron Bridges Have Their Joke

The programs are what one would expect from a big organization. They come into the trains, going at anywhere from forty to sixty miles an hour, and do not seem to differ in any way whatever from the same thing, be it song or bedtime story, coming into a village home.

All this is very wonderful indeed, especially when we consider that the amount of metal about engines and cars, which was responsible for much of the early noises, has been overcome. It is true that absolutely every weakness has not been overcome; for instance, a singer coming in clear and sweet as a silver bell, when we were going along about forty-five miles an hour, suddenly faded almost entirely away and remained so for a few seconds and just as suddenly came back. This, of course, made everyone look at the operator for an answer and he just said, "Iron bridge." So heavy iron bridges have their little joke. It is as though they resented the failure of the passengers to notice them any more and have taken this means of protesting against the foolish and carefree ways of the modern passenger.

Children Sit Quiet as Mice

Freight yards, passing engines and trains and all the masses of metal one would think might bother the ears of the passengers, by jazzing up the program with noises, have been given a dose of Radio chloroform—in other words, careful experiment has cut them down to nothing.

Recently I saw some children on a transcontinental train (a long and trying trip for children and their parents and everyone else in the olden days) sitting as quiet as mice, getting bands, comic songs and nature stories. They were too funny for words, all in a row, tiny heads fitted with ear phones, the whole world outside going by the car windows. And there they sat, faces as serious as a courtroom, eyes unseeing, and not a move out of them, except for a sudden laugh or a dropped lower jaw when some serious business would be heard and the relieved shutting of the mouth as when a trapped animal has escaped from its trouble. The other passengers were greatly amused.

Sets Used Are Excellent

Trains from Montreal to Vancouver, Toronto to Winnipeg, Montreal to Quebec, and Montreal to Chicago are equipped and in regular operation.

As high as 30 headsets to a car is not unusual and the loud speaker is used at the discretion of the operator in exactly the same manner as one would use it in the home, the uniformed operator and the finest Radio equipment it is possible to get probably putting the train Radio into a class of excellence unexpected by the general public, for when we speak of the average Radio receiving set used by the public, the margin is rather an agreeable surprise when the public boards the Radio-equipped train and the closeness to perfection is seen and heard.

The Moncton broadcasting station has been heard in Holland and England. Winnipeg also was heard very clearly in Holland. In other words, while the trains get Radio, it is a benefit to all within reach of the railroad's broadcasting stations. It does seem hard to believe, though, that when you leave the family hearing a concert at home, take your grip and go to the train, you plug in and get it while departing.

Capitol Theater Celebrates

NEW YORK.—Last Sunday evening the Capitol theater "family" celebrated the third anniversary of its broadcasting activities by a special program in which each member of the "family participated.

For radio economy

EVEREADY Radio Batteries are noted for their long service and economical operation. They are made in different sizes and types so that every radio user can enjoy the economy and convenience to be had by fitting exactly the right Eveready to his receiver. Five of the dry-cell types of Eveready Radio Batteries are here illustrated and described to make it easy for you to decide just which will give the longest and most economical service on your set. A dealer near you sells Evereadys.

Eveready Heavy-duty "B" Battery for four or more tubes

No. 486. *Extra-large Layerbilt.* 45 volts. Vertical. Eveready's latest contribution to radio. The new Layerbilt construction which gives much greater service. Same size as No. 770. Price $5.50.

Eveready "B" Battery for one to three tube sets

No. 779. *Large.* 22½ volts. Vertical. Especially adapted for Radiola 25, DeForest D-17 and Operadio receivers. Same capacity as No. 766, and suitable wherever variable taps are not required. Price $2.00.

Eveready "B" Battery for portable sets

No. 764. *Portable.* 22½ volts. Vertical. For portable sets where medium weight and size are permissible. Price $1.75.

Eveready "A" Battery

Eveready Columbia Ignitor Dry Cell Radio "A" Battery for all dry-cell tubes. 1½ volts. The dry battery used by vacuum-tube engineers in developing the dry-cell tube.

Eveready "C" Battery

No. 771. 4½ volts. Saves "B" Batteries, improves tone. Price 60 cents.

Manufactured and guaranteed by

NATIONAL CARBON CO., INC.
New York San Francisco
Canadian National Carbon Co., Limited
Toronto, Ontario

EVEREADY Radio Batteries
-they last longer

DAILY CABLE BRINGS EUROPEAN FASHIONS

ELEANOR GUNN PREPARES LATEST WHT FEATURE

Intimate News of Famous Social Resorts Will Be Given to Milady in America

CHICAGO.—Milady can now use her Radio and receive the latest fashion notes cabled from European style centers and prepared by Eleanor Gunn, one of America's foremost fashion authorities.

This special fashion service is a daily feature of WHT programs arranged by Jean Sargent and is broadcast daily from the Wrigley building studio (400), at 11:40 a. m. The broadcasting of these fashion reports is supplemented by a fashion question box and all inquiries are answered direct by Eleanor Gunn.

The reports take the listener to the famous European social resorts in England, France, Spain and Italy as well as the style centers of America. They will tell who is there, what they wear, how they wear it, and what they are going to wear.

Receiving Set for Show Built by Boston Woman

Claims Women Should Be Better Than Men in Radio

BOSTON, Mass.—This city can now boast of a woman who is a Radio set builder. Miss Betty A. Mirick has achieved the distinction of being Boston's first woman Radio constructor. This just came to light through the entry of Miss Mirick in the amateur receiving set building contest held in connection with a Radio show. Miss Mirick's entry was a single tube regenerative set.

"I don't see why more women have not built receiving sets, and entered this contest. The work is more adapted to a woman than a man, I believe. Women's hands are smaller, more deft and better able to do the fussy work of wiring receiving sets than are men's." Miss Mirick declared that she is a dyed-in-the-wool Radio listener, and has been for several years. Previous to building this set herself, she had been using a single tube set that she bought.

King Used to Have Taster Who Took All the Chances

NEW YORK.—As the result of the many splendid recipes which Mrs. Julian Heath broadcasts from WJZ every morning, the staff of the station is having the opportunity to enjoy numerous concoctions of the culinary art.

The housewives who listen in daily to the women's hour try out the recipes that are broadcast and then send generous samples to the station for the inspection and approval of Mrs. Heath, who samples the product and then turns the balance over to the staff to consume, which they, in turn, do quite efficiently.

One morning the following articles arrived to be sampled: One apple pie, one peach shortcake, two dozen cookies, one loaf of nut bread, one jar of chow chow, one chocolate pudding and numerous smaller items. All were tried by the staff with no bad effects.

Key Pounders Worship St. Joan

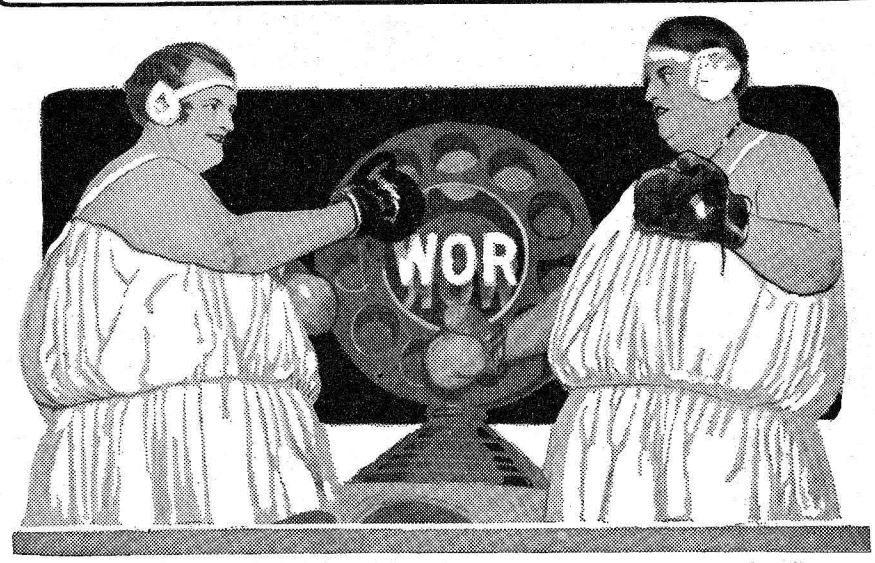
LONDON.—Saint Joan of Arc was sometime ago chosen in France as the patron saint of Radio, doubtless on account of the voices she heard. Now, to celebrate this new tribute to Saint Joan, the naval Radio operators at Toulon recently organized a pageant depicting Joan's entry into the city. Despite the burlesque character of the proceedings, the Radio operators have chosen their saint in all seriousness.

With additions being made at the rate of three hundred a month, the British Broadcasting company's collection of phonograph records is probably the finest and largest in Europe.

RADIO TALK BRINGS OWNER LOST PURSE

NEW YORK.—Shortly after she had finished a short talk over Station WJZ in the interest of education week, Miss Mary Whittington, 510 West 124th street, was called to the phone by a woman who said her husband had found a purse with Miss Whittington's name as the only mark of identification and she had despaired of ever finding the owner until she heard the name announced on the program.

TWO MAKE ONE-HALF TON AT WOR



"Mike" at Station WOR, New York, has witnessed many a pair of shaking knees as great and near great have made their bow before him, but when the two ladies shown in the above picture approached, he did a little shaking on his own account. They were "professional fat women." They were in the "Early Bird Gym Class." The casualties were slight although Dot (left) weighed in at 521 pounds broadside, and Elsie weighed 541 pounds.

Index to Women's Programs

SATURDAY, DECEMBER 12

Eastern	Central	Mountain	Pacific
9:30 a. m.	8:30 a. m.	7:30 a. m.	6:30 a. m.

WWJ (352.7) Tonight's dinner.

11	10	9	8

WEAR (389.4) Home service talk.
WHT (399.8) Women's club.

11:45	10:45	9:45	8:45

WCCO (416.4) Home Service talk, Betty Crocker.

12:35 p. m.	11:35	10:35	9:35

KYW (536) Table talk.

4	3	2	1

KJR (384.4) Tonight's dinner.

MONDAY, DECEMBER 14

Eastern	Central	Mountain	Pacific
9:30 a. m.	8:30 a. m.	7:30 a. m.	6:30 a. m.

WWJ (352.7) Tonight's dinner.

10	9	8	7

WJZ (454.3) Women's hour.
WRC (468.5) Women's hour.

10:45	9:45	8:45	7:45

WCAE (461.3) Gold Medal talk.
WEAF (491.5) Home service talk, Betty Crocker.
WFI (395) Gold Medal talk, Betty Crocker.

11	10	9	8

WEAR (389.4) Home service talk.
WHT (399.8) Women's club.
WNYC (526) Women's program.

11:45	10:45	9:45	8:45

WCCO (416.4) Gold Medal Christmas Presents, Betty Crocker.
WDAF (365.6.) Gold Medal Christmas Presents, Betty Crocker.

12	11	10	9

WQJ (447.5) Care of Dairy Products, Etchings.

12:15	11:15	10:15	9:15

KYW (536) Who Needs Spareribs.

12:35 p. m.	11:35	10:35	9:35

KYW (536) Table talk.

2:30	1:30 p. m.	12:30 p. m.	11:30

WGY (379.5) Cooking lesson; Household talks. Accessories in Dress.

3	2	1	12 n.

WCCO (416.4) Women's hour.
WSOE (246) Cooking chats.

4	3	2	1 p. m.

WIP (508.2) Market hints for housewives.
WOC (483.6) Home Management schedule, Aunt Jane.
WQJ (447.5) Christmas Salads.

5	4	3	2

KJR (384.4) Home helps.

7	6	5	4

KFOA (454.3) Today's recipe.
KLX (508.2) Women's hour.

9	8	7	6

KFMQ (299.8) Making Christmas Candy.

10	9	8	7

KOB (348.6) Suggestions for Christmas Presents.

11	10	9	8

KWSC (348.6) Refinishing Furniture for the Girls Room.

TUESDAY, DECEMBER 15

Eastern	Central	Mountain	Pacific
9:30 a. m.	8:30 a. m.	7:30 a. m.	6:30 a. m.

WWJ (352.7) Tonight's dinner.

10	9	8	7

KDKA (309.1) The art of sewing.
WIP (508.2) Menu.
WJZ (454.3) Women's hour.
WRC (468.5) Women's hour.

10:45	9:45	8:45	7:45

WTAG (268) Talks to Mothers.

11	10	9	8

WEAR (389.4) Home service talk.
WHT (399.8) Women's club.
WMCA (340.7) Homemaking hour.
WTIC (475.9) Housewives' forum.

12 n.	11	10	9

WQJ (447.5) How a Woman Can Retain a Youthful Appearance. Christmas Salads.

12:35 p. m.	11:35	10:35	9:35

KYW (536) Table talk.

1	12 noon	11	10

KPO (428.3) Domestic science talk.

2	1 p. m.	12 n.	11

WGY (379.5) Home Hygiene. Care of the Sick.
WLIT (395) Household Helps and hints.

4 p. m.	3 p. m.	2 p. m.	1 p. m.

WOC (483.6) Home Management schedule.

5	4	3	2

KJR (384.4) Home helps.
WMAQ (447.5) Household art.

5:30	4:30	3:30	2:30

KOA (322.4) Housewives matinee.

6	5	4	3

KOA (322.4) Culinary hints.

6:15	5:15	4:15	3:15

KOA (322.4) Fashion review.

7	6	5	4

KFOA (454.3) Today's recipe.

8:30	7:30	6:30	5:30

KGO (361) As a Woman Thinketh.

WEDNESDAY, DECEMBER 16

Eastern	Central	Mountain	Pacific
9:30 a. m.	8:30 a. m.	7:30 a. m.	6:30 a. m.

WWJ (352.7) Tonight's dinner.

10	9	8	7

WIP (508.2) Menu.
WJZ (454.3) Women's hour.
WRC (468.5) Women's hour.

10:45	9:45	8:45	7:45

WCAE (461.3)Gold Medal talk.
WEAF (491.5) Home service talk, Betty Crocker.
WFI (395) Gold Medal Service talk, Betty Crocker.
WTAG (268) Talk to Housewives.

11	10	9	8

WHT (399.8) Women's club.
WNYC (526) Women's program.

11:45	10:45	9:45	8:45

WCCO (416.4) Pretty Wrappings for Christmas Packages, Betty Crocker.
WDAF (365.6) Pretty Wrappings for Christmas Packages, Betty Crocker.

12 n.	11	10	9

WQJ (447.5) Friday Fish dinner menu.

12:35 p. m.	11:35	10:35	9:35

KYW (536) Table talk.

1	12 noon	11	10

KPO (428.3) Sewing talk.

4	3 p. m.	2 p. m.	1 p. m.

WOC (483.6) Home Management schedule, Aunt Jane.
WQJ (447.5) Treating the Home to Reflect Your Personality.

4:30	3:30	2:30	1:30

WLW (422.3) Cooking school, hints.

7	6	5	4

KFOA (454.3) Today's recipes.
KLX (508.2) Women's hour.

10:45	9:45	8:45	7:45

KFDJ (282.5) Christmas dinner.

11	10	9	8

KFDJ (282.5) Concealing Extra Pounds.

THURSDAY, DECEMBER 17

Eastern	Central	Mountain	Pacific
9:30 a. m.	8:30 a. m.	7:30 a. m.	6:30 a. m.

WWJ (352.7) Tonight's dinner.

10	9	8	7

WJZ (454.3) Women's hour.
WRC (468.5) Women's hour.

11	10	9	8

WEAR (389.4) Home service talk.
WHT (399.8) Women's club.

12 n.	11	10	9

WQJ (447.5) Planning the Christmas Dinner—Ham and Poultry.

12:35 p. m.	11:35	10:35	9:35

KYW (536) Table talks.

1	12 noon	11	10

KPO (428.3) Domestic science.

2 p. m.	1 p. m.	12 n.	11 a. m.

WGY (379.5) Christmas Puddings.

4 p. m.	3 p. m.	2 p. m.	1 p. m.

WOC (483.6) Home Management schedule, Aunt Jane.
WQJ (447.5) Party Suggestions for New Years.

5	4	3	2

KFOA (454.3) Home helps.
KSD (545.1) Women's Hour.

5:30	4:30	3:30	2:30

KOA (322.4) Housewives' matinee.

6	5	4	3

KOA (322.4) Culinary hints.

6:15	5:15	4:15	3:15

KOA (322.4) Fashion review.

7	6	5	4

KFOA (454.3) Today's recipe.

FRIDAY, DECEMBER 18

Eastern	Central	Mountain	Pacific
9:30 a. m.	8:30 a. m.	7:30 a. m.	6:30 a. m.

WWJ (352.7) Tonight's dinner.

10	9	8	7

KDKA (309.1) Home Economics, cooking.
WJZ (454.3) Women's hour.
WRC (468.5) Women's hour.

10:45	9:45	8:45	7:45

WCAE (461.3) Gold Medal talk.
WTAG (268) Food hints.

11	10	9	8

WHT (399.8) Women's club.
WTIC (475.9) Housewives' forum.

11:45	10:45	9:45	8:45

WCCO (416.4) For the Gold Medal Christmas Basket.
WDAF (365.6) For the Gold Medal Christmas Basket.
WEAR (389.4) Home service talk.
WNYC (526) Women's program.

12 n.	11	10	9

WQJ (447.5) Sunday dinner menu.

12:15 p. m.	11:15	10:15	9:15

KYW (536) Talking Turkey to your Man.

12:35 p. m.	11:35	10:35	9:35

KYW (536) Table talk.

3	2 p. m.	1 p. m.	12 n.

WCCO (416.4) Women's hour.

4	3	2	1 p. m.

WOC (483.6) Home Management schedule, Aunt Jane.
WQJ (447.5) Home Economics program.

5	4	3	2

KJR (384.4) Home helps.

5:30	4:30	3:30	2:30

KOA (322.4) Housewives matinee.
WFAA (475.9) Women's hour.

6	5	4	3

KOA (322.4) Culinary hints.

6:15	5:15	4:15	3:15

KOA (322.4) Fashion review.

7	6	5	4

KFOA (454.3) Today's recipe.
KLX (508.2) Women's hour.

11:05	10:05	9:05	8:05

KFDJ (282.5) House heating.

THREE KOA CLASSES OFFERED TO WOMEN

BIG COURSE IS GIVEN IN MATINEE PROGRAMS

Styles, Fashions, Culinary Practice and Physical Education Are Features of Station

DENVER.—Authoritative information on styles and fashions!

Table talks which provide timely hints in culinary practice!

Midafternoon relaxing and corrective exercises!

These matinee attractions are the basis of three Radio classes for western housewives now conducted by KOA, General Electric station, at Denver. They are conducted exclusively by women every Tuesday, Thursday and Friday afternoons.

Gym, Music, Food Talks, Fashions

Lessons in physical education are given at 3:15 o'clock by Ruth Drumm Witting of the Denver Turnverein. The course embraces character and interpretative dancing and a variety of exercises for reducing, cultivating poise and improving posture. This is followed by a half-hour studio program of miscellaneous vocal and instrumental selections.

Clara Hoover, culinary expert of Denver, next appears before the microphones with a fifteen-minute course in home economics.

Her feature is billed at 4 o'clock and is followed by Radio fashion reviews which serve as a guidance in style selections.

What to Feed Hubby Is Told to Wife by WGY

Schenectady Station Inaugurates Food Preparation Talk

SCHENECTADY, N. Y.—That often perplexing problem of what to feed the male of the species after a bread-winning day in office, field, shop or store has been partly settled for the housewife here by WGY, General Electric company. Miss Jessie B. Lane, a graduate of Swarthmore college, gives a weekly talk to housewives suggesting menues and offering many suggestions for the preparation of various foods.

Miss Lane has had one year's experience in institutional work and house management and five years' experience in teaching domestic science. During the war she was in charge of community cooking and canning demonstrations.

"Aunt Jane" Has Letters From 4,116 Club Members

DAVENPORT, Iowa.—"Aunt Jane," who ethereally presides over the Women's Exchange club Radio schedules at 3 o'clock, central time, every afternoon, with its headquarters before the WOC microphone here, has counted her members, and finds that she has 4,116 members enrolled.

This figure represents over four thousand ladies of the city, of the farm, single, married, and all young and good cooks. Each one has sent "Aunt Jane" at least one letter. These letters, in most cases, have contained several recipes, household hints, etc.

"Things Talked About" New Feature for Women on WRC

WASHINGTON.—With the addition to its program of a new feature entitled "Things Talked About," which is presented every Friday afternoon by Mrs. Nina Reed, Station WRC, at Washington is now "covering" the weekly trend of current events for both its masculine and feminine audiences. Mrs. Reed's new series of weekly talks are of particular interest to women, and review those questions that are not covered by Frederic William Wile, in his weekly discussions of the political situation in Washington every Tuesday evening.

EDITOR IS CHAMPION OF MODERN WOMEN

NEW YORK.—John B. Kennedy, well-known editor, has been conducting a series of short talks on spirited topics from Station WJZ. In the last, which was given December 4, he treated on the subject of the women of today. He championed the "weaker sex" and proved that rather than being on the down grade, the girls of today are climbing higher while the males are on "thin ice."

AUTOMATIC DEVICE FOR CALLING SHOWN

DIRECTION FINDER IS ALSO GIVEN TO ENGINEERS

Compact Lifeboat Set Designed to Ring Bell on Bridge of Steamer for Aid

LONDON, Eng.—Important demonstrations of an automatic Radio calling device and a new direction-finding system, were given by Major B. Binyon, the newly-elected chairman, in his recent inaugural address to the Radio section of the Institution of Electrical Engineers here.

Major Binyon exhibited an extremely compact lifeboat set, which was watertight and could be operated even when being drenched with water.

No Operator Needed

The automatic calling device will ring a bell on the bridge on receipt of a distress signal, even though no Radio operator is on watch. It is capable of working through very heavy interference from other signals. When such an arrangement is universally adopted in ships it will, said the major, greatly increase the safety of life at sea owing to a greater number of ships being on the watch to render assistance in case of disaster.

The new direction-finding system demonstrated, although only in experimental form, proves that it is possible to construct a laboratory instrument which will automatically point towards the direction of a distant-transmitting station. An instrument which would point automatically to a coast station or another ship would be of immense value to commanders of vessels when navigating through dense fog.

"WILLIE THE WEEPER"

(Continued from page 5)

am dramatic editor of the Journal.

"Have been with the Journal four years. Was first newspaper man to receive an assignment by Radio. Got it from WSB at the receiving set at Fort McPherson long time ago. I was told to write up the concert in which I was taking part at the fort. That's where I got my first complimentary newspaper notice.

"Have played three vaudeville engagements, twice with Lambdin Kay, Journal Radio director-announcer, as a co-conspirator. Also numerous club dates with and without Kay.

"My pet aversions are: New York city and song publishers. They are too honest, always sending my manuscripts back.

"Ambition: To go to Turkey and start a harem.

"Have world's worst voice although certain lady friends say it is cute. Play the guitar pretty good, but it stutters after the twenty-third drink."

That's all the information that could be extracted from my fellow newspaper and Radio colleague, some things will have to be taken from the records after all.

Ernest is probably the most popular reporter in the South with theatrical folk. From the lowest salaried stage hand to the highest priced opera star, he is popular with all alike. His particular pet on the Journal is the amusement section. When the Atlanta grand opera season is on, Mr. Rogers hobnobs with the great stars as with old friends, as indeed many of them are.

Ernest has been wielding a guitar and composing ditties since he can remember, but not until Radio came along did he get a chance to make any headway with them. Today his name is synomymous with nationally known and popular tunes, as "Willie the Weeper," his famous dope song; "Mythological Blues"; "My Red-Haired Lady"; "Forgiveness," "Tune in With My Heart," which was recorded by the Okeh Phonograph company; "Sea-Sickness Blues"; "The Dog-Catcher's Daughter," and his latest, "Let Me Be Your Man in the Moon."

When the Atlanta Journal installed its broadcasting station, Ernest was introduced for the first time to an aerial audience. He found instant favor and today he is known from coast to coast as one of the most popular Radio personalities in the country.

In addition to filling the role of entertainer before WSB's microphone, Mr. Rogers on occasion substitutes as announcer for Lambdin Kay, and uses the title he created for himself, "Old King Tut, the Radio Nut." In this role he is just as popular as in his others.

He conducts a column in the Sunday amusement section called "At the Screen Door," which tells bits of gossip around the local theaters. Another column is called "Folks, Facts and Fables." He is also called upon at all national celebrations to compose a poem appropriate to the occasion.

An example of his versatility — Mr. Rogers recently performed the unusual feat of composing a different song every day for six days. Many times he has begun the creation of a new song a few minutes before facing the "mike" and completed it while in the air.

After Radio placed him so prominently and favorably in the public eye, the Journal reporter-troubadour was sought after by local theater managers, and thus came about his debut behind the footlights. Two of these stage appearances he filled in partnership with Lambdin Kay, featuring their original interpretation of "Rogers and Kay," sung to the tune of "Gallagher and Shean."

Ernest Rogers is the son of Dr. Wallace Rogers, well-known and beloved Methodist clergyman. Dr. Rogers is presiding elder of the LaGrange district North Georgia Conference Methodist Episcopal church, South. He is nationally known as an amateur photographer, specializing in ornithological studies. He is an ardent Radio enthusiast and keenly interested in all his son's activities.

Ernest, in company with his "brand-new, second-hand, seven-year-old guitar," with the 37 notches, frequently is on the air at WSB and before many days will probably have a string of brand-new homemade ditties to add to his collection.

WDAE On Air Again

TAMPA, Fla.—After a three month's silence during the summer months, Station WDAE, owned and operated by the Tampa Daily Times, is again on the air. The station's equipment has been overhauled and put in first-class shape.

RISK LIVES FOR BELLS

(Continued from page 4)

of the walls and this reflected sound is the one the listeners may hear through the broadcasting stations.

"Then he works his way back to the roof opening and hopes that he will not have to venture out there again until after the broadcasting has finished. But a stiff wind may suddenly develop, water congeals and the microphones become caked with ice. Out he crawls again, careful not to become entangled in the lines connecting the microphone. It may be pitch dark, above street lights and beneath lowering storm clouds. He carries blankets and other pieces of cloth which are to be draped over the microphone in a way to protect it from the swirling wind and at the same time not to obscure the sounds of the bells. He finds the place, snaps on a pocket flash lamp, works with a screw driver, his fingers numb with cold, loosens the dead microphone and replaces it with a new one and then crawls back over the treacherous slope to his place of security. This process may have to be repeated several times in the course of a program."

Only a few days ago all the newspapers carried the story of how one of these operators did slip and fall only to catch himself by a fragile finger hold until rescued.

Broadcasting from airplanes has been successfully accomplished for the general public both from New York and Chicago. It was planned by one of the eastern companies to broadcast Santa Claus arriving by air and this likely will evolve other thrilling hazards for the transmission operator in the near future.

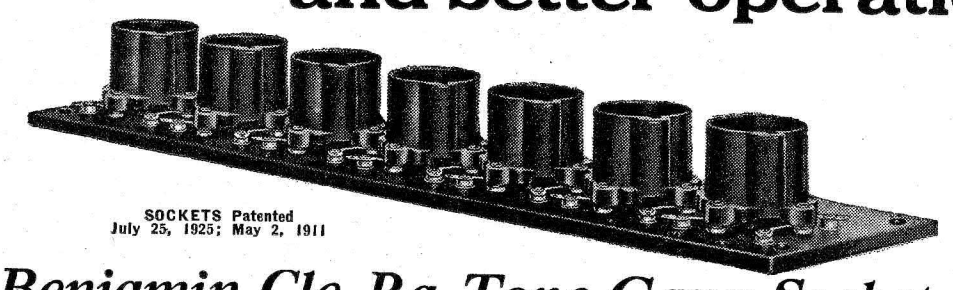
Incidentally the Park Avenue Baptist church crillon consists of 53 bells, ranging in size from 100 pounds to 18,000 pounds. They are played by levers, similar to piano keys and allow almost as much latitude as a piano. Both the bass and treble parts are played and it is possible to play runs up and down the scale in two or three octaves with all the sharps and flats. They were made in Europe for John D. Rockefeller in honor of his mother.

Anton Brees, the laureate of the Antwerp cathedral, carilloneur, is the artist who plays the bells. He performs as an athlete, shutting himself into the loft and working the keys while dressed in the scanty costume of a track runner. The bells, because of their size are divided into three levels of the tower, the heavy bells below, small bells next and the middle-sized bells at the top.

6,561 Wires in This Cable

LONDON, Eng.—Among the outstanding features of the government's new high-power station at Rugby is a cable of remarkable construction which forms part of a variable inductance in the high-power radio frequency circuits. This cable contains 6,561 wires, each separately insulated with enamel, and connected together at the ends, forming what is, to all intents and purposes, one conductor with all the wires in parallel.

for easier building and better operation

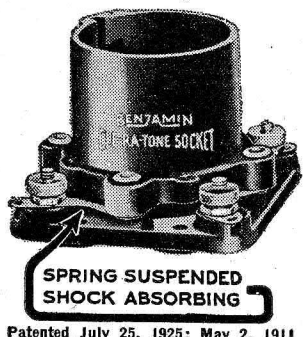


SOCKETS Patented July 25, 1925; May 2, 1911

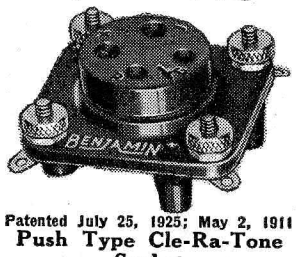
Benjamin Cle-Ra-Tone Gang Sockets

Shelf Type

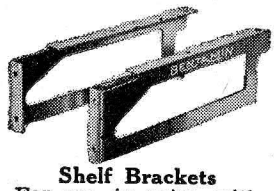
A MOST desirable innovation in set building. Gives more compact construction, with ample room on and under the shelf for accessory parts. Made of black polished Bakelite in a number of combinations of sockets for almost any type of circuit, with holes drilled for binding posts and space for markers. Possesses all the wonderful features of the famous Shock Absorbing Cle-Ra-Tone Socket, balanced on four delicately adjusted springs, which improves reception by eliminating tube noises and preventing outside vibrations from being transmitted into microphonic disturbances.



Patented July 25, 1925; May 2, 1911
Cle-Ra-Tone Socket for Separate Mounting



Patented July 25, 1925; May 2, 1911
Push Type Cle-Ra-Tone Socket
For the new UX Push Type Radio Tubes. Not used in Gang Mounting

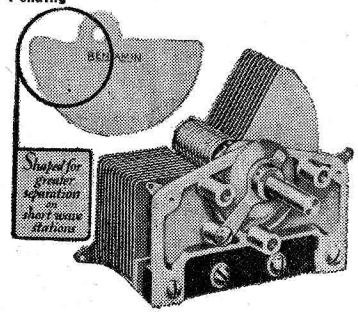


Shelf Brackets
For use, in pairs, with Benjamin Gang Sockets

Maximum Range Condenser

Patents Pending

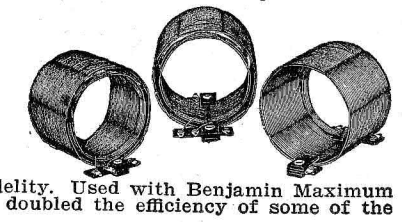
First of all, a wonderfully well built condenser. The shape of the rotor blades eliminates bunching of stations on any part of the dial. Makes tuning easier and separates sharply over the entire broadcast range. Each user can adjust the turning tension to suit his personal wishes by means of a bearing adjustment disc, without throwing rotor blades out of alignment. Finished in dull silver. In three sizes: 13 plate for .00025 Mfd.; 17 plate for .00035 Mfd.; 25 plate for .0005 Mfd. Drilling template furnished with each condenser.



Double Amplification Tuned Radio Frequency Transformers

Patents Pending

Built on the vital principle of space winding and maximum degree of air insulation. These coils show truly marvelous results and will positively cut through powerful local stations and bring in clear, strong signals from extreme distances. Careful tests show practically double amplification, compared with other coils, with greater range in tuning and improved tonal fidelity. Used with Benjamin Maximum Range Condensers, they have doubled the efficiency of some of the most popular circuits.



Sold by Radio Jobbers and Dealers Everywhere
Made Exclusively by

BENJAMIN ELECTRIC MFG. CO.

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247 W. 17th Street, New York
448 Bryant Street, San Francisco
Manufactured in Canada by the Benjamin Electric Mfg. Co. of Canada, Ltd., Toronto, Ontario

ADVANCE PROGRAMS FOR THE WEEK

Saturday, December 12

Headliners Today

Eastern	Central	Mountain	Pacific
Eastern	Central	Mountain	Pacific
8:15 p. m.	7:15 p. m.	6:15 p. m.	5:15 p. m.
WJZ (454.3) Liederkranz Society concert.			
8:30	7:30	6:30	5:30
KDKA (309.1) West Leechburg quartet.			
WEAF (491.5) Yale Glee club.			
9	8	7	6
KLDS (441) Classical program.			
WSB (428.3) Sargeant Ryan and trio.			
9:30	8:30	7:30	6:30
KSD (545.1) St. Louis symphony orchestra.			
WFAA (475.9) Treble Clef club.			
10	9	8	7
KTHS (374.8) Comedy program.			
11	10	9	8
WSM (282.8) Spirituals, Golden Echo quartet.			
11:10	10:10	9:10	8:10
KGO (361.2) Oakland Y. M. C. A. concert orchestra.			
12 m.	11	10	9
KPRC (296.9) Midnight entertainment.			
WLS (344.6) Joe Bren's Minstrel show.			
2:30 a. m.	1:30 a. m.	12:30 a. m.	11:30
KHJ (405.2) Birthday Party, Times Tom Cats.			

Saturday, silent night for: CFAC, CFCA, CKNC, CNRA, CNRC, CNRE, CNRM, CNRR, CNRT, CNRV, CNRW, KFDM, KFMQ, KFMX, KFRU, KFUO, KFXF, KLX, KFDJ, KMA, KOB, KSAC, KSO, KWSC, KTAB, WBAP, WBZ, WCAP, WCAU, WCX, WDOD, WEAO, WEBJ, WEBW, WEEI, WGCP, WGR, WGST, WHAD, WHAZ, WHB, WHN, WHO, WJAD, WJAR, WJAZ, WKAR, WLWL, WOAI, WOI, WOS, WTAG, WTIC, WWJ.

Eastern Time Stations

CNRO, Ottawa, Can. (435), 7:30 p. m., Uncle Dick; 8, Chateau Laurier concert orchestra; 9, instrumental trio; Gordon Moffat, violinist; Lillian Sharp, violinist; Hazel Jacques, pianist; Elsie Gleave Howe, contralto; G. D. Pavely, soprano; instrumental quartet; Chateau Laurier dance orchestra.

KDKA, Pittsburgh, Pa. (309.1), 7:15-8 a. m., exercises, O. Shannon; 6:30 p. m., dinner concert, Westinghouse band, T. J. Vastine, conductor; 9:30, concert, Westinghouse band, T. J. Vastine, conductor; West Leechburgh male quartet.

WAFD, Port Huron, Mich. (275), 9-11 p. m., studio program; 11:30-2 a. m., musical program, Addison hotel.

WBBR, New York, N. Y. (272.6), 8 p. m., Dr. Hans Haag, violinist; 8:10, L. Marion Brown, soprano; 8:20, Bible questions and answers, Judge Rutherford; 8:40, L. Marion Brown, soprano; 8:50, Dr. Hans Haag, violinist.

WCAE, Pittsburgh, Pa. (461.3), 3 p. m., music, Aldine theater; 6:30, dinner concert; 7:30, children's period; 8, studio concert.

WCX, Detroit, Mich. (517), 6 p. m., dinner concert, Book-Cadillac hotel.

WEAF, New York, N. Y. (491.5), 6:45-7:20 a. m., Tower health exercises; 4-5 p. m., Norman Strutt and his Four Towers orchestra; 6-7, dinner music, Waldorf-Astoria; 7-7:10, William J. Fagan, baritone; 7:10-7:25, Hazel Grupte, pianist; 7:25-7:35, William J. Fagan, baritone; 7:35-8:05, Walter Scott, violinist, accompanist, Mrs. Sara Wider; 8:05-8:15, talk, Angelo Patri; 8:15-8:30, Walter Scott, violinist; 8:30-10:15, concert, Yale Glee club; 10:15-10:30, Eugene Lepique, pianist; 10:30-11:30, Florida string trio and the Radio Dream Girl; 11:30-12, Vincent Lopez and his orchestra.

WFI, Philadelphia, Pa. (394.5), 1 p. m., Strawbridge and Clothier tea room ensemble; 3, musical program; 6:30, Bellevue Stratford hotel concert orchestra; 7, Bellevue Stratford hotel dance orchestra; 8, program.

WGBS, New York, N. Y. (315.6), 10-10:10 a. m., timely talks with Terese; 10:10-10:40, Cousin Eleanor and her Kiddie club program; 10:40-10:50, Lillian Mendetz, dramatic recitations; 10:50-11, Mme. Hall Deane, fashion talk; 1:30-1:35 p. m., Scripture reading; 1:35-2, Gertrude Seidenman, pianist; 2-3, Montclair Senators dance orchestra; 3:10-3:20, Ethel McKay, soprano; 3:30-3:50, Ethel McKay, soprano; 6-6:30, Uncle Geebee; 6:30-7, Vincent Sorey's concert trio; 7-7:10, Arthur Murray, ballroom dance instruction; 7:10-7:20, Florence Loftus, soprano; 7:20-7:30, Jack Miller, violinist, Mildred Von Vliet, pianist; 7:30-7:45, Judith Roth trio; 7:45-8, Robert Sherwood, tenor; 8:30-9, Tut Ankh Amen, Rene Landauer; 9-9:20, Elsa Hoehn and Ilsa Sherwood, duets; 9:20-10:30, Warner's theater program; 10:30-11:30, Arrowhead Inn orchestra.

WGCP, New York, N. Y. (252), 1:30 p. m., Mirror race results half hourly; 3-3:15, Henry Rogers, pianist; 3:15-3:45, John Landers and his Royal Aces; 3:45-4, 20th Century entertainers; 4-4:15, Johanna Cohen, ukulele soloist; 4:15-4:30, Rust and Heinchsen, banjoists; 4:30-5, studio program.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program.

WGY, Schenectady, N. Y. (379.5), 7:45 p. m., Bridge lesson, number 3; 9:30, dance program, Reed Hamaker's Hotel Van Curler orchestra.

WHAR, Atlantic City, N. J. (275), 2 p. m., Seaside hotel trio; 7:30, lecture period; 8, Seaside hotel trio.

WIP, Philadelphia, Pa. (508.2), 6:45, 7 a. m., setting-up exercises, Dr. Francois D'Eliscu; 10:30, special reducing exercises; 1 p. m., organ recital, Germantown theater; 3, Dal Ruch and his Arcadians; 6:05, dinner music, Benjamin Franklin concert orchestra; W. Irving Oppenheim, director; 7, Uncle Wip's bedtime story; 8, sports corner, Dr. Francois D'Eliscu; 8:15, "Thinking with Children," James Struthers; 8:30, concert, Eastern State Penitentiary.

WJAR, Providence, R. I. (305.9), 1:05 p. m., studio program.

WJR, Detroit, Mich. (517), 7 p. m., Jean Goldkette's Petite symphony orchestra and soloists; 9, Jean Goldkette's serenaders; soloists; 10, Jean Goldkette's Victor Recording orchestra; 11:30, The Merry Old Chief with The Jewett Jesters.

WJZ, New York, N. Y. (454.3), 1 p. m., Irwin Abrams' Knickerbocker Grill orchestra; 4:05, Sosonsky and Slotnick, banjoists; 4:15, Nickels trio; 4:30, Hotel Lorraine orchestra; 7, Bernard Levitow's Hotel Commodore dinner concert; 8, Radio Novel, Cosmo Hamilton; 8:15, Liederkranz Society concert; 10:30, Paul Specht's Moulin Rouge orchestra.

WLIT, Philadelphia, Pa. (395), 12:02 p. m., organ recital; 12:30, Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 4:30, Coll's studio entertainers; 7:30, Benjamin Franklin hotel concert orchestra.

WMAK, Lockport, N. Y. (265.5), 7:30-8:30 p. m., dance program, Royal Dellwood orchestra; 8:30-9, musical program; 9-10, program, Sunrise Point Development company.

WMCA, New York, N. Y. (340.7), 6-7 p. m., Olcott Vail and his Hotel McAlpin string ensemble; 7-8, The Amphions; 8-8:15, current events; 8:15-8:30, Catherine Harvey, soprano; 9:30-10:30, Cinderella dance orchestra; 11-12, Ernie Golden and his Hotel McAlpin orchestra.

WOR, Newark, N. J. (405.2), 3:15-4 p. m., Zit's Casino orchestra; 6:15-6:17, words often mispronounced; 6:17-7:15, Jacque Jacobs ensemble; 7:15-7:30, Bill Wathey, sport talk; 7:30-8:30, Van's Collegians; 11-12, Ciro's orchestra.

WPG, Atlantic City, N. J. (299.8), 1:30 p. m., music, Hotel Morton, J. Leonard Lewis, director; 6:45, Arthur Scott Brock, organist; 7, Hotel Ambassador dinner music; 8, Kitty Mitchell's Irish sunshine; 8:20, banquet, New Jersey Association of Real Estate Boards; Roxy and his gang; Ambassador hotel; 10, Nick Nichols' dance orchestra.

WRC, Washington, D. C. (468.5), 12 noon, organ recital; 1 p. m., Hamilton hotel orchestra; 6, Hamilton hotel orchestra; 7, Hotel Washington orchestra; 7:55, Zoological talk; 8:10, Bible talk; 8:30, announced; 10:30, Crandall's Saturday Nighters; 12-1 a. m., Spanish Village orchestra.

WREO, Lansing, Mich. (285.5), 6-7 p. m., Speed-Wagon serenaders; Gold Standard ensemble; 10-12, Speed-Wagon serenaders.

WTAG, Worcester, Mass. (268), 12:05-2 p. m., WTAG orchestra.

WWJ, Detroit, Mich. (352.7), 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra.

KLDS, Independence, Mo. (440.9), 8 p. m., classical program, Mrs. Elma Eaton Karr, violinist; Mrs. Margaret Longsdorf Flagg, pianist; Amy Winning, organist; Helen E. Smith, soprano; Francis Heyser, tenor; Albert H. Karr, violinist.

KMA, Shenandoah, Iowa (252), 11:30-12:30 p. m., rural program; music; "Garden," Earl E. May; "Domestic Science," June Case; 6, Pollyanna stories, Mrs. Nickols; Parnell, Mo., High School program; 9-11, Wm. Howie, organist.

Coo coo! Coo coo! This bright-eyed damsel does not look so but must be, as she is a regular member of the Coo Coo club which meets at WTAM, Cleveland, every Saturday night. Her name is Catherine A. Townley and she plays the piano during these programs.

Central Time Stations

KFAB, Lincoln, Nebr. (340.7), 5:30-6:30 p. m., dinner concert; 8:30-9:30, Schmoller and Mueller musical.

KFEQ, Oak, Nebr. (268), 2-3 p. m., Kings Entertainers.

KFNF, Shenandoah, Iowa (266), 7 p. m., concert, old time fiddling, St. Joseph, Mo., M. P. Elder, director.

KFVE, University City, Mo. (240), 8:30 p. m., "Amusement Review," Romaine Fielding; dance numbers; Gene Witacker's orchestra; comedy and jazz.

KPRC, Houston, Texas (296.9), 12:30 p. m., public health talk, Dr. A. H. Flickwir; 7:30, bible class, Rev. Claud L. Jones; 8, Frank Tilton, blind pianist, 11, midnight entertainment.

KSD, St. Louis, Mo. (545.1), 7 p. m., Grand Central theater, orchestra; 8:30, St. Louis symphony orchestra concert.

KTHS, Hot Springs, National Park, Ark. (374.8), 9-9:15 p. m., comedy program, "Como Al" Reynolds, and Mrs. Sam Stone; 9:15-9:20, bedside story, the Medical Intelligence bureau; 9:20-10:30, dance concert, New Arlington hotel orchestra.

KYW, Chicago, Ill. (535.4), 6:30-7 a. m., exercises; 11:35, table talk, Anna Peterson; 1 p. m., concert, Commonwealth Edison company; 1-2, luncheon concert; Joska DeBarbary and his orchestra; Coon Sanders Original Nighthawks; 6:10-6:40, musical concert, Commonwealth Edison company; 6:40-7, bedtime story, Uncle Bob; 7-7:30, dinner concert, Congress hotel; 7:30-8:30, Home Lover's hour; 8:30-11, Congress classic; 11-1 a. m., Congress carnival; 1-2, Insomnia club, Coon Sanders Original Nighthawks.

WAMD, Minneapolis, Minn. (243.8), 12 noon, studio program; 7:05 p. m., popular program; 11, Skyrocket frolic.

WBBM, Chicago, Ill. (226), 4-6 p. m., Harry Sosnik, Sandy Meek, Valentino Inn orchestra; Court Banks, Johnny Black, Russel Myers; 9:30-11, Moulin Rouge orchestra; William E. Anderson, Sy Berg, Fred Jacobson; 11-2, Sunset male quartet, Nelson and Olson, Four Red Pepers; Harry Sosnik, Sandy Meek, Phillip Nilles, Vorris Worthley, Russell Duke, Moulin Rouge orchestra.

WBCN, Chicago, Ill. (266), 10-10:30 a. m., shopping talk, Penny Wise; 3-5 p. m., tea time matinee; Clarence Jones, pianist and song writer; Cecelia and Johanna Arneds, violinist and pianist; Marie Wright, soprano; 10-11:15, jazz jamboree, Midway Dancing Gardens orchestra; Cameron and Fett, "The Harmony Wizards," harmony duo; Albert Blaba, concertinist; Johnny Special, the harmonica acrobat; Elizabeth Emmett Malone, soprano; Jack Parker, tenor; 11:15-12, King Static's court; Frank H. McDonald, "King Static"; Mary Williams, "Queen Olive"; Harry A. Zook, Jr., "prime minister"; "Big Boy" Yagle, "court jester."

WCCO, Minneapolis-St. Paul, Minn. (416.4), 10:45 a. m., Gold Medal Flour home service talk, Betty Crocker, Gold Medal girls' club; 12:30 p. m., Golden Pheasant concert orchestra; 2:30, concert; 6:15, Biley's St. Paul hotel concert orchestra; 8, Fireside Philosophies, Rev. Roy L. Smith; 8:15, musical program; 10:05, Arnold Frank's St. Paul hotel dance orchestra.

WDAF, Kansas City, Mo. (365.6), 3:30-4:30 p. m., Star's string trio; 6-7, School of the Air; address, Roger W. Babson; organ music; Trianon ensemble; 11:45-1 a. m., Nighthawk frolic; Plantation Players; Billy Adair's and Orville Knapp's Kansas City club orchestra; Earl Coleman's orchestra; Eddie Kuhn's Kansas City Athletic club orchestra.

WEBH, Chicago, Ill. (370.2), 7-8 p. m., Oriole orchestra; Radio Sunday school lesson; 9-10, Oriole orchestra; James Murray, tenor; Marie Kelly, reader; Beulah Ladon, violinist; 11-1, Oriole orchestra; Marie Kelly, reader; Frank Greif, tenor; Rick and Snyder; Wayne Myers; Kay Ronayne.

WFAA, Dallas, Texas (475.9), 12:30-1 p. m., Alex Hughes, pianist; 3:30-4, Tom Fowler, Nat McKown, stringed duet; 6:30-7:30, Don Bestor's orchestra; 8:30-9:30, the Treble Clef club, musical and instrumental artists; 11-12 midnight, the Adolphus hotel orchestra, Jack Gardner, director.

WGES, Oak Park, Ill. (250), 5-7 p. m., Marge Van, organist; Ruth Kalthoff, mezzo-soprano; John Stanford, tenor; playlet, Miles Sullivan players; 8-9, Doc Berendson and his Tiffin theater orchestra; Paola Corado, baritone; Ellen Maurico, pianist; Remington Welsh, organist; 11-1 a. m., the Coyne Serenaders orchestra; Remington Welsh, organist; Sandy McTavish, Scotch comedian; Eddie Adams, the girl with the uke; Rose Sweeney and Loretta Clusman.

WHAD, Milwaukee, Wis. (275), 11 a. m., Andy Hertel, pianist; children's story, Faye McBeath; Margaret Cunningham, child pianist; Willard Kaleibe, tenor, banjoist.

WHAS, Louisville, Ky. (399.8), 4-5 p. m., special musical selections, Harry Currie, director; Lorraine Decker, pianist; readings; Martha Pope, reader; 7:30-9, concert, Barney Rapp and his orchestra; Miss Hassfurther, pianist.

WHT, Chicago, Ill. (399.8), 10 a. m., Jean Sargent's woman's club, Jelke Good Luck Girl; 11, special studio features; 12 m., Al Carney's organ hour; 1-2 p. m., special studio features; 6, final football scores, classical program, dinner organ recital, Grayling's string trio; Eleanor Kaplan, violinist; Estell Stanley, soprano; Antoinette Bennett; W. A. Dyckman, baritone; Florence White Rush, soprano; 7:45-9:15 (238), musical features; 9:30 (399.8), Jelke entertainers, Kitchen Klenzer Klassics, Harry Langdon, harmonica; Marie Wright, soprano; the Golden trio, Oscar Heather, tenor; Al Carney, organist; Badger Four male quartet; Clark Hawaiian trio, Vic Fredericks, baritone; Irene Beasley, "The Girl from Dixie"; Marguerite Morris, "The Girl from Georgia"; Jacobson, humorist; 12, Pat Barnes and Al Carney.

WIBO, Chicago, Ill. (226), 2-4 p. m., shut-in program; Jack Sprat and the Carl Sulzer orchestra; Ted Fiorito, piano; Victor Young and Dan Russo, violinists; Vernon Hayes, saxaphonist; 6-8, Walter Preston, request night; Eugene Wallenius, tenor; Frances Schieb, soprano; Ruth Buhl Flick, reader; old fashioned trio; male quartet.

WJJD, Mooseheart, Ill. (302.8), 10 p. m., Robert Duphiney; Rosemary Hughes; Marie Winters; Log Cabin orchestra; 12 midnight; Jack Nelson; George Sparks; Jack Mason; Fayette Miller; Court Banks; Dick Vail; Log Cabin orchestra.

WKRC, Cincinnati, Ohio (422.3), 10 p. m., Marion McKay and his orchestra; 10:30, studio features; 10:45, Marion McKay and his orchestra.

WLS, Chicago, Ill. (344.6), 12-12:45 p. m., Junior RFD Roundup program; "Trapping," S. T. Keshen; 7, lullaby time, Ford and Glenn; 7:15, Cornhuskers, regular Saturday night barn dance; 11-12, Joe Bren's minstrel show.

WLW, Cincinnati, Ohio (422.3), 7 p. m., U. C. Salt and Pepper boys, Raynold West, Gordan Buchanan; 7:20, organ concert, Johanna Grosse; 7:40, Seckatary Hawkins; 8, special concert, Band from the Otterbein home.

WMAQ, Chicago, Ill. (447.5), 6 p. m., organ, Chicago theater; 6:30, Hotel LaSalle orchestra; 8, Russell Pratt and Frederick Daw; 8:30, Radio photologue "The Chicago Plan," Charles Wacker; 9, Chicago theater review.

WMBB, Chicago, Ill. (250), 7-8 p. m., Trianon duo, Beatrice Teller, Preston Graves; 9-11, Trianon orchestra, Dell Lampe, Woodlawn theater orchestra, Earl Smith, popular program; artists.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., Dr. George Powers.

WOAW, Omaha, Nebr. (526), 6 p. m., Sandman's visit, Val McLaughlin; 6:20, Rialto orchestra; 7, speakers, musical program; sport talk, Ivan Gaddis; 9, program; 10:30, Frank Hodek and his Nightingale orchestra; 11, Arthur Hays and his organ jubilee; Dr. Applesauce, announcing.

WOC, Davenport, Iowa (483.6), 5:45-6 p. m., chimes concert; 6:30, Sandman's bedtime stories; 9-10, musical program, Grace Huber-Lohmiller, soprano; Louis Goldis, baritone; Amy Orgatt, soprano; Lillian Murray, accompanist; 11-12, LeClaire hotel dance orchestra; Peter MacArthur, baritone.

WOI, Ames, Iowa (270), 12:45 p. m., soil problems, Prof. W. H. Stevenson.

WOK, Homewood, Ill. (217.3), 5-6 p. m., Gus C. Edwards and his orchestra; Capitol theater organ; Howard Will, tenor; Bob Mokrejs, pianist; 10-1, Gus C. Edwards and his orchestra; Husk O'Hare Cocoanut Grove orchestra; Capitol theater program; Tierney's Town club orchestra; Fred Witmer, pianist; Harold Morava, tenor; Herman Sinaiko, violinist; Harriet Lee, contralto; Bill Hay, bass; Honolulu Serenaders; George Allen, tenor; Bob Mokrejs, pianist.

WOQ, Kansas City, Mo. (278), 8-9 p. m., musical program; 10-11, musical healing service.

WORD, Batavia, Ill. (275), 8-10 p. m., Webster hotel orchestra; Webster hotel concert trio, Chicago motor club speaker, Words News digest, director B. Csillog.

WQJ, Chicago, Ill. (447.5), 11-12 m., home economics program, Helen Harrington Downing; "The Work of the Braille Music Club," Mrs. Daisy Isbester; Marjorie Curry, director of the American Art Bureau; character readings, F. E. Ormsby; 3-4 p. m., koffee klatsch; Jerry Sullivan, percolator; Rose Vanderbosch, soprano and pianist; Hal Lansing, with his demon ukulele; 7-8, concert, Ralph Williams'

(Continued on page 14)

High Lights of the Week

HUMOROUS songs of 1850, peculiar songs of North Carolina mountaineers and Christmas carols will be sung by the famous Yale glee club, Saturday, at WEAF, New York. Marshall Bartholomew, director of this organization collected the mountaineer songs during his vacation this summer. The program begins at 8:30 p. m. eastern time. The Golden Echo quartet will sing negro spirituals at WSM this same evening.

Sunday is a holiday, so why not travel with the "Hot Springs Radio Train" frolic of KTHS and go whereever Benny Ford and his orchestra lead the way. The Atwater Kent artists entertaining this week from WEAF and chain are Hulda Lashanska, lyric soprano, and Vincente Ballester, baritone, of the Metropolitan Opera company.

New Zealand artists may be heard in America Monday, although New Zealand broadcasters are still seeking reception here. Hamilton Hodges, bass, and Clifford Kemp, pianist, are the two artists who will entertain so far from their native home at WBZ, Springfield. Jack Little may be found at WHO.

The Minneapolis Municipal chorus takes to the air Tuesday evening at 9 p. m. central time at WCCO. Handel's "Messiah" is the early contribution WBAL, Baltimore, makes to the Christmas season. The choir singing this familiar oratorio is from the Mt. Vernon Methodist Episcopal church and is directed by David S. Melamet.

Music by a thirty-piece saxophone band; a talk by Benjamin F. Stapleton, mayor of Denver; a one-act play by the famous KOA players, and dance music are only a few of the special features scheduled to entice every one to accept his invitation to tune in on KOA's first birthday party, Wednesday.

The Ararat Temple Shrine serenaders gave a concert from WHB some time ago. This happy-go-lucky quintet plays a variety of peculiar instruments in such a unique manner that this station has been flooded with demands for their return. Tune in Thursday for the return engagement. The dramatic event of the week will be the Radio performance of "The Delinquents" at KGO, Thursday evening between the hours of 8 and 10 p. m., pacific time. This play includes a large cast of twelve players.

Friday one may choose the English drama, "The Mother Woman," at WGY, Schenectady, the light opera at WEBH, Chicago, or the Morning Glory club at WLIT, Philadelphia, and be sure of an enjoyable evening.

WSM QUARTET TO SING SPIRITUALS

Saturday, December 12

(Continued from page 13)

orchestra; Fredrick Mueller, the German tenor; Kane McDuffee, whistler; Ralph Keim, pianologues; Anne Keim, mezzo-soprano; 10 p. m.-3 a. m., Ralph Williams and his Rainbo Skylarks; Jerry Sullivan, singing; Rose Vanderbosch, soprano and pianist; Hal Lansing, ukulele; Everett George Opie, dramatic director and character reader; Bert Davis, The Clown of the Air; Clarence Theders, tenor; Rita McFawm and Mary Bieber, harmony duo; Geo. Thurn, kazoo and uke; Anita Chellis, comedienne; Joey Stool, tenor; Eddie Voge, baritone; Brundage and Kraemer, harmony singers.

WSAI, Cincinnati, Ohio (326), 7:45 p. m., the Story lady, Mrs. Ethel Knapp Behrman; 8, Radio chime concert, Robert Badgley; 8:15, the Bicycle Playing Card sextet; 9:15, the Bicycle Playing Card sextet; soloist.

Irene Downing, below, gives the pleasing organ recitals Wednesday noons at WLW, Cincinnati. Note the Crosley pup watching her.

Mischievous and a little bit naughty is Jane Novak, above, who sings the latest songs from WCCO, Minneapolis-St. Paul. She is well known as a blues singer in this neighborhood.

WSB, Atlanta, Ga. (428.3), 8 p. m., Sargeant Ryan and trio; 10:45, concert.

WSM, Nashville, Tenn. (282.8), 6:30-8 p. m., Francis Craig's orchestra; 7, bedtime story; 10-11, concert of spirituals, the Golden Echo quartet.

Mountain Time Stations

KFWA, Ogden, Utah (261), 5-6 p. m., Ogden Radio Dealers program.

KOA, Denver, Colo. (322.4), 12:15 p. m., Rialto theater musicale; 9, Wurtzbach's orchestra.

Pacific Time Stations

KFWB, Hollywood, Calif. (252), 7:45 p. m., microphone brevities; 8-10, Radio Doings revels; Bill Blake, tenor; Hollywood string trio; Emma Kimmel, soprano; 10-11, Warner brothers frolic, direction Charlie Wellman; 11-12, Hollywood Roof dance orchestra.

KGO, Oakland, Calif. (361.2), 7:45, 8:15, 8:30 a. m., health training exercises, Hugh Barrett Dobbs; 11:30-1 p. m., luncheon concert; 4-5:30, concert orchestra, Hotel St. Francis, Vinton LaFerrera, conductor; 8, sport review, Al Santoro; 8:10, Oakland Y. M. C. A. concert orchestra, Edward Leslie, director; Marie Wallman, sporano; Ellen Clark, pianist; "The Signs of the Times," Dr. Edgar Lowther; Edwin Heinsohn, baritone; 10-12, Hotel St. Francis dance program.

KGW, Portland, Ore. (491.5), 12:30-1:30 p. m., Rose City trio; 6-7, dinner concert; 9-12, dance music, Multnomah hotel orchestra.

KHJ, Los Angeles, Calif. (405.2), 6-6:30 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6:30-7:30, history story, Prof. Hertzog; Annie Hooker, readings; Henrietta Poland and Uncle John; 7:15-7:45, Christmas carols, pupils of Lida Helen Thompson; 8-10, program, Young's Market company; 10-11:30, Don Clark's Biltmore hotel dance orchestra; 11:30-2 a. m., Times Tom Cats Frolic 1st Birthday Party.

KJR, Seattle, Wash. (384.4), 1-2:30 p. m., Post Intelligencer daily matinee program; "What to Prepare for Tonight's Dinner," Bernice Redington; 8:30-10, L. C. Warner company studio program.

KMTR, Hollywood, Calif. (238), 8-10 p. m., KMTR concert hour, Turner orchestra, Loren Powell, director.

KNX, Hollywood, Calif. (336.9), 2-5 p. m., play-by-play, of U. S. C.-St. Mary's; 5-5:30, Sunny Jim's talk to children; 5:30-6:15, Wurlitzer pipe organ studio; Town Tattler; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent concert orchestra, Paul Finstein, leader; 7, talk on insect life, H. W. McSpadden; 7:15, church announcements; 8-10, program, Commercial Construction company; 10-11, Ray West's Cocoanut Grove dance orchestra from Ambassador hotel; 11-2 a. m., Filmland Frolickers, direction Chet Boone.

KPO, San Francisco, Calif. (428.3), 7-8 a. m., exercises; 10:30, "Ye Towne Cryer;" 1-2 p. m., Rudy Seiger's orchestra; 2:30-3:30, studio program, Harold Kneedler, pianist; 3:30, Palace hotel concert orchestra, Cyrus Trobbe director; 6:30, "Ye Towne Cryer;" 6:35-7:30, Waldemar Lind, States Restaurant orchestra; 8-12, Cabiria Cafe orchestra, Jack Coakley director, studio entertainment.

KTAB, Oakland, Calif. (240), 9-9:30 a. m., prayer service, Rev. E. L. Spaulding.

Sunday, December 13

Headliners Today

Eastern	Central	Mountain	Pacific
8:30 p. m.	7:30 p. m.	6:30 p. m.	5:30 p. m.

WCAU (277.6) Bonwit Teller Light opera company.

9:15	8:15	7:15	6:15

WEAF (491.5), WEEI (348.6), WGR (319), WCAE (461.3) WCAP (468.5), WJAR (305.9), WTAG (268), KSD (545), WCCO (416.4), WOC (483.6), WFI (394.5), WSAI (326), Atwater Kent hour.

9:30	8:30	7:30	6:30

WFAA (475.9) Atwater Kent Grand opera program.

10:30	9:30	8:30	7:30

KYW (536) Classical concert.

WMCA (340.7) Daven Radio artists.

11	10	9	8

KTHS (374.8) Hot Springs Radio Train frolic.

12	11	10	9

KFWB (252) California Serenaders.

KNX (336.9) Calmon Luboviski, violinist.

Sunday, silent night for: CHIC, CKNC, CNRA, CNRC, CNRE, CNRM, CNRO, CNRR, CNRT, CNRV, CNRW, KFAB, KFAU, KFDJ, KFMQ, KFOA, KFPG, KFVE, KFWA, KLX, KMA, KMTR, KOB, KSAC, KSO, KWSC, PWX, WAHG, WBAP, WCAU, WCX, WDAF, WEAO, WEBJ, WEBW, WGES, WGCP, WGST, WHAD, WHAS, WHAZ, WJAD, WJAZ, WKAR, WJBL, WJJD, WLIT, WMAQ, WMC, WNYC, WOI, WOK, WOR, WRC, WSAI, WSMB, WTAM, WTIC.

Eastern Time Stations

WAFD, Port Huron, Mich. (275), 10-11:30 a. m., services; 7:30-8:30 p. m., musical program.

WBAL, Balitmore, Md. (375), 6:30-7:30 p. m., twilight concert; WBAL concert orchestra, Gustav Klemm, conductor; Ann Baugher Marks, contralto.

WBBR, New York, N. Y. (272.6), 10 a. m., Watchtower orchestra; 10:20, L. Marion Brown, soprano; 10:30, Bible lecture, Judge Rutherford; 11, L. Marion Brown, soprano; 11:10, Watchtower orchestra; 9 p. m., I. B. S. A. choral singers; 9:10, violin duets, Prof. Charles Rohner, Carl Park; 9:20, Bible lecture, Judge Rutherford; 9:50, I. B. S. A. choral singers; 10, violin duets; 10:10, choral singers; 10:20, violin duets.

WBZ, Springfield, Mass. (333.1), 10:50 a. m., church services, Trinity church; 7 p. m., dinner concert, Copley Plaza orchestra, W. Edward Boyle, director; 8, Ford Hall Forum meeting; "The Man's Place in the Home," F. B. Gilbreth.

WCAE, Pittsburgh, Pa. (461.3), 3:45 p. m., Dr. S. P. Cadman, N. Y.; 6:30, concert, William Penn hotel; 7:20, Capitol theater gang, New York; 9:15, Atwater Kent.

WCAU, Philadelphia, Pa. (277.6), 5:20 p. m., Tabor male quartet; 5:35, undenominational, church service, Rev. John W. Stockwell; 5:45, "The Book of the Wise Men," Rev. John W. Stockwell; 5:55, recital; 6:05, "Getting Ready for Christmas," Rev. John W. Stockwell; 6:30, Clarence Seaman's orchestra; 7:30, Cathay concert orchestra; 8:30, Bonwit Teller Light opera company; 9, Potash and Perlmutter.

WCX, Detroit, Mich. (517), 10:30 a. m., services, Central Methodist Episcopal church.

WEAF, New York, N. Y. (491.5), 2:45-3:45 p. m., Radio service, Greater New York Federation of churches; 3:45-5:30, men's conference in the Bedford Brand Y. M. C. A. also through WEEI, WTAG, WCAE, WSAI; 7:20-9:15, musical program, Major Edward Bowes and the Capitol Family, Capitol theater; WEEI, WCAP, WJAR, WTAG, WWJ, WCAE, KSD; 9:15-10:15, Atwater Kent Radio hour; Hulda Lashanska, soprano; Vincente Ballester, WEEI, WCAP, WJAR, WGR, WCAE, KSD, WSAI, WTAG, WWJ, WOC, WCCO, WOO.

WEEI, Boston, Mass. (348.6), 10:50 a. m., service, Old South church; 2:30 p. m., Chamber of Commerce organ recital; 3:45, Dr. S. Parkes Cadman; 7:20, Major Bowes and his Capitol theater family, WEAF; 9:15, Atwater-Kent hour, WEAF.

WFI, Philadelphia, Pa. (395), 10:20 a. m., services, Arch Street Methodist Episcopal church, Rev. Harold Nichols, D.D.; 4:30 p. m., chapel service; "Ready for the Coming of Christ," Rev. Ivan Murray Rose; quartet.

WGBS, New York, N. Y. (315.6), 3:30-4:30 p. m., Warner's theater program.

WGCP, New York, N. Y. (252), 8-8:15 p. m., Charlotte Frystmann, pianist; 8:15-8:45, Arline Fellser entertainers; 8:45-9:15, Ted Newkirk's Harmonica orchestra; 9:15-9:30, Milton Yokeman, tenor; 9:30-9:45, Sylvia Schatz, pianist and elecutionist; 9:45-10, Dicks Ukulele club; 10-10:15, Isabelle Henderson, soprano; 10:15-10:30, Leslie McLeod, Irish tenor; 10:30-11, studio program; 11-12, Strickland's orchestra; 12-1 a. m., Richman entertainers.

WGR, Buffalo, N. Y. (319), 3 p. m., vesper service, Buffalo council of churches; 7:45, Central Presbyterian church service; 9:15, jonitly with WEAF, Atwater Kent program, Hulda Lashanska, American lyric soprano; Vincente Ballester, Spanish baritone of the Metropolitan Opera.

WGY, Schenectady, N. Y. (379.5), 10:30 a. m., services, First Lutheran church; Rev. Herbert D. Shimer, pastor; 12:30 p. m., symphony orchestra, Rivoli theater; Dr. Hugo Riesenfeld, conductor; WJZ; 5, organ recital, Dr. Frank Sill Rogers; 7, Carillon program, Park Avenue Baptist church, WJZ; 7:30, services, First Lutheran church; 9, WJZ studio program; 10, Godfrey Ludlow, violinist, WJZ.

WHAR, Atlantic City, N. J. (275), 10:45 a. m., services; 2:15 p. m., Seaside hotel trio; 2:45, sermon; 7:50, Chelsea Baptist church; 9, Seaside hotel orchestra; 11:15, Strand theater organ recital.

WHN, New York, N. Y. (361.2), 1-1:30 p. m., Lexington organ recital; 2-3, Queens Country Christian Endeavor program; 3-4:30, Calvary Baptist church services; 5-5:30, Roseland dance orchestra; 7:30-10, Calvary Baptist church services; 10:45-11:15, Janssen's Hofbrau orchestra; 12-12:30 a. m., Club Richman entertainers.

WIP, Philadelphia, Pa. (508.2), 10:45 a. m., morning services, Holy Trinity church; Rev. Floyd W. Tomkins, rector; "The Inexcusable Lie," Harold R. Peat.

WJAR, Providence, R. I. (305.9), 7:20 p. m., Major Bowes and the Capitol Family; 9:15, Atwater Kent Radio hour.

WLIT, Philadelphia, Pa. (395), 2:30 p. m., Arcadia cafe concert orchestra; 6:30, organ recital, Ben Franklin hotel; 7, Benjamin Franklin hotel concert orchestra; 7:30, studio recital; 8:10, round table forum, world court in relation to economic needs of today, F. J. Libby, Esther E. Lape, G. W. Norris.

WMCA, New York, N. Y. (340.7), 11-12 m., services, Fourth Church of Christ Scientist; 6-7 p. m., Roemer's Homers; 7-7:50, Olcott Vail and his Hotel McAlpin string ensemble; 10:30-11:30, Daven Radio artists.

WPG, Atlantic City, N. J. (299.8), 3:15 p. m., Arthur Scott Brook, organist; Howard Clemons, tenor; 4:15, program, St. James' Episcopal church, Rev. Wm. Blatchford, rector; Wm. Stansfield, organist and choir director; 9 Hotel Ambassador concert orchestra, Harry Loventhal director; 10, Arthur Scott Brook, organist; Mrs. Fred Plum, soprano; Dr. B. Bertram Fenimore, baritone; Alice Warren Sachse, pianist.

WREO, Lansing, Mich. (285.5), 10 a. m., chimes, Belfry Plymouth Congregational church; 10:30, First Baptist church; 7, Central M. E. church.

WTAG, Worcester, Mass. (268), 3:45-5:30 p. m., men's conference, Y. M. C. A.; 7:20-9:15, Major Edward Bowes and Capitol Family; 9:15-10:15, Atwater Kent Radio hour program, Hulda Lashanska, American lyric soprano; Vincente Ballester, Spanish baritone.

WWJ, Detroit, Mich. (352.7), 11 a. m., St. Paul's Episcopal cathedral; 2 p. m., Detroit News orchestra; 7:20, Capitol theater gang.

Central Time Stations

KFAB, Lincoln, Nebr. (340.7), 4-5 p. m., vesper service, sermon and music.

KFDM, Beaumont, Texas (315.6), 11-12 a. m., religious services; 8-9 p. m., religious services.

KFEQ, Oak, Nebr. (268), 4:30-6 p. m., service, M. E. church, Franklin, Nebr.; 9-10:30, Kings Entertainers.

KFMX, Northfield, Minn. (337), 7-8 p. m., college vesper service.

KFNF, Shenandoah, Iowa (266), 10:45 a. m., services, first M. E. church; 2:30 p. m., Golden Rule song service; 6:30, services, Golden Rule circle; 7:30, Christian church services.

KFUO, St. Louis, Mo. (545.1), 4 p. m., "I Am the Good Shepherd," Rev. R. Jesse; 9:15, "The Messiah Comes."

KLDS, Independence, Mo. (440.9), 11 a. m., Stone church service, sermon, Pres. Elbert A. Smith; 6:30 p. m., vesper service, Mrs. Glaud Smith, soprano; Margaret Gard, contralto; Glaud Smith, bass; Kenneth Morford, bass; Milford Nace, baritone horn soloist; Minnie Scott Dobson, pianist; sermonette, Ralph W. Farrell; 9, Walnut Park orchestra; Orlando Nace, director; Helen Bootman, soprano; Nace Family trio; Della Nace, pianist; Milford Nace, cellist; Orlando Nace, violinist; Mrs. Luella Wight, contralto; sermon, Pres. Frederick M. Smith.

KMA, Shenandoah, Iowa (252), 4-6 p. m., vesper service; music; talk, G. H. Van Houten.

KSD, St. Louis, Mo. (545.1), 6:15 p. m., Good Will program, WEAF.

KTHS, Hot Springs, National Park, Ark. (374.8), 9-9:45 p. m., "classical hour," Meyer-Davis orchestra, Lon Chassy, directing; 9:45-10, organ recital, Lawson Reid; 10-11:30, Hot Springs Radio Train frolic, Benny Ford's orchestra.

KYW, Chicago, Ill. (535.4), 11 a. m., Central church services; 2:30 p. m., studio chapel service; 3:30, studio concert, Edwin Harper; 7-9:30, Chicago Sunday Evening club service; 9:30-11, classical concert, Commonwealth Edison company.

WAMD, Minneapolis, Minn. (243.8), 7:05 p. m., Radio Stock company; 9:30, Gayle Wood Harmony Hurricane.

WBBM, Chicago, Ill. (226), 12:30-2 p. m., classical program; Wm. P. Zimmer, tenor; Harold Morava, lyric tenor; Kantor A. Kritz; Sandy Meek, Harry Sosnik; Edna Wheeler Ballard, harpist; little Caruso and the Moulin Rouge operatic quartet; 4-6, Ziegler sisters; Jack Garcia, Hawaiian guitar; Harold Anderson, accordionist; Lester Anderson, banjo; orchestra; Lew Russell; Spencer, Lavergne and Shayne, xylophone trio; Pete Kules; Tip trio; 8-10, Jeane St. Anne, baritone; Christian Grimm, accompanist; Phillip Nilles, tenor; string trio; Marie Morgott, harpist; Moulin Rouge orchestra; 12 midnight-2 a. m., Nutty club; Moulin Rouge orchestra.

WBCN, Chicago, Ill. (266), 10:30-12 m., morning service, People's Liberal church; talk, Rev. Rufus A. White; 4-5 p. m., Dain & Son classical hour; Velma Cook, soprano; Oriental quartet; male harmony group; Robert Stronach, pipe organist; 7:45-9:15, evening service, Thoburn M. E. church, 40-piece Thoburn semi-symphony orchestra; 80-voice choir, special vocal soloists; speaker.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 11 a. m., Plymouth Congregational church, Minneapolis, Rev. H. P. Dewey, D. D.; 4:10 p. m., House of Hope Presbyterian church, St. Paul, H. C. Swearingen, D. D., pastor; 8:15, Atwater Kent program, WEAF, Hulda Lashanska, American lyric soprano; Vicemte Ballester, Spanish baritone of the Metropolitan opera.

WDOD, Chattanooga, Tenn. (256), 7:30-9 p. m., church service.

WEBH, Chicago, Ill. (370.2), 10:40 a. m., Seventh Church of Christ Scientist; 5-6 p. m., twilight musicale; 7-9, artists program.

WEBW, Beliot, Wis. (263), 4:30 p. m., College vesper services.

WFAA, Dallas, Texas (475.9), 2:30-4 p. m., Sunday hour for farmers; 6:30-7:30, Radio bible class, Dr. William M. Anderson, pastor, First Presbyterian church; 7:30-8:30, City Temple Presbyterian service, Dr. B. P. Fullerton, pastor; Katherine Hammons, organist; 8:30-9:30, Atwater Kent, grand opera; 9:30-11, Leland Johnson, pianist.

WGES, Oak Park, Ill. (250), 7:40 p. m., the Woodlawn Park Presbyterian church choir; the Baldwin mixed quartet; Lydia Werner, soprano; Veronica Krebs, contralto; Peter Matthews, basso; John Stamford, tenor; Moody Bible institute program; Doc Erendson's orchestra.

WHAS, Louisville, Ky. (399.8), 9:57 a. m., organ prelude; 10, services; Broadway Baptist church, choir; H. U. Goodwin, organist; Mrs. O. W. Edinger, soprano; Charles H. Barnes, tenor; William Cornwall, baritone; 4-5, vesper song service; Fourth Avenue Seventh Day Adventist church, Dr. Robert J. Bryant, pastor; Mrs. S. D. Bossing, organist; A. W. Ott, choir leader.

WHO, Des Moines, Iowa (526), 11 a. m., church service; 7:30-8:30 p. m., Reese-Hughes orchestra.

WHT, Chicago, Ill. (399.8), 12 m., Sunday dinner sacred concert, vocal, instrumental and organ; 12:45 p. m., sunshine hour, special program for the shut-ins and the sick; 1:15, shepherd time for the kiddies; 1:30, aerial girls program; 1:45, Radio rangers, boys' program; 2, Radio caporteur; 2:05, missionary program; 2:15, fellowship program; 2:50, afternoon services, Chicago Gospel tabernacle; 5:30, vesper concert; 5:45, Young women's council; 6:30, concert tabernacle band and choir, sermon, Paul Rader; 9:30, request program; 10:30, back home hour.

WIBO, Chicago, Ill. (226), 2-4 p. m., concert; Ted Fiorito, Victor Young, Dan Russo; 6-8, Walter Preston, sacred songs; Fred Nobel, cornetist, Earl Raymond Bigelow, R. G. Ball, Raymond Barker, Helen Snyder; 10, program, Hamilton Club of Chicago.

WKRC, Cincinnati, Ohio (422.3), 6:45 p. m., songs and service; Walnut Hills Christian church, Dr. J. J. Castleberry, pastor; 10, classical program.

WLS, Chicago, Ill. (344.6), 6 p. m., prelude; 7-7:55, WLS Little Brown church in the vale; choir; Ralph Emerson, organist; WLS trio.

WLW, Cincinnati, Ohio (422.3), 9:30 a. m., school, editorial staff, Sunday School Publications, Methodist Book concern; 11, morning worship, Seventh Presbyterian church, Jesse Halsey, minister; 7:30 p. m., services, First Presbyterian church, Dr. Frederick McMillan, pastor; 8:30, concert program, H. and S. Pogue company, Walter Esberger, director.

WMBB, Chicago, Ill. (250), 3-5 p. m., Trianon orchestra; Woodlawn theater orchestra; Bob Bennett, Earl Smith, Walter Duffy, James T. Carney; 7:40-9, Fifth Church of Christ Scientist; 9-11, Trianon orchestra, Woodlawn theater orchestra, F. T. Carney, Preston Graves, Earl Smith, Billie Allen Hoff, Scotty Welch and Madison sisters.

WMC, Memphis, Tenn. (499.7), 11 a. m., St. Mary's Episcopal cathedral.

WOAI, San Antonio, Texas (394.5), 11 a. m., services, First Presbyterian church, Rev. P. D. Hill, pastor; 7:45, services, Central Christian church, Rev. Hugh McLellan, pastor.

WOAW, Omaha, Nebr. (526), 9 a. m., chapel service, Rev. R. R. Brown; Stanley Jan Letovsky, pianist; 6 p. m., Bible study period, Mrs. Carl Gray, director; 9, chapel service, Kountze Memorial Lutheran church.

WOC, Davenport, Iowa (483.6), 1-2 p. m., Palmer Little symphony concert; Erwin Swindell, conductor; Paul Vipperman, tenor; 6:30-7, services, "The Lost Son," Rev. C. Kitrley Gillum; 8:15-9:15, Atwater Kent artists, WEAF; 9:45-11:45, Palmer Little symphony, Erwin Swindell, conductor; soloists.

WOK, Homewood, Ill. (217.3), 1-2 a. m., Tierney's Town club orchestra; Husk O'Hare's Cocoanut Grove orchestra; Harriet Lee, contralto; Herman Sinaiko, violinist; George Allen, tenor; Bob Mokrejs, pianist; 6-1:30 a. m., Gus C. Edwards and his orchestra; Husk O'Hare and his orchestra; Capitol theater complete musical program; Tierney's Town club orchestra; WOK mixed quartet; Herman Sinaiko, violinist; Harriet Lee, contralto; Bob Mokrejs, pianist; George Allen, tenor; Bill Hay, bass.

WOQ, Kansas City, Mo. (278), 11 a. m.,-12:30 p. m., services; 7-7:45, services.

WORD, Batavia, Ill. (275), 10 a. m., hymns, sacred songs, duets and solos; address, A. M. Feeley; 9 p. m., hymns, sacred songs, I. B. S. A. choral singers; 9:15, bible lecture, G. A. Hall; 9:40, Margaret Riedhauser, pianist.

WOS, Jefferson City, Mo. (440.9), 9:30 a. m., religious services, Christian church, sermon, Rev. Haushalter, pastor; 7:30, First Presbyterian church.

WQJ, Chicago, Ill. (447.5), 9:30-11:30 a. m., services, People's church, Dr. Preston Bradley, officiating, choir; Clarence Eddy, organist; 3-4 p. m., program, Irving Park Lutheran church choir; Miss Helen Smith, soprano; Harry T. Carlson, director; Mrs. M. Lundberg, pianist; 8-10, concert, Ralph Williams' orchestra; Maria Dneprova, Russian soprano; Shepard Levine, tenor; Helen Reed, accompanist; Madeline Ruff, pianist; stringed trio, Louis Perlman, violinist; Oscar LaPedus, cellist; John Zwick, pianist; Jean Carlson, coloratura soprano; Herman Techentine, baritone; Helen Holman, soprano.

WSAI, Cincinnati, Ohio (326), 2:45-4:30 p. m., address, Dr. S. Parkes Cadman, pastor, Central Congregational church, N. Y. City; music, Gloria Trumpeters; 7:45, WSAI Radio chime concert, Robert Badgley; 8, sermonette, Press Radio Bible service, inc.; 8:15-9:15, Atwater Kent Radio hour; Hulda Lashanska, lyric soprano; Vincente Ballester, Spanish baritone; 9:15, Union Central Life Insurance company orchestra, Sigmund Clup, director; Daniel Beddos, tenor.

WSB, Atlanta, Ga. (428.3), 5 p. m., sacred concert.

Mountain Time Stations

CFAC, Calgary, Can. (435.8), 7 p. m., First Church of Christ Scientist.

KFXF, Colorado Springs, Colo. (250), 7:30-9 p. m., services, First Methodist church.

KOA, Denver, Colo. (322.4), 11 a. m., services, St. John's Episcopal cathedral; 3 p. m., Clarence Reynolds, organist; 7:30, service, St. John's Episcopal cathedral.

Her remarkable voice has given Mary Cornelia Malone, soprano, a national reputation. Between her concert tours she will give recitals twice a month at WSM, Nashville, her home city.

Pacific Time Stations

KFWB, Hollywood, Calif. (252), 9-11 p. m., late news, Warner brothers movie frolic with California serenaders, California Blue Boys, Jack Kurtz, whistling pianist; Albert Keglovich, violin, surprise visitors from the movie studios.

KGO, Oakland, Calif. (361.2), 11 a. m., services, First Unitarian church, Rev. C. S. Dutton, minister; 3:30 p. m., concert, KGO Little symphony orchestra, Carl Rhodehamel, conductor; Mrs. Mark Shwayder, contralto; 8, services, First Unitarian church, Rev. Dutton.

KHJ, Los Angeles, Calif. (405.2), 4-5 p. m., musicale, Western Auto Supply company; 6:30-7, Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 7-7:30, First Methodist Episcopal church; 8-10, program, Martin Music company; John Martin, concert pianist; Ruth Pitts, soprano.

KNX, Hollywood, Calif. (336.9), 2-4 p. m., broadcast to nine city parks, L. A. Park board; 7-8, First Presbyterian church of Hollywood; 8-9, Ambassador hotel concert orchestra, Josef Rosenfeld, director; 9-10:30, program, Beverly Hills nurseries, Calmon Luboviski, master violinist; Raquel Nieto, coloratura soprano.

KPO, San Francisco, Calif. (428.3), 9:45-10:45 a. m., Undenominational and non-sectarian church service; "God Save American Homes," Dr. J. C. Reid; Clyde Diddle, bass; organ music, Uda Waldrop; 5-6 p. m., Marshall W. Giselman, organist; 6-6:30, Waldemar Lind and the States Restaurant orchestra; 6:35-7:30, Palace hotel concert orchestra, Cyrus Trobbe, director; 8-8:30, Palace hotel concert orchestra, Cyrus Trobbe, director; 8:30-10, Rudy Seiger's Fairmont hotel orchestra.

KTAB, Oakland, Calif. (240), 9:45-10:45 a. m., Professor E. G. Linsley, bible lecture; 11-12:30 p. m., church service; 7:45-9, church service; 9:30-11, after-service concert.

KTCL, Seattle, Wash. (305.9), 1-2 p. m., Henri Damski's concert orchestra; 3-4, Charmed Land trio; 7:50-9:10, First Church of Christ Scientist; 9:10-10:10, International Bible Students' association.

(Continued on page 15)

MUNICIPAL CHORUS MEETS AT WCCO

Monday, December 14

Headliners Today

Eastern	Central	Mountain	Pacific
8 p. m.	7 p. m.	6 p. m.	5 p. m.
KSD (545.1) Double piano program.			
WJAR (305.9) Coles Snappy Six.			
8:30	7:30	6:30	5:30
WHO (526) Jack Little.			
9	8	7	6
WGR (319) Amherst Choral club.			
9:30	8:30	7:30	6:30
WBZ (333.1) New Zealand artists.			
10	9	8	7
KTHS (374.8) Old Favorites night.			
WDAF (365.6) Ivanhoe band, Glee club.			
10:15	9:15	8:15	7:15
WPG (299.8) Galen trio.			
10:30	9:30	8:30	7:30
KOA (322.4) "Pagliacci", opera.			
WLIT (395) Vaudeville.			
11	10	9	8
WHAZ (379.5) International and Transcontinental program.			

Monday, silent night for: CHIC, CNRA, CNRC, CNRE, CRNM, CNRO, CNRR, CNRT, CNRV, CNRW, KFDM, KFMQ, KFMX, KFRU, KHJ, KLDS, KTCL, KYW, PWX, WBBM, WCBD, WEAO, WEBH, WEBJ, WEBW, WENR, WGBS, WGES, WGN, WHAS, WHT, WIP, WJAZ, WJBL, WJJD, WLIB, WLS, WMAQ, WMBB, WOAI, WOC, WOK, WORD, WQJ, WRC, WREO.

Eastern Time Stations

CKNC, Toronto, Can. (357), 8 p. m., Toronto Conservatory of Music instrumental trio; Frank Blackford, violinist; Leo Smith, cellist; Alberto Guerrero, pianist; Verdi mixed vocal quartet; Madeline Bell, soprano; Ella McQuillan, contralto; Lawrence DeFoe, tenor; Edgar Smith, bass; Arthur Blight, baritone.

WAFD, Port Huron, Mich. (275), 9-10 p. m., studio program; 10-12, musical program, Addison hotel.

WAHG, New York, N. Y. (315.6), 12-1 p. m., musical program; 7:30-7:45, Hon. Maurice E. Connelly; 7:45-8:15, Synchrophase trio; 8:15-8:30, Harriet Youngs, soprano; 8:30-9, Rialto club orchestra; 9-9:10, Radio Santa Claus; 9:10-9:40, Synchrophase trio; 9:40-9:55, Harriet Youngs, soprano; 9:55-10, Horace J. Taylor, dramatic recitations; 10-10:15, Joe Zimmerman's orchestra; 10:15-12, Midnight dance orchestra.

WBAL, Baltimore, Md. (375), 6:45-7:45 p. m., dinner music, Robert Iula, conductor; 8-9, musical program; William G. Horn, baritone; Eleanor Chase Horn, soprano; Esther Love Polvogt, pianist; 9, talk, Folger McKinsey; 9:10-10, Antonio Lanasa, tenor; Alma Metcalf, violinist; Sol Sax; Frederick Gottlieb, flutist.

WBBR, New York, N. Y. (272.6), 8 p. m., Jubilee entertainers; 8-10, world news digest; 8:20, Jubilee entertainers; 8:30, "The Harp of God;" 8:40, Jubilee entertainers.

WBZ, Springfield, Mass. (333.1), 6:30 p. m., Little symphony orchestra; KDKA; 7:05, Psychology series, Abraham Myerson; 7:30, Capitol theater orchestra; 8, W. Edward Boyle's Copley Plaza orchestra; 8:30, organ recital, Rene Dagenais; 9, Aleppo drum corps or Shriners' band; 9:30, concert, New Zealand artists; Hamilton Hodges, basso cantante; Clifford Kemp, pianist; 10:05, Leo Reisman's Hotel Brunswick orchestra.

WCAE, Pittsburgh, Pa. (416.3), 10:45 a. m., Gold Medal talk; 12:30 p. m., program for the day; 3, program from Loew's Aldine theater; 6:30, dinner concert, William Penn hotel; 7:30, Santa Claus; 8, Nixon orchestra; 9, studio concert, Blue Rambler orchestra; 10, grand opera; 11, program from Loew's Aldine theater.

WCAU, Philadelphia, Pa. (277.6), 8 p. m., Radio talk, Wilson Durham; 8:15, Carolyn Thomas, soprano; Elmer Glasgow, bass-baritone; Ella Jaquette Kratz, pianist; 9:10, Nokol man; 9:30, Delaware County serenaders; 10, Tom Houst, James Loughrey and Don Travaline, popular songsters; 10:30, Parodians.

WCX, Detroit, Mich. (517), 6 p. m., dinner concert, Book-Cadillac hotel; 8, studio program.

Trombones may look difficult to play to most people but not to Salvatore Julian, left, who wields his trombone in all sorts of unusual capers at KTHS, Hot Springs National Park.

WEAF, New York, N. Y. (491.5), 6:45-7:20 a. m., Tower health exercises, through WEEI and WCAP; 10:45-11:05, Betty Crocker Gold Medal Flour Home service talk; 11:05-11:15, music; 11:15-11:30, talk; 11:30-12, lecture, auspices of Teachers college of Columbia university; 4-4:15 p. m., Hazel A. Dudley, soprano; accompanist, Winifred T. Barr; 4:15-5, lecture, Prof. Rollo Walter; 6-7, dinner music, Waldorf-Astoria; 7-7:15, The Radio Dream Girl; 7:15-7:30, Adam Carroll, pianist; 7:30-7:45, George O'Brien, tenor; 7:45-8, Clark and Silvernail, entertainers, through WOO; 8-8:15, Hans Barth, pianist, also through WOO; 8:15-8:30, George O'Brien, tenor; accompanist, Winifred T. Barr, also through WOO; 8:45-9, Tower health talk, also through WEEI and WCAP; 9-10, music, A. and P. Gypsies, WEEI, WCAP, WWJ, WJAR, WOO, WSAI; 10-11, Grand opera, WOO, WCAE, WJAR, WCAP, WTAG; 11-12, Ben Bernie and his Roosevelt orchestra.

WEAO, Columbus, Ohio (293.9), 1:15 p. m., "Timely Economic Information for the Farmer," C. J. West.

WEEI, Boston, Mass. (348.6), 6:45 a. m., health exercises; 10:45, home service talk; 2, p. m., Happy Hawkins and his orchestra; 6:45, Big Brothers club; 7:30, E. B. Rideout, meteorologist; 7:45, Santa Claus; 8:15, "Business Education;" 8:25, announced; 8:45, health, talk, WEAF; 9, WEAF A. and P. Gypsies; 10, Scotty Holmes and his orchestra; Imperial Marimba band.

WFI Philadelphia, Pa. (395), 10:30 a. m., solos; 10:40, home service talk, Betty Crocker; 1 p. m., Strawbridge and Clothier tea room ensemble, direction of Harold Micklin; 3, "The Ocean City Seashore Home for Babies;" Loretta Kerk, pianist; 3:45, Eleanor Gunn fashion feature; 6:30, Bellevue Stratford hotel concert orchestra; 7, Bellevue Stratford hotel dance orchestra.

WGBS, New York, N .Y. (315.6), 6-6:30 p. m., Uncle Geebee; 6:30-7:30, Premier club orchestra.

WGCP, New York, N. Y. (252), 1:30 p. m., Mirror race results half hourly; 3-3:15, Eva Rothenberg, pianologue; 3:15-3:30, Pendleton and Moore; 3:30-4, studio program; 4-4:15, Jack Davis, songs; 4:15-4:30, Shirley Herman, songs; 4:30-5, Uncle Robert and his pals; 6-6:15, Littmann's orchestra; 6:15-6:30, Daddy Dingle and his Jingle machine; 6:30-7, Littmann's orchestra; 7-7:15, Ora Welsh, pianist; 7:15-7:30, Wohr and Tracey; 7:30-7:50, Charles Phillips, pianist; 7:50-8, Inspirational talk to boys; 8-8:30, Charles Schwartz orchestra; 8:30-8:45, Perry Broadford entertainers; 8:45-9, Gertrude Guarente, pianist; 9-9:30, orchestra; 9:30-10, Bob Ward and three little Wards; 10-11, Stricklands orchestra; 11-11:30, Conries orchestha; 11:30-12, Murphy entertainers.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 6:30, Clef Dwellers orchestra; 9, Amherst choral club; 10, popular program, directed by George Phelps; 11-1 a. m., Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

WGY, Schenectady, N. Y. (379.5), 2 p. m., Asia Restaurant orchestra; 2:30, music; household talks, cooking lesson, Jessie B. Lane; "Accessories in Dress," Dora Wetherbee; 6:30, dinner program, Reed Hamaker's Hotel Van Curler orchestra; 7, WGY agricultural program, 7:45, Georgine T. A. Lasher, contralto; Estelle Rogers, soprano; Mildred Hall, pianist; E. Arthur Hannay, tenor; Ollie Yettru, accompanist; "Literary Appreciation Series," William L. Widdemer.

WHAR, Atlantic City, N. J. (275), 2 p. m., Seaside hotel trio; 7:30, fashion review; 8, Seaside hotel trio.

WHAZ, Troy, N. Y. (379.5), 9 p. m., concert, vocal pupils of Professor A. Y. Cornell; 9:30, address, Professor Grant K. Palsgrove; 11, International and transcontinental program, Rensselaer Polytechnic Institute studenis' orchestra.

WHN, New York, N. Y. (361.2), 6-6:15 p. m., Littmann's dinner music; 6:15-6:30, Daddy Dingle and his Jingle box; 6:30-7, Marlboro state trio; 7-7:30, Joe Ward's Swanee entertainers; 7:30-8, Storage battery talk, H. B. Shontz; 8-8:05, Roseland dance orchestra; 8:05-8:30, Guardian entertainers; 10-11, standing by; 11-11:30, Cotton club orchestra; 11:30-12, Silver Slipper orchestra; 12-12:30 a. m., Ted Lewis and his orchestra.

WIP, Philadelphia, Pa. (508.2), 7 a. m., setting-up exercises, Dr. Francois D'Eliscu; 1 p. m., luncheon music, Gimbel Tea Room orchestra; 3, Fuhrman School of Music; 6:05, Benjamin Franklin orchestra; 7, Uncle Wip's bedtime story, dancing lesson.

WJAR, Providence, R. I. (305.9), 10 a. m., housewives Radio exchange; 1:05 p. m., studio program; 8, Coles Snappy Six; 9, A. and P. Gypsies; 10, WEAF grand opera company.

WJR, Pontiac, Mich. (517), 7 p. m., Jean Goldkette's Petite symphony orchestra; soloists; 7:45, Goodwill Oakland, Richards Oakland company; 9, Paige Six and Jewett Six, Paige-Detroit Motor Car company; 11:30, the Merry Old Chief with the Jewett Jesters.

Ben Stad, below, is the director of the WIP Little symphony orchestra whose Sunday concerts are so well liked at WIP, Philadelphia.

WKAR, E. Lansing, Mich. (285.5), 7:15 p. m., Radio school, lectures on History, English, Sociology.

WLIT, Philadelphia, Pa. (395), 12:02 p. m., organ recital, Stanley theater; 12:30, Ben Franklin hotel concert orchestra; 2, Arcadia cafe concert orchestra, talk, Rev. A. Spooner; 4:30, magazine corner; 7:30, Dream Daddy; 8, short agro-waves, Charles P. Shoffner; 8:15, current events, George E. Raiguel; 9, Stanley theater hour; 10, Arcadia cafe dance orchestra; 10:30, vaudeville; 10:45, Ben Franklin hotel dance orchestra.

WMCA, New York, N. Y. (340.7), 6-6:30 p. m., Olcott Vail and his Hotel McAlpin string ensemble; 6:30-7:30, Ernie Golden and his Hotel McAlpin orchestra; 7:30-7:45, Luella Burns, soprano; 7:45-8, Dorothy Elydenburgh, pianist; 8-8:45, Knickerbocker Family circle; 8:45-9, Barclay Radio program; 8:45-9, Lecture on Christian Science; 10:30-10:45, Jack Cohen, pianist.

WOR, Newark, N. J. (405.2), 3:45-4 p. m., Charm Magazine talk; 6:15-6:17, words often mispronounced; 6:17-7:15, Jacques Jacobs ensemble; 7:15-7:30, Bill Wathey, sport talk; 7:30-8:30, Ciro's orchestra; 8:30-9:30, Al Reid's hour; 9:30-9:45, Edward H. Bierstadt, talk; 10:15-10:30, Ballin and Race, piano duet; 10:30-11:30, Archie Slater's Palais D'Or orchestra; 11:30-12, New Hofbrau Haus orchestra.

WPG, Atlantic City, N. J. (299.8), 4:30 p. m., afternoon tea music, Chalfonte-Haddon Hall; 6:45, Arthur Scott Brook, organist; 7, Hotel Morton trio dinner music, J. Leonard Lewis, director; 8, children's hour; 8:45, studio program; 9, Hotel Traymore concert orchestra; 10, Dora Davies Williams, soprano; 10:15, Galen Hall trio; 11, Eddie McKnight's dance orchestra.

WTAG, Worcester, Mass. (268), 10:30 a. m., musical selections; 10:45, talk, Sherer staff nurser, Marjorie Woodman; 12:05-2 p. m., WTAG orchestra; 7, science talk, Fred D. Aldrich; 8-10, Robin Hood orchestra; 10-11 grand opera, WEAF.

WTIC, Hartford, Conn. (475.9), 6:30 p. m., dinner music, Emil Heimberger's Hotel Bond trio; 7:45, "Evolution and Geology," Prof. William North Rice.

WWJ, Detroit, Mich. (352.7), 7:30-8 a. m., exercises, R. J. Horton; 9:30, "Tonight's Dinner," and special talk, by the woman's editor; 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra; 6, dinner concert; 8, News orchestra and soloists; A. and P. Gypsies.

Central Time Stations

KFAB, Lincoln, Nebr. (340.7), 5:30-6:30 p. m., Buick Little symphony; Belshaw's orchestra; 8:30-10:30, cow bell boys, violin and guitar; Jack Marshall, ragtime kid; Ed Ellingson, songbird; Gloomy Gus, pianist and vocalist; Belshaw's orchestra.

KFEQ, Oak, Nebr. (268), 2-3 p. m., Kings Entertainers.

KFMQ, Fayetteville, Ark. (299.8), 7:30 p. m., farmers' night, "Farm Filosofy," Cy Adams; "Making Hens Lay in Winter," Mrs. Ida Fenton; "Blow Your Own Stumps with Pyrotol," W. I. Ezell; "Making Christmas Candy," Emma Johnson.

KFNF, Shenandoah, Iowa (266), 7 p. m., concert, Henry Field Seed company.

KFUO, St. Louis, Mo. (545.1), 8 p. m., "The Frankincense of Prayer," Rev. E. Roschke.

KFVE, University City, Mo. (240), 8:30 p. m., Amusement Review, Romaine Fielding; concert, Brunswick-Balke-Collender company; Orchestra Romaine.

KMA, Shenandoah, Iowa (252), 11:30 a. m.-12:30 p. m., rural program; "Garden, Flower and Orchard," Earl E. May; music; travelogue, G. H. Van Houten; musical saw, J. A. Showers; 6, Pollyanna stories, Mrs. Nickols; Clyde Hatch, retailers program; 9, Grady and Doc, How do you do boys; Farnham trio.

KSD, St. Louis, Mo. (545.1), 7 p. m., "Tur Hour;" Olivia Williams, Hilda Medairy, pianists.

KSO, Clarinda, Iowa (242), 7-9 p. m., miscellaneous old time music.

KTHS, Hot Springs National Park, Ark. (374.8), 9-10, old favorites night, Meyer-Davis ensemble; 10-11, Rainbow Garden.

KYW, Chicago, Ill. (536), 6:30 a. m., morning exercises; 7:30, morning family worship; 11:15, "Who Needs Spareribs," John C. Cutting; 11:35, table talk, Mrs. Anna J. Peterson; 12:05 p. m., noon-day concert, Commonwealth Edison company; 1, luncheon concert, Congress hotel; 6, dinner music, KDKA; 7:05, bedtime story, Uncle Bob.

WAMD, Minneapolis, Minn. (243.8), 12 noon, studio program; 6, dinner concert, Osborn's Hotel Radisson orchestra; 7:05, classical program; 11, Skyrocket frolic.

WBBM, Chicago, Ill. (226), 4-6 p. m., Valentino Inn orchestra; Sandy Meek, Harry Sosnik; Irene Beasly; Jack Pennywell and Freddy Palmiter, Court Banks; Joe McManus; Edna Wheeler Ballard, harpist; 6-7, Harold Anderson, accordion; Kristine Gallen, cellist; Phillip Nilles, tenor; Marie Morgott, harpist; George Marbach, tenor; Ziegler sisters; Two Jays; WBBM string trio; Moulin Rouge orchestra; Sieburg and Mowers, pianists.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 9:30 a. m., program for day; 10:45, "Gold Medal Christmas Presents," Betty Crocker; 12 m., concert, Donaldson's orchestra; 2 p. m., woman's hour; 4, readers' club, Mrs. Walter Stevens; 5:30, children's hour; 6:30, concert, Gordon Cooke ensemble; 7:45, "Swine Raising;" 8, University of Minnesota program; 9, classical concert.

WDAF, Kansas City, Mo. (356.6), 10:45 a. m., Betty Crocker, home service talk; 6-7, school of the air, dialect readings, C. M. Ragon; the Tell-Me-a-Story lady; Trianon ensemble; 8-9, varied program; "Ten Minutes with the Poets," Beryl Turley; 9-10, Ivanhoe band, Walter A. French, director; Ivanhoe glee club, Edward H. Gill, director; Julian Amelung, accompanist; 11:45-1 a. m., nighthawk frolic; Carl Nordberg's Plantation players; Ted Meyn, organist; Eddie Kuhn's orchestra; Earl Coleman's orchestra.

WDOD, Chattanooga, Tenn. (256), 6:30-7 p. m., organ music, Tivoli theater; 7-8, Hotel Patten orchestra; 8:15, special features.

WFAA, Dallas, Texas (475.9), 12:30-1 p. m., Lindsay Stephens, baritone; Leland Johnson, pianist; 6:30-7:30 p. m., Artie Collins' orchestra; 8:30-9:30, Sears-Roebuck Agricultural Foundation program.

WHAD, Milwaukee, Wis. (275), 4 p. m., Trixy Ann Troy, ukulele soloist; Olive Froehlich, pianist; Perry Olds, literary editor; 6:15-7, Bill Benning's Milwaukee Athletic club orchestra; 8-10, Marquette university studio program.

WHAS, Louisville, Ky. (399.8), 4-5 p. m., musical, Harry S. Currie; fashion talk, Peggy True; editorial readings.

WHO, Des Moines, Iowa (526), 7:30-9 p. m., Jack Little, popular entertainer; Mrs. Percy Potter, soprano; Lenore Mudge, accompanist; Alex Lindblom, violinist; T. C. Thompson, pianist; 11-12, Corn Sugar dance orchestra.

WHT, Chicago, Ill. (399.8), 10 a. m., Jean Sargent's program, woman's club; Borden health talk, Jelke Good Luck Girl; Helen Raub, pianist; John Clark, baritone; 10:45, Betty Crocker home service; 11, special studio features; 12 p. m., Al Carney's organ hour; 1, special studio program, Grayling's string trio; 6, classical program, Linner organ recital; Helen Raub, pianist; Grayling's string trio; Pat Barnes; Helen Axtel, soprano; John Clark, baritone; 7, Kitchen Klenzer Klassics.

WIBO, Chicago, Ill. (226), 2-4 p. m., shut-in program; Jack Sprat and the Carl Sulzer orchestra; Ted Fiorito, pianist; Victor Young, Dan Russo, violinists; Vernon Hayes, saxophonist; "Home Economics," Grace Viall Gray.

WJBL, Decatur, Ill. (270), 9:30-11 p. m., Lee Homebrook's dance orchestra.

WKRC, Cincinnati, Ohio (422.3), 6 p. m., dance program, Alvin Roehr's orchestra; 8, Freda Sanker's orchestra; Norrine Gibbons, soloist; 9, program, Robert E. Bentley post, American Legion; 12 midnight, theatrical stars; 12:30 a. m., Wesley Helvey's troubadours.

WLS, Chicago, Ill. (344.6), 12 m., W. L. S. trio; 6-7, blue ribbon concert.

WLW, Cincinnati, Ohio (422.3), 7:30 a. m., healthful exercises, William Stradtman, Y. M. C. A.; 7:45, morning devotions, auspices of Parkway Y. M. C. A.; 12 m., service, conducted by Rev. George H. Kase; 4 p. m., children's musical hour, pupils of Conservatory of Music; 4:45, "Mental Evolution," M. V. Whitacre, psychologist; 6, Santa Claus and his helpers; 6:45, "The Eyes Have It," Dr. C. H. Kaufman; 7, dinner hour concert, Hotel Gibson, Robert Visconti, director; 7:30, fifth in a series of basket ball talks, G. A. Richardson, "Offense, Passing and Shooting;" 7:40, Hotel Gibson concert; 10, The Cincinnati Times Star concert, William J. Kopp, director.

WMAQ, Chicago, Ill. (447.5), 12:45 p. m., Radio farm school; 2, shut-ins program; 4, mothers in council; 4:30, "Foibles of the Moment," Mrs. Graham Aldis; 4:45, Glenn Dillard Gunn School of Music; 5, children's games, Glenn Adams; 5:15, topsy-turvy time; 6, Chicago theater organ recital; 6:30, Hotel LaSalle orchestra; 6:40, Family Altar league.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., Harry Kohn.

WOAI, San Antonio, Texas (394.5), 3 p. m., musical program.

WOAW, Omaha, Nebr. (526), 12:45 p. m., Randall's Royal Fontenelle orchestra; 6, Sandman's visit; Val McLaughlin; 6:20, popular song period; 6:45, Randall's Royal Fontenelle orchestra; 9, classical program.

WOC, Davenport, Iowa (483.6), 12:15-12:25 p. m., farm school; Hog day, "Iodine Feeding is Good Insurance," Prof. John M. Evvard; 3-3:30, home management schedule, Aunt Jane; 5:45-6, chimes concert.

WOS, Jefferson City, Mo. (440.9), 8 p. m., musical program, Conservatory of Music and Expression, Christian college.

WQJ, Chicago, Ill. (447.5), 11-12 m., home economics program, Helen Harrington Downing; "The Care of Dairy Products," Will A. Foster; "Etchings," Mrs. A. W. Slaughter; 3-4 p. m., talk, Helen Harrington Downing, director of home economics for the Calumet Baking Powder company; "Christmas Salads," Jean K. Rich; Rev. Fred J. Harrison, book review.

WSAI, Cincinnati, Ohio (326), 8-9 p. m., A. and P. Gypsies, New York; 9-10, Grand opera company, direction of Cesare Sodero; 10-12 midnight, Cincinnati community program.

New York, where competition between artists is very strong, has recognized the undoubted ability of Carrie Cohen, above, as a pianist. She takes to the ether from WEBJ.

WSB, Atlanta, Ga. (428.3), 8 p. m., Mt. Zion church program; 10:45, Vick Meyers orchestra.

WSOE, Milwaukee, Wis. (246), 2 p. m., cooking chats, Prudence Penny; 5:30, twilight hour, Aunt Happy; Laurine Ladwig, soprano; Elmer Ihrke, pianist; 6:45, "Hog Raising," F. B. Hansen; 9, "Send a Candygram" frolic, Alexander and his Briar Cliff orchestra; E. R. Erving, baritone; Van Buren's Hawaiians; Lorraine Hug, pianist; Charles Bennett, blind accompanist; Maurice Kipen, violinist.

Mountain Time Stations

CFAC, Calgary, Can. (435.8), 8 p. m., Dean Bros. of Deans Music house; 10, concert, direction of Gladys Webb Foster; 11:30, special test program.

KFWA, Ogden, Utah (261), 5-6 p. m., Ogden Radio Dealers program.

KFXF, Colorado Springs, Colo. (250), 8:30 p. m., musical selections; 8:45-9, educational series of talks, Mrs. L. A. Miller; 9-10:30, dance program, Warner Stone's "Columbians."

KOA, Denver, Colo. (322.4), 12:15 p. m., musical, Rialto theater; 6:30, concert, Brown Palace string orchestra, Howard Tillotson, director; 7:30, sandman's hour, H. G. Knight, director; 8, "Conversational Spanish," Professor Amanda Lopez Knecht; "Pagliacci," opera; 10, dance program, George Morrison's colored orchestra.

KOB, State College, N. M. (348.6), 7:30-8:30 p. m., "Farm Accounting," Mr. Haughter; "Suggestions for Christmas Presents," Edith Whitchurst.

Pacific Time Stations

KFDJ, Corvallis, Ore. (282.5), 8 p. m., musical selections; 8:15, "Bordeaux Paint to Prevent Heart Rot," S. M. Zeller; 8:20, "The Land Settlement Problem in Oregon," H. D. Scudder; 8:35, musical selections; 8:45, "Pollination of Sweet Cherries and Grafting in Pollenizers," C. E. Schuster; 9, "Handling Orchard Soils in Irrigated Districts," Clayton L. Long; 9:15-9:45, Christmas vacation plans.

KFWB, Hollywood, Calif. (252), 5-6 p. m., children's hour, Big Brother of KFWB; 7-8, microphone brevities; 8-9, program, Globe Ice Cream and Weber Baking companies, Five Little Eskimos, Ray Bailey's trio; Peggy Mathews, blues singer; 9-10, program, Star Motor Car company, Million Dollar Four orchestra, Ray Kellogg and Bill Hatch; 10-11, Warner brothers frolic, direction Charlie Wellman; 11-12, Hollywood Roof dance orchestra.

KGO, Oakland, Calif. (361.2), 7:15-7:30, 7:45, 8:15-8:30 a. m., health training exercises; 10:40, vacation period; 11:30-1 p. m., luncheon concert; 3-4, musical program, classic interpretations, Wilda Wilson Church; 5:30-6, Aunt Betty stories, Kiddies' Klub, Ruth Thompson; 6-7, dinner concert, Baldwin Piano company; Knickerbocker trio; 8, educational program; health talk; "Physical Culture for the Family," Hugh Barrett Dobbs; "Chats About New Books," Joseph Jackson; "Better English," Wilda Wilson Church; "What to Give the Children for Christmas," Dr. Albertine Nash; "The Importance of the Spanish Language to the American people," Roberto Cabrera; "Collection and Analysis of Agricultural Data," Alex. Johnson.

KMTR, Hollywood, Calif. (238), 5-6 p. m., home hour, Mammy Simmons and naborhood children; 7:15, Y. M. C. A. program; 8-10, KMTR concert hour, the Turner orchestra, Loren Powell, director; Tom Mitchell, baritone.

KNX, Hollywood, Calif. (336.9), 5-5:30 p. m., Sunny Jim's talk to children; 5:30-6:15, Wurlitzer pipe organ studio, Town Tattler; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent concert orchestra; 7-7:30, Mutual Motors mirth contest; 7:30-8, program, Columbia Outfitting company; 8-9, program, L. W. Stockwell company; 9-10, program, Ward Heating company; 10-11, Goodrich Silverton Cord dance orchestra, Lilyan May Challenger, contralto; 11-12, Ray West's Cocoanut Grove dance orchestra, Ambassador hotel.

KPO, San Francisco, Calif. (428.3), 1-2 p. m., Rudy Seiger's Fairmont hotel orchestra; 2:30, matinee program; banjo, ukulele, guitar solos and duets, Harry H. George and Velma Truett; 5:30-6:15, children's hour, Big Brother; 6:40-7, Waldemar Lind and the States Restaurant orchestra; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 8-8:45, organ recital, Uda Waldrop; 8:45, "The Business Man's Physical Needs," 9-10, studio program; 10-11 Waldemar Lind and the States Restaurant orchestra.

KTAB, Oakland, Calif. (240), 9-9:30 a. m., prayer service, Rev. E. L. Spaulding; 4-5 p. m., women's club notes; 8-9, program, Western States Life Insurance company.

(Continued on page 16)

YALE GLEE CLUB AT WEAF; KOA INVI

Index to Popular Concerts

SATURDAY, DECEMBER 12

Eastern	Central	Mountain	Pacific	
7:30 p. m.	6:30 p. m.	5:30 p. m.	4:30 p. m.	WFAA.
8	7	6	5	WLS.
9	8	7	6	WBBM, WEAF, WENR, WGBS, WLS, WMAQ, WNYC.
10	9	8	7	KFAB, KPRC, WBBM, WENR, WGN, WLS, WMBB, WREO.
11	10	9	8	KFVE KFWB, KNX, KTHS, WBBM, WMBB, WOK, WQJ, WRC.
12	11	10	9	KNX KOIL, KPO, KPRC, WBBM, WLS, WOAW, WOK, WQJ.
1 a. m.	12 m.	11	10	KFWB, WDAF, WBBM, WEBH, WENR, WOK, WQJ, WSAI.
2	1 a. m.	12 m.	11	KNX, WBBM, WENR, WQJ.

SUNDAY, DECEMBER 13

Eastern	Central	Mountain	Pacific	
9 p. m.	8 p. m.	7 p. m.	6 p. m.	WBBM.
10	9	8	7	WBBM, WMBB.
11	10	9	8	WMBB.
12	11	10	9	KNX, KTHS.
1 a. m.	12 m.	11 p. m.	10	KFWB, WBBM.
2	1 a. m.	12 m.	11	KFWB.

MONDAY, DECEMBER 14

Eastern	Central	Mountain	Pacific	
7 p. m.	6 p. m.	5 p. m.	4 p. m.	WBBM, WFAA, WOAW.
8	7	6	5	WGBS.
9	8	7	6	WCAU, WEAF, WGR, WKRC, WOK.
10	9	8	7	KFAB, WGR, WKRC, WMCA, WOAW, WOK, WSOE.
11	10	9	8	KFAB, KFVE, WOK.
12 m.	11	10	9	KLX, KNX, KOIL, WHO, WOK.
1 a. m.	12 m.	11	10	KFWB, KLX, WAHG, WDAF, WHT, WKRC, WOK.
2 a. m.	1 a. m.	12 m.	11	KFWB.

TUESDAY, DECEMBER 15

Eastern	Central	Mountain	Pacific	
7 p. m.	6 p. m.	5 p. m.	4 p. m.	WMCA, WOAW.
8	7	6	5	WBBM, WEAR.
9	8	7	6	WBBM, WEAR, WBZ, WSB.
10	9	8	7	WBBM, WMBB, WOAW.
11 p. m.	10 p. m.	9 p. m.	8 p. m.	KFVE, KFWB, KNX, WBBM, WHT, WMBB, WOK, WQJ.
12 m.	11	10	9	KNX, KOIL, KPO, WBBM, WFAA, WKRC, WMC, WOK, WQJ.
1 a. m.	12 m.	11	10	KFWB, KNX, WFAA, WHT, WOAW, WOK, WQJ.
2	1	12 m.	11	KFWB, WQJ.

WEDNESDAY, DECEMBER 16

Eastern	Central	Mountain	Pacific	
8 p. m.	7 p. m.	6 p. m.	5 p. m.	KFNF, WAHG, WEBJ, WEEI, WMCA.
9	8	7	6	WBBM, WEBJ, WGCP, WNYC.
10	9	8	7	KFAB, KPRC, WBBM, WGCP, WHO, WMBB.
11	10	9	8	KFAB, KFVE, KGW, KPO, KWSC, KYW, WBBM, WHN, WMBB, WOK, WQJ.
12 m.	11	10	9	KFWA, KFWB, KNX, KYW, WOK, WQJ, WSAI.
1 a. m.	12 m.	11	10	KNX, KYW, WBBM, WHT, WOK, WQJ.
2	1 a. m.	12 m.	11	KFWB, KNX, WBBM, WOK, WQJ.

THURSDAY, DECEMBER 17

Eastern	Central	Mountain	Pacific	
8 p. m.	7 p. m.	6 p. m.	5 p. m.	WCAE, WEAF, WJAR, WMC, WOC, WSAI.
9	8	7	6	WBBM, WHAD.
10	9	8	7	KMA, WBBM, WEEI, WHAD, WHN, WMBB, WMC, WNYC, WOAW, WSOE.
11	10	9	8	KHJ, KMA, KYW, WBBM, WMBB, WOK, WQJ.
12 m.	11	10	9	KHJ, KTAB, KOIL, WBBM, WDAF, WEAA, WKRC, WOC, WOK, WQJ.
1 a. m.	12 m.	11	10	KFWB, KHJ, WHT, WOK, WQJ.
2	1 a. m.	12.m.	11	KNX, WQJ.

FRIDAY, DECEMBER 18

Eastern	Central	Mountain	Pacific	
8 p. m.	7 p. m.	6 p. m.	5 p. m.	WGCP, WJR.
9	8	7	6	WBBM, WGR, WLS, WOC.
10	9	8	7	KFAB, WBBM, WMC, WDAF, WHAD, WMBB, WOAW, WSOE.
11	10	9	8	KFVE, KFWA, KHJ, KLX, KYW, WMBB, WOK, WQJ.
12 m.	11	10	9	KFWB, KHJ, KNX, KOIL, WMC, WOK, WQJ.
1 a. m.	12 m.	11	10	KFWB, KHJ, WDAF, WHT, WOK, WQJ.
2	1 a. m.	12 m.	11	KNX, WQJ.

Monday, December 14

(Continued from page 15)

KTCL, Seattle, Wash. (305.9), 9:45-10 a. m., Fraser-Paterson department store; 10-10:15, exercise over the air; 10:15-10:30, daily recipes; 7-8 p. m., New Method Laundry and Pantorium Dye Works company orchestra; 8-9, Seattle Police publication, Seattle Police band.

KWSC, Pullman, Wash. (348.6), 7:30-9:30 p m., vocal solos, Paul Christian; Rich Whitman, violinist; Della Crumpacker, pianist; "Refinishing Furniture for a Girl's Room," Gladys Gallup; "The Psychology of Efficiency, No. 2," Dr. F. F. Nalder; "Modern Maintenance Methods for Macadam Roads, No. 2," H. E. Phelps.

Tuesday, December 15

Headliners Today

Eastern	Central	Mountain	Pacific	
7:45 p. m.	6:45 p. m.	5:45 p. m.	5:45 p. m.	
7:45 p. m.	6:45 p. m.	5:45 p. m.	4:45 p. m.	
WGY (379.5) Violin recital.				
8	7	6	5	
WBAL (375) Handel's "Messiah".				
WTIC (475.9) Marchesi Ladies' quartet.				
8:30	7:30	6:30	5:30	
WHAS (399.8) Zoeller's Melodists.				
8:45	7:45	6:45	5:45	
WEBJ (272.6) Harmonica Boys' band.				
9	8	7	6	
WIP (508.2) Shapp Instrumental quartet.				
WSB (428.3) Metropolitan theater artists.				
10	9	8	7	
KTHS (374.8) Accordion novelties.				
WCCO (416.4) Minneapolis Municipal chorus.				
WCX (517) Red Apple club.				
11	10	9	8	
KGO (361.2) National Carbon company's program.				
12 m.	11	10	9	
KFWB (252) Elite trio. Way Watts and his uke.				

Tuesday, silent night for: CFCA, CHIC, CKNC, CNRC, CNRE, CNRM, CNRO, CNRW, CNRT, KFAU, KFDJ, KFRU, KFUO, KFWA, KLX, KOA, KOB, KUOM, KWSC, PWX, WAHG, WAMD, WBBR, WCAL, WGCP, WGST, WHAD, WHAZ, WJAD, WJAZ, WJBL, WLIT, WLWL, WOI, WOR, WOS, WSM, WSMB, WSUI, WTAM.

Eastern Time Stations

CNRA, Moncton, Can. (291), 7 p. m., juvenile program, Professor C. M. Wright; 8, studio program; direction of Mr. George Ross; 10, CNRA orchestra.

WAFD, Port Huron, Mich. (275), 8-10 p. m., Port Huron Boy Scout orchestra; 10-12, musical program, Addison hotel.

WAHG, New York, N. Y. (315.6), 12-12:15 p. m., Joe Zimmerman, pianist.

WBAL, Baltimore, Md. (375), 8 p. m., musical program; Handel's "Messiah," Mt. Vernon Methodist Episcopal church, David Melamet, director.

WBZ, Springfield, Mass. (333.1), 6:30 p. m., Little symphony orchestra, KDKA; 7:30, Hotel Kimball dance orchestra, Bob Patterson, director; 8, Hockey game, Boston Arena vs Boston Bruins.

WCAE, Pittsburgh, Pa. (461.3), 12:30 p. m., program for the day; 3, program, Loew's Aldine theater; 4:30, Sunshone Girl; 6:30, concert, William Penn hotel; 7:30, Davis Saxophone octet, WEAF; 8, program from New York; 8:30, The Gold Dust Twins; 9, the Eveready hour; 10, studio concert; 10:30, Vincent Lopez and his orchestra; 11, Ralph Harrison and his Midnight Sons.

WCAU, Philadelphia, Pa. (277.6), 7:30 p. m., recital, N. Snellenburg, and company; 8, Building and loan talk, F. Baruch; 8:10, Three Brothers; 8:25, Theater Digest, A. Lipschutz; 8:35, National Players; 8:55, Arline Smith, soprano; Sarah Snyder, pianist; 9:20, Robert Fraser, Blind Gospel singer; Elizabeth Holtz, pianist; 9:40, popular songs, Harry Link; 10:30, Billy Hayes and his Cathay Tea Garden orchestra.

WCX, Detroit, Mich. (517), 6 p. m., dinner concert, Book-Cadillac hotel; 10, Red Apple club.

WEAF, New York, N. Y. (491.5), 6:45-7:20 a. m., Tower health exercises; 11-11:10, musical program; 11:10-11:25, lecture, auspices of the Lecture Bureau of the Board of Education; 11:25-11:35, musical program; 11:35-11:55, motion picture forecast, Adele Woodard; 11:55-12 m., musical program; 4-4:30, New York society trio; 6-7, dinner music, Waldorf-Astoria; 7-7:10, William O. Bell, baritone; 7:10-7:30, Columbia university French lecture, Dr. Thatcher Clark; 7:30-8, Davis saxophone octet; 8-8:10, weekly discussion of financial events, Dudley F. Fowler; 8:10-8:30, Ross Gorman and his Earl Carroll Vanities orchestra; 8:30-9, The Gold Dust Twins; 9-10, Eveready hour; 10-10:30, your hour; 10:30-11, Vincent Lopez and orchestra; 11-12, dance orchestra.

WEAO, Columbus, Ohio (293.9), 9 p. m., university chimes, Allen McManigal; "The Places for Potash," Prof. Firman E. Bear; 9:15, Ohio State University orchestra, Earl Hopkins, director.

WEBJ, New York, N. Y. (272.6), 7-7:30 p. m., Irwin Abrams Knickerbocker Grill orchestra; 7:45-8, Sara Turits, soprano; 8-8:15, talk, G. T. Geer; 8:15-8:30, Milton Yokeman, tenor, accompanist, Norman Hennefeld; 8:30-8:45, mystery Radio talk; 8:45-9:45, Boys harmonica band, direction, Aaron Keil.

WEEI, Boston, Mass. (348.6), 6:45 a. m., health exercises; 2, Eugene's Singing orchestra; 6:45, Big Brother club; 7:40, Harvard Observatory talk, "Stellar Evolution," Dr. Payno; 8, Earl Carroll theater orchestra, WEAF; 8:30, Gold Dust Twins; 9, Eveready hour; 10, Your hour; 10:30, Vincent Lopez and his orchestra.

WFI, Philadelphia, Pa. (395), 1 p. m., Strawbridge and Clothier tea room ensemble; 3, Josh Saddlers Plantation serenaders, dance orchestra; 6:30, Bellevue Stratford hotel concert orchestra; 7, Bellevue Stratford hotel dance orchestra; 8, Ross Gorman and his Earl Carroll vanities orchestra; 8:30, the Gold Dust Twins; 9, Eveready hour; 10, your hour; 10:30, Vincent Lopez and his orchestra.

WGBS, New York, N. Y. (315.6), 6-6:30 p. m., Uncle Geebee; 6:30-7, Bert Dixon, baritone; 7-8, Arrowhead Inn concert orchestra; 8-8:50, Y. M. H. A. Vocational forum; 8:50-9, Brayton Eddy, talk; 10-10:30, Straub and Lamprecht, guitar duets; 10:30-11:30, Arrowhead Inn dance orchestra.

WGCP, New York N. Y. (252), 1:30 p. m., Mirror race results half hourly; 3-3:15, Ova Welsh, pianist; 3:15-3:30, Osborne and Meredith; 3:30-3:45, Isabelle Henderson, soprano; 3:45-4, Ukulele Bob McDonald; 4-4:30, Leslie McLeod, Irish tenor; 4:30-5, Stieger character players.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 6:30, Vincent Lopez hotel Statel dance orchestra, Harold Gieser, director; 8-11, jointly with WEAF, including Ross Gorman and his Earl Carroll Vanities orchestra, Gold Dust Twins, Eveready hour, Your hour, Vincent Lopez and his orchestra from the Casa Lopez, N. Y.

WGY, Schenectady, N. Y. (379.5), 2 p. m., music; "Home Hygiene and Care of the Sick," Anna McGee; 6:30, dinner program, Reed Hamaker's Hotel Van Curler orchestra; 7:30, "Philosophy's Contribution to America," Prof. Harold Larrabee; 7:45, violin recital, Stanley E. Grabowski; Mrs. S. Grabowski, accompanist; 8:15, organ recital, Elmer Tidmarsh; 9, WGY orchestra.

WHAR, Atlantic City, N. J. (275), 2 p. m., Seaside hotel trio; 7:30, book review, Mrs. James Lord; 8, Seaside hotel trio; 11:15, Strand theater recital.

WHN, New York, N. Y. (361.2), 12:30-1 p. m., Lexington organ recital; 2:15-3:15, Loew's State theater; 3:15-4:30, Lexington orchestra; 6:40-7, talk, Billy B. Van; 7-7:30, Iceland dance orchestra; 7:30-8:30, Will Oakland's Chateau Shanley; 11-12, Caravan club orchestra; 12-12:45, Club Kentucky revue and orchestra.

WIP, Philadelphia, Pa. (508.2), 10 a. m., menu, Mrs. Anna B. Scott; 1 p. m., organ recital; 3, Carolyn Schimminger, soprano; Elizabeth Gear, pianist; Babette Gerhab, contralto; Flora Ripka, pianist; 6:05, Pagoda cafe orchestra; 7, Uncle Wip's Roll Call; 8, Elliott Lester, dramatic critic of WIP; 8:15, Henry Such, violinist; Beatrice Such, pianist; 9, Shapp instrumental quartet; 10:05, Emo's weekly movie broadcast, Eli M. Orowitz; 10:30, Joe Ray and the California Night Hawks.

WJAR, Providence, R. I. (305.9), 1:05 p. m., Providence-Biltmore concert orchestra, Erwin White, director; 7:30, musical program, Florence Vanesse, director; 8, speaker, Providence Safety Council; 8:30, Gold Dust Twins; 9, Eveready hour.

WJR, Pontiac, Mich. (517), 7 p. m., Jean Goldkette's Petite Symphony orchestra; 9, Jean Goldkette's serenaders; soloists.

WKAR, E. Lansing, Mich. (285.5), 7:15 p. m., Radio school, lectures on marketing, agriculture, English, soils.

WLIT, Philadelphia, Pa. (395), 11 a. m., Stanley theater; 12:30, Arcadia cafe concert orchestra; 2, "Household Helps and Hints"; 4:30, talk, Republican Women of Pennsylvania; 7:30, Dream Daddy; 7:50, plays, reviewed, Allyn C. Saurer.

WMCA, New York, N. Y. (340.7), 6-6:30 p. m., Olcott Vail and Hotel McAlpin string ensemble; 6:30-7, Jack Wilbur's personalities; 8-9, Pace Institute program; 9-9:30, David Siegel, violinist; 9:30-10, Joyce Meredith, reader; 10:30-11, South American Troubadours; 11-12, Ernie Golden and his Hotel McAlpin orchestra.

WOR, Newark, N. J. (405.2), 3:15-4 p. m., Fred Koester's Clifford Lodge orchestra; 6:15-6:17, Bill Wathey, sport talk; 6-17-6:45, Man in moon stories; 6:45-7:30, Jacque Jacobs Hotel Shelton ensemble.

WPG, Atlantic City, N. J. (299.8), 1:30 p. m., music, Hotel Ambassador; 6:45, Arthur Scott Brook, organist; 7, Hotel Morton trio dinner music, J. Leonard Lewis, director; 8, Ethel Rattay Fowler's fashion flashes; 8:15, Cecile Steiner, violinist; Margaret Irwin, pianist; Ida Taylor Bolte, contralto; Alice Warren Sachse, pianist; 9, Chalfonte-Haddon Hall dual trio; 10, program to be announced; 11, Eddie McKnight's dance orchestra.

WTAG, Worcester, Mass. (268), 10:30 a. m., musical selections; 10:45, talk to mothers, Rosebelle Jacobus; 12:05-2 p. m., WTAG orchestra; 8-8:30, Ross Gorman and his Earl Carroll Vanities orchestra; 9-10, Eveready hour; 10-10:30, your hour; 10:30-11, Vincent Lopez and his orchestra.

WTIC, Hartford, Conn. (475.9), 11 a. m., Housewives' forum, J. M. Dean; 12:03 p. m., luncheon music; 6:30, Hub Restaurant trio; 7, Thomas McGill, baritone; 8, joint concert, Marchesi Ladies quartet; Colonial quartet; Travelers string quartet; 9:30, organ recital.

WWJ, Detroit, Mich. (352.7), 9:30 a. m., "Tonight's Dinner," woman's editor; 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra; 6, dinner concert; 8, concert, WEAF.

Central Time Stations

KFAB, Lincoln, Neb. (340.7), 5:30-6:30 p. m., concert, Monte Munn, Buick Little symphony, Belshaws; 8:50-10:30, musical, University of Nebraska.

KFDM, Beaumont, Texas (315.6), 12:25-12:55 p. m., concert, Magnolia Petroleum company's refinery band; 7-7:30, children's program; 8-10, Hudgen's Knight Hawks orchestra; South Park Junior college glee club.

KFEQ, Oak, Nebr. (268), 2-3 p. m., Kings Entertainers.

KFMQ, Fayetteville, Ark. (299.8), 8 p. m., classical music, D. C. Hansard, violinist; Glen Sherman, accompanist.

KFMX, Northfield, Minn. (337), 9:30-10 p. m., Frederick Locke Lawrence, pianist.

KFNF, Shenandoah, Iowa (266), 7 p. m., concert, Underwood, Iowa, Albert Bondo, director.

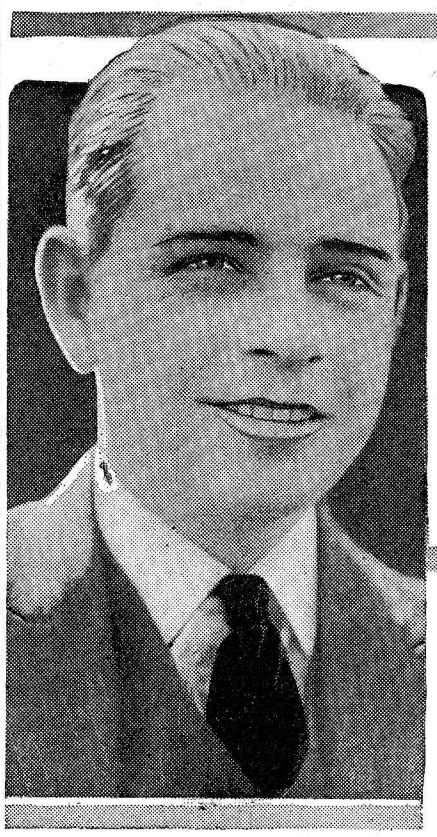
KFVE, University City, Mo. (240), 8:30 p. m., amusement review, Romaine Fielding; studio entertainers, piano selections.

KLDS, Independence, Mo. (440.9), 8 p. m., lecture course series, Dr. F. M. McDowell; 8:15, concert, Elizabeth Tanner Hitchcock, organist; Mildred Redfield Connoley, accompanist.

KMA, Shenandoah, Iowa (252), 11:30 a. m.-12:30 p. m., rural program; "Garden" Earl E. May; music; 6, May Flower trio; "Flowers," Lina Ferguson; 9, May's mandolin musicians; talk, G. H. Van Houten.

KSD, St. Louis, Mo. (545.1), 6:55 p. m., Good Will program, WEAF.

KSO, Clarinda, Iowa (241.8), 7-8:30 p. m., program, vocal, instrumental; 8:30-10, orchestra.



Although only five feet tall, Loyal Underwood, above, can sing his "Bull Fighter" song in a very convincing manner. He is known to the listeners of KNX, Hollywood, as Abel Applebutter.

The Atwater Kent hour this Sunday brings to the microphones of WEAF and chain Hulda Lashanska, American lyric soprano, and Vincente Ballester, baritone, of the Metropolitan Opera company. Tune in at 9:15 p. m., eastern time.

KTHS, Hot Springs National Park, Ark. (374.8), 9-9:20 p. m., accordion novelties, Joe Kuntz; 9:20-10:15, dance concert, New Arlington hotel orchestra, Lon Chassy, director, Clyde Foley singing.

KYW, Chicago, Ill. (536), 11:35 a. m., table talk, Mrs. Anna J. Peterson; 12:05 p. m., studio concert, Commonwealth Edison company; 1, luncheon concert, Congress hotel; 6-7, dinner music, KDKA; 7:05-7:35, bedtime story, Uncle Bob; 7:35-7:55, speeches, auspices American Farm Bureau federation; address, I. D. Goss; address, Wallace Rogers; 8-9, Congress hotel; 9-10, an hour of music; 10, evening at home; 1 a. m., Insomnia club.

WAMD, Minneapolis, Minn. (243.8), 12 noon, studio program; organ recital, Jack Malerick.

WBBM, Chicago, Ill. (226), 4-6 p. m., Sandy and Harry; Valentino Inn orchestra; Arnold Stephenson; Sidney Nierman, pianist; Harold Morava, lyric tenor; Russell Meyers; 8-9, Sandy and Harry; Moulin Rouge orchestra; Phil Flemming, tenor; Jean St. Anne, baritone; Christian A. Grimm, composer-pianist; Bob York, tenor; 9-10, vocal ensemble; Utilities Craftsmen Glee club; 10-12 midnight, Tip trio; Pete Kules; Four Red Peppers; Ziegler sisters; Moulin Rouge orchestra; Harry Brailsford; Vorris Worthley, tenor; Marie Morgott, harpist; Burmeister and Fiascone, Hawaiian guitars; George Marbach; Maurice Silverman; Dave Handler, violinist; Moulin Rouge orchestra; Nick Probst; Jack Walsh.

WBCN, Chicago, Ill. (266), 10-10:30 a. m., Penny Wise, the shopper's ready helper; 7-8, Ballatine Electric company classical hour; Robert Sansone, cellist; Gordon A. Nelson, tenor; Ann Kelley, soprano; Pearl Fairchild, pianist; 10-12, jazz jamboree, Midway orchestra; Borden Brothers, harmony duo; Ed Dempsey, tenor; Niese and Nehr, banjo bimbos; Drexel quartet, vocal group; Marie Wright, soprano; Finney Briggs, column conductor, "Crazy Quilt" column; Marquette banjo four, string quartet; Frank H. McDonald, Radio talk; 12-2 a. m., pirate ship.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 9:30 a. m., program for the day; 12 m., concert, Dick Long's Dayton trio; 2 p. m., "The World of Books," H. A. Bellows; 4, Readers' Club, Eleanor Poehler; 5:30, children's hour; 6:15, concert, Dick Long's Nankin Cafe orchestra; 7:30-8, Gold Dust Twins, WEAF; 8-9, Eveready Hour, WEAF; 9, musical, Minneapolis municipal chorus, Harry Anderson, director.

WDAF, Kansas City, Mo. (365.6), 3:30-4:30 p. m., The Star's string trio, 6-7, school of the air; address; piano lesson, Maudellen Littlefield; 11:45-1, nighthawk frolic; Plantation players; Earl Coleman's orchestra; Eddie Kuhn's orchestra; Johnnie Campbell's orchestra.

WDOD, Chattanooga, Tenn. (256), 9-9:30 p. m., bridge game.

WEBH, Chicago, Ill. (370.2), 7-8 p. m., Oriole orchestra; Lydia Lochner, contralto; 9-10, Oriole orchestra; Uptown theater; 11-1, Oriole orchestra; Jack Penewell, twin guitarist; Kay Ronayne.

WEBW, Beloit, Wis. (263), 8 p. m., concert hour; vocal selections; whistling solos; vocal duet; violin and organ numbers.

WFAA, Dallas, Texas (475.9), 12:30-1 p. m., Beaumont band, KFDM; 6:30-7:30, Don Bestor's orchestra; 8:30-9:30, Southern Methodist university school of music; bridge game; 11-12 midnight, the Foxtrotters, orchestra.

WGES, Oak Park, Ill. (250), 5-7 p. m., Lydia Werner, soprano; Miles Sullivan players, one-act playlet; Stenstrom sisters, vocal duo; Tiffin theater organ and orchestra; 8-9, Helen Frahm, soprano; Tiffin orchestra; 11-1 a. m., Serenaders orchestra; quartet; Remington Welch, organist; Sandy McTavish, Scotch comedian; Erwin Schmidt and his own song; Jack Goodwin, tenor.

WHAD, Milwaukee, Wis. (275), 4 p. m., musical selections; 6-6:15, Bill Bennings Milwaukee Athletic club orchestra.

WHAS, Louisville, Ky. (399.8), 4-5 p. m., musical, Harry S. Currie; 7:30-9, concert, Carl Zoeller's Melodists; Benson trio; thrift talk, Liberty Insurance bank.

DANCING

Central Time

Saturday, December 12: 8, Wjr, Wnyc, Wpg; 8:30, Wfaa; 8:35, Wgy; 9, Webh, Weei, Wmbb, Wnyc, Wreo; 9:10, Kths, Wip; 9:30, Kths, Wgbs, Wor, Wre; 10, Kfve, Kfwa, Koa, Kpo, Weaf, Wgn, Wjr, Wkre, Wmca, Wnyc, Wor, Wqj, Wreo, Wtam; 10:05, Weco; 10:30, Wamd; 10:45, Wls; 11, Kfpg, Kfwa, Kfwb, Kpo, Webh, Wfaa, Wgbu, Who, Woc; 11:30, Kfoa; 11:45, Wdaf; 12, Kfwa, Kgo, Kgw, Knx, Wgbu, Wjid.

Monday, December 14: 8, Wgcp; 9, Weei, Wgbu, Wjar, Wor; 9:15, Wahg; 10, Kths, Wgbu, Wgcp, Wgr, Wnyc, Wpg; 10:15, Wor; 10:30, Kfoa, Wgcp, Whn; 11, Kgw, Koil, Wgbu, Wgcp, Wgr, Whn, Who; 11:45, Wdaf; 12, Knx, Kpo.

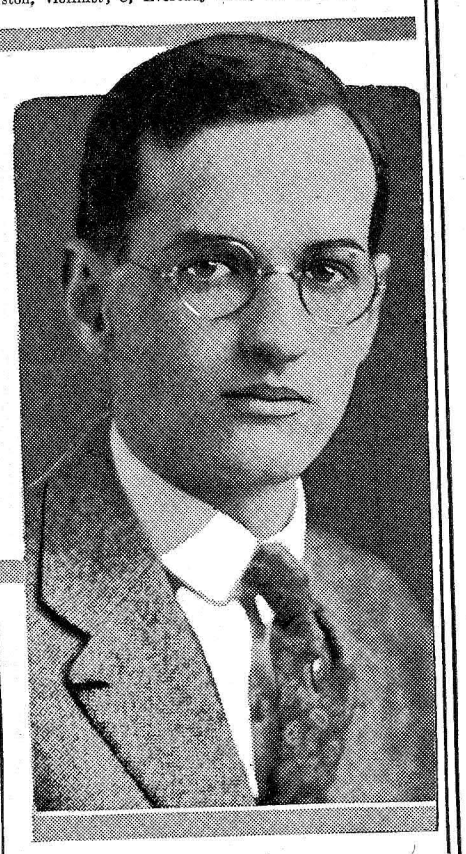
Tuesday, December 15: 9, Webh, Wgbu, Wmbb; 9:30, Wcau, Wgbs, Wgy, Wip; 9:35, Wnyc; 10, Kfve, Wbbm, Weaf, Webh, Wgbu Wgn, Whn, Wmca, Wnyc Wpg; 10:15, Kths; 10:30, Kths, Whn; 10:45, Wsb; 11, Kgw, Koil, Wgbu, Whn; 11:30, Kfoa; 11:45 Wdaf; 12, Kgw, Khj, Knx, Kpo, Wdaf; 1, Wqj.

Wednesday, December 16: 9, Wcx, Weau, Webh, Wgbu, Wgcp, Whn, Who, Wmbb, Wmca, Wtic; 9:15, Wahg; 9:30, Wbap, Who, Wor; 10, Kfve, Wbap, Weaf, Wgbu, Wgcp, Wqj; 10:05, Weco; 10:30, Wbap, Whn; 11, Koil, Kpo, Webh, Wgbu, Wgcp, Wgr, Whn; 11:45, Wdaf; 12, Kfwa, Knx, Kpo, Wjid.

Thursday, December 17: 8, Wjr; 9, Webh, Weei, Wgbu, Whn, Wjr, Wmbb, Wsai, Wtag; 9:05, Wbz, Wip; 9:30, Wgbs, Wgy, Whn; 9:35, Wnyc; 10, Kths, Wbbm, Weaf, Wgbu, Whn, Wmca, Wpg, Wqj; 10:30, Kths, Whn, Webh, Wgbu, Whn, Woc; 11:45, Wdaf; 12, Kgo, Khj, Knx, Kpo, Wjid.

Friday, December 18: Wwj; 9, Wcx, Webh, Weei, Wgbu, Wgcp, Wmbb; 9:15, Wahg, 9:30, Wcau, Whn; 10, Kfve, Kpo, Kths, Weaf, Wgbu, Wgcp, Whn, Wgr, Wjar, Wqj; 10:05, Weco; 10:30, Wgcp, Whn; 11, Kfwb, Knx, Kpo, Webh, Wgbu, Wgcp, Wgr, Whn, Who; 11:45, Wdaf; 12, Kfoa, Khj; 12:30, Wdaf.

INVITES FANS TO BIRTHDAY PARTY



Gold Dust Twins, WEAF; 8-9, Eveready hour, WEAF; 9-9:45, "Around the World with B. J. Palmer," travelogue; 9:45-10:45, musical program, Crescent orchestra.

WOK, Chicago, Ill. (217.3), 5-7 p. m., Gus C. Edwards' orchestra; organ, Capitol theater; Clement Laskowski, tenor; Bob Mokrejs, pianist; 10 p. m.-1:30 a. m., Gus C. Edwards' orchestra; Husk O'Hare's orchestra; Tierney's Town club orchestra; Capitol theater program; Bill Hay, bass; George Lallen, tenor; Harriet Lee, contralto; Herman Sinaiko, violin; Bob Mokrejs, pianist.

WOQ, Kansas City, Mo. (278), 8-9 p. m., Devotional musical program.

WORD, Batavia, Ill. (275), 8 p. m., Webster hotel concert trio; 8:15, studio recital, Cosmopolitan school of music; 9, bible questions and answers, B. M. Rice.

WQJ, Chicago, Ill. (447.5), 11-12 m., "Home Economics," Helen Harrington Downing; "How a Woman Can Retain a Youthful Appearance," Mrs. Lillian Russell; "Christmas Salads," Mrs. E. B. Ransom; 3-4 p. m., talk, Helen Harrington Downing; "Rainier National Park," Mrs. Harry T. Sanger; 7-8, concert, Ralph Williams' orchestra; Kenneth Sterling, baritone; the Fontella trio, Peggy Jewett, soprano; Bertha McGrath, soprano; Evelyn Hendricks, contralto; Lillian Melcher, accompanist; Lavina Price, pianist; 10-1 midnight, Ralph Williams and his Rainbo Skylarks; Saida A. Ballantine artists; Jerry Sullivan, soloist; Rose Vanderbosch, soprano and pianist; Hal Lansing, ukulele; Everett George Opie, dramatic director and character reader; Bert Davis, the clown of the air; Merrill Carder, baritone; Will Rossiter; Brundage and Kraemer; Ila Shannabrook, soprano; Hollingsworth and Altamore, guitar duo; Dave Kapp, Paul Kapp, Harry Eller, blues destroyers; Romo Vincent, boy baritone; other Radio artists to be announced; 1-2, Ralph Williams, the Ginger Man, and the Little Skylarks.

WSAI, Cincinnati, Ohio (326), 6:30 p. m., the Davis saxophone octet, N. Y. city; 7, Mabley and Carew orchestra, Reuben Lawson, director; Waldene Johnston, violinist; 8, Eveready hour, N. Y. City; 9-9:30, Radio auction bridge, 9:30, music, WSAI; Austin Brothers; Hawaiian guitarists.

WSB, Atlanta, Ga. (428.3), 8 p. m., concert; 10:45, Metropolitan theater artists.

WSOE, Milwaukee, Wis. (246), 5:30 p. m., S. O. S. club Cousin Howard; Elmer Ihrke, pianist; 7:30, musical musings, Miss Mercury; 8:45, philm phancies, Peggy Patton; 9, classical music, Citadel band, Salvation army.

History, literature or fiction, whatever your interests, the book chats of WGY, Schenectady, are always well worth listening to. L. L. Hopkins, above, gives these on Thursdays.

Mountain Time Stations

CFAC, Calgary, Can. (435.8), 8:15-9:15 p. m., concert, Haydn male quartet, ladies trio.

CNRR, Regina, Can. (476), 8 p. m., studio program, Ted Franklin, baritone; Vera Geddes, violinist.

KFWA, Ogden, Utah (261), 5-6 p. m., Ogden Radio Dealers program.

KFXF, Colorado Springs, Colo. (250), 8:30-10 p. m., musical program, Freeman Dust Absorber.

KOA, Denver, Colo. (322.4), 12:15 p. m., musicale, Rialto theater; 3:15, exercises; 3:30, matinee for housewives; 4, culinary hints; 4:15, fashion review; 6:30, concert, Brown Palace string orchestra, Howard Tillotson, director; 7:30, News-Times concert.

Pacific Time Stations

CNRV, Vancouver, Can. (291), 7:30 p. m., Aunt Ruby; 8:30, studio program, Mrs. Howie Brydon, Mrs. Louis Rambert, Mrs. Dora Brand, Mrs. James Hillcoat; 10:30, Cabaret Belmont orchestra; Bebe Mullar, soprano.

KFWB, Hollywood, Calif. (252), 5-6 p. m., children's hour, Big Brother of KFWB; 7, talk on health, Dr. W. I. Schuster; 7:15, microphone brevities; 7:30-8, program, Elmer R. Sly company 8-9, program, Paralta Photographic studios; Drove Norton Lindsay, tenor, Paralta String trio; 9-10, program, H. L. Crockett company, Elite trio, Louise Sullivan, soprano, Way Watts and his ukulele; 10-11, Warner Brothers frolic, direction Charlie Wellman; 11-12, Hollywood Roof ballroom dance orchestra.

KGO, Oakland, Calif. (361.2), 7:15-7:30 a. m., health training exercises, Hugh Barrett Dobbs; 7:45, Pep class; 8:15-8:30, exercises; 11:30-1 p. m., luncheon concert; 4-5:30, concert orchestra, Hotel St. Francis, Vinton LaFerrera, conductor; 5:30, "As a Woman Thinketh," Louise Landis; 6-7, dinner concert, Baldwin Piano company; Knickerbocker trio; 8, National Carbon company program; Antonio deGrassi, violinist; Bessie H. Woods, accompanist; Fanny Bailey Scott, soprano; Meritanna Towler Denny, pianist; George Garland, saxophonist; Albert Gillette, baritone; 9:30, Auction bridge feature; 10-11, Hotel St. Francis dance music.

KHJ, Los Angeles, Calif. (405.2), 6-6:30 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6:30-7:30, history story, Prof. Hertzog; weekly visit of Queen Titania and Sandman from Fairyland; Louis F. Klein, auto-hard and harmonica soloist; Charles Leslie Hill, reader, Lenore Killian, contralto; 7:30, talk on dogs, H. M. Robertson; 8-10, program, Cochran Bros. company; 10-11, Don Clark's Biltmore hotel dance orchestra.

KMTR, Hollywood, Calif. (238), 5-6 p. m., home hour with Mammy Simmons, Billy Lord and Margaret Bond; 7:30, "Diamond Mines of Central Africa," E. P. Barclay; 8-10, KMTR concert orchestra, direction Loren Powell.

KNX, Hollywood, Calif. (336.9), 5-5:30 p. m., Sunny Jim's talk to children; 5:30-6:15, Wurlitzer pipe organ studio; Town Tattler; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent concert orchestra; 7-7:45, program, Roy L. Donley company; 7:45, talk on health, Dr. Robt. T. Williams; 8-9, program, Zinke's Re-Bottoming Shoe company; 9-9:30, program, Cavalier Shoe stores; 9:30-10, studio program; 10-12, movie night at the Ambassador, Ray West's Cocoanut Grove dance orchestra.

KPO, San Francisco, Calif. (428.3), 7, 7:30, 8 a. m., daily dozen exercises; 10, "Domestic Science," Virginia Tappan; 1-2 p. m., Rudy Seiger's Fairmont hotel orchestra; 2:30-3:30, special matinee program; 3:30-4:30, Cyrus Trobee's Palace Hotel concert orchestra; 5:30-6:15, children's hour stories, Big Brother; 6:40, Waldemar Lind and the States Restaurant orchestra; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 8-9, minstrel show feature; 9-10, Mona Motor Oil trio; Gypsy and Marta, close harmony team; 10-11, Jack Coakley's Cabirians.

KTAB, Oakland, Calif. (240), 9-9:30 a. m., prayer service, Rev. Geo. W. Phillips; 8-10 p. m., program, Mutual stores.

KTCL, Seattle, Wash. (305.9), 9:45-10 a. m., Fraser-Paterson department store; 12:30-1:30, Meves' cafeteria, Henri Damski's concert orchestra; 8-9, International Bible Students' association.

DANCING

Central Time

Saturday, December 12: 8, Wjr, Wnyc, Wpg; 8:30, Wfaa; 8:35, Wgy; 9, Webh, Weei, Wmbb, Wnyc, Wreo; 9:10, Kths, Wip; 9:30, Kths, Wgbs, Wor, Wrc; 10, Kfve, Kfwa, Koa, Kpo, Weaf, Wgn, Wjr, Wkrc, Wmca, Wnyc, Wor, Wqj, Wreo, Wtam; 10:05, Wcco; 10:30, Wamd; 10:45, Wls; 11, Kfpg, Kfwa, Kfwb, Kpo, Webh, Wfaa, Wgbu, Who, Woc; 11:30, Kfoa; 11:45, Wdaf; 12, Kfwa, Kgo, Kgw, Knx, Wgbu, Wjid.

Monday, December 14: 8, Wgcp; 9, Weei, Wgbu, Wjar, Wor; 9:15, Wahg; 10, Kths, Wgbu, Wgcp, Wgr, Wnyc, Wpg; 10:15, Wor; 10:30, Kfoa, Wgcp, Whn; 11, Kgw, Koil, Wgbu, Wgcp, Wgr, Whn, Who; 11:45, Wdaf; 12, Knx, Kpo.

Tuesday, December 15: 9, Webh, Wgbu, Wmbb; 9:30, Wcau, Wgbs, Wgy, Wip; 9:35, Wnyc; 10, Kfve, Wbbm, Weaf, Webh, Wgbu, Wgn, Whn, Wmca, Wnyc, Wpg; 10:15, Kths; 10:30, Kths, Whn; 10:45, Wsb; 11, Kgw, Koil, Wgbu, Whn; 11:30, Kfoa; 11:45, Wdaf; 12, Kgw, Khj, Knx, Kpo, Wdaf; 1, Wqj.

Wednesday, December 16: 9, Wcx, Weau, Webh, Wgbu, Wgcp, Whn, Who, Wmbb, Wmca, Wtic; 9:15, Wahg; 9:30, Wbap, Who, Wor; 10, Kfve, Wbap, Weaf, Wgbu, Wgcp, Wqj; 10:05, Wcco; 10:30, Wbap, Whn; 11, Koil, Kpo, Webh, Wgbu, Wgcp, Wgr, Whn; 11:45, Wdaf; 12, Kfwa, Knx, Kpo, Wjid.

Thursday, December 17: 8, Wjr; 9, Webh, Weei, Wgbu, Whn, Wjr, Wmbb, Wsai, Wtag; 9:05, Wbz, Wip; 9:30, Wgbs, Wgy, Whn; 9:35, Wnyc; 10, Kths, Wbbm, Weaf, Wgbu, Whn, Wmca, Wpg, Wqj; 10:30, Kths, Whn, Webh, Wgbu, Whn, Woc; 11:45, Wdaf; 12, Kgo, Khj, Knx, Kpo, Wjid.

Friday, December 18: Wwj; 9, Wcx, Webh, Weei, Wgbu, Wgcp, Wmbb; 9:15, Wahg, 9:30, Wcau, Whn; 10, Kfve, Kpo, Kths, Weaf, Wgbu, Wgcp, Whn, Wgr, Wjar, Wqj; 10:05, Wcco; 10:30, Wgcp, Whn; 11, Kfwb, Knx, Kpo, Webh, Wgbu, Wgcp, Wgr, Whn, Who; 11:45, Wdaf; 12, Kfoa, Khj; 12:30, Wdaf.

WHO, Des Moines, Iowa (526), 7:30-8 p. m., Raleigh quintet; 8-9, Bankers Life trio. Helen Birmingham, director; 11-12, Bankers Life Little symphonic orchestra.

WHT, Chicago, Ill. (399.8), 10 a. m., Jean Sargent's program, woman's club; Borden health talk, Jelke Good Luck Girl; studio music; 11, special studio features, Magnus musical lecture; 12 p. m., Al Carney's complimentary organ recital; 1, special studio program; 6, classical program; dinner organ recital; Grayling's string trio; Eleanor Gilmour, soprano; Oscar Heather, tenor; Loftis half hour of music; Alois Bragagnolo, basso; 7:45-9:15, (238), musical features; 9:30 (399.8), Jelke's entertainers; Kitchen Klenzer Klassics; Kenneth Clark's Hawaiian trio; Al Carney, organist; Husk O'Hare's orchestra; 10:10, U. S. L., half hour dance music.

WIBO, Chicago, Ill. (226), 2-4 p. m., shut-in program; Jack Sprat and the Carl Sulzer orchestra; Ted Fiorito, pianist; Victor Young and Dan Russo, violinists; Vernon Hayes, saxophonist; "Home Economics," Grace Viall Gray; 6-8, Walter Preston, old-fashioned songs, Chester Newman, baritone; Ruth Buhl Flick, reader; Eugene Wallenius, tenor; Lillian Jacobson, pianist; Florence Osterman, contralto; 12, midnight jamboree; Dan Russo, Ted Fiorito, Bob Northrop, John Segil, Floyd Revoir, Erwin Schmidt, Dixie Harris Bennet.

WJJD, Mooseheart, Ill. (302.8), 10 p. m., Rushmore ensemble singers; 12 midnight; Lee sisters; George Sparks; rebroadcasting; Bill Tracy; Sonny Duncan; Nonda Slusser.

WKRC, Cincinnati, Ohio (422.3), 10 p. m., dance program, Eight Dutch Masters, Mel Doherty, director; 10:30, popular songs; 11, Alvin Roehr's orchestra.

WLS, Chicago, Ill. (344.6), 12 m., Ford and Glenn; 6:15, announcements; 6:30, Ralph Emerson, organist; 7, lullaby time, Ford and Glenn; 7:20, W. L. S. trio.

WLW, Cincinnati, Ohio (422.3), 7:30 a. m., healthful exercises, William Stradtman, Y. M. C. A.; 7:45, morning devotions, auspices of Parkway Y. M. C. A.; 12 m., organ concert, Petronella Trimbur; 12:30 p. m., concert, Robert Visconti Hotel Gibson orchestra; 4:30, talk, Rev. Ralph Schmidt, Ft. Thomas, Ky.; 4:15, French lesson, Madame Ida Teimpidis; 6, Santa Claus and his helpers; 6:40, Art Gillham, the whispering pianist; 7, accordion duets, Hedlund and Hedlund; 7:15, special program, Carl Wunderle and Ilse Huebner; 7:30, accordion duets; 7:40, Carl Wunderle trio; 7:50, talk on dogs "Food and Water," F. W. Avery, Wanseon, 8:00, Crosley Burnt Corkers, Musicone male quartet; 8:45, Crosley Hello Boys, Bob Groenke and Jim Mischler; 9, concert program, auspices of the Formica Insulation company, the Formica concert orchestra, William C. Stoess, director.

WMAQ, Chicago, Ill. (447.5), 12:45, Radio farm school; 2, shut-in program; 4, Red Cross home nursing talk; 4:45, pupils of Maurice Rosenfeld; 6, Chicago theater organ recital; 6:30, Hotel LaSalle orchestra; 8, Columbia School concert, Orchestra Hall; 9, lecture, University of Chicago; 9:20, program, Orchestra Hall.

WMBB, Chicago, Ill. (250), 7-8 p. m., Trianon duo, Beatrice Teller, Bob Bennett, Bob Duffy, Pat McGuire, Marie Wright; 9-11, Trianon orchestra, Woodlawn theater orchestra; Scotty Welsh, Madison sisters, Babbe and Barr, Bob Duffy.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., Hugh Sandidge; 9, bridge game; 11, Britlings orchestra.

WOAI, San Antonio, Texas (394.5), 8:30-9:30 p. m., musical program, Gebhart Mexican players.

WOAW, Omaha, Nebr. (526), 12:45 p. m., Brandeis Tea Room orchestra; 6, Sandman's visit, Val McLaughlin; 6:20, classical program; 6:45, Ed Meyers and his Peony Park orchestra; 9, classical program; 9:45, Francis Potter's Banjo orchestra; 10:30, Herb Feierman and his Omadala orchestra; 12, Rialto Alarm, Pete and Repete announcing.

WOC, Davenport, Iowa (483.6), 12:15-12:25 p. m., Farm school; "Poultry Day—The Egg Producing Breeds of Chickens;" 3-3:30, Aunt Jane's home management schedule; 5:45-6, chimes concert; 6:30-6:50, Sandman's bedtime stories; 7-7:10, farm talk, "Handling of Worm Problems in Pigs," R. E. Patrick; 7:30-8, Radio auction bridge, 9:30, music, WSAI; Austin Brothers; Hawaiian guitarists.

Index to Farmers' Programs

Farmer Dinner Concerts

Daily Except Sunday

KFNF, 12:15-1:35 (central time).
WLS, 12 (central time).

Radio Farm School

WMAQ, 12:45 (central time); 12:10 on Friday.
WOC, 12:15-12:25 (central time).

Talks

SATURDAY, DECEMBER 12

Eastern	Central	Mountain	Pacific	
11:30 a. m.	10:30 a. m.	9:30 a. m.	8:30 a. m.	KYW (536) Farm and home service.
1:45 p. m.	12:45 p. m.	11:45	10:45	WOI (270) soils, questions and answers.

MONDAY, DECEMBER 14

Eastern	Central	Mountain	Pacific	
1:15 p. m.	12:15 p. m.	11:15 a. m.	10:15 a. m.	WEAO (293.9) Timely Economic Information for the Farmer.
				WOC (428.3) Hog Day—Iodine Feeding Is Good Insurance.
1:45	12:45	11:45	10:45	WOI (270) Farm topic.
7	6	5 p. m.	4 p. m.	WGY (379.5) Agricultural program.
7:45	6:45	5:45	4:45	KFMQ (299.8) Farmers' night. WSOE (246) Hog Raising.
8:45	7:45	6:45	5:45	WCCO (416.4) Swine Raising, lesson II.
9:30	8:30	7:30	6:30	KOB (348.6) Farm accounting.
11:10	10:10	9:10	8:10	KFDJ (282.5) Farm reminders. Bordeaux Paint to Prevent Heart Rot.
11:45	10:45	9:45	8:45	KFDJ (282.5) Pollination of Sweet Cherries and Grafting in Pollenizers. Orchard Soils.

TUESDAY, DECEMBER 15

Eastern	Central	Mountain	Pacific	
1:15 p. m.	12:15 p. m.	11:15 a. m.	10:15 a. m.	WOC (428.3) Poultry Day. The Egg Producing Breeds of Chickens.
1:45	12:45	11:45	10:45	WOI (270) Animal husbandry.
7:15	6:15	5:15 p. m.	4:15 p. m.	WKAR (285.5) Agriculture, engineering, soils.
8	7	6	5	WOC (428.3) Handling of the Worm Problem in Pigs.
9	8	7	6	WEAO (293.9), "The Places for Potash."

WEDNESDAY, DECEMBER 16

Eastern	Central	Mountain	Pacific	
1:15 p. m.	12:15 p. m.	11:15 a. m.	10:15 a. m.	WOC (428.3) Dairy Day. A Radio Dairy Cow Selection.
1:45	12:45	11:45	10:45	WOI (270) Poultry husbandry.
8:30	7:30	6:30	5:30	WLW (422.3) National Farm Council talk.

THURSDAY, DECEMBER 17

Eastern	Central	Mountain	Pacific	
1:15 p. m.	12:15 p. m.	11:15 a. m.	10:15 a. m.	WOC (483.6) Legume Day. Red Clover Seed—Good Seed Essential.
1:45	12:45	11:45	10:45	WOI (270) Farm crops.
7:15	6:15	5:15 p. m.	4:15 p. m.	WKAR (285.5) Agriculture, engineering and soils.
8	7	6	5	WEAO (293.9) Farm topic, Growing Need for Complete Fertilizers.
8:30	7:30	6:30	5:30	WOI (270) Dairyman's short course.
9	8	7	6	WEAO (293.9) Soils.
9:30	8:30	7:30	6:30	KOA (322.4) Farm question box.

FRIDAY, DECEMBER 18

Eastern	Central	Mountain	Pacific	
1:15 p. m.	12:15 p. m.	11:15 a. m.	10:15 a. m.	WOC (428.3) Special farm service day.
1:45	12:45	11:45	10:45	WOI (270) Agricultural Economics.
8:45	7:45	6:45	5:45	WCCO (416.4) Bee Keeping, lesson III.
11:30	10:30	9:30	8:30	KWSC (348.6) Reducing Disease and Increasing Yield in Eastern Washington, Potato Field.

Markets and Weather

Daily Except Sunday

Eastern	Central	Mountain	Pacific	
9:30 a. m.	8:30 a. m.	7:30 a. m.	6:30 a. m.	WFAA (475.9) markets. WOAW (526) markets.
9:45	8:45	7:45	6:45	KDKA (309.1) livestock, grain.
10	9	8 p. m.	7 p. m.	WLS (345) livestock, markets, fruit. WOS (440.9) hogs.
10:25	9:25	8:25	7:25	WWJ (352.7) weather.
10:30	9:30	8:30	7:30	KFKX (288.3) livestock, fruit, vegetables, hogs. KPRC (296.9) weather. KTCL (305.9) weather, sheep, quotations. WFAA (475.9) markets. WOI (270) Weather.
10:45	9:45	8:45	7:45	WCCO (475.9) markets. WMC (499.7) weather, markets.
11	10	9	8	WBAP (475.9) markets, quotations. WEAR (389.4) weather. WOS (440.9) weather, hogs.
11:15	10:15	9:15	8:15	WTAG (268) markets, weather.
11:30	10:30	9:30	8:30	KFKX (288.3) weather, fruit, vegetables. WCCO (416.4) markets. WEAR (389.4) markets, weather.
12 noon	11 a. m.	10 a. m.	9 a. m.	KDKA (309.1) weather, livestock, grain. KPRC (286.9) weather. WBAP (475.9) weather, cattle, grain. WEAR (389.4) markets, weather. WGBU (278) weather. WHAD (275) weather, markets. WLS (345) poultry, dairy, hogs, sheep. WOS (440.9) livestock, poultry, eggs, grain.
12:30 p. m.	11:30 a. m.	10:30 a. m.	9:30 a. m.	KFKX (288.3) livestock, fruit, vegetables, dairy. WCAE (461.3) weather. WEAR (384.4) markets, weather. WFAA (475.9) markets.
1 p. m.	12 noon	11 a. m.	10 a. m.	WBAP (475.9) markets. WHT (400) fruit, weather. WOS (440.9) livestock, weather.
1:30 p. m.	12:30 p. m.	11:30 a. m.	10:30 a. m.	KTHS (374.8) markets, weather. WFAA (475.9) markets. WOAW (526) markets. WOI (270) Weather, livestock.
1:35 p. m.	12:35 p. m.	11:35 a. m.	10:35 a. m.	KPO (428.3) butter, eggs, cheese, poultry.
1:45 p. m.	12:45 p. m.	11:45 a. m.	10:45 a. m.	KOA (322.4) weather, roads, livestock, poultry.
2 p. m.	1 p. m.	12 noon	11 a. m.	WOC (484) weather, grain, livestock, dairy. WOS (440.9) grain.
2:30 p. m.	1:30 p. m.	12:30 p. m.	11:30 a. m.	WCCO (416.4) markets, weather. WFAA (475.9) markets.
3 p. m.	2 p. m.	1 p. m.	12 noon	WLS (345) livestock, grain, dairy, fruit, vegetables. WOS (440.9) livestock, markets, grain.
3:30	2:30	1:30	12:30	KPO (428.3) weather. WFAA (475.9 markets. WMC (499.7) markets, weather.
3:50	2:50	1:50	12:50	WWJ (352.7) weather, markets.
4	3	2	1	KFKX (288.3) livestock, wool. WCCO (416.4) markets. WCX (517) stock and grain.
4:30	3:30	2:30	1:30	WEAR (389.4) markets, weather. WFAA (475.9) markets.
5:50	4:50	3:50	2:50	WDAF (365.6) markets, weather, road reports. WHAS (399.8) markets.
6	5	4	3	KFAU (278) markets, weather. WIP (508.2) weather.
6:30	5:30	4:30	3:30	KSAC (340.7) markets.
6:45	5:45	4:45	3:45	WIP (508.2) livestock, markets.
6:50	5:50	4:50	3:50	WHAD (275) markets.
7:15	6:15	5:15	4:15	KTCL (305.9) weather.
7:30	6:30	5:30	4:30	KSAC (340.7) market review.
7:45	6:45	5:45	4:45	KFWA (261) market reports.
8	7	6	5	KFKX (288.3) markets. KOA (322.4) sheep, markets, livestock, poultry.
9	8	7	6	KJR (384.4) weather.
10	9	8	7	WOC (384) weather.
11	10	9	8	WCCO (416.4) weather, grain.

Wednesday, December 16

Headliners Today

Eastern	Central	Mountain	Pacific	
8 p. m.	7 p. m.	6 p. m.	5 p. m.	KSD (545.1) Irish songs.
8:10	7:10	6:10	5:10	WCAU (277.6) Dad Bailey and his family.
8:30	7:30	6:30	5:30	WHAS (399.8) Kentucky Night Owls.
9	8	7	6	WOS (440.9) Old Time Fiddlers.
9:30	8:30	7:30	6:30	WBZ (333.1) Tyrolean Ladies quartet.
10	9	8	7	KOA (332.4) KOA's First Anniversary program. KTHS (374.8) Melodies of the Southland.
11:30	10:30	9:30	8:30	KOA (322.4) "The Open Door," play.
12 m.	11	10	9	KFWB (252) Hoot Owl Harbolt.
1 a. m.	12 m.	11	10	KNX (336.9) Ruth Roland, screen star. WOAW (526) Rialto Alarm.

Wednesday, silent night for: CHIC, CKNC, CNRA, CNRC, CNRE, CNRM, CNRR, CNRT, CNRV, KFAU, KFDM, KFXF, KLDS, KOB, KTAB, KTCL, KUOM, WBBR, WCAL, WCBD, WEBW, WFAA, WGBS,

(Continued on page 18)

"THE DELINQUENTS" DRAMA AT KGO

Wednesday, December 16

(Continued from page 17)

WGST, WHAR, WHAZ, WIP, WJAD, WJAZ, WJBL, WLWL, WMC, WOAI, WOAW, WOI, WORD, WPG, WRC, WREO.

Eastern Time Stations

CNRO, Ottawa, Can. (435), 7 p. m., Aunt Bessie; 8, Chauteau Laurier dinner concert; 9, Charles Marchand, vocalist; Ernest Patience, pianist; Chauteau Laurier dance orchestra.

WAFD, Port Huron, Mich. (275), 10-12 p. m., musical program, Addison hotel.

WAHG, New York, N. Y. (315.6), 12-1 p. m., musical program; 7:30-7:45, Meta Christensen, contralto; 7:45-8, Michael Lamberti, cellist; 8-8:15, Meta Christensen, contralto; 8:15-8:45, Banjo Eddie; 8:45-9, Michael Lamberti, cellist; 9-9:15, Radio Santa Claus; 9:15-9:30, Mabel Besthoff, soprano; 9:30-9:45, Raymond Maher, baritone; 9:45-9:55, Mabel Besthoff, pianist; 10-10:30, studio program; 10:30-11:30, dance orchestra.

WBZ, Springfield, Mass. (333.1), 6:30 p. m., Little symphony orchestra; 7:30, Radio Nature league, "An Arctic Spring," Thornton W. Burgess, director; 8, piano recital, Junior H. Pease; 8:15, Apollo quartet; 9, Jane Hanson, violinist; Helen Hegel, cellist; Lucy Wilcox, pianist; 9:30, Tyrolean ladies quartet, Mabell Hubbard Cross, director.

WCAE, Pittsburgh, Pa. (461.3), 10:45 a. m., Gold Medal talk; 12:30, program for day; 3, program, Loew's Aldine theater; 6:30, concert, William Penn hotel; 7:30, children's period, Santa Claus; 8:30, Pooley period, N. Y.; 9, concert.

WCAU, Philadelphia, Pa. (277.6), 6:45 p. m., Parodians; 8, health talk; 8:10, Dad Bailey and his family; 9, program; 9:30, Jones' Jolly four; 10, Hall Chase's Collegians; 10:45, old-time songs, Frank Cook.

WCX, Detroit, Mich. (517), 6 p. m., dinner concert, Book-Cadillac hotel; 8, studio concert.

WEAF, New York, N. Y. (491.5), 6:45-7:20 a. m., Tower health exercises; 10:45-11:05, Betty Crocker Gold Medal Flour Home service talk; 11:05-11:15, talk, Dr. Pratt; 11:15-11:30, Lecture, Columbia university, Teachers college; 4-4:15, Frances Gabrielle, soprano, accompanist, Winifred T. Barr; 4:15-4:30, Alfred Losinskey, blind pianist; 4:30-4:45, Vincent St. John, tenor; accompanist, Winifred T. Barr; 4:45-5, talk, Wm. J. Rapp; 6-7, Hotel Waldorf-Astoria dinner concert; 7-7:30, Synagogue services; 7:30-8, concert, U. S. Army band, direction Capt. Wm. J. Stannard; 8-8:30, Huyler's Bon Bon Buddies; 8:30-9, Pooley concert; 9-10, Ipana Troubadours; 10-11, musical program, S. L. Rothafel, Roxy and his gang; 11-12, Ben Bernie and his Hotel Roosevelt orchestra.

WEAO, Columbus, Ohio (293.9), 4:10 p. m., story hour for shut-ins, Prof. Sada Annis Harbarger; 8, American speech, Prof. C. M. McKnight; 8:15, Ohio State university girls' quartet; 8:30, "Elementary Radio," R. C. Higgy; 9, May Furniture company girls' orchestra.

WEBJ, New York, N. Y. (272.6), 7-8:45 p. m., Red & Gray Melody boys; 8:45-9, Jeanne A'Dair, singing composer; 9-9:30, Knickerbocker Grill orchestra; 9:30-10, Roth trio.

WEEI, Boston, Mass. (348.6), 6:45 a. m., health exercises; 6:45, Big Brother club; 7:45, Santa Claus; 8, Huyler's Bon Bon Buddies; 8:30, Earl Nelson and his uke; 9, Ipana Troubadours, WEAF; 10, Roxy and his Gang, WEAF.

WFI, Philadelphia, Pa. (395), 10:30 a. m., solos; 10:40, home service talk, Betty Crocker; 1, Strawbridge and Clothier Tea room ensemble, direction of Harold Micklin; 3, Miss Craig, contralto, Edna Haight, pianist; Beatrice Maccabe Reacer, Loretta Kerk, pianists; 3:45, Eleanor Gunn fashion feature; 6:30, Bellevue Stratford hotel concert orchestra; 7, Bellevue Stratford hotel dance orchestra.

WGBS, New York, N. Y. (315.6), 6-6:30 p. m., Uncle Geebee; 6:30-7, Jersey Collegians' orchestra; 7-7:10, Norbert Lush, talk; 7:10-8, Jersey Collegians' orchestra.

WGCP, New York, N. Y. (252), 1:30 p. m., Mirror race results half hourly; 3-3:15, Henry Rogers, pianist; 3:15-3:30, Bobby Grey, songs; 3:30-3:45; Frances O'Connor, ukulele; 3:45-4, Rose Balglan, pianist; 4-4:15, dental talk, Dr. J. D. Schwarz; 4:15-4:30; Haires Good News party; 4:30-4:45, Jeanne A'Dair, composer; 4:45-5, Charlotte Frystamnn, pianist; 6-6:15, Littmann's orchestra; 6:15-6:30, Daddy Dingle and his Jingle machine; 6:30-7, Littmann's orchestra; 7-7:30, Kennedy Harmony group; 7:30-8, Stieger character players; 8-8:30, orchestra; 8:30-8:45, Charol de Thomee, concert pianist; 8:45-9, Osborne & Meredith, songs; 9-9:15, Constantino Ramos, saxophonist; 9:15-9:30, Hock and Jerome, songs; 9:30-10, orchestra; 10-10:15, Win Unger, songs; 10:15-10:30, O'Brien Brothers, Hawaiian guitarists; 10:30-11, orchestra; 11-11:30, Connie's orchestra; 11:30-12, Stricklands orchestra; 12-1 a. m., Richman entertainers.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 6:30, Gospel Melodists; 8:30-9, program, Jewish Community building; 9, jointly with WEAF, Ipana troubadours; 10, vocal, violin, and piano program directed by Rev. John M. Borton; 11, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

WGY, Schenectady, N. Y. (379.5), 6:30 p. m., program for children; 6:45, dinner music; 7:30, Book of Knowledge program.

WHN, New York, N. Y. (361.2), 6-6:15 p. m., Daddy Dingle and his Jingle box; 6:15-7, Littmann's dinner music; 7-8, Ted Lewis and his orchestra; 10-10:30, Roseland dance orchestra; 11-11:30, Silver Slipper orchestra; 11:30-12, Melody club orchestra; 12-12:30, Cotton Club orchestra; 12:30-1 a. m., Harry Richman and his Club Richman entertainers.

WIP, Philadelphia, Pa. (508.2), 6:45 a. m., exercises; 1 p. m., Gimbel tea room orchestra; 3, Shapp instrumental quartet; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime story; Marie Bauer, pianist.

WJAR, Providence, R. I. (305.9), 10 a. m., Housewives Radio exchange; Mrs. Wood; 1:05, studio program; 7:30, U. S. Army band; 9, musical program; 10, Roxy and his gang.

WJR, Pontiac, Mich., (517), 7 p. m., Jean Goldkette's symphony orchestra; soloists; 7:45, Goodwill Oakland, presented by the Richards Oakland company; 9, Jean Goldkette's serenaders; soloists; 11:30, The Merry Old Chief with The Jewett Jesters.

WKAR, E. Lansing, Mich. (285.5), 7:15 p. m., Radio school, lectures on Zoology, entomology, forestry; 8, musical program.

WLIT, Philadelphia, Pa. (395), 12 m., organ recital; 12:30 p. m., Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 4:30, talk, White-Williams foundation; 7:30, Dream Daddy; 8, Melrose concert company recital; 9, Philadelphia Rapid Transit night; 10, Arcadia cafe dance orchestra.

WMCA, New York, N. Y. (340.7), 6-6:30 p. m., Olcott Vail and his Hotel McAlpin string ensemble; 6:30-7:30, Ernie Golden and his Hotel McAlpin orchestra; 7:30-8, Professor Cortina's Spanish lesson; 8-8:15, standard statistics; 8:15-9:15, George Walton King's Northminster services; 9:15-9:30, Jose Bohr, Songwriter and dancer; 9:30-10, Audubon theater program; 10-11, W. Curtis Nicholson, talk; 11-11:30, Hofbrau Haus entertainers; 11:30-12, Jack Smith, baritone.

WOR, Newark, N. J. (405.2), 6:15-6:17 p. m., words often mispronounced; 6:17-6:30, Bill Wathey, sport talk; 6:30-7, Hotel Shelton ensemble; 8-8:15, Spencer Armstrong, talk; 9-9:15, Sam Siegel, mandolinist; 9:15-9:30, lecture, Dr. Vizetelly; 9:30-9:45, Sam Siegel, mandolinist; 11-12, Vincent Lopez Pennsylvania orchestra.

WPG, Atlantic City, N. J., (299.8), 1:30 p. m., music, Hotel Morton, J. Leonard Lewis, director; 4:30, Chalfonte-Haddon Hall afternoon tea music; 6:30, "Billy" Rocap, sporting events; 6:45, Arthur Scott Brook, organist; 7, Hotel Ambassador dinner music; 8, "World Wonder Excursions," Alfred James P. McClure, D.D.; 8:15, concert, Richmond's Little symphony; 11, dance orchestra.

WTAG, Worcester, Mass. (268), 10:45 a. m., food talk, Mrs. Lydia Flanders; 12:05-2, WTAG orchestra; 4:45, interesting talk, Robert K. Shaw; 7:40, Spanish lesson, Mrs. John De la Parra; 8-10, concert program; 10-11, Roxy and his gang.

WTIC, Hartford, Conn. (475.9), 6:30 p. m., Hotel Bond trio, vocalists; 10, Emil Heimberger's Hotel Bond orchestra.

WWJ, Detroit, Mich. (352.7), 7:30-8 a. m., exercises, R. J. Horton; 9:30, "Tonight's Dinner," woman's editor; 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra; 6, dinner concert; 8, News orchestra and soloists; 9, dance program.

Central Time Stations

CNRW, Winnipeg, Can. (384.4), 7:30, Aunt Aimee; and vocalist; Joe O'Sullivan, pianist; Jack Seeley; Lew Russell; Sue Olmstead; Nate Caldwell; Charlie Garland; Two Jays, Jeske and Jordan; Harold Anderson, accordionist; Moulin Rouge orchestra; Spencer, Lavergne and Shayne, xylophone trio.

WBCN, Chicago, Ill. (266), 10-10:30 a. m., Penny Wise, the shopper's ready helper, shopping talk; 7-8, classical hour; Emily Stone, violinist; Ada Mae, tenor; Ethel Eaves Price, soprano; Alice McMahon Stone, accompanist; Lemmyon Amoureaux, French tenor; Ethel Eaves Price, soprano; Alice McMahon, contralto; Margaret McArthur, pianist; John Williams, baritone; 10-1 a. m., Elmer Jordan & Co., Owl matinee.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 9:30 a. m., program for day; 10:45, "Pretty Wrappings for Christmas Packages," Betty Crocker; 4, Readers' 7:50, farmers' agriculture service talk; 8, musical program, Irvine Plumm's orchestra; 8:40, studio program, Waterhouse string quartet; 10, dance program, Irvine Plumm and his Fort Garry hotel orchestra.

KFAB, Lincoln, Nebr. (340.7), 5:30-6:30 p. m., concert, Belshaw's orchestra and Buick Little symphony; 8:30-10:30, Belshaw's orchestra; Ralph Hall-Banjo, ukulele and voice; Olive Fletcher and Ruby Teater, double piano; "Slick" Merriam, pianist; Mareldine Schmidt, blues singer.

KFEQ, Oak, Nebr. (268), 2-3 p. m., Kings Entertainers.

KFMX, Northfield, Minn. (377), 9-10 p. m., musical program.

KFNF, Shenandoah, Iowa (266), 7 p. m., concert, Henry Field Seed company.

KFUO, St. Louis, Mo. (545.1), 9:15 p. m., "O Little Town of Bethlehem."

KFVE, University City, Mo. (240), 8:30 p. m., amusement review, Romaine Fielding, Paul and Jack Snyder; orchestra Romaine.

KMA, Shenandoah, Iowa (252), 11:30 a. m.,-12:30 p. m., rural program; "Horticulture," Earl E. May; music; 6, "Domestic Science," Le Ona Teget; retailers program, Hal Steinger; 9, Wales consolidated high school.

KSD, St. Louis, Mo. (545.1), 6 p. m., music, Missouri Athletic Association; 7, "Fur Hour," Irish songs, Margaret Nolan, soprano; 8, Good Will program, WEAF.

KSO, Clarinda, Iowa (241.8), 7-8:30 p. m., program, vocal, instrumental; 8:30-10, Sellard orchestra.

KTHS, Hot Springs National Park, Ark. (374.8), 9-9:45 p. m., melodies of the southland, New Arlington hotel ensemble; violin solo, Lon Chassy; John G. Heyn, pianist; 9:45-10:10, organ recital, Lawson Reid; 10:10-11, dance frolic by the Southerners, with "blues" choruses, Pauline Simpson.

KYW, Chicago, Ill. (536), 11:35 a. m., table talk, Mrs. Anna J. Peterson; 12:05-1 p. m., noon-day concert, Commonwealth Edison company; 6, dinner music, KDKA; 7:05, bedtime story Uncle Bob; 8-9, musical program, Congress hotel; 10-12:30, midnight revue; 1 a. m., Insomnia club.

WAMD, Minneapolis, Minn. (243.8), 12 noon, studio program; 7:05 p. m., theater orchestra; Fred Heiseke, director; Jack Malerick, organist; 11, Skyrocket frolic.

WBBM, Chicago, Ill. (226), 4-6 p. m., Harry and Sandy; Valentino Inn orchestra; Edna Wheeler Ballard, harpist; Harold Morava, lyric tenor; Johnny Black; Court Banks; Ralph Botthof; 8:10, WBBM, string trio; Moulin Rouge orchestra; Phillip Nilles, tenor; Sunset male quartet; 12 midnight-2 a. m., Farwell duo, banjo and piano; Russell Duke, pianist club, Eleanor Poehler; 5:30, children's hour; 7, church service, Rabbi Albert G. Minda, Temple Israel Synagogue, Minneapolis; 8, Ipana Troubadours, WEAF; 10:05, dance program, Emmet Long's Golden Pheasant orchestra.

WDAF, Kansas City, Mo. (365.6), 10:45 a. m., talk, Betty Crocker; 6-7 p. m., school of the air, address, auspices of Health Conservation association; address, Ralph E. Herrick; the Tell-Me-a-Story Lady; Trianon ensemble; 8-9:30, classical recital; 11:45-1 a. m., Nighthawk frolic; The Plantation players; Eddie Kuhn's orchestra; Earl Coleman's orchestra.

WDOD, Chattanooga, Tenn. (256), 6:30-7 p. m., Tivoli theater organ; 7-8, Hotel Patten orchestra; 8:15, special features.

WEBH, Chicago, Ill. (370.2), 7-8 p. m., Oriole orchestra; Florence Behrend, soprano; "Books of the Day," Lewellyn Jones; 9-10, Oriole orchestra; Florence Behrend, soprano; Frank Bordner, baritone; 11-1 a. m., Oriole orchestra; Florence Behrend, soprano; songs; Oriole orchestra.

WFAA, Dallas, Texas (475.9), 12:30-1 p. m., Sears-Roebuck Agricultural Foundation program.

WGES, Oak Park, Ill. (250), 5-7 p. m., Betty Bebb and Helen Cameron, vocal duo; McDevitt sisters; pianists; Tiffin theater organ and orchestra; 8-9, Ethel Giese, soprano; Ruth Kalthoff, contralto; Peter Mathews, basso; John Stamford, tenor; Tiffin theater organ and orchestra; 11-1 a. m., Phillips twins, vocal duo and ukulele soloists; Tiffin theater organ and orchestra; Serenaders; Morris Hoffman, tenor.

WHAD, Milwaukee, Wis. (275), 4 p. m., "With the Humorists," John B. Wolf, the Journal paragrapher; 6:15-7, Arthur Lichter, organist; 10:30-11:30, Wisconsin Roof Garden, Dexter's Wisconsin and Elger's Creole roof orchestra; 11:30-12:30, Edmund Fitch, organist.

WHAS, Louisville, Ky. (399.8), 4-5 p. m., musical, Harry S. Currie; editorial readings; 7:30-9, concert, Jake Selligman and his Kentucky Night Owls.

WHO, Des Moines, Iowa (526), 6:30-7:30 p. m., Reese Hughes orchestra; 7:30-9, Santa Claus; Kate Miller, whistler; Maude Hughes, accompanist; Smith Sisters, harmony girls; The Larks, Rhena Hayward, director; 9-11:30, dance program.

WHT, Chicago, Ill. (399.8), 10 a. m., Jean Sargent's program, woman's club, Borden health talk, Jelke Good Luck Girl, studio music; 10:45, Betty Crocker home service; 11, special studio features; 12 p. m., Al Carney's complimentary organ hour; 1-2, special studio program, Grayling's string trio; 6-7:30, classical program, dinner organ recital, Pauline Cachs, Phyllis Burton, violinist; Pauline Peebles, pianist; Jean Carlson, soprano; Hugh Aspinwall, tenor; Grayling's string trio; 7:45-9:15 (238), musical features; 9:30 (399.8), Borden request organ recital, Hickey and Johnson, harmony; Carl Strudel, baritone; Leota Laabe, soprano; Irene Beasley, the Girl from Dixie; Northland trio; Vic Fredericks, baritone; Chas. R. Hall, tenor; Badger Four male quartet; Ray Lawsen, tenor; 12, Pat Barnes and Al Carney.

WIBO, Chicago, Ill. (226), 2-4 p. m., shut-in program; Jack Sprat and the Carl Sulzer orchestra; Ted Fiorito, pianist; Victor Young, Dan Russo, violinists; Vernon Hayes, saxophonist; "Home Economics," Grace Viall Gray; 6-8, Walter Preston, popular American ballads; Dorothy Rae, soprano; Earl Raymond Bigelow, pianist; Charlotte Edwards, contralto; Joe North, baritone; Shepard Levine, tenor; 10, Erwin Cornelius, ukulele; male quartet; Wm. Molnaire, tenor; Hickey and Johnson; Alma Adair, soprano; Dorothy Aubrey, contralto; Fred Jacobsen; Dorothy Davie Dillow.

WJJD, Mooseheart, Ill. (302.8), 10 p. m., Winifred Konigsmark; Alois Bragagnola; Marie Winters; 12 midnight; Walter Fett, Les Cameron, George Sparks, Jack Nelson.

WKRC, Cincinnati, Ohio (422.3), 8 p. m., book review; 8:15, Marion McKay's orchestra; 8:30, popular songs; 9, J. Henry Koenig Little symphony orchestra; Robert M. Visconti, tenor.

WLS, Chicago, Ill. (344.6), 12 m., Ford and Glenn; 6:15, announcements; 6:30, Ralph Emerson, organist; 7, lullaby time, Ford and Glenn; 7:15, W. L. S. trio; 7:45, W. L. S. theater production; 8:15, Keltie quartet; 8:45, Rhodeheaver program; 9:15, Countess Zicha, soprano; 9:30, Amalie Birnbaum, violinist; 10, Umbrian glee club; 10:40, Ford and Glenn; 11 p. m.-2 a. m., W. L. S. "Circus program."

WLW, Cincinnati, Ohio (422.3), 7:30 a. m., healthful exercises, William Stradtman, Y. M. C. A.; 7:45, morning devotions, auspices of Parkway Y. M. C. A.; 12 n., musical program, Irene Downing; 3:30 p. m., Crosley cooking school, "Hints on the Art of Cooking and Some of My Best Recipes," Mrs. Ralph H. Auch, dietician; 4, Shut-in concert, Wm. Duning cooperating with Settlement Schools and all other Instutitions, assisted by Cincinnati Exchange club; 6, Santa Claus and his helpers; 6:40, Art Gillham, the whispering pianist; 7, dinner hour concert, Hotel Gibson; Robert Visconti, director; 7:30, talk, representative of the National Farm Radio council; 7:40, continuation of Hotel Gibson concert; 10, Sixth in a series of "Pep" concerts, Fraternities and Sororities from University of Cincinnati, Ohio Delta Lambaa Chapter of Alpha Tau Omega; 10:30, "The Shooting of Dan McGrew," Robert W. Service; reading, Charles Meade; 10:35, The Crosley male quartet; 10:45, The Horton Washer entertainers; 11:15, Johanna Grosse, organist; 11:30, pianologues, "Newport" Carl Bamberger.

WMAQ, Chicago, Ill. (447.5), 12:45 p. m., Radio farm school; 1, Chicago Association of Commerce luncheon; 2, shut-in program; 4, recipes, Mrs. E. O. Hiller; 4:30, pupils of Cosmopolitan school of music; 6, Chicago theater organ recital; 6:30, Georgene Faulkner, the story lady; 8, lecture, Northwestern university; 8:30, musical program; 9, WMAQ players.

WMBB, Chicago, Ill. (250), 7-8 p. m., Trianon duo, Beatrice Teller; 9-11, Trianon orchestra, Woodlawn theater orchestra; Scotty Welsh, Madison sisters, Earle Smith, Billie Allen Hoff, Jimmy Eggert, Bob Bennett.

WOAI, San Antonio, Texas (394.5), 3 p. m., musical program; 8:30-9:30, Army night, musical program, Ft. Sam Houston.

WOAW, Omaha, Nebr. (526), 12:45 p. m., Phyllis Griswold, organist; 5:30, Sandman's visit, Val McLaughlin.

WOC, Davenport, Iowa (483.6), 12:15-12:25 p. m., farm school; "Dairy Day—A Radio Dairy Cow Selection," Prof. H. G. Van Pelt; 3-3:30, home management schedule, Aunt Jane; 4-4:45, Jean DeVogelaere, Burnell Shuler, piano duettists; Paul Vipperman, tenor; 5:45-6, chimes concert; 6:30-6:50, Sandman's bedtime stories; 9-10, Erwin Swindell, organist; Marcus H. Cohen, tenor.

WOK, Chicago, Ill. (217.3), 5-7 p. m., Gus C. Edwards' orchestra; organ, Capitol theater; Ed Kemp, tenor; Bob Mokrejs, pianist; Bryce Talbot, baritone; 10 p. m.-1:30 a. m., Gus C. Edwards' orchestra; Husk O'Hare's orchestra; program, Capitol theater; Tierney's Town club orchestra; Ned Miller, tenor; Harriet Lee, contralto; Herman Sinaiko, violin; George Allen, tenor; Bob Mokrejs, pianist.

WORD, Batavia, Ill. (275), 8 p. m., Webster hotel concert trio; 8:15, hymns and sacred songs, I. B. S. A. choral singer; 8:25, third lecture on The Great Pyramid, C. H. Swingle.

WOS, Jefferson City, Mo. (440.9), 8 p. m., "Insurance in Missouri," Ben C. Hyde; original poems, LeRoy H. Kelsey; Bill Caton, Ola Gathright, oldtime fiddlers.

WQJ, Chicago, Ill. (447.5), 11-12 m., "Home Economics," Helen Harrington Downing; Frank Wendt, chef, Rainbo Sea Food Grotto, fish dinner for Friday; "Heart Disease—The Nation's Scourge," Dr. Alice Conklin, program arranged by Dr. Lena K. Sadler; 3-4 p. m., talk, Helen Harrington Downing; Lavina Price, pianist; "Treating the Home to Reflect Your Personality;" 7-8, Marvin Hinshaw, baritone, and artist pupils; concert, Ralph Williams' orchestra; 10-1 midnight, Ralph Williams and his Rainbo Skylarks; Laurie, Eddie, Bennie, the Melodians; Clarence Theders, tenor; Josy Stool, tenor; Eddie Vogel, baritone; Geo. Thurn; Anita Chellis, comedian; Harry Kendall, guitar and two harmonicas; other Radio artists to be announced; 1-2 a. m., Ralph Williams, the Ginger Man, and the Little Skylarks.

WSAI, Cincinnati, Ohio (326), 7:45 p. m., "Art Talk," Ernest Bruce Haswell; 8-9, Waterman Pen program, N. Y. City; 9-10, Ipana Troubadours, N. Y. City; 10, talk, professor, University of Cincinnati; 10:15, studio program; the Congress Playing Card string quartet.

WSB, Atlanta, Ga. (428.3), 10:45 p. m., melody artists.

WSOE, Milwaukee, Wis. (246), 5:30 p. m., twilight hour, Aunt Julie, children's stories, Olga LaBelle, pianist; Agnes Roets, marimba soloist; 9, Bertha Schaller, violinist; Helen Reynen, accompanist; "Contacts with our Students and Alumni;" current topics; 9:30 p. m., J. H. Brown, bass; Mary Heimlich, accompanist; the voices of our dumb animals, report of humane week, J. Hughe Maine, director.

Mountain Time Stations

CFAC, Calgary, Can. (435.8), 4 p. m., address, Red Cross; 8, program, St. Davids society.

KFWA, Ogden, Utah (261), 5-6 p. m., Ogden Radio Dealers program; 9-10:30, Olie Reeves and his orchestra; 5-6, Ogden Radio Dealers program.

KOA, Denver, Colo. (322.4), 12:15 p. m., musicale, Rialto theater; 6:30, concert, Brown Palace string orchestra, Howard Hillotson, director; 7:30, Book of Knowledge, directed by H. G. Knight; 8, KOA's first anniversary studio program; saxophone band, Public Service company; invocation, Rev. Ernest W. Wood; KOA orchestra; Ina Rains, soprano; "KOA's First Anniversary," Robert L. Miller; "The Open Door," KOA players; 10, dance program, Harmony Peerless orchestra.

Pacific Time Stations

KFDJ, Corvallis, Ore. (282.5), 7:30 p. m., musical selections; 7:45, "The Christmas Dinner," Amelia Burns; 8-8:15, "Concealing Extra Pounds," Helen Lee Davis.

KFWB, Hollywood, Calif. (252), 5-6 p. m., children's hour, Big Brother of KFWB; 7-7:30, Mutual Motors mirth contest; 7:30-8, microphone brevities; 8-9, program, Cheek-Neal Coffee company, Maxwell House Coffee string quartet; Charles Beauchamp, tenor; Lee Kent and her terapache; 9-10, program, Hoot Owl Harbolt of Santa Monica, Bill Hatch's orchestra; Peggy Mathews, blues singer; Frank Stever, baritone; 10-11, Warner brothers frolic, direction Charlie Wellman; 11-12, Hollywood Roof ballroom orchestra.

KGO, Oakland, Calif. (361.2), 7:15-7:30 a. m., health training exercises; 7:45, Pep class; 8:15-8:30, exercises; 8:45, inspirational songs, Elfrieda Wynne; 11:30-1 p. m., luncheon concert; 3-4, thirty-piece orchestra program, Beth Lackey, director; theme by Handel, "Thaddeus Maccabeus" oratorio; Yngze Christenson, violinist; Josephine Lind, soprano; speaker; Eva Garcia, pianist; Edward O'Dell, Betsy Pembrooke, artists; 4-5:30, concert orchestra, Hotel St.

(Continued on page 19)

Index to Classical Concerts

SATURDAY, DECEMBER 12

Eastern	Central	Mountain	Pacific	Stations
6 p. m.	5 p. m.	4 p. m.	3 p. m.	WCX, WEAF, WMCA, WREO.
7	6	5	4	KGO, KYW, WEAR, WENR, WMAQ, WNYC, WOAW, WOK, WRC.
8	7	6	5	KDKA, KFNF, KOIL, KSD, KYW, WBBR, WGN, WMBB, WNYC, WOAW, WQJ.
9	8	7	6	KFOA, KPRC, KHJ, KYW, WHAS, WIP, WLW, WORD, WSAI, WSOE
10	9	8	7	KNX, KYW, WEAF, WMAQ, WMC, WOAW, WOC, WORD.
11	10	9	8	KGO.
12 m	11	10	9	WOAW.

SUNDAY, DECEMBER 13

Eastern	Central	Mountain	Pacific	Stations
6 p. m.	5 p. m.	4 p. m.	3 p. m.	WCAU.
7:20	6:20	5:20	4:20	WCAE, WCAU, WEAF, WEAR, WEEI, WJAR, WTAG, WWJ.
8	7	6	5	KYW, WBZ, WEAR, WGBS, WGCP, WKAQ, WLS, WORD.
9	8	7	6	KFDM, KPRC, KSD, WBZ, WCAU, WCBD, WCCO, WEAR, WGY, WHAR, WHT, WNYC, WQJ.
9:15	8:15	7:15	6:15	WEEI, WJAR, WTAG.
10	9	8	7	KHJ, KNX, KTHS, KYW, WCCO, WFAA, WNYC, WOC, WQJ, WSOE.
11	10	9	8	KFVE, KHJ, KNX, KPO, KTHS, KYW, WHN, WKRC, WOC.
12 m	11	10	9	KHJ, KNX, WOC.
1 a. m.	12 m	11	10	KNX.

MONDAY, DECEMBER 14

Eastern	Central	Mountain	Pacific	Stations
6 p. m.	5 p. m.	4 p. m.	3 p. m.	KGO, WCX, WEAF, WMCA, WREO, WWJ.
7	6	5	4	KMA, WCCO, WEAF, WEAR, WHAD, WJR, WOAW, WOK.
8	7	6	5	KFNF, KSD, WBBR, WBZ, WCAU, WCX, WHAR, WHT, WJAR, WLW, WMBB, WTAG, WTIC.
9	8	7	6	KFOA, KGO, KHJ, KPRC, WBBR, WCCO, WBZ, WCAE, WEEI, WHAD, WHO, WJAR, WLW, WORD, WOS.
10	9	8	7	KMA, KPO, KPRC, KSD, KTHS, WCCO, WEAF, WHAD, WJAR, WOAW, WSUI, WTAG.
11	10	9	8	KGW, KHJ, KMA, KSD, KTHS, KWSC, WHN, WSAI.
12 m	11	10	9	KGW, WBAP, WSAI.
1 a. m.	12 m	11	10	KHJ.

TUESDAY, DECEMBER 15

Eastern	Central	Mountain	Pacific	Stations
6 p. m.	5 p. m.	4 p. m.	3 p. m.	WBZ, WCX, WEAF, WMCA, WREO, WWJ.
7	6	5	4	KGO, KMA, WEAR, WEBJ, WGBS, WHAD, WJR, WMAQ, WOAW, WOK, WOR, WTIC, WWJ.
8	7	6	5	KFNF, KSD, KYW, WBZ, WCAE, WCAU, WCX, WEAR, WEEI, WGR, WHAR, WHT, WLS, WMBB, WQJ, WRC, WTIC.
9 p. m.	8 p. m.	7 p. m.	6 p. m.	KFDM, KFOA, KGO, KHJ, KLDS, KYW, WCAE, WCBD, WCCO, WEAF, WEEI, WGR, WHAS, WJAR, WLW, WMAQ, WOC, WORD, WTAG.
10	9	8	7	KFAB, KFDM, KFMQ, KMA, KNX, KPRC, KTHS, WCAE, WCCO, WEAF, WEAR, WEEI, WLW, WMCA, WOC, WSAI, WSOE, WTAG.
11	10	9	8	KGO, KHJ, KMA, KYW, WSAI.
12 m	11	10	9	KPO, KYW, WHO, WMC.

WEDNESDAY, DECEMBER 16

Eastern	Central	Mountain	Pacific	Stations
6 p. m.	5 p. m.	4 p. m.	3 p. m.	WCX, WEAF, WMCA, WREO, WWJ.
7	6	5	4	KGO, WEAR, WHAD, WJR, WMAQ, WOK, WTIC.
8	7	6	5	KFNF, KPRC, KSD, KYW, WBZ, WCX, WEAF, WEEI, WHT, WLW, WMBB, WMCA, WQJ, WTAG, WWJ.
9	8	7	6	KFOA, KGO, KPRC, KSD, KYW, WBZ, WCCO, WDAF, WEEI, WGR, WHAD, WHAS, WJAR, WMAQ, WOR, WOS, WORD.
10	9	8	7	KFMX, KMA, KNX, KTHS, WCCO, WEAF, WEEI, WGR, WHAD, WJAR, WLS, WMAQ, WNYC, WOC, WSOE.
11	10	9	8	KGO, KGW, KMA, KPO, KTHS, WCAE, WLS, WLW, WOC, WSAI.
12 m	11	10	9	KGW, KPO, WHAD, WLW.
1 a. m.	12 m	11	10	WLW.

THURSDAY, DECEMBER 17

Eastern	Central	Mountain	Pacific	Stations
6 p. m.	5 p. m.	4 p. m.	3 p. m.	WBZ, WCX, WEAF, WIP, WMCA, WREO, WWJ.
7	6	5	4	KGO, KSD, WEAF, WEAR, WGBS, WHAD, WJR, WMAQ, WOAW, WOK, WWJ.
8	7	6	5	KYW, WBBR, WBZ, WCAU, WCCO, WCX, WEAR, WEEI, WGR, WGY, WHAR, WHT, WLS, WLW, WMBB, WOAW, WQJ, WTAG, WTIC.
9	8	7	6	KHJ, KLDS, WBAP, WCAE, WCAU, WCBD, WCCO, WEAF, WEEI, WGR, WHAR, WHAS, WJAR, WNYC, WOC, WORD, WRC, WASI, WSB, WTAG.
10	9	8	7	KNX, KPRC, KTHS, KYW, WGR, WGY, WHAD, WMC, WOAW, WOC, WSAI.
11	10	9	8	KGO, KPO, KTHS, WBAP, WKRC.
12 m	11	10	9	KGW, KPO, WHO, WKRC.

FRIDAY, DECEMBER 18

Eastern	Central	Mountain	Pacific	Stations
6 p. m.	5 p. m.	4 p. m.	3 p. m.	KGO, WCX, WMCA, WREO, WWJ.
7	6	5	4	KGO, WEBJ, WGY, WHAD, WJR, WMAQ, WOAW, WOK, WOR, WTIC.
8	7	6	5	KYW, WAHG, WBZ, WCAU, WCX, WEBJ, WEEI, WHT, WLS, WQJ, WTAG, WTIC, WWJ.
9	8	7	6	KFDM, KFNF, KFOA, KGO, KHJ, KSD, KYW, WBAP, WBZ, WCAU, WDAF, WEEI, WHAD, WHAS, WJAR, WMAQ, WMCA, WOS, WSAI, WTIC.
10	9	8	7	KFAB, KFDM, KOA, WCCO, WHAD, WMAQ, WNYC.
11	10	9	8	KFMX, KHJ, KNX, KPO, KWSC.
12 m	11	10	9	KPO.

SHRINE SERENADERS RETURN TO WHB

Wednesday, December 16

(Continued from page 18)

Francis, Vinton LaFerrera, conductor; 5:30, Mr. Fix-it; 6-7, dinner concert; Knickerbocker trio.

KHJ, Los Angeles, Calif. (405.2), 6-6:30 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6:30-7:30, history story, Prof. Hertzog; Dick Winslow, juvenile reporter; Mickey McBan, screen juvenile; Carl Eastwood and Vivian Marple; 8, Dr. Mars Baumgardt, scientific lecturer; 8:30-10:30, de luxe program arranged by J. Howard Johnson; 10:30-11:30, Don Clark's Biltmore hotel dance orchestra.

KMTR, Hollywood, Calif. (238), 5-6 p. m., home hour, Mammy Simmons and pupils of Geraldine Kasal; 8-10, KMTR concert hour, the Turner orchestra, Loren Powell, director; Rondeau male quartet.

KNX, Hollywood, Calif. (336.9), 5-5:30 p. m., Sunny Jim's talk to children; 5:30-6:15, Wurlitzer pipe organ studio, Town Tattler; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent concert orchestra, Paul Finstein, leader; 7-8, Ambassador hotel concert orchestra, Josef Rosenfeld, director; 8-9, KNX feature program; 9-10, program, W. W. Rainey organization; 10-11, Ruth Roland, screen star; G. Allison Phelps, The Radio Philosopher.

KPO, San Francisco, Calif. (428.3), 7, 7:30, 8 a. m., daily dozen exercises; 10, sewing talk; 1-2 p. m., Rudy Seiger's Fairmont hotel orchestra; 2:30, matinee program, Bennie Berman, tenor; Peggy McDonald, accompanist; 3:30, fashion talk; 5:30-6:15, children's hour, Big Brother; 6:40-7, Waldemar Lind and the States Restaurant orchestra; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 8-9, Atwater Kent artists, Ernest Ingold, director; 9-10, Goodrich Silvertown Cord dance orchestra; 10-11, Waldemar Lind and the States Restaurant orchestra.

KTAB, Oakland, Calif. (240), 9-9:30 a. m., prayer service, Rev. Geo. W. Phillips.

KTCL, Seattle, Wash. (305.9), 7:30-8:30 p. m., Charmed Land trio; 8:30-8:40, Johnson Wilmote inc.; 8:40-8:50, Eberharter and Dunn company studio program; 8:50-9, P. J. Emt and company studio program; 9-10, Out Door Store, Inc.; 9:10-9:20, Woolley and company studio program; 9:20-9:30, Electric Service company.

KWSC, Pullman, Wash. (348.6), 7:30-9:30 p. m., special program, Colfax high school; "Astronomy No. 2, The Planets," C. D. Calgoeris; "Contributions of Science to the Dairy Industry," E. V. Ellington,

Thursday, December 17

Headliners Today

Eastern	Central	Mountain	Pacific
7 p. m.	6 p. m.	6 p m.	4 p. m.
WJZ (454.3) Radio Cocktail.			
8:45	7:45	6:45	5:45
WCAU (277.6) The Kandy Kids.			
9	8	7	6
WBZ (333.1) Evening of Opera.			
WHB (365.6) Shrine Serenaders.			
10	9	8	7
WKRC (422.3) Christmas Carols.			
11	10	9	8
KGO (361.2) "The Delinquents," play.			
KHJ (405.2) World Famous Christmas carols.			
WHN (361.2) Swanee entertainers.			
WJAZ (322.4) Two piano classical recitals.			
12	11	10	9
KFWB (252) Jazz twins.			
KPO (428.3) Two one-act plays.			

Thursday, silent night for: CHIC, CKNC, CNRA, CNRE, CNRO, CNRR, CNRT, CNRV, CNRW, KFAB, KFAU, KFDJ, KFDM, KFMQ, KFMX, KFOA, KFRU, KFUO, KFVE, KFWA, KGW, KLX, KOA, KOB, KTCL, KWSC, PWX, WAFD, WAHG, WCEE, WDOD, WEBJ, WEBW, WGCP, WHAD, WHAZ, WJAD, WJBL, WJJD, WLIT, WOAI, WOR, WOS, WSM, WSUI, WTAM.

Eastern Time Stations

CNRM, Montreal, Can. (411), 8:30 p. m., studio program, Markowski trio; Dorothy Dalton, recitations; G. R. Markowski, violinist; Lucien Labelle, cellist; Oscar O'Brien, pianist; "Historical Montreal," Prof. W. H. Atherton.

WAHG, New York, N. Y. (315.6), 12-1 p. m., musical program.

WBAL, Baltimore, Md. (375), 6:45-7:45 p. m., dinner concert, Robert Iula, conductor; 8-10, musical program; Edith Gwinn, soprano; Neenah Woods, contralto; Ercelle Mitchell, pianist; Herbert Bangs, violinist; George Bolek, pianist; James Wilkinson, baritone.

WBBR, New York, N. Y. (272.6), 8 p. m., Watchtower instrumental trio; 8:10, Stanley Gohlinghorst, baritone; 8:20, Sunday school lesson, S. M. Van Sipma; 8:40, Stanley Gohlinghorst, baritone; 8:50, Watchtower orchestra.

WBZ, Springfield, Mass. (333.1), 6:30 p. m., Little Symphony orchestra, KDKA; 7:05, "From Chaucer to Shakespeare," Prof. E. Charlton Black; 7:30, Hotel Kimball dance orchestra, Bob Patterson; 8, musical program, Noyes Buick company; 9, evening of opera, Madame Vinello-Johnson, director; Meastro Pierto Vallini, accompanist; 10:05, concert, Edwin J. McEnelly and his singing orchestra.

WCAE, Pittsburgh, Pa. (461.3), 3 p. m., program, Loew's Aldine theater; 4:30, Sunshine Girl; 6:30, concert, William Penn hotel; 7:30, Santa Claus; 8, Larkin period, N. Y.; 10, concert, Goodrich Zippers.

WCAU, Philadelphia, Pa. (277.6), 6:30 p. m., Billy Hayes and his Cathay Tea Garden orchestra; 7:30, Snellenburg symphony orchestra, John Carroll, director; 8, Mitchell Gondoliers; 8:15, recital; 8:45, Kandy Kids; 9, Barry O'Moore, Irish tenor; 9:30, Musical Chefs; 10, Sesqui Centennial hour.

WCX, Detroit, Mich. (517), 6 p. m., dinner concert, Book-Cadillac hotel; 8, studio program.

WEAF, New York, N. Y. (491.5), 6:45-7:20, a. m., Tower health exercises; 11-11:10, Harriet Youngs, soprano; 11:10-11:20, Mayfair extension talk; 11:20-11:30, lecture on cookery, Teachers college, Columbia university; 4-4:15, Mme. Aimee Corner, mezzo soprano, accompanist Winifred T. Barr; 4:15-4:30, talk, Prof. Rollo Walter, auspices of Columbia university; 6-7, Waldorf-Astoria dinner music; 7-7:20, mid-week hymn sing, auspices of the Greater Federation of Churches; 7:20-8, Cushman's serenaders; 8-8:30, the Larkinites; 8:30-9, Pop concert; 9-10, Cliquot Club entertainers; 10-11, Goodrich Zippers; 11-12, Vincent Lopez and his orchestra.

WEAO, Columbus, Ohio (293.9), 8 p. m., "The Growing Need for Complete Fertilizers," Prof. Firman E. Bear; 8:15, children's story, Uncle Al; 8:30, "Psychology in the School," Prof. H. E. Burtt; 10, Hotel Fort Hayes hour of music.

WEEI, Boston, Mass. (348.6), 6:45 a. m., health exercises; 1 p. m., assembly luncheon, chamber of commerce; David Sarnoff, speaker; 3, Lou Klayman and his orchestra; 6:45, Big Brother club; 7:40, "The Number and Sizes of the Stars," Dr. Luyten; 8, WEAF features; the Larkinites; 8:30, Pop concert; 9, musicale; 10, Goodrich Zippers.

WFI, Philadelphia, Pa. (395), 1 p. m., Strawbridge and Clothier tea room ensemble; 3, Ridley Park club, Mrs. R. M. Stults, president; Loretta Kerk, pianist; 6:30, Bellevue Stratford hotel concert orchestra; 7, Bellevue Stratford hotel dance orchestra; 8, the Larkinites; 8:30, Pop concert; 9, WEAF concert ensemble; 10, Goodrich Zippers.

WGBS, New York, N. Y. (315.6), 6-6:30 p. m., Uncle Geebee; 6:50-7, talk; 7-8, Voltaire hour of music; 8-8:30, Crystal Palace orchestra; 8:30-9, talk, Oliver Sayler; 9-10, Old-Time minstrels; 10:30-11:30, Vanderbilt hotel orchestra.

WGCP, New York, N. Y. (252), 1:30 p. m., Mirror race results half hourly; 3-3:15, Elvira Rosa Geiger, pianist; 3:15-3:30, Bert Dagmar, songs; 3:30-3:45, Doris Freeman, songs; 3:45-4, Constantion Ramos, saxophonist; 4-4:15, Frank Gallasi, ukulele; 4:15-4:30, Gertrude Greenblatt, violinist; 4:30-4:45, Harry Spear, songs; 4:45-5, Sylvia Schatz, pianist.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 6:30, Vincent Lopez' Hotel Statler dance orchestra, Harold Gieser, director; 8-11, jointly with WEAF, including the Larkinites and the Goodrich Zippers.

WGY, Schenectady, N. Y. (379.5), 2 p. m., music; "Christmas Puddings," Jessie A. Boys; 6:30, dinner program, Ten Eyck concert trio; 7:30, book chat, William Jacob; 7:45, WGY orchestra; 9, U. S. Army band, WRC; 9, WJZ Royal hour; 10, WGY orchestra; 11:30, organ recital, Stephen E. Boisclair.

WHAR, Atlantic City, N. J. (275), 2 p. m., Seaside hotel trio; 7:30, health talk, Dr. Henry Reik; 8, Seaside hotel trio; 9, concert.

WHN, New York, N. Y. (361.2), 12:30-1 p. m., Lexington organ recital; 3:15-4:30, Lexington orchestra; 6:40-7, Sunshine talk, Billy B. Van; 7-8, Iceland dance orchestra; 8-8:30, Will Oakland's Chatheau Shanley; 8:30-9:30, Guardian Entertainers; 10:30-11, Club Kentucky orchestra; 11-11:30, Joe Ward's Swanee Entertainers; 12-12:30 a. m., Ted Lewis and his Parody club orchestra.

WIP, Philadelphia, Pa. (508.2), 10 a. m., menu, Mrs. Anna B. Scott; 1 p. m., Gimbel tea room orchestra; 3, Combs Conservatory of Music; 6:05, Joe Ray and the California Night Hawks; 8, Sesqui-Centennial; talk, Hon. Harry A. Mackey; 8:15, University of Pennsylvania; talk, George L. Lindsay; Schools of Philadelphia; talk, George L. Lindsay; 9:15, Y. M. H. A. orchestra; 10:05, talk, member of the Philadelphia Real Estate board; 10:15, Pagoda cafe orchestra.

WJAR, Providence, R. I. (305.9), 1:05 p. m., Joe McNamara and his Twin Elm orchestra; 8, musical program, J. Herbert Taylor, director; 9, Hudson-Essex orchestra; 10, Goodrich Zippers.

One of the most promising of the younger singers of Dubuque, Iowa, is Mabel Rich Cottingham, right, who has a dramatic soprano voice. She makes her Radio appearances from WOC, Davenport.

Like the little Italian maiden of the middle ages appears this modern "Mignon," above, Lucretia Goddard Bush, who sang the title role of this opera recently at WBZ, Springfield. She will take part Thursday in this week's opera productions at this station. Henrietta Johnson, left, is the assistant director of the Bureau of Research and Guidance of the Oakland public schools. She instructs classes of Oakland school teachers in the new art of "talking" a lesson so it will be clear when issuing from loud speakers in the ten schools of the city selected to listen in.

WJR, Pontiac, Mich. (517), 7 p. m., Jean Goldkette's Petite Symphony orchestra; soloists; 9, Jean Goldkette's Serenaders; soloists; 10, Jean Goldkette's Victor recording orchestra.

WKAR, E. Lansing, Mich. (285.5), 7:15 p. m., lectures on marketing, agriculture, English, soils.

WLIT, Philadelphia, Pa. (395), 12:02 p. m., organ recital; 12:30, Ben Franklin hotel concert orchestra; 2, Arcadia cafe orchestra; talk on dogs; 4:30, studio hour; 7:30, Dream Daddy.

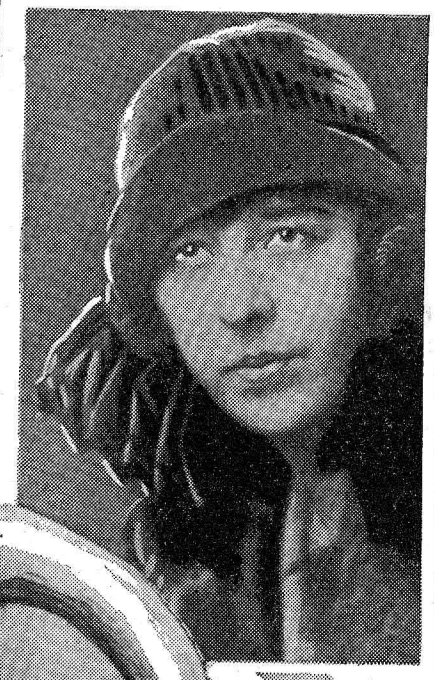
WMCA, New York, N. Y. (340.7), 6-6:30 p. m., Olcott Vail and his Hotel McAlpin string ensemble; 6:30-7, Frank Gebbias Red Lion inn orchestra; 7-7:15, Happy Girl, Violet Kaye; Pace institute program; 7:15-7:30, Happy Girl, Violet Kaye; 7:30-8:30, Lanson's orchestra; 8:30-9, Judith Roth, soprano; 9-9:15, Jack Miller, violinist; Mildred Van Vliet, pianist; 10-10:15, talk, Harry T. Rainess; 11-12, Ernie Golden and his Hotel McAlpin orchestra.

WOR, Newark, N. J. (405.2), 2:45-3, talk, Dr. George W. Little; 6:15-6:17, words often mispronounced; 6:17-6:45, Bill Wathey, sport talk; 6:45-7:30, Jacques Jacobs' Hotel Shelton ensemble.

WTAG, Worcester, Mass. (268), 10:45 a. m., talk, Sherer staff nurse; 12:05-2 p. m., WTAG orchestra; 8-8:30, Larkinites; 8:30-9, Pop concert, WEAF; 9-10, Cliquot Club entertainers; 10-11, Goodrich Zippers.

WTIC, Hartford, Conn. (475.9), 6:30 p. m., Hub Restaurant trio; 7:30, "The Orient," Mrs. P. Lee Clark; 7:45, dinner music.

WWJ, Detroit, Mich. (352.7), 9:30 a. m., "Tonight's Dinner," woman's editor; 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra; 6, concert; 8, concert, WEAF.



Central Time Stations

KFEQ, Oak, Neb. (268), 2-3 p. m., Kings Entertainers.

KFMQ, Fayetteville, Ark. (299.8), 8 p. m., "Leisure, an Important Resource," J. A. Dickey; "Objects of Electrification," W. B. Stelzner; "Food Factors that Influence Every Day Health and Vigor," Emma Johnson; "Greek Architecture," W. B. Allen; "Relation of Home Equipment to Health and Sanitation," D. G. Carter; "Minor Novelists," V. L. Jones; "The Protein Problem in Nutrition," J. W. Read; "The Psychology of Differences among People," G. C. Fracker.

KFNF, Shenandoah, Iowa (266), 7 p. m., mixed program, Lafe Corbin, director.

KLDS, Independence, Mo. (440.9), 8 p. m., lecture course series, Dr. F. M. McDowell; 8:15, concert, Contrio Music club; Lois Swaney, soprano; Jessie Carmen Colby, reader; Bunda Ritter, pianist; Mary Joan Parks, soprano; Harriet Grosbeck, pianist; Edward Donahue, reader; Agnes Mortimore, pianist; Carolina Schmidt, violinist; Lee Stephens, pianist.

KMA, Shenandoah, Iowa (252), 11:30 a. m.-12:30 p. m., rural program; "Horticulture," Earl E. May; music; 4-5, travelogue, G. H. Van Houten; 6-7, retailers program, Independent Oil company; 9, Nixon's Delmonico Dreamers, dance orchestra.

KSD, St. Louis, Mo. (545.1), 4 p. m., women's hour; 6:55, Good Will program, WEAF.

KSO, Clarinda, Iowa, (241.8), 7-8:30 p. m., Snappy seven; 8:30-10, farmers band.

KTHS, Hot Springs, National Park, Ark. (374.8), 9-10:15 p. m., dance concert, New Arlington hotel orchestra, Lon Chassy, directing; 10:15-10:30, Mrs. Charles Caldwell, vocalist.

KYW, Chicago, Ill. (536), 11:35 a. m., table talk, Mrs. Anna J. Peterson; 12-1 p. m., luncheon concert, Congress hotel; 2:35-5:45, afternoon frolic; 6-7, dinner concert, KDKA; 7-7:30, bedtime story, Uncle Bob; 7:33-7:53, speeches, American Farm Bureau federation; "Learning by Doing," Frank B. White; 8, "Twenty Minutes of Good Readings," Rev. C. J. Pernin; 8:20-9, musical program; 9-10, classical concert; 10-12, evening at home; 1 a. m., Insomnia club.

WAMD, Minneapolis, Minn. (243.8), 12 noon, studio program; 6 p. m., dinner concert, George Osborn's Hotel Radisson orchestra; 11, Skyrocket frolic.

WBBM, Chicago, Ill. (226), 4-6 p. m., Sandy and Harry; Valentino Inn orchestra; William Dalton, baritone; Irene Beasley, Sidney Nireman, Russell Meyers, Jack Pennewell and Freddy Palmiter; 8-10, "Know Your World"; Tip trio; Ziegler sisters; Miriam Hadley, violinist; Jean St. Anne, baritone; Christian Grimm; Moulin Rouge orchestra; 10-12 midnight, Harry and Sandy; Moulin Rouge orchestra; Harry Brailsford, mondolin; Pearl Jarret, pianologues; Fred Jacobson, Swedish alderman; Dolly Sterling and other stars, Moulin Rouge cafe.

WBCN, Chicago, Ill. (266), 10-10:30 a. m., Penny Wise, the shopper's ready helper, shopping talk; 7-8, classical hour; Emily Stone, violinist; Ada Mae Stone accompanist; Lemmyon Amoureaux, French tenor; Ethel Eaves Price, soprano; Alice McMahon, contralto; Margaret McArthur, pianist; John Williams, baritone; 10-1 a. m., Elmer Jordan & Co., Owl matinee.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 9:30 a. m., program for day; 12 m., concert, Donaldson's orchestra; 2, "Among the Musicians," H. A. Bellows; 4, Readers club, Eleanor Poehler; 5:30, children's hour; 7-7:30, the Larkinites, WEAF; 7:30-8, pop concert, WEAF; 8-9, WEAF ensemble; 9-10, Goodrich Zippers; 10:05, travel talk, National Director Travel bureaus; 10:30, dance program, Oxford theater orchestra, St. Paul.

WDAF, Kansas City, Mo. (365.6), 3:30-4:30 p. m., the Star's string trio; 6-7, school of the air; address; talk, Louis Mecker; the Tell-Me-a-Story Lady; Trianon ensemble; 11:45-1 a. m., Nighthawks frolic; Carl Nordberg's Plantation players; Earl Coleman's orchestra; Eddie Kuhn's orchestra; Ted Meyn, organist.

WEBH, Chicago, Ill. (370.2), 7-8 p. m., Oriole orchestra; 9-10, Oriole orchestra; Kathryn Forbes, soprano; Dick and Snyder, Ruth Flick, Frederick Agard; 11-1, Oriole orchestra; Wayne Myers, Ruth Buhl Flick.

WFAA, Dallas, Texas (475.9), 12:30-1 p. m., talk, DeWitt McMurray; Edmund F. Boettcher, tenor; Viola Cassidy, pianist; 6:30-7:30, Don Bestor's orchestra; 8:30-9:30, Choral club recital; 11-12 midnight, Cline's Collegians, from Dallas Athletic club.

WGES, Oak Park, Ill. (250), 5-7 p. m., Frederick Irving, basso; Rose Olech, soprano; Stenstrom sisters, vocalists; Miles Sullivan players; John Brown, pianist; Wyzenbeck trio; Tiffin theater organ and orchestra; 8-9, Remington Welsh, organist; Richard Dale, baritone; Ruth Kalthoff, mezzo-soprano; Wyzenbeck trio.

WHAD, Milwaukee, Wis. (275), 4 p. m., Four Arcadians; 6:15-7, Bill Benning's Milwaukee Athletic club orchestra.

WHAS, Louisville, Ky. (399.8), 4-5 p. m., musical, Harry S. Currie; editorial readings; 7:30-9, concert, Connie's orchestra, Elks club; piano concert, Theodore Richbourg, faculty member of the Louisville Conservatory of Music; Sunday school lesson.

WHB, Kansas City, Mo. (365.6), 8-11 p. m., return engagement, Arrarat Temple Shrine serenaders.

WHO, Des Moines, Iowa (526), 7:30-8 p. m., Raleigh quintet; 8-9, Bankers Life trio, Helen Birmingham, director; 11-12, Bankers Life Little symphonic orchestra.

WHT, Chicago, Ill. (399.8), 10 a. m., Jean Sargent's program, woman's club, Jelke Good Luck Girl, studio features; 11, specialists from studio; 12 p. m., Al Carney's complimentary organ hour; 1-2, special studio program; 6-7:30, classical program, dinner organ recital, Franklin Hathaway, baritone; Ada May Hathaway, violinist; Edwin Kemp, tenor; Genevieve Barry Burnham, soprano; 7:45-9:15, musical features; 9:30, Jelke entertainers; Al Carney, organist; Husk O'Hare's orchestra; Howard Sershon, tenor; Rita McFawn, popular songs; 10:10, U. S. L. half hour of dance music; 12, Pat Barnes and Al Carney.

WIBO, Chicago, Ill. (226), 2-4 p. m., shut-in program; Jack Sprat and the Carl Sulzer orchestra; Ted Florito, pianist; Victor Young and Dan Russo, violinist; Vernon Hayes, saxaphonist; "Home Economics," Grace Viall Gray; 6-8, Walter Preston, singing songs made famous by John McCormac; Harriet Herbert, contralto; Elsie D. Hoffman, soprano; Chester Newman, baritone; Monita Caldwell, pianist; Mildred Perlin, reader; Wm. Molnaire, tenor; Helen Snyder, soprano; 12 midnight, midnight jamboree; colored quartet, Bob Northrop, Jack Sprat, Ted Florito, Dan Russo, Carl Sulzer orchestra, Floyd Revoir, Erwin Cornelius.

WJAZ, Chicago, Ill. (322.4), 10-12 p. m., chimes; musical program, E. Warren K. Howe, director; Pearl Appell, pianist; Ruth Alexander, pianist; William Hayden, tenor; George Krueger, baritone; Laura Turner, soprano; J. Edward Martin, bass.

WJJD, Mooseheart, Ill. (302.8), 10 p. m., Ruth Allanson, Jack Norton; 12 midnight, Jack Nelson, Larry Shay, George Sparks.

WKRC, Cincinnati, Ohio (422.3), 8 p. m., violin, piano, vocal soloists, Hotel Alms; 9, classical program, Burnet C. Tuthill, director.

WLS, Chicago, Ill. (344.6), 12 m., W. L. S. studio trio; 6:15, announcements; 6:30, Ralph Emerson, organ concert; 7, Woodshed theater, Ford and Glenn; 7:20, Salvation Army band.

WLW, Cincinnati, Ohio (422.3), 7:30 a. m., healthful exercises, William Stradtman, Y. M. C. A.; 7:45, morning devotions, auspices of Parkway Y. M. C. A.; 12 m., organ concert, Mildred Prigge; 12:30 p. m., health talk, Dr. Carl Wilzback; 4, piano recital, Adelaide Apfel and pupils; 6, Santa Claus and his helpers; 6:40, lessons in solitaire, Lucy Blackburn; 7, dinner hour concert, Hotel Gibson orchestra, Robert Visconti, director; 7:30, lessons in bridge, Mrs. Guy Purdy; 7:40, Hotel Gibson concert; 10, three-minute message, civil service department of United States government; 10:03, Doherty Melody Boys; 10:30, southern negro melodies; 11, Crosley Salon orchestra; 12:15, Crosley Sky Terrier program.

WMAQ, Chicago, Ill. (447.5), 12:45, Radio farm school; 2, shut-in program; 4, program, Illinois Federation of Women's clubs; 4:45, musical program; 5:15, topsy-turvy time; 6, organ, Chicago theater; 6:30, Hotel La Salle orchestra; 8, dedication program of American Legion; 9, lecture, University of Chicago; 9:20, choir, Fourth Congregational church.

WMBB, Chicago, Ill. (250), 7-8 p. m., Trianon duo, Beatrice Teller, Preston Graves; 9-11, Trianon orchestra, Woodlawn theater orchestra, Jack Goodwin, Jack Daly, Bob Bennett; Earle Smith, J. T. Carney; Walter Duffy.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., Coopers Hawaiian.

WOAW, Omaha, Nebr. (526), 12:45 p. m., Brandies Tea Room orchestra; 6, Sandman's visit, Val McLaughlin; 6:20, classical program; 6:50, Randall's Royal Fontenelle orchestra; 9, Deluxe program; 10:30, Herb Feierman and his Omadala orchestra.

WOC, Davenport, Iowa (483.6), 12:15-12:25 p. m., farm school, "Legume Day—Red Clover Seed—Good Seed Esstential"; 3-3:30, home management schedule, Aunt Jane; 5:45-6, chimes concert; 6:30-6:50, Sandman's bedtime stories; 7-7:30, the Larkinites, WEAF; 9-10, Goodrich Zippers, WEAF; 11-12, LeClaire hotel orchestra; Peter MacArthur, baritone.

WOK, Chicago, Ill. (217.3), 5-7 p. m., Gus C. Edwards' orchestra; organ, Capitol theater; George Allen, tenor; Harriet Doty, contralto; Bob Mokreis, pianist; 10 p. m.-1:30 a. m., Gus C. Edwards' orchestra; Husk O'Hare's orchestra; Tierney's Town club orchestra; program, Capitol theater; Herman

(Continued on page 20)

Thursday, December 17

(Continued from page 19)

Sinaiko, violinist; George Allen, tenor; Harriet Lee, contralto; Bob Mokrejs, pianist.

WOQ, Kansas City, Mo. (278), 7-8 p. m., Unity educatiional program; 8-9, concert program.

WORD, Batavia, Ill. (275), 8 p. m., Webster hotel concert trio; 8:15, Lucille Stowick, pianist; 8:20, I. B. S. A. orchestra, J. B. Stott, director; 8:30, Sunday school lesson; 8:45, Clarence Draggert, violinist.

WQJ, Chicago, Ill. (447.5), 11-12 m., home economics program, Helen Harrington Downing; "Planning the Christmas Dinner—Ham and Poultry," Erna J. Bertrams; "The Work of the Illinois Vigilance Association," Philip Yarrow; 3-4 p. m., talk, Helen Harrington Downing; "Party Suggestions for New Years," Julie Deal; 7-8, concert, Ralph Williams' orchestra; Margaret Cade, coloratura soprano; Clement Laskowski, tenor; Cecillia Arends, violinist; Johanna Arends, accompanist; Carl Loewen, dramatist; 10-1 a. m., Ralph Williams and his Rainbo Skylarks; Jeanette Van Lennep, mezzo soprano; Mary Van Lennep, accompanist; Jerry Sullivan; Rose Vanderbosch, soprano and pianist; Hal Lansing; Bert Davis; Ralph Keim, pianologues; Annie Keim, mezzo-soprano; Lew Butler; Parish and Ward, harmony singers; Dave Kapp, Paul Kapp, Harry Eller, Blues Destroyers trio; other Radio artists to be announced; 1-2 a. m., the Ginger Man and the Little Skylarks.

WSAI, Cincinnati, Ohio (326), 7 p. m., program, New York studio; the Larkinites; 7:30, Pop concert; 8, WEAF ensemble; 9, Goodrich Zippers.

WSB, Atlanta, Ga. (428.3), 8 p. m., Dr. Charles A. Sheldon, Jr., organist; 10:45, entertainment.

WSOE, Milwaukee, Wis. (246), 5:30 p. m., twilight hour, Olga LaBelle, pianist; "Jimmy the Bootblack," mouth-accordionist; 8:45, auto trouble shooting, Doc Otto; 9, popular musical program, Lakeview orchestra, Jerry Cermak, director; Mrs. Skobis-Muth, soprano; Helen Winding, pianist; E. R. Erving, baritone.

Mountain Time Stations

CFCA, Calgary, Can. (435.8), 7 p. m., bedtime travel tale, the Radio lady; 9, Canadian National Railways program; dance program, Jack Rushtons serenaders.

CNRC, Calgary, Can. (435.8), 1 p. m., Aunt Mary; 9, special request dance program, Jack Rushton's orchestra.

KFWA, Ogden, Utah (261), 5-6 p. m., Ogden Radio Dealers program.

KFXF, Colorado Springs, Colo. (250), 9-10:30 p. m., dance program, Rosemary Gardens.

KOA, Denver, Colo. (322.4), 12:15 p. m., musicale, Rialto theater; 3:15, exercises; 3:30, matinee for housewives; 4, culinary hints; 4:15, fashion review; 6:30, concert, Brown Palace string orchestra, Howard Tillotson, director; 7:30, farm question box.

Pacific Time Stations

KFWB, Hollywood, Calif. (252), 7:10 p. m., "Safety First," Sergt. Edgar Johnson of traffic bureau; 7:20, Jack Boaz, fishing scout; 7:30, Eye-o-logue, Dr. H. S. Marshutz; 7:40-8, microphone brevities; 8-9, program, John Wright, the Right Tailor; California Blue Boys; Hatch Graham and his banjo; Ray Bailey's string trio; 9-10, program, Western Super-Service garage; June Pursell and Ron Wilson, entertainers; Ray Kellogg and Bill Hatch, the jazz twins; 10-11, Warner Brothers frolic, direction Charlie Wellman; 11-12, Hollywood Roof ballroom orchestra.

KGO, Oakland, Calif. (361.2), 7:15-7:30 a. m., health training exercises, Hugh Dobbs; 7:45, Pep class; 8:15-8:30, exercises; 11:30-1 p. m., luncheon concert; 4-5:30, concert orchestra, Hotel St. Francis, Vinton LaFerrera, conductor; 5:30-6:30, George W. Ludlow, "Friend to Boys;" 8, "The Delinquents," 4-act play, Florence Browning Miller and Allena Kanka; KGO players, Wilda Wilson Church, director; Arion trio.

KHJ, Los Angeles, Calif. (405.2), 6-6:30 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6:30-7:30, history story, Prof. Hertzog; Christmas eve party for KHJ kiddies; 7:30, Rev. Gordon Palmer of South Park Baptist church; 7:45, talk on health, Dr. Phillip M. Lovell; 8-10, Christmas eve program of world famous Christmas carols and sacred music, Martin Music company, featuring Ruth Pitts, soprano; 10-11, Don Clark's Biltmore hotel dance orchestra.

KMTR, Hollywood, Calif. (238), 5-6 p. m., home hour, Mammy Simmons and pupils of Carter Weaver; 8-10, KMTR concert hour, the Turner orchestra, Loren Powell, director.

KNX, Hollywood, Calif. (336.9), 5-5:30 p. m., Sunny Jim's talk to children; 5:30-6:15, Wurlitzer pipe organ studio; Town Tattler; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent concert orchestra, Paul Finstein, leader; 7-8, program, H. L. Crockett, featuring Way Watts and his ukulele; 8-9, program, Willys-Overland dealers of Southern California; 9-10, program, M. Weinstein, dealer in precious stones; 10-11, Ray West's Cocoanut Grove dance orchestra from Ambassador hotel.

KPO, San Francisco, Calif. (428.3), 7, 7:30, 8 a. m., daily dozen exercises; 10, domestic science talk, Virginia Tappan; 1-2 p. m., Rudy Seiger's Fairmont hotel orchestra; 2:10, "The Proper Care of Silverware"; 2:30, special matinee program; 3:30-4:30, Cyrus Trobbe's Palace hotel concert orchestra; 5:30-6:15, children's hour, Big Brother; 6:40-7, Waldemar Lind and the States restaurant orchestra; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 8-9, program; Edith Knox, pianist; Radio Eight symphony orchestra; 9-10, two one-act plays, Pacific Coast Radio players, Etta Wilson Coleman, director; 10-11, Jack Coakley's Cabirians.

KTAB, Oakland, Calif. (240), 9-9:30 a. m., prayer service, Rev. Phillips; 8-10 p. m., program.

Friday, December 18

Headliners Today

Eastern	Central	Mountain	Pacific
8 p. m.	7 p. m.	6 p. m.	5 p. m.

WTIC (475.9) Second Annual Christmas Carol concert.

8:15	7:15	6:15	5:15

WHO (526) Ladies' quartet.
WJAR (305.9) Gorman's Jolly Bakers.

9	8	7	6

WBZ (333.1) Old Christmas Carols.
WDAF (365.6) Ott Boys' band.
WGR (319) Crescent Park entertainers.

9:30	8:30	7:30	6:30

WEEI (348.6) Carter's Incas.

10	9	8	7

KOA (322.4) Excerpts from operas.
WEBH (370) Light Opera company.
WLIT (395) Morning Glory club.

10:30	9:30	8:30	7:30

KWSC (348.6) Marimba trio.

11	10	9	8

WLIT (395) Divertisements.

Friday, silent night for: CHIC, CKNC, CNRC, CNRM, CNRO, CNRR, CNRW, KFMQ, KFRU, KFUO, KFXF, KGO, KLDS, KPRC, KUOM, PWX, WAFD, WBBR, WCBD, WEAO, WEBW, WGBS, WGST, WHAZ, WIP, WJAZ, WJBL, WKRC, WLW, WLWL, WOI, WOR, WRC, WREO, WSAI, WSUI, WSMB, WTAM.

Eastern Time Stations

CNRA, Moncton, Can. (291), 7 p. m., Aunt Ida; 7:30, Dominion department of agriculture Radio service; 8, studio program, Fabien Arsenault and his "Old Timers"; 10, CNRA orchestra.

CNRT, Toronto, Can. (356.9), 6:30 p. m., dinner concert; Luigi Romanelli and his King Edward hotel concert orchestra; 9, Christmas music, Ye Old Waites, directed by Alfred Heather; Kathlee Irwin, pianist; Jessie Borthwick, contralto; Florence McNair, soprano; Beatrice Fitzpatrick, contralto; John Detwiler, bass; 11, dance program; Luigi Romanelli's orchestra.

WAHG, New York, N. Y. (315.6), 12-12:15 p. m., Sid Cohen, pianist; 7:30-7:45, Maude Mason, pianist; 7:45-8, Prof. Richard E. Mayne, talk; 8-9, Skinner organ recital; 9-9:15, Radio Santa Claus; 9:15-9:30, Clara Lumley, soprano; 9:30-9:45, Manly Price Boone, tenor; 9:45-9:55, studio program; 10-10:15 Manly Price Boone, tenor; 10:15-10:25, Mrs. Bob Schafer, the Radio girl; Utopia dance orchestra; 10:25-10:55, Fred Fischer and Bob Schafer; 10:55-11:05, Utopia dance orchestra.

WBAL, Balitmore, Md. (375), 9-10 p. m., musical program; Novelty night, Mary Knox Fitz, pianist-contralto; Geneva Fitz, soprano; Amos Stidman, tenor.

WBZ, Springfield, Mass (333.1), 6:30 p. m., Little symphony orchestra, KDKA; 7:30, Ralph Greenleaf, tenor; 8, Edwin J. McEnelly and his orchestra; 8:30, concert, Musicians Supply company; 9, concert, Gibbs Piano company; Old Christmas carols; Helen Triplett, soprano; Ruth Ekberg, contralto; William Spittal, tenor; Walter Marsh, baritone; instrumental trio; Ruth Ray, violinist; Arnold Janser, cellist; Dorothy Birchard Mulroney, accompanist.

WCAE, Pittsburgh, Pa. (461.3), 10:45 a. m., Gold Medal talk; 12:30 p. m., program for day; 3, program, Loew's Aldine theater; 6:30, concert, William Penn hotel; 7:30, Santa Claus; 7:45, address, current motor topics, auto tours and road conditions; 8:30, Pleasant Valley country club orchestra.

WCAU, Philadelphia, Pa. (277.6), 7:45 p. m., Clarence Seaman and his Hotel Pennsylvania orchestra; 8:15, chiropractic talk; 8:30, entertainment; 9, program; 9:30, Billy and his saxophone; 9:45, Ed Kiefer, humorist; 10, musical program; 10:30, Jack Myers' Musical Architects.

WCX, Detroit, Mich. (517), 6 p. m., dinner concert, Book-Cadillac hotel; 9, studio program; 10, dance music, Graystone Ballroom.

WEAF, New York, N. Y. (491.5), 6:45-7:20 a. m., Tower health exercises; 10:45-11:05, Betty Crocker Gold Medal Flour Home service talk; 11:05-11:15, Louis Sawmell, pianist; 11:15-11:30, talk; 11:30-12, Columbia university lecture on practical household arts; 4-4:15, Norman Secon, pianist; 4:15-4:30, Jeanne A'Dair, soprano; 4:30-4:45, Alfonso Chattins, violinist; 4:45-5, talk, Ida Mellen; 6-7, Waldorf-Astoria dinner music; 7-7:30, Xmas town, Santa Claus, James McCreey company; 7:30-7:45, Sir Hob Goblin shows a motion picture, Blanche E. Wade; 7:45-8, Milton Gersatnson, pianist; 8-8:30, the Happiness boys; 8:30, Eagle Neutrodyne trio; 9-10, Spear and company home entertainers; 10-10:15, Patterson Coates, baritone; 10:15-11, musical program; 11-12, dance music.

WEBJ, New York, N. Y. (272.6), 7-7:45 p. m., Lehigh serenaders; 7:45-8, W. C. Ihlefeld, tenor; 8-8:30, Leon and Ida Fox, violinists; 8:30-9:30, Balconnades dance orchestra.

WEEI, Boston, Mass. (348.6), 6:45 a. m., health exercises; 10:45, home service talk; 3 p. m., "Habits in Children," Dr. H. J. Broughton; 6:45, Big Brother club; 7:30, Whiting's Grade A Five; 8, Sager's half hour of hospitality; 8:30, Neapolitan Ice Cream company's program; 9, Radio skit; 9:30, Carter's Incas; 10, Scotty Homes and his orchestra; Imperial Marimba band.

WFI, Philadelphia, Pa. (395), 10:30 a. m., solos; 10:40, home service talk, Betty Crocker; 1 p. m., Strawbridge and Clothier tea room ensemble; 3, Ophleia instrumental quartet; Caroline Hoffman, pianist; "Art in Philadelphia," Lillian Meeser; 6:30, Bellevue Stratford hotel concert orchestra; 7, Bellevue Stratford hotel dance orchestra.

WGBS, New York, N. Y. (315.6), 6-6:30 p. m., Uncle Geebee; 6:30-7, Anzell's orchestra; 7-7:10, talk; 7:10-8, Anzell's orchestra.

WGCP, New York, N. Y. (252), 1:30 p. m., Mirror race results half hourly; 3-3:15, Samuel Weber, blind pianist; 3:15-3:30, Osborne and Meredith, songs; 3:30-3:45, Leslie McLeod, Irish tenor; 3:45-4, Clarence Profit, pianist; 4-4:15, Hugo Angelo, tenor; 4:15-4:30, Rose Pomerantz, pianist; 4:30-4:45, studio program; 4:45-5, Charol de Thomee; pianist; 6-6:15, Littmann's orchestra; 6:15-6:30, Daddy Dingle and his Jingle machine; 6:30-7, Littmann's orchestra; 7-7:30, Richman entertainers; 7:30-8, studio program; 8-8:30, Ukulele Bob McDonald; 8:30-8:45, Richard Cheathams band; 8:45-9:15, Eva Rothenberg, pianologue; 9:15-9:45, Piotti and Val, songs; 9:45-10, Stricklands orchestra; 10-11, Connie's orchestra; 11-11:30, Murphys entertainers.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 6:30, Yankee Six club orchestra; 9, Winger's Crescent Park entertainers; 9:30, program, Albright Art Gallery; 10:30, "Thirty Minutes of Something Different," Hewitt Rubber company; 11, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

WGY, Schenectady, N. Y. (379.5), 2 p. m., Asia Restaurant orchestra; 2:30, music, health notes; Dr. C. W. Woodall; "The Two Cowards," one-act play; 6:30, International Sunday school lesson; 7, dinner music; 7:30, health talk; 7:40, French lesson, Leon A. Huguemont; 8:15, English drama, "The Mother Woman," Cosmo Hamilton; WGY players, Ten Eyck Clay, director; 10:30, WGY orchestra, Ruth Don, pianist.

WHAR, Atlantic City, N. J. (275), 2 p. m., Seaside hotel trio; 7:30, talk; 8, Seaside hotel orchestra; 11:15, Strand theater organ recital.

WHN, New York, N. Y. (361.2), 6-6:15 p. m., Littmann's dinner music; 6:15-6:30, Daddy Dingle and his Jingle Box; 6:30-7, Littmann's dinner music; 7-7:30, Harry Richman and his entertainers; 7:30-8:30, Melody club orchestra; 10:30-11, Roseland dance orchestra; 11-11:30, Caravan club orchestra; 11:30-12, Broadway Samovar orchestra; 12-12:30 a. m., Silver Slipper orchestra.

WIP, Philadelphia, Pa. (508.2), 1 p. m., luncheon music, Gimbel tea room orchestra; 3, Charles Freiden, violinist; Edward Springman, flutist; Kathryn Seary, ballad singer; Flora Ripka, accompanist; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime story; banjo duets, Ralph Reeves, Merle Rogers.

WJAR, Providence, R. I. (305.9), 10 a. m., Mrs. Wood; 1:05, Woodstock entertainers; 7:30, Margaret Reid; 7:45, Beethoven quartet; 8:20, speaker, R. I. Medical society; 8:30, Gorman's Jolly Bakers; 9, program, Margaret Wigham, director; 11, Providence Biltmore dance orchestra.

WJR, Pontiac, Mich. (517), 7 p. m., Jean Goldkette's Petite Symphony orchestra; soloists; 7:30, Arctic-Condon trio;; 8, Summerfield and Hecht.

WKAR, E. Lansing, Mich. (285.5), 7:15 p. m., lectures on botany, English, forestry; 8, educational program, state department.

WLIT, Philadelphia, Pa. (395), 12:30 p. m., Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 4:30, Al Hughes dance orchestra; 7:30, Dream Daddy; 8, "Philadelphia Firsts;" 8:15, concert music; 8:30, sports talk; 8:45, musical programs; 10, meeting, Morning Glory club; 10:30, Rufus and Rastus; 11, program, musical, comedy stars.

WMCA, New York, N. Y. (340.7), 6-6:30 p. m., Olcott Vail and his Hotel McAlpin string ensemble; 6:30-7:30, Ernie Golden and his Hotel McAlpin orchestra; 8-8:15, O. G. Van Campen, course in public speaking; 8:50-9, Broadway association program; 9-10, Hardman hour of music; 11-11:15, Mario Alvarez, tenor; 11:15-11:30, Donald Flamm, dramatic critic.

WOR, Newark, N. J. (405.2), 6:15-6:17 p. m., words often mispronounced; 6:17-6:30, Bill Wathey, sport talk; 6:30-6:45, Man in the Moon stories; 6:45-7:30, Hotel Shelton ensemble.

WPG, Atlantic City, N. J. (299.8), 6:45 p. m., Arthur Scott Brook, organist; 7, Hotel Morton trio dinner music, J. Leonard Lewis, director; 8, "Educational Series," Patrick J. Doran, chief of police; 8:15, Dorothy Torchiana, soprano; Dr. Bertram Fenimore, baritone; Alice Warren Sachse, pianist; 8:50, "Weekly Line of Cheer"; 9, Hotel Traymore concert orchestra; 10, Nick Nichols' dance orchestra; 11, Jean Wiener, organist.

WTAG, Worcester, Mass. (268), 10:45 a. m., food hints, Mildred C. Thomas; 7:45, "Mechanics of Speaking," Meta B. Wade; 8, travel talk; 8:15, concert program; 8:30, current events, Gwendolyn Albee.

WTIC, Hartford, Conn. (475.9), 11 a. m., Housewives' forum, J. M. Dean; 12:03 p. m., luncheon music; 6:30, Young People's period; 7, Emil Heimberger's Hotel Bond trio; 7:30, H .H. Armstrong; 8, Second Annual Christmas carol concert; Travelers choral club, 70 voices; Travelers symphonic ensemble; 10, LeBal Tabarin orchestra; 11:30, popular half hour, Don Ramsey's Four.

WWJ, Detroit, Mich. (352.7), 7:30-8 a. m., exercises, R. J. Horton; 9:30, "Tonight's Dinner," woman's editor; 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra; 6, concert; 8, News orchestra and soloists; 9, dance program.

Central Time Stations

KFAB, Lincoln, Neb. (340.7), 5:30-6:30 p. m., Santa Claus, Monte Munn, Belshaw's orchestra; 8:30-10:30, Jos. J. Van Ackeren, violinist; Joe Bruhl and Victorians orchestra; Gordon G. Deiney, flutist; Richard Low, Chinese baritone; Mabel and Julius Ludlam, violinist and pianist; Deiney and Hember, flutists; Rose Neff, operatic whistler.

KFDM, Beaumont, Texas (315.6), 12:25-12:55 p. m., concert; Magnolia Petroleum company's refinery band;

(Continued on page 21)

AN EVENING AT HOME WITH THE LISTENER IN
IN CENTRAL TIME

Call	Location	Met.	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
AT9	Fort Bragg, N. C.	435	Silent	5:00- 6:00	Silent	Silent	Silent	7:00- 8:55	Silent
CFCA	Toronto, Ont.	356.9	Silent	7:00- 8:00	Silent	Silent	7:15-10:45	8:00-10:45	Silent
CFCN	Calgary, Alta.	434.5	11:00- 1:00	Silent	Silent	Silent	Silent	9:00-10:00	Silent
CJCA	Edmonton, Can.	516.9	10:00-12:00	8:30- 9:30	8:30-10:30	8:30- 9:00	7:00- 9:00	10:00-12:00	9:00-12:00
CKAC	Montreal, Que.	410.7	6:30-10:00	Silent	Silent	6:30-10:00	Silent	7:30-10:00	Silent
CKNC	Toronto, Ont.	356.9	7:00-11:00	Silent	7:00-11:00	Silent	Silent	Silent	Silent
CKY	Winnipeg, Man.	384.4	8:00-11:00	7:00-10:00	8:00-12:00	Silent	7:30-11:00	9:00-11:00	Silent
CNRO	Ottawa, Ont.	434.5	7:30-12:30	Silent	Silent	Silent	7:30-12:30	Silent	Silent
CYL	Mexico City, Mex.	480	Silent	8:00- 9:30	Silent	8:00- 9:30	Silent	Silent	8:00- 9:30
KDKA	Pittsburgh, Pa.	309.1	5:15- 8:55	3:00- 7:45	5:15- 8:55	5:15-11:30	5:15- 8:55	5:15-11:30	5:15- 8:55
KFAB	Lincoln, Nebr.	340.7	5:30- 9:30	4:00- 5:00	5:30-10:30	5:30-10:30	5:30-10:30	Silent	5:30-10:30
KFDM	Beaumont, Texas	315.6	Silent	8:00- 9:00	Silent	8:00-10:30	Silent	Silent	8:00-10:30
KFI	Los Angeles, Calif.	467	8:45- 2:00	6:00- 1:00	8:45- 1:00	8:45- 1:00	8:45- 1:00	8:45- 1:00	8:45- 1:00
KFKX	Hastings, Nebr.	288.3	Silent	Silent	9:00-11:00	Silent	Silent	Silent	9:00-11:00
KFMQ	Fayetteville, Ark.	299.8	Silent	Silent	7:30- 8:30	8:00- 9:00	Silent	8:00- 9:00	Silent
KFMX	Northfield, Minn.	337	Silent	7:00- 8:00	Silent	9:30-10:00	9:00-10:00	Silent	10:00-11:00
KFNF	Shenandoah, Ia.	266	7:00- 9:00	6:30- 8:30	7:00- 9:00	7:00- 9:00	7:00- 9:00	7:00- 9:00	7:00- 9:00
KFOA	Seattle, Wash.	454.3	8:00- 1:30	Silent	8:00-12:00	8:00- 1:00	8:00-12:00	Silent	8:00- 1:30
KFUO	St. Louis, Mo.	545.1	Silent	8:15- 9:15	8:00- 9:00	Silent	9:15-10:15	Silent	Silent
KFVE	Univ'ty City, Mo.	240	8:30-10:00	Silent	8:30-10:00	8:30-10:00	8:30-10:00	Silent	8:30-10:00
KFWB	Hollywood, Calif.	252	10:00- 1:00	11:00- 1:00	8:00- 1:00	8:00- 1:00	8:00- 1:00	9:30- 1:00	10:00- 1:00
KGO	Oakland, Calif.	361.2	10:00- 2:00	5:30-11:00	10:00-12:00	10:00-12:00	8:00- 9:00	10:00- 2:00	8:00- 9:00
KGW	Portland, Ore.	491.5	12:00- 2:00	9:45-11:00	10:00-12:00	9:45- 2:00	10:00- 1:00	9:45-10:00	11:00-12:30
KHJ	Los Angeles, Calif.	405.2	7:30- 4:00	8:00-12:00	8:00-12:00	7:30- 1:00	7:30- 1:30	7:30- 1:00	7:30- 1:30
KIAF	Sihtipok, Minn.	421	Silent	4:00- 5:00	9:00-10:00	Silent	9:00-10:00	Silent	9:00-10:00
KJR	Seattle, Wash.	384.4	10:30-12:00	9:15-11:00	9:00- 1:00	10:30-12:00	9:00-12:00	10:30- 2:00	10:30- 1:00
KLDS	Independence, Mo.	440.9	Silent	6:30-10:00	Silent	8:00- 9:00	Silent	8:00- 9:00	Silent
KLX	Oakland, Calif.	508.2	Silent	Silent	8:00- 1:00	Silent	8:00- 1:30	Silent	8:00-12:30
KNX	Hollywood, Calif.	336.9	7:30- 4:00	9:00-12:30	8:30- 2:00	8:30- 2:00	7:30- 1:00	7:30- 1:00	7:30- 2:00
KOA	Denver, Colo.	322.4	10:00-12:00	5:00-10:00	7:30-10:00	7:30- 9:30	7:30-12:00	7:30- 8:30	7:30-10:00
KOB	State College, N.M.	348.6	Silent	Silent	8:30- 9:30	Silent	Silent	Silent	Silent
KOIL	Council Bluffs, Ia.	278	7:30-12:00	7:30- 9:00	7:30-12:00	7:30-12:00	7:30-12:00	7:30-12:00	7:30-12:00
KPO	San Francisco, Cal.	428.3	8:35- 2:00	7:00-12:00	8:30- 1:00	8:30- 1:00	8:30- 1:00	8:30- 1:00	9:00- 1:00
KPRC	Houston, Texas	296.9	7:30-12:00	8:00-11:00	7:30-10:00	7:30- 9:30	7:30-12:00	7:30- 9:00	Silent
KSD	St. Louis, Mo.	545.1	6:45-10:00	6:15- 9:15	6:55-11:00	6:55-10:00	7:00- 9:00	6:55-10:00	7:30- 9:00
KSL	Salt Lake City, Ut.	299.8	9:00-12:00	10:00-12:00	9:00-12:00	10:00-12:00	9:00-12:00	9:00-12:00	10:00-12:00
KTAB	Oakland, Calif.	240	Silent	9:45- 1:00	10:00-12:00	10:00-12:00	Silent	10:00-12:00	10:00-12:00
KTBI	Los Angeles, Calif.	293.9	Silent	9:15-11:30	Silent	10:00-11:00	Silent	10:00-11:00	Silent
KTCL	Seattle, Wash.	305.9	Silent	8:10-11:10	9:00-10:00	10:00-11:00	Silent	Silent	9:00- 2:00
KTHS	Hot Springs, Ark.	374.8	9:00-11:00	9:00-11:30	9:00-11:00	9:00-11:00	9:00-11:00	9:00-11:00	9:00-11:00
KTW	Seattle, Wash.	455	Silent	9:00-11:30	Silent	Silent	Silent	Silent	Silent
KWKH	Shreveport, La.	261	9:00-12:00	Silent	10:00- 3:00	9:00-12:00	Silent	8:00- 9:00	Silent
KWSC	Pullman, Wash.	348.6	Silent	Silent	9:30-11:00	Silent	9:30-11:00	Silent	9:30-11:00
KYW	Chicago, Ill.	535.4	7:00-10:00	4:00- 8:00	Silent	7:00-12:30	7:00- 1:30	7:00-12:30	7:00- 1:30
NAA	Radio, Va.	434.5	Silent	Silent	6:45- 7:00	6:45- 7:00	6:25- 7:40	6:45- 7:00	6:45- 7:00
PWX	Havana, Cuba	400	7:30-10:00	Silent	Silent	Silent	7:30-10:00	Silent	Silent
WAHG	Richmond, N. Y.	315.6	11:00- 1:00	Silent	6:30- 1:00	Silent	6:30-11:00	Silent	7:00-10:00
WAMD	Minneapolis, Minn.	243.8	10:00-11:00	2:00-10:00	Silent	10:00-11:00	10:00-11:30	10:00-11:30	10:00-11:00
WBAP	Fort Worth, Tex.	475.9	7:00- 8:00	11:00-12:00	7:30-12:00	7:30-10:45	7:30-10:45	7:30-10:45	7:30-10:45
WBAR	Sisiht, Wis.	406	Silent	10:00-11:00	9:00-10:00	Silent	8:00- 9:00	7:30- 8:30	Silent
WBBM	Chicago, Ill.	226	8:00-12:00	4:00-10:00	Silent	8:00-12:00	8:00-10:00	8:00-12:00	8:00-10:00
WBBR	Staten Island, N.Y.	272.6	7:00- 9:00	8:00- 9:15	7:00- 8:00	Silent	Silent	7:00- 8:00	Silent
WBCN	Chicago, Ill.	266	9:00- 1:00	5:00-12:00	Silent	9:00- 1:00	8:00-12:00	9:00- 2:00	9:00- 1:00
WBZ	Springfield, Mass.	333.1	Silent	7:00- 8:00	5:00- 9:15	5:00- 9:15	5:00- 9:15	5.00- 9:15	5:00- 9:15
WCAE	Pittsburgh, Pa.	461.3	7:30-8:30	5:30- 7:20	7:30-11:00	7:00-10:00	7:30- 9:00	8:00-10:00	7:00- 8:30
WCAP	Washington, D. C.	468.5	Silent	3:00- 8:15	6:00- 9:30	Silent	6:00-11:00	Silent	6:45-11:00
WCAU	Philadelphia, Pa.	278	Silent	4:00-10:20	7:00-10:00	6:30-11:00	6:30-10:00	5:30-11:00	6:45-11:30
WCBD	Zion, Ill.	344.6	Silent	8:00-10:30	Silent	8:00-10:30	Silent	8:00-10:30	Silent
WCCO	Minn-St. P., Minn.	416.4	6:05-11:00	4:10-10:15	6:00-11:00	6:30-10:00	7:00-12:30	7:00- 9:00	6:15-10:00
WCX	Detroit, Mich.	516.9	5:00- 6:00	Silent	5:00- 8:00	5:00- 1:00	5:00- 8:00	5:00- 8:00	5:00-10:00
WDAF	Kansas City, Mo.	365.6	6:00- 1:00	Silent	6:00- 1:00	6:00- 1:00	6:00- 1:00	6:00- 1:00	6:00- 1:00
WDWF	Providence, R. I.	440.9	Silent	Silent	Silent	7:30- 8:30	Silent	Silent	Silent
WEAF	New York, N. Y.	491.5	6:00-12:00	7:20-10:15	6:00-11:30	6:00-12:00	6:00-12:00	6:00-12:00	6:00-12:00
WEAO	Columbus, Ohio	293.9	Silent	Silent	Silent	Silent	7:00- 8:00	7:00- 8:00	Silent
WEAR	Cleveland, Ohio	389.4	6:00-7:00	1:30- 6:00	6:00- 7:00	6:00- 9:00	6:00- 7:00	6:00-10:00	6:00-10:00
WEBH	Chicago, Ill.	370.2	7:30-12:30	7:00- 9:00	Silent	7:30-12:30	7:30-12:30	7:30-12:30	7:30-12:30
WEBJ	New York, N. Y.	272.6	Silent	Silent	Silent	7:00- 9:00	7:00- 9:00	Silent	6:00- 8:00
WEEI	Boston, Mass.	348.6	Silent	6:20- 9:20	7:30- 9:00	7:00-10:00	7:00-10:00	7:00-10:00	7:00- 8:00
WENR	Chicago, Ill.	266	6:00- 2:00	2:00-11:30	Silent	6:00-10:00	6:00- 2:00	6:00-10:00	6:00- 2:00
WFAA	Dallas, Tex.	475.9	8:30-12:00	6:30-11:00	6:30- 9:30	6:30-12:00	Silent	6:30-12:00	6:30- 9:39
WFBH	New York, N. Y.	272.6	10:30- 1:00	4:00- 7:00	10:30- 1:00	10:30- 1:00	10:30- 1:00	10:30- 1:00	10:30- 1:00
WFI	Philadelphia, Pa.	394.5	7:00- 8:30	6:30- 7:30	Silent	7:00-11:00	Silent	7:00-10:00	Silent
WGBS	New York, N. Y.	315.6	5:00-10:30	7:00-8:00	6:00- 6:15	5:00-10:30	5:00- 7:30	5:00- 7:45	Silent
WGBU	Fulford, Fla.	278	5:30-12:00	8:30-11:00	5:30-12:00	5:30-12:00	5:30-12:00	5:30-12:00	5:30-12:00
WGCP	New York, N. Y.	252	Silent	7:00-10:15	7:00-10:00	Silent	7:00-10:15	Silent	7:00-10:00
WGES	Oak Park, Ill.	250	10:30- 2:00	5:00-11:00	Silent	5:00- 1:00	5:00- 1:00	5:00- 1:00	5:00- 1:00
WGHP	Detroit, Mich.	270	Silent	Silent	6:00- 8:00	6:00- 8:00	6:00- 8:00	8:00-10:00	8:00-10:00
WGN	Chicago, Ill.	370.2	6:30-11:30	2:30-10:00	Silent	6:30-11:30	6:30-11:30	6:30-11:30	6:30-11:30
WGR	Buffalo, N. Y.	319	Silent	6:45- 9:15	7:30-12:00	7:00-10:00	7:00-12:00	7:00-10:00	7:45-12:00
WGY	Schenectady, N. Y.	379.5	8:00-11:00	5:30- 9:00	5:30- 7:30	6:00-10:00	Silent	5:45-10:30	6:15- 9:30
WHA	Madison, Wis.	535.4	Silent	Silent	7:30- 9:00	Silent	7:30- 9:00	Silent	7:30- 9:00
WHAD	Milwaukee, Wis.	275	Silent	3:15- 4:15	8:00-10:00	Silent	10:30-12:00	Silent	8:30-10:00
WHAR	Atlantic City, N. J.	275	6:30- 9:30	6:50-12:15	6:30- 9:00	6:50-12:15	Silent	6:30-10:00	6:30-12:15
WHAS	Louisville, Ky.	399.8	7:30- 9:00	4:00- 5:00	Silent	7:30- 9:30	7:30- 9:00	7:30- 9:00	7:30- 9:00
WHAZ	Troy, N. Y.	379.5	Silent	Silent	8:00-11:00	Silent	Silent	Silent	Silent
WHB	Kansas City, Mo.	365.6	Silent	8:00- 1:00	7:00- 8:00	Silent	7:00- 8:00	8:00-10:30	7:00- 8:00
WHN	New York, N. Y.	361.2	6:30- 9:00	4:00- 4:30	7:00-11:00	8:30- 9:00	9:00-10:30	7:00- 9:00	6:30-11:30
WHO	Des Moines, Ia.	526	Silent	7:30- 8:30	7:30-12:00	7:30-12:00	6:30-12:00	7:30-12:00	7:30-12:00
WHT	Chicago, Ill.	399.8	7:00- 1:00	12:00-10:30	Silent	7:00- 1:00	7:00- 1:00	7:00- 1:00	7:00- 1:00
WIBO	Chicago, Ill.	226	6:00- 8:00	6:00-12:00	Silent	6:00- 3:00	6:00-12:00	6:00- 3:00	6:00- 2:00
WIP	Philadelphia, Pa.	508.2	7:00-11:05	Silent	Silent	7:00-12:00	Silent	7:00-12:00	Silent
WJAR	Providence, R. I.	305.9	Silent	6:20- 9:15	7:00- 9:00	6:30- 9:00	6:30-10:00	7:00-10:00	7:00-11:00
WJAS	Pittsburgh, Pa.	275.3	6:00-11:00	Silent	6:00-11:00	6:00-11:00	6:00- 1:00	6:00-11:00	6:00-11:00
WJAZ	Chicago, Ill.	322.4	Silent	Silent	Silent	Silent	Silent	10:00-12:00	Silent
WJJD	Mooseheart, Ill.	302.8	6:00-11:00	7:45-11:00	Silent	6:00- 1:00	6:00-11:00	6:00- 1:00	6:00- 1:00
WJR	Pontiac, Mich.	516.9	6:00-11:30	7:30- 9:00	6:00-11:30	6:00- 9:00	6:00-10:30	6:00-11:00	6:00-8:00
WJY	New York, N. Y.	405.2	Silent	7:15- 8:15	Silent	7:30-10:15	Silent	7:30- 9:00	7:45- 8:45
WJZ	New York, N. Y.	454.3	6:00-10:30	7:00-10:00	7:15- 8:15	7:10-10:30	8:30-10:30	7:30-10:30	7:15- 9:45
WKAQ	San Juan, P. R.	340.7	Silent	Silent	Silent	Silent	6:00- 8:00	Silent	Silent
WKAR	Lansing, Mich.	285.5	11:30- 1:00	Silent	6:15- 8:00	6:15- 7:00	6:15- 8:00	6:15- 7:00	6:15- 8:00
WKRC	Cincinnati, O.	422.3	10:00-11:00	6:45-11:00	6:00-12:00	10:00-12:00	8:00-10:45	8:00-10:00	Silent
WLIB	Chicago, Ill.	302.8	7:00-12:00	7:00- 9:00	Silent	7:00-12:00	7:00-12:00	7:00-12:00	7:00-12:00
WLIT	Philadelphia, Pa.	394.5	Silent	Silent	6:30-10:00	Silent	6:30-10:00	Silent	6:30-10:00
WLS	Chicago, Ill.	344.6	7:45- 1:00	6:30- 7:55	Silent	7:00- 8:00	7:00-11:30	7:00- 8:55	7:00-11:30
WLW	Cincinnati, O.	422.3	7:00- 9:00	7:30- 9:30	7:00- 8:00	6:30-10:00	7:00-11:00	8:00-12:00	Silent
WLWL	New York, N. Y.	288.3	Silent	6:00- 7:00	7:00- 9:00	Silent	Silent	7:00- 9:00	Silent
WMAK	Lockport, N. Y.	265.5	6:30- 9:00	6:30- 7:30	7:00- 9:00	Silent	6:30- 9:00	Silent	8:00- 9:00
WMAQ	Chicago, Ill.	447.5	8:00-10:00	Silent	Silent	8:00-10:15	8:00- 9:45	7:00-11:00	8:00-10:15
WMBB	Chicago, Ill.	250	7:00-10:30	7:00-10:30	Silent	7:00-10:30	7:00-10:30	7:00-10:30	7:00-10:30
WMBF	Miami Beach, Fla.	384.4	6:00-11:00	6:00-11:00	6:00-11:00	6:00-11:00	6:00-11:00	6:00-11:00	6:00-11:00
WMC	Memphis, Tenn.	499.7	7:30- 9:30	Silent	7:30- 9:30	7:30-12:00	Silent	7:30- 9:30	7:30-12:00
WMCA	New York, N. Y.	340.7	8:00-12:00	6:00- 9:00	8:00-11:00	7:00-11:00	8:00-11:00	8:00-11:00	7:00-10:45
WNAC	Boston, Mass.	280.2	7:00- 9:00	2:00- 8:30	7:00- 9:00	7:00- 9:00	7:00- 9:00	7:00- 9:00	7:00- 9:00
WNYC	New York, N. Y.	526	6:00- 9:30	8:00-10:00	6:35- 9:30	6:10- 9:30	6:30-9:30	6:35- 9:30	6:30- 9:30
WOAI	San Antonio, Texas	394.5	Silent	8:00-10:30	Silent	8:30-10:30	8:30- 9:30	Silent	8:30- 9:30
WOAN	Lawrenceb'g, Tenn.	282.8	Silent	9:00-10:00	9:00-10:00	9:00-10:00	9:00-10:00	9:00-10:00	9:00-10:00
WOAW	Omaha, Nebr.	526	6:00-12:00	9:00-10:00	6:00-11:00	6:00- 1:00	Silent	6:00-10:00	6:00-10:00
WOAX	Trenton, N. J.	240	Silent	8:30-10:30	Silent	Silent	Silent	Silent	Silent
WOC	Davenport, Ia.	483.6	9:00-12:00	8:00-11:30	Silent	6:30- 9:00	9:00-10:00	7:00-12:00	8:00- 9:00
WOK	Homewood, Ill.	217.3	10:00- 1:00	6:30- 8:30	Silent	10:00- 1:00	10:00- 1:00	10:00- 1:00	10:00- 1:00
WOO	Philadelphia, Pa.	508.2	6:30- 7:30	5:00- 6:00	6:30-11:00	6:30- 7:30	6:30-11:00	6:30- 7:30	6:30-11:00
WOQ	Kansas City, Mo.	278	8:00-11:00	7:00- 7:45	Silent	8:00- 9:00	Silent	7:00- 9:00	Silent
WOR	Newark, N. J.	405.2	5:15- 7:30	Silent	5:15- 8:30	5:15- 6:30	5:15-11:00	5:15- 6:30	5:15- 6:30
WORD	Batavia, Ill.	275	8:30-10:30	6:45- 8:00	Silent	8:30-10:00	8:30-10:00	8:30-10:00	8:30-10:30
WOS	Jefferson City, Mo.	440.9	Silent	8:00- 9:00	8:00-10:00	Silent	8:00-10:00	Silent	8:00-10:00
WPG	Atlantic City, N. J	299.8	6:00-11:00	3:15-11:00	6:00-11:00	7:00-11:00	Silent	7:00-11:00	6:00-11:00
WQJ	Chicago, Ill.	447.5	7:00- 3:00	7:00-10:00	Silent	7:00- 2:00	7:00- 2:00	7:00- 2:00	7:00- 2:00
WRC	Washington, D. C.	468.5	6:00-10:30	Silent	Silent	6:00-10:00	Silent	6:00-10:00	Silent
WREO	Lansing, Mich.	285.5	9:00-11:00	Silent	Silent	7:15- 9:00	Silent	7:15- 9:00	Silent
WRW	Tarrytown, N. Y.	273	8:00-10:30	7:00-10:30	8:00-10:30	8:00-10:30	8:00-10:30	8:00-10:30	8:00-10:30
WSAI	Cincinnati, O.	325.9	8:00- 1:45	3:00-10:00	10:00-12:00	7:00-10:00	10:00-12:00	8:00-10:00	Silent
WSB	Atlanta, Ga.	428.3	8:00-12:00	7:30- 9:15	8:00-12:00	8:00-12:00	10:45-12:00	8:00-12:00	8:00-12:00
WSM	Nashville, Tenn.	282.8	7:15-11:00	7:30- 8:30	7:00-11:00	Silent	7:00-11:00	Silent	Silent
WSMB	New Orleans, La.	319	8:30-10:30	Silent	8:30-11:30	Silent	8:30-10:30	8:30-11:00	Silent
WSUI	Iowa City, Ia.	483.6	Silent	9:00- 9:30	7:30- 8:30	Silent	7:45- 8:45	Silent	Silent
WTAG	Worcester, Mass.	268	Silent	6:00- 8:15	7:00- 8:00	7:00-10:00	7:00- 8:00	7:00-10:00	7:00- 8:00
WTAM	Cleveland, O.	389.4	5:00-11:00	Silent	5:00-11:00	5:00- 6:00	5:00-11:00	5:00- 6:00	5:00- 6:00
WTIC	Hartford, Conn.	475.9	Silent	Silent	5:30- 8:00	5:30- 9:00	5:30-10:00	5:30- 7:45	5:30-11:30
WWJ	Detroit, Mich.	352.7	Silent	5:20- 9:15	5:00- 8:00	5:00- 8:00	5:00- 9:00	5:00-11:30	5:00- 9:00

MORNING GLORY CLUB THROUGH WLIT

Friday, December 18

(Continued from page 20)

7-7:30, children's program; 8-10, the Magnolia Petroleum company's refinery band.

KFEQ, Oak, Neb. (268), 2-3 p. m., Kings Entertainers.

KFMX, Northfield, Minn. (337), 10-11 p. m., organ recital.

KFNF, Shenandoah, Iowa (266), 7 p. m., Sunday school lesson; 7:30, organ concert.

KFVE, University City, Mo. (240), 8:30 p. m., amusement review, Romaine Fielding; studio entertainers; Orchestra Romaine.

KMA, Shenandoah, Iowa (252), 11:30 a. m.-12:30 p. m., rural program; talk, G. H. Van Houten; "Horticulture," Earl E. May; music; 6, How Do You Do Boys, Grady and Doc, with Connie Forte and the Slumber Boat; 9, Tarkio Musical club, Tarkio, Mo.

KSD, St. Louis, Mo. (545.1), 7 p. m., fur hour, I. L. Roy Stocker, cornetist; 7:30, commerce hour; Esmeralda Berry Mayes, violinist; 8, Mildred Kincaid, contralto; Grace A. Newman, pianist; 9, Ruth Hazlett Wunder, soprano; Paul Friess, pianist.

KSO, Clarinda, Iowa (241.8), 7-10 p. m., dance orchestra.

KTHS, Hot Springs National Park, Ark. (374.8), 9-9:40 p. m., concert, Arlington hotel orchestra; Edward Richter, cellist; 9:40-10, Lawson Reid, organist; 10-11, the Pooley Hour serenaders.

KYW, Chicago, Ill. (536), 11:35 a. m., table talk, Mrs. Anna J. Peterson; 12, noon-day concert, Commonwealth Edison company; 1, Congress hotel; 6-7, dinner concert, KDKA; 7:05-7:30, bedtime story, Uncle Bob; 9, musical concert, Commonwealth Edison company; 10-12:30, midnight revue, Henri A. Keates, organist; 1 a. m., Insomnia club.

WAMD, Minneapolis, Minn. (243.8), 12 noon, studio program; 7:05, public school hour, Jordan Junior High; 8, Reception Five; 11, Skyrocket frolic.

WBBM, Chicago, Ill. (226), 4-6 p. m., Harry and Sandy; Valentino Inn orchestra; Harold Morava, lyric tenor; William Dalton, baritone; Joe McManus; Ralph Botthof; 8-10, Tip trio; Manhattan quartet; David Handler; Morris Silverman; Kristi Kalleta, cellist; Moulin Rouge orchestra; Babbe and Barr; Mowers and Sieburg, two pianos.

WBCN, Chicago, Ill. (266), 10-10:30 a. m., Penny Wise, "The Shopper's Ready Helper," shopping talk; 5-5:15 p. m., police bulletins; 7-8, Fireside hour, WBCN hobby club; George R. Cleveland, "Big Boy" Yagle, pianist; Will Rossiter, "The Daddy of the Song Publishers," tenor and songwriter; Harold Johnson, boy xylophonist; 10-12, request program; Midway dancing gardens orchestra; Eddie Mats and Billy Donovan, tenor and pianist; West End Harmony boys, instrumental duo; Ed Dempsey, "The Silken-Voiced Tenor;" Alice McMahon, contralto; "Big Boy" Yagle, pianologist.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 9:30 a. m., program for day; 10:45, "For the Gold Medal Christmas Basket," Betty Crocker; 12 m., concert, Dick Long's Dayton trio; 2 p. m., woman's hour; 4, readers' club, Mrs. Walter Stevens; 4:45, tuberculosis Radio talk; 5:30, court of Gold Medal; 6:15, dinner concert, Biley's St. Paul hotel orchestra; 7:45, "Bee Keeping"; 8, health talk; 8:15, musical program; 10:05, dance program, Arnold Frank's St. Paul hotel orchestra.

WDAF, Kansas City, Mo. (365.6), 10:45 a. m., Gold Medal flour cooking school; 6-7 p. m., school of the air; address, Kansas City children's bureau; the Tell-Me-a-Story Lady; Trianon ensemble; 8-10, Olathe, Kan., program; Ott's boys' band, D. R. Ott, director; 11:45-1 a. m., Nighthawks frolic; the Plantation players; Earl Coleman's orchestra; Kuhn's orchestra.

WDOD, Chattanooga, Tenn. (256), 6:30-7 p. m., Tivoli theater organ; 7-8, Hotel Patten orchestra; 8:15, special features; 11, popular request program.

WEBH, Chicago, Ill. (370.2), 7-8 p. m., Oriole orchestra; Pauline Sachs, soprano; Eleanor Kaplan, violinist; 9-10, WEBH Light Opera company; 11-1, Oriole orchestra; Jack Penewell, twin guitarist.

WFAA, Dallas, Texas (475.9), 12:30-1 p. m., Sunday school lesson, Dr. Horace M. Whaling; 3:30-4, Sears-Roebuck Agricultural Foundation home-makers; 4:30-5, woman's hour, literary review; 6:30-7:30, municipal band, Crandall, Texas, A. A. Cruz, directing; 8:30-9:30 p. m., Virginia Wiley, pianist; McKinney, Dallas, Jack Andrews, marimbaphonist.

WGES, Oak Park, Ill. (250), 5-7 p. m., Lydia Werner, soprano; John Brown, pianist; Katherine Gray, contralto; Edwin Kemp, tenor; Tiffin theater organ and orchestra; 8-9, Thomas Pappas, accordion; Tiffin theater organ and orchestra; John Stamford, tenor; McDevitt sisters; vocal duo; 11-1 a. m., Remington Welch, organist; Parish and Ward, Sandy McTavish, Scotch comedian; Bebb and Cameron, duettists; Thomas Pappas, accordionist.

WHAD, Milwaukee, Wis. (275), 11 a. m., pianologue, Andy Hertel; 4 p. m., Ira Schnell, baritone; 6-7, Arthur Richter, organist; 7, Bill Juhre's Radio Cartoon game; 8:30-10, Wisconsin theater revue; 35-piece Wisconsin theater concert orchestra; Dexter's Wisconsin roof orchestra.

WHAS, Louisville, Ky. (399.8), 4-5 p. m., musical, Harry S. Currie; editorial readings; 7:30-9, concert, Glee club Louisville and Jefferson county children's home, Grace Deppe, director; Benson trio, Seelbach hotel.

WHO, Des Moines, Iowa (526), 7:30-8 p. m., Colored Ladies' quartet; 8-9, Grand Junction band, Harry Erwin, director; 11-12, Bankers Life Corn Sugar dance orchestra.

WHT, Chicago, Ill. (399.8), 10 a. m., Jean Sargent's program, woman's club, Jelke Good Luck Girl, studio features; 10:45, Betty Crocker home service; 11, special studio features; 12 p. m., Al Carney's complimentary organ hour; 1-2, special studio program, Grayling's string trio; 6, classical program, dinner organ recital, Grayling's string trio; Bob York, tenor; Bernice Taylor, soprano; Mina Smith, violinist; Leola Aikman, soprano; 7:45 (238), musical features; 9:30, Dutch Masters, Loftis half hour of music, Freddie Whitmer, pianist; Samuel G. Rowe, tenor; Oscar Heather, tenor; Pat Barnes, tenor; Helen Rauh, pianist; Husk O'Hare's orchestra; 12, Pat Barnes and Al Carney.

WIBO, Chicago, Ill. (226), 2-4 p. m., shut-in program; Jack Sprat and the Carl Sulzer orchestra; Ted Fiorito, pianist; Victor Young, Dan Russo, violinists; Vernon Hayes, saxophonist; "Home Economics," Grace Viall Gray; 6-8, Walter Preston, popular songs; Ottis Pike Jester, soprano; Mary Thrash House, pianist; Joe North, barbitone; Sheperd Levine, tenor; Florence Osterman; Ray McKay, baritone; Evelyn Nelson, pianist; 10, special Oh Henry! night, "Special Show."

WJJD, Mooseheart, Ill. (302.8), 10 p. m., Senator Harold C. Kessinger, Jean St. Anne, Christian A. Grimm, Emma Butler, Cleo Mesner, Agnes Pringle; 12 midnight, Geneva organ.

WLS, Chicago, Ill. (344.6), 12 m., Ford and Glenn; 6:15, announcements; 6:30, Ralph Emerson, organist; 7, lullaby time, Ford and Glenn; 7:15, W. L. S. trio; 7:45, "Poet's Corner," Wallace Bruce Amsbarny; 8, R. F. D. farm program; 9, Apollo club; 10, Alice Forte, pianist; 10:40, Ford and Glenn time; 11, Paul Ash and orchestra.

WLW, Cincinnati, Ohio (422.3), 7:30 a. m., healthful exercises, William Stradtman, Y. M. C. A.; 7:45, morning devotions, auspices of Parkway Y. M. C. A.; 12:30 p. m., concert, Hotel Gibson, Robert Visconti, director.

WMAQ, Chicago, Ill. (447.5), 12:25 p. m., Y. M. C. A. forum; 1, Radio farm school; 2, shut-in program; 4, talk on the preschool child; 4:30, "Foibles of the Moment," Mrs. Graham Aldis; 5, child life stories; 5:30, organ, Chicago theater; 6, Family Altar league; 6:15, Wide-Awake club program; musical lecture, Mr. and Mrs. Marx Oberdorfer; 8:30, Whitney trio; 9, lecture, Univeristy of Chicago; 9:20, Elizabeth Stokes, soprano; 9:45, Christian Endeavor topics.

WMBB, Chicago, Ill. (250), 7-8 p. m., Trianon duo, Beatrice Teller, Frank Bordner; 9-11, Trianon orchestra, Dell Lampe, director; Woodlawn theater orchestra; Pat McGuire; Ed "Banjo" Hines; Jack Goodwin, Frank Carter, Fred Rose.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., Mrs. David Wayne Maxwell; 11, frolic.

WOAI, San Antonio, Texas (394.5), 3 p. m., musical program, Kamma's Hawaiians; 8:30, musical program, Menger hotel trio.

WOAW, Omaha, Nebr. (526), 12:45 p. m., Sunshine Sunday dinner menu, recipe service; 1, Randall's Royal Fontenelle orchestra; 4:15, Blah bunch; 6, Val McLaughlin, the Sandman; 6:20, music review, Hester Bronson Copper; 6:45, Brandeis Tea Room orchestra; 9, Deluxe program; 10:30, Frank Hodek and his Nightingale orchestra.

WOC, Davenport, Iowa (483.6), 12:15-12:25 p. m., farm school; special farm service; 3-3:30, home management schedule, Aunt Jane; 4-5, Crescent orchestra; 5:45-6, chimes concert; 6:30-6:50, Sandman's bedtime stories; 8-9, musical program, Orville Rohlf, director; Burnell Shuler, organist; 9-9:45, travel lecture, "Around the World with B. J. Palmer."

WOK, Chicago, Ill. (217.3), 5-7 p. m., Gus C. Edwards' orchestra; organ, Capitol theater; Jean Carlson, soprano; Bob Mokrejs, pianist; George Allen, tenor; 10 p. m.-1:30 a. m., Gus C. Edwards' orchestra; Husk O'Hare's orchestra; Tierney's Town club orchestra; Capitol theater program; Arnold B. Stephenson, musical saw; Harriet Lee, contralto; Herman Sinaiko, violinist; George Allen, tenor; Bob Mokrejs, pianist.

WORD, Batavia, Ill. (275), 8 p. m., Webster hotel concert trio; 8:15, Uncle Dan, Radio WORD study club; 8:30, Nannette Blackstone, soprano; Ethel Schwertzler, violinist; Nellie Allen, pianist; 9:15, lecture, "Germ Theory," J. J. Mount, dental surgeon; 9:30, "Radio a Remedial Agent," Dr. Chester A. Morris.

WOS, Jefferson City, Mo. (440.9), 8 p. m., "Condition of Missouri Roads;" "Snakes, Good and Bad," Homer A. Wilson; Moniteau County Farm clubs, W. H. Schull, director; Mrs. Nanalee Thompson, pianist.

WQJ, Chicago, Ill. (447.5), 11-12 m., Ted Wilmes, chef, Rainbo Gardens, Sunday dinner menu; 3-4 p. m., talk, Helen Harrington Downing; 7-8, concert, Ralph Williams' orchestra; Henrietta Nolan, violinist; Doris Gross, character reader; Everett G. Mitchell, baritone; Maude Shapton Couse, lyric soprano; 10 p. m.-1 a. m., Ralph Williams and his Rainbo Skylarks; Dr. H. Lucille Long, woman harmonica player; Eleanor Terry, Marie Pollette; Laurie, Eddie, Bennie, the Melodians; Lean Terrill, baritone; Ed McGinnis, accordion; Anita Chellis, comedienne; Romo Vincent, boy baritone; Merrill Carder, baritone; other Radio artists to be announced; 1-2 a. m., Ralph Williams, the Ginger Man, and the Little Skylarks.

WSB, Atlanta, Ga. (428.3), 8 p. m., concert; 10:45, Carter Electric Radiola orchestra.

WSOE, Milwaukee, Wis. (246), 5:30 p. m., twilight hour, Aunt Julie; Caroline Ramminger, soprano; Olga LaBelle, pianist; Agnes Roets, marimba soloist; 8:45, week's best books, Bookworm; 9, Wack's Iver-Johnson mandolin-guitar quintet; S. J. Newton, baritone; N. Barkdoll, declaimist.

Mountain Time Stations

CFAC, Calgary, Can. (435.8), 7-8 p. m., salon broadcast, Gladys Webb Foster, director.

CNRE, Edmonton, Can. (516.9), 7:30-8 p. m., children's half hour; 8:30-10:30, studio concert, Newsboys' band, direction of T. G. Aldridge.

KFWA, Ogden, Utah (261), 5-6 p. m., Ogden Radio Dealers program.

KOA, Denver, Colo. (322.4), 12:15 p. m., musicale, Rialto theater; 3:15, exercises; 3:30, housewives matinee; 4, culinary hints; 4:15, fashion review; 6:30, concert, Brown Palace string orchestra, Howard Tillotson, director; 7:30, Sunday school lesson; 8, studio program, courtesy Sterling, Colo., chamber of commerce.

KOB, State College, N. M. (348.6), 7:30-8:30 p. m., women's quartets, men's quartets, State College music department.

Pacific Time Stations

CNRV, Vancouver, Can. (291), 8:30 p. m., studio program, Rhena Marshall, soprano; Jessie Grant Munshaw, pianist; Alice Wilma Metz, violinist; Florence L. Lyle, elocutionist; 10:30, Cabaret Belmont orchestra; Miss Bebe Mullar, soprano.

KFDJ, Corvallis, Ore. (282.5), 7:30 p. m., musical selections; 7:40, "Modern Accounting," F. L. Robinson; 7:55, musical selections; 8:05, "House Eating, How to Conserve Fuel and Cut Down Repair Bills," Earl C. Willey; 8:20, "Developments in the Production and Use of Engineering Materials," S. H. Graf; 8:35, music.

KFWB, Hollywood, Calif. (252), 7:30-8 p. m., program, Elmer R. Sly company; 8-9, program, Starr Piano company, Hollywood Rythmn Kings; Ina Mitchell Butler, soprano; Estelle Shake, blues singer; 9-10, program, Don P. Smith, Inc., Diana-Moon orchestra; Sol Hoopi's Hawaiian trio; Ashley Sisters, close harmony duo; 10-11, Warner Brothers frolic; Charley Ilch's Sunset Canyon Country club orchestra; 11-12, Hollywood Roof ballroom orchestra.

KGO, Oakland, Calif. (361.2), 7:20-7:30 a. m., health training exercises; Hugh Dobbs; 7:45, Pep class; 8:15-8:30, exercises; 11:10, home-making talk, Prudence Penny; 11:30-1 p. m., luncheon concert; 3-4, Muriel Bates Keast, soprano; Mary Mulvany, contralto; book review; Anna Lucchesi, pianist; Maybelle Morrison, violinist; 4-5:30, Hotel St. Francis concert orchestra, Vinton LaFerrera, conductor; 5:30-6, girls; half hour; 6-7, dinner concert, Baldwin Piano company; Knickerbocker trio.

KHJ, Los Angeles, Calif. (405.2), 6:30-8 p. m., KHJ's annual Christmas party for the Radio children; 8-10, program, Western Auto Supply company; 10-11, Don Clark's Biltmore hotel dance orchestra.

KMTR, Hollywood, Calif. (238), 8-10 p. m., KMTR concert orchestra, Loren Powell, director.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurlitzer pipe organ studio; Town Tattler; 6:30-7, Atwater Kent concert orchestra, Paul Finstein, leader; 7-7:30, El Patio ballroom orchestra; 7:30-8, program, Eastern Outfitting company; 8-9, West Coast theaters; 9-10, program, Davis Perfection Bread company; 10-11, program, Walter G. Scheck; 11-12, Ray West's Cocoanut Grove dance orchestra.

KPO, San Francisco, Calif. (428.3), 7, 7:30, 8 a. m., daily dozen exercises; 12:45, talk; 1:30-2, Rudy Seiger's Fairmont hotel orchestra; 5:30-6, children's hour entertainment; 6:30-7, Waldemar Lind and the States restaurant orchestra; 8-11, Palace hotel dance orchestra, Gene James, director; Al Jacobs, pianist; Maurice Gunsky, tenor.

KTAB, Oakland, Calif. (240), 9-9:30 a. m., prayer service, Rev. E. L. Spaulding; 8-10 p. m., Breuner's program.

KTCL, Seattle, Wash. (305.9), 8-8:10 p. m., Gerkes' music house; 8:10-8:20, Huteson-Donahey optical company; 8:20-8:30, Louie's French Dry Cleaners; 8:30-8:40, City Transfer and Storage company; 8:40-8:50, Pants' Store; 8:50-9, Coast Shirt shop; 9:10, Western Giant Cord orchestra.

KWSC, Pullman, Wash. (348.6), 7:30-9:30 p. m., Marimba trio, Cooper Sisters; "Reducing Disease and Increasing Yield in Eastern Washington Potato Field," George L. Zundel; "Electrical Pioneers No.," Charles P. Steinmetz.

STATIONS IN ORDER OF WAVE LENGTHS USED

Meters	Call	Meters	Call	Meters	Call	Meters	Call	Meters	Call	Meters	Call
217.3	WOK	275	WORD	309.1	KDKA	361.2	KGO	406	WBAR	468.5	WRC
226	WBBM	275.3	WJAS	315.6	KFDM	361.2	WHN	410.7	CKAC	475.9	WBAP
226	WIBO	278	KOIL	315.6	WAHG	365.6	WDAF	416.4	WCCO	475.9	WTIC
240	KFVE	278	WCAU	315.6	WGBS	365.6	WHB	421	KIAF	475.9	WFAA
240	KTAB	278	WGBU	319	WGR	370.2	WEBH	422.3	WLW	480	CYL
240	WOAX	278	WOQ	319	WSMB	370.2	WGN	422.3	WKRC	483.6	WOC
243.8	WAMD	280.2	WNAC	322.4	KOA	374.8	KTHS	428.3	WSB	483.6	WSUI
250	WGES	282.8	WOAN	322.4	WJAZ	379.5	WGY	428.3	KPO	491.5	KGW
250	WMBB	282.8	WSM	325.9	WSAI	379.5	WHAZ	434.5	CNRO	491.5	WEAF
252	KFWB	285.5	WKAR	333.1	WBZ	384.4	CKY	434.5	NAA	499.7	WMC
252	WGCP	285.5	WREO	336.9	KNX	384.4	KJR	434.5	CFCN	508.2	KLX
265.6	WMAK	288.3	KFKX	337	KFMX	384.4	WMBF	435	AT9	508.2	WIP
266	KFNF	288.3	WLWL	340.7	KFAB	389.4	WEAR	440.9	KLDS	508.2	WOO
266	WBCN	293.9	KTBI	340.7	WKAQ	389.4	WTAM	440.9	WDWF	516.9	CJCA
268	WTAG	293.9	WEAO	340.7	WMCA	394.5	WFI	440.9	WOS	516.9	WCX
270	WGHP	296.9	KPRC	344.6	WCBD	394.5	WLIT	447.5	WMAQ	516.9	WJR
272.6	WBBR	299.8	KFMQ	344.6	WLS	394.5	WOAI	447.5	WQJ	526	WHO
273	KWKH	299.8	KSL	348.6	KOB	399.8	WHAS	454.3	KFOA	526	WNYC
272.6	WEBJ	299.8	WPG	348.6	KWSC	399.8	WHT	454.3	WJZ	526	WOAW
272.6	WFBH	302.8	WJJD	348.6	WEEI	400	PWX	455	KTW	535.4	KYW
273	WRW	302.8	WLIB	352.7	WWJ	405.2	KHJ	461.3	WCAE	535.4	WHA
275	WHAD	305.9	KTCL	356.9	CFCA	405.2	WJY	467	KFI	545.1	KFUO
275	WHAR	305.9	WJAR	356.9	CKNC	405.2	WOR	468.5	WCAP	545.1	KSD

VOICES OF HISTORY TO BE HEARD AGAIN

TENNYSON TALK IS FIRST ON MUSEUM PROGRAM

British Will Radio Spoken Words of Those Long Silent in Tombs of Honor

LONDON.—One of the most interesting broadcasting ideas ever suggested is about to be carried out by the British Broadcasting company. It is that a program of speeches, vocal and instrumental music, and recitations by distinguished persons now dead be broadcast from treasured old phonograph records.

The first broadcast in the series will be from a record made by Lord Tennyson, England's famous poet laureate, who was credited with a beautiful voice.

While unfortunately the most ancient records—and consequently the most fascinating to listeners of today—are in such poor condition that they will not stand reproduction, there exist in the British Museum collections from which a wonderful Radio hour of voices from the past is being compiled.

Beerbohm-Tree Also Proposed

Some of the records which have deterioriated, however, are being reconditioned by a process just perfected, the results of which are wholly satisfactory.

Queen Victoria recorded on the old cylinder phonograph, but it has been decided not to broadcast any such record, as it would not give a true idea of the original.

Among the records of Sir Herbert Beerbohm-Tree, the famous actor, which will be used, are Hamlet's soliloquy on death, and another of Svengali mesmerizing Trilby. Theodore Roosevelt's great anti-trust speech will also be transmitted.

"Going to the Races," made by Dan Leno, probably the greatest comedian of all times, is the record most eagerly awaited by British fans. They want to hear the little inflections which made people scream with laughter 30 years ago.

Patti "Broke the Record"

Patti may also be heard in a number from "Figaro" made 20 years ago. When the record was played over to her, she was so enthusiastic that she embraced the phonograph and broke the record to fragments.

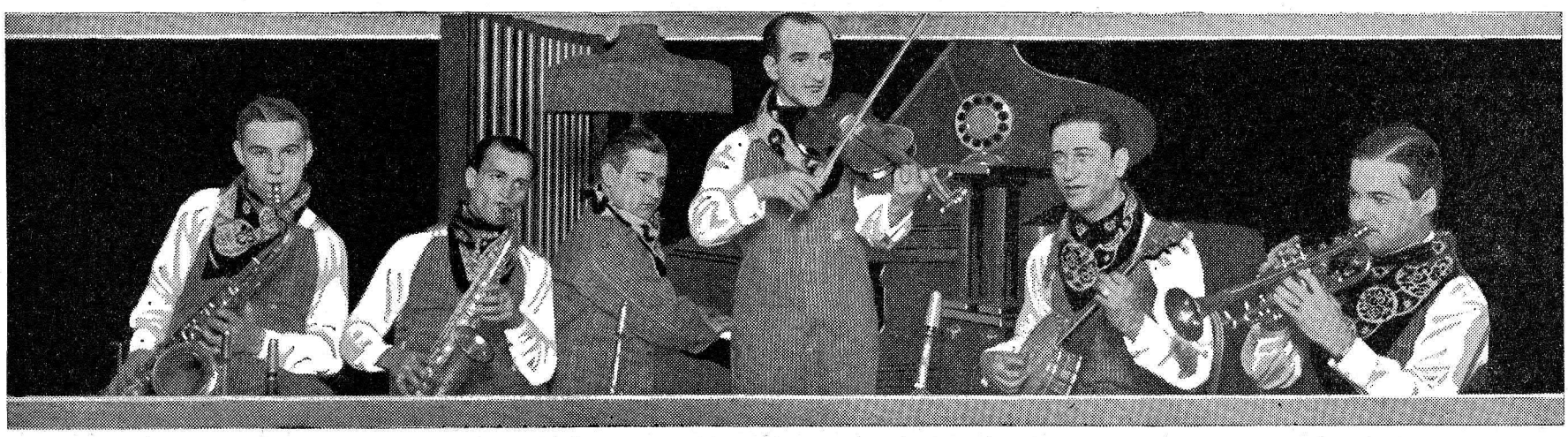
Twelve records of Tennyson's recitations from his works are in existence. The British Museum also has a collection of sealed matrices, which are not to be opened for a definite number of years. Some day in the future they will make a fascinating program of celebrities now living, including the Prince of Wales and King George.

The great disappointment about the phonograph is that it was not invented early enough. It would have been interesting to have heard Lincoln's Gettysburg address, Wellington saying that he didn't say, "Up, Guards, and at 'em," or, to go further back, to have heard Cromwell shouting, "Take away that bauble," or perhaps even Nero playing the fiddle!

Spokane Forms Club

SPOKANE, Wash.—Spokane and the Inland Empire will have a Radio listeners' club of its own, according to Dr. C. Hale Kimble, of this city. The organization of the club was completed at a recent meeting.

"Spokane needs a good Radio club for the community service it can render," said Dr. Kimble. "Interference will be the big problem to be taken up at the club and suggestions will be received for the best manner of its elimination."



Here is the hayseed orchestra or Glenn's Cornhuskers, the regular evening feature of WLS, Chicago. Left to right they are Phil Robinson, Billy Tortoriello, Glenn Rowell (at the piano), Solly Blitz, Jack Friedenberg and Rex Martin. They play all the latest barn dances including "Turkey in the Straw" and "Pop Goes the Weasel."

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Announcers and Sopranos

WONDER why it is that every time we criticise the announcing at some of our best stations, our readers immediately take the trouble to flood our mail with letters supporting our stand? There must be some terrible announcing on the air. Twisting the dials around a few times soon confirms our suspicions.

Why is it that a large business house will invest from $30,000 to $150,000 in a broadcasting station and from $25,000 to $100,000 a year in station operating expense, and then cash in so poorly on the investment merely by overlooking the efficiency of the announcing? Is the name of the station a secret? Is the hypothetical business house really trying to act Santa Claus and GIVE the public entertainment, music and service without an iota of indirect advertising? We doubt the latter being the case.

Of course, when we say iota, we mean that the announcer should identify the broadcaster, but on the other hand, we do not recommend that the broadcasting firm, through its announcer, indentify too thoroughly just what goods his firm is interested in selling or promoting. The announcer is not supposed to be a salesman.

Bruno Lessing, writer of national repute, insists that an announcer is nothing more than a Radio butler. His function is merely to tell the public what the numbers are, possibly include what they were, and indentify the artists and the station.

In our opinion, Mr. Lessing has outlined very clearly what announcers need to do. He goes on to say that announcers, many of them, overstep this outline of duties and give boresome dissertations not necessary to the enjoyment of the public. We shall not enter this phase of his criticism at this time, although we are often inclined to agree with Mr. Lessing on this point also. However, we do maintain that there are many very poor butlers on the air.

But, just because an announcer must "buttle," he need not be unpopular. In fact, it is our idea that the better the butler, the more popular the announcer.

Now let us unrivet our gaze from announcers and travel to the heights of the coloratura soprano. And high many of them, far too many, can go when directly in front of the microphone.

When you hear a trilling, high soprano in the concert hall you can appreciate her, that is, providing she has a voice worth your appreciation. But place the same voice in front of your favorite microphone and tune her in at home on the loud speaker.

Terrible! Why? There must be some very good reason.

The cause is one of mechanical and electrical imperfections. The microphone at its best cannot keep up with the flourishes and runs of the coloratura soprano, especially when she is too close to the microphone. The microphone is said to "blast." That's one way of saying that the soprano has mercilessly choked the poor, defenseless "mike."

Another reason is that some of the soprano's highest notes are absolutely too high to be reproduced by Radio. Most broadcasting installations will not reproduce over 5,000 vibrations per second. Many will not do that well. So the high notes and overtones are lost.

Therefore the Radio soprano sounds far different from the way she did in the concert hall.

If broadcasting stations won't "soprano," or "coloratura" efficiently, why do some of our largest broadcasters book this material, knowing in advance as they do how poorly it is going to sound in the average loud speaker? That's just another efficiency problem.

One secret of transmission of high and complex notes lies in the distance separating the "mike" and the device or person originating such sounds. This saves much blasting and often makes possible the broadcasting of sopranos or shrill musical instruments that otherwise would be lost to Radio.

Have you ever noticed a studio director request an artist to step further away from the microphone? The wise studio director should know just how far away every voice, every instrument should be from "mike." Then he should apply this knowledge.

The way to remedy the soprano evil is either to bar them from the microphone, or put good studio direction principles in effect and keep the coloraturas, and other trilling, high sopranos, far away from the little metal disk that forms the gateway to the public's favor —and disfavor.

RADIO INDI-GEST

Why I Like Sopranos

When I first saw you standing there in the studio
As I looked through the glass, but could not hear,
I thought you were wasting your beauty on
An audience that was not near.

They told me you were just a soprano and I thought,
"Another to pierce the air with high C.
She is like a picture to gaze upon,
Not to hear, but always to see."

But then I tuned in by accident and heard them say,
That you would sing next and I would have liked
To tune you out before your voice could shatter
The picture of you before the mike.

But the dials back-lashed and I chanced to catch
A note or two of your song ringing clear,
And now, thou, sweet of face and voice,
Hast changed my ideas of sopranos I fear.

PINQUE.

Poor old Pinque, still raving about your Radio girl. Gee, we never even hear ours over the telephone since she left the mike for the footlights.

Tweet, Tweet, Correction

Editor, Radio Indi-Gest: Dear Sir: Your London correspondent committed a crime against this company when he wrote that the British Broadcasting company had broadcast the voice of a wild nightingale. This memorable feat was achieved by the British Birdcasting company, and I have no hesitation in declaring this is the **highest** Radio success yet attained in England (we got the bird in record time). However, as the game season has now opened, we purpose continuing our good work with pheasants and grouse. With these we are confident our successes will be **higher** still. Yours truly,
CANARY SEED, Pres. British Birdcasting company.

Really, old topper, we consider your note well played, and our mistake not exactly cricket. How about picking up and rebroadcasting the Prince of Wales riding horseback? You will not need an aerial for this. Use your ground wire.

The News Reaches Wisconsin!

Transmitting Music by Radio Soon a Reality

(Headline in the progressive Wisconsin News, published daily in Milwaukee, the home of the Third Trombone Player and one other wide-awake guy, the Unknown one who sent this in.

It is respectfully suggested that the telegraph desk of the News watch their INS wire closely for news of the signing of the Declaration of Independence.

Ise Got de Feever

Ise got dat Radio feever,
Gee—but Ise got it bad;
I turns and turns dem dials,
It makes mah wife so mad.

She wants ter talk 'bout dresses,
Hats, and udder ting;
But all I har is moosic,
An opera ladies sing.

Now I is alone,
Wid moosic far an near;
De clock hand is, a-crawlin,
De sound are very clear.

Mah eyes gits ter burnin,
I almost starts ter nod;
Mah feets is still a-prancin,
Ter quit is awful hard.

I thought it 'bout midnight,
But golly,—it was late;
Ise sholy got de feever,
De facks, I has to state.

ZED.

Funny Radio Joke

Capsule critique of the higher learning in these U. S. A., from the exchange advertisement column of the Shreveport Journal:

"One set Harvard Classics, 51 books, new, for Radio receiving set."—New York World.

Custard Pies at Twenty Paces

Dear Indi: Me and Big Nose Pete are startin a company to sell stock in a new invenshun wich will be a big bone to mankine. We thot you was a goof enuf to buy a phew milyuns of it so we will let you in on the basement floor. Here's the brilliant idear. This guy Junkins in Wash., D. C., has got the rajo movies down pritty gud so we are goin to cop his idear and establishe a husband watching service for diligent, neglected and suspishus wifes. We will sell them service at two (2) bucks a week and hide rajo movie mikerfones in all big cab arrays. Then we will flash the seens on the rajo movie screens in the homes and the wifes will get the lown down on the meal tickets and the blonde stenos and hungry chorines. Can we put you down for about a milyun. Yours in crime, RAINY DAY.

Go on, you're all wet. We are married and why should we stand to lose two more bucks out of our pocket every week. Another break like that and we mix.

Of all sad things that have been said,
How about, "No DX, my battery's dead."

U. S. Listeners Are Tax Free

Condensed

BY DIELECTRIC

If you live in the East you repeatedly hear the assertion that all that is worth hearing by Radio comes from that section of the country, which is a statement many fans would dispute. Not ALL that is excellent is confined to eastern broadcasting, as anyone would have to admit who listened to a concert from WLW, Cincinnati, when the Cincinnati College of Music entertained a short time ago. Whatever may be said to the contrary I shall go on record as placing that orchestra concert as one of the best ever heard on the air. In balance of program, artistic playing and intelligent leading it should rank with the best presented on concert stages anywhere.

We all enjoy dance music when it is well played and that qualification was evident in the work of an orchestra at WOC, Davenport. After commenting on the orchestra so favorably it is a little onerous to have to make the following caustic allusion to announcements, or rather lack of them, but it is not of benefit to anyone to gloss over the things which make fans dissatisfied with broadcast procedure. Following each dance number we listeners heard only the applause of the visible audience, being forced to wait the call letters of the station until that part of the program had been reached which introduced a singer. Just the mere announcement of station call between numbers is sufficient to please and, though entailing a little more effort, should be done.

Quartet music has assumed its rightful place in Radio broadcasting—both vocal and instrumental—with the result that those delighting in this form of musical entertainment may satisfy their wish to hear it. Two broadcasting stations many miles apart presented quartet numbers, WQJ in Chicago and WFAA, Dallas, Texas, which merit some favorable mention. From WQJ we heard an old favorite splendidly adapted to part song arrangement, "Just Awearin' for You," and because it was so much superior in rendition it is singled out for applause. The concert given by a male quartet from WFAA was equally fine throughout and displayed a blending of voices which we like to hear.

What is more tiresome than a succession of piano selections, particularly when they are chosen from among the less interesting compositions? While I listened to KFKX, Hastings, this impression was pronounced. The announcer was always ready at the conclusion of a piano number to announce the receipt of a "request" (or several) for other numbers. Wouldn't it be better to await a few of these requests before proceeding with a prolonged set program?

A symphony orchestra concert from Station WHO, Des Moines, made a pleasing impression on those tuned to this program which included excerpts from Bizet's grand opera, "Carmen." So many arias in this opera are familiar ones it would be hard to choose a more popular group of selections, which were creditably given by the orchestra.

We listeners owe much to Station WSB, Atlanta, and Miss King, a teacher of music in that city, for as delightful a musical evening as has been offered in some time. Miss King arranged a song cycle, "Morning of the Year," which for musical content and suggestiveness would be hard to surpass, while its continuity was beautifully preserved by a quartet of carefully trained voices. I trust my complete enjoyment of this program was shared by music lovers in every state in the Union.

Interesting and Simple Explanation of Radio

Chapter VII—Vacuum Tubes and Amplification

By H. G. Tanner, Associate Professor, University of Oregon

IT WAS pointed out in the very beginning of this series of articles that all matter is composed of electricity and in the case of copper and other metals some electrons on the extreme exterior of these atoms are not tightly bound. They are able to wander from atom to atom very easily. Slight currents in the ether will cause them to be moved about.

It is likewise true that the atoms as a whole as well as a few detached electrons, are in a constant state of motion. The atoms (protons), however, are thousands of times heavier than the electrons and in solids their motion is more of a quiver. This quiver is very rapid at ordinary temperatures and becomes more rapid the higher the temperature.

Why Electric Light Illuminates

When a crowd of electrons is forced through a piece of wire they bump into the atoms and cause great confusion. The wire gets hot. If correctly dimensioned, it becomes white hot and is used for lighting.

The atoms and electrons are bumping into each other at rifle bullet speeds. One might well expect some of them on the outside boundary of the wire to get bumped off occasionally. This really does happen. In more refined language electrons and atoms evaporate from the wire. After a while the light "burns out." What really happened was that the wire entirely evaporated at one locality. The condensed vapor can be seen as a dark film on the inside wall of the glass.

Dr. Langmuir conceived the idea of putting some nitrogen in the bulb to keep the atoms of the wire hammered into place. This gas also keeps the electrons from escaping.

Radio Uses Escaping Electrons

In a Radio vacum tube use can be made of the electrons that evaporate. To facilitate their evaporation the gas in the bulb is pumped out as much as possible. That's the "why" of the vacuum.

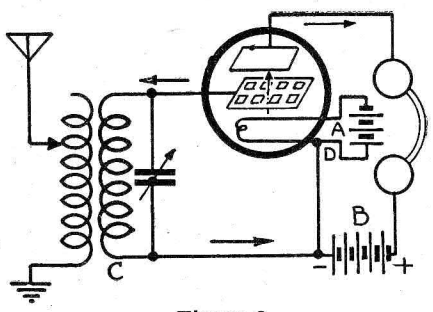


Figure 6

A perfect vacuum has never been obtained, and the characteristics of the tube depend upon the degree of vacuum. A tube exhausted to the highest obtainable vacuum is called a hard tube. One with a lesser degree of vacuum is called a soft tube. Both are pretty highly exhausted.

For Radio purposes it is desirable to have as many electrons and as few atoms evaporate from the wire as possible. Tungsten satisfies this requirement very well, but if it has dissolved in it a little thorium it is very much better—another contribution to Radio from Dr. Langmuir.

How Tube's Plate Aids Evaporation

If the hot wire be surrounded by a metal plate the evaporated electrons become entangled in the plate and charge it negatively. In a short time the repelling action of this negative charge would prevent other electrons from evaporating from the wire and a state of rest would occur.

To prevent this the plate may be connected by a wire to the filament, and if a pump could be placed in this wire that would pump electrons from the plate over to the filament, so much the better. Remember that a battery is an electron pump. It is customary to call the battery used in this circuit a B battery.

The higher the pressure (voltage) developed by the pump, the more the electrons removed from the plate and compressed into the wire filament. This assists evaporation because it increases the crowd.

Grid Makes Tube an Intensifier

If the vacuum tube consisted merely of a hot wire surrounded by a metal plate and all enclosed in a vacuum, it would serve very well as a one-way road or check valve (electrons are not evaporating from the plate to filament), and therefore could serve as a detector.

But crystals make excellent detectors. What Radio needed was an intensifier for reasons already mentioned.

This came when Dr. Lee De Forest placed a course wire mesh screen (grid) between the hot wire filament and the plate. The check valve became a valve of the ordinary type which is tremendously more useful.

How Tube Is Like Valve

The grid is placed quite close to the filament. When a very few electrons are put on the grid they can (by repulsion) prevent the evaporation of other electrons from the hot filament. This condition corresponds to a closed valve.

On the other hand if there are no electrons on the grid (neutral) or a deficiency (charged positively) then electrons have no difficulty in evaporating from the filament and are even helped along by a positively charged grid.

The evaporated electrons are traveling at a high speed (around 10,000,000 miles per hour!) and since the grid is a coarse mesh affair, not many of them are prevented from getting over to the plate. The valve is then in the wide open position.

Tube Amplifies Signals

A valve is a device to allow tiny forces to control relatively large ones. The grid of this electrical valve is the gate and the electrons moved to and fro by ether waves sweeping the antenna, are made to open and close this gate. A glance at figure 6 will make this clear. Electrons are alternately sent onto the grid and removed in accord with the incoming ether waves. This opening and closing of the valve periodically interrupts the flow of electrons through the phones.

The latter squads of electrons are proportional but much larger than those moving in the antenna circuit, and thus it is that amplification has been accomplished.

Attention is called to the wire CD of figure 6. This wire assists the grid in performing its function because during the time electrons are flowing onto the grid about as many are being sucked out of the filament. Obviously they cannot evaporate if they are in the wire CD.

The A battery merely serves to keep the filament hot. Any other method of heating might be used—a burning glass concentrating the sun's rays on it, for example—but the electrical method is usually preferred.

Amplification Offsets Selectivity Losses

Instead of sending the electrons in the telephone circuit through the phones they may be employed to open and close another valve. This second valve will open and close wider because the change in potential of the grid is greater (larger squads of electrons enter and pass off of it). The process may be repeated several times before imperfections become noticeable.

Introducing these amplifying valves in the hook-up shown when discussing selectivity (figure 5 last week) makes it apparent how selectivity can be preserved without loss (in fact a gain) in energy reaching the phones.

Both hook-ups are given so as to make the comparison easy. It will be noted that separate A and B batteries are used with each tube. In practice only one set of batteries of each kind is used for all the tubes, but to picture this detail might confuse the comparison.

Grid Leak and Condenser

When it is necessary to open and close a valve more or less completely and do so with extreme rapidity, the position of the valve gate when normally at rest makes some difference in the results. For instance, a valve nearly wide open would allow almost as much steam or electricity to pass as when completely open, or closed a trifle more.

In the case of a steam engine, variations in its speed would be small and perhaps not even noticed. On the other hand suppose the valve is almost closed and the same amount of variation in position is given it is as in the former case. The engine speed may be doubled or brought to complete rest.

The position of the electrical valve gate is determined by the potential on the grid. This potential can be made any value we please by the use of a battery, sometimes called a C battery.

Another method is to use a small condenser inserted in the grid connection and bridge this condenser with a high resistance (grid leak). The grid automatically accumulates a negative charge because some of the electrons in evaporating from the filament bump into it. The condenser prevents these electrons from escaping. It is desirable to have some of them escape and the grid leak regulates the amount.

When the grid on an average is more negative than positive (valve nearly

(Continued on Page 28)

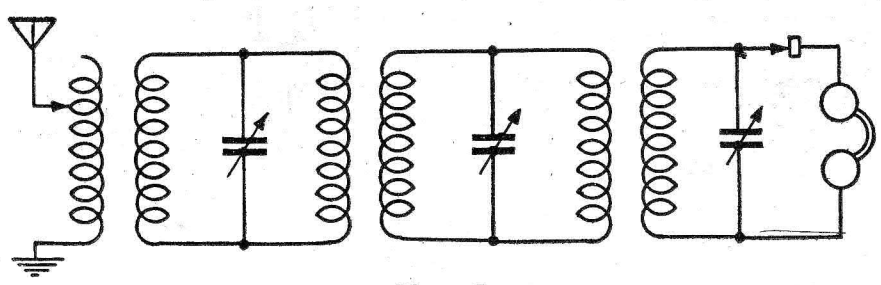


Figure 5

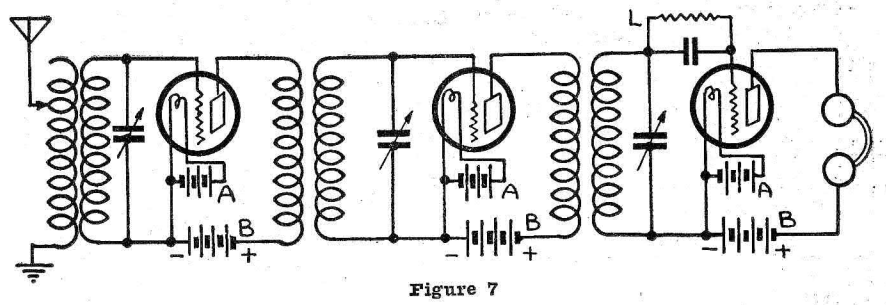
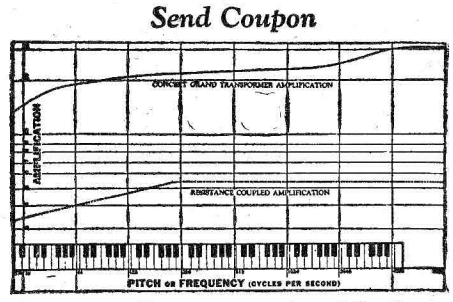


Figure 7

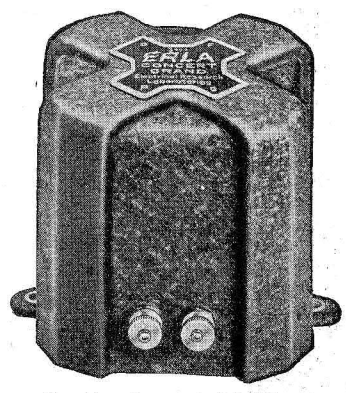
This Amazing Test Proves Tone Troubles Ended

Exacting laboratory tests show that amazing new audio gives greatly superior tone curve. Remarkably uniform and even amplification of all tones at frequencies from 32 to 10,000 cycles.

Send Coupon



Note the smooth, even progression of the Concert Grand curve, revealing supreme uniformity of amplification, from lowest notes to highest in the musical scale.

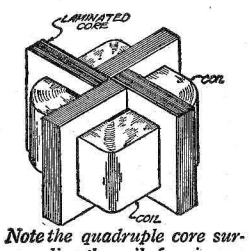


One-piece drawn steel shell provides magnetic shielding. Finished in black crystalline lacquer and attractive in appearance.

A NEW audio frequency transformer has been perfected, the Erla Concert Grand. It is built on a new principle and gives results far superior to any other system of amplification.

Amazing improvement

Ordinary designs permit too much leakage to amplify properly at low frequencies. So we use the "quadriform type," heretofore unknown in radio work. In this design magnetic leakage is practically eliminated by providing twice as many paths for the magnetic field and by a better distribution of the core metal around the copper wire coils. Each of the four core units are complete magnetic circuits within themselves without breaks or joints to the main central core, and it will also be noticed that the central core section has a far greater area than conventional core types. The large area thus obtained reduces the effect of the direct "B" battery current on the pulsating voice currents and eliminates a cause of distortion common to transformers using smaller core sections.



Note the quadruple core surrounding the coil, forming an almost perfect path for the flux within the coil. The core is a special grade of laminated silicon steel that provides highest permeability and lowest hysteresis loss, with consequent maximum conductivity in he magnetic circuit of the transformer. Price $10.00. West of Rocky Mts., $10.50.

The Concert Grand saves you money, too. Resistance coupling depends solely upon the tubes for amplification. Consequently they must be operated at maximum for efficiency, requiring more "A" battery current and higher plate voltage — 135 to 150 volts. Filaments wear out more rapidly as result and battery life is more than cut in half. The higher initial cost of Concert Grand amplification is therefore saved many times over not only in improved performance but also in lowered upkeep cost.

Booklet sent FREE

Get the Audio Grand at your dealer's today. See what a tremendous difference it will make in your set. If you wish to return the coupon we will send you a new booklet giving the latest information on audio frequency amplification.

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OPERATING AND TROUBLE SHOOTING

OPERATING and Trouble Shooting, is a Radio Digest feature the purpose of which is to give practical information on the operation, care and cure of simple troubles in every kind of receiver. Standard Radio receivers of wide distribution and use are studied from the standpoint of instructions for installing and connecting, tuning and operating, and remedying little difficulties. The suggestions below, if executed faithfully, will make winter broadcast listening yield all there is to yield to the reader and give your set a fair chance to show its worth.

For the Owner of a Crosley Trirdyn Receiver

THE Crosley Trirdyn is one of the most widely distributed, popular priced receivers now on the market, so it has been taken up next for discussion. A front view of this set is shown in figure 1, and it will be noted that there are two large dials and three knobs which appear on the face of the panel. The tuning from station to station is done by means of the two dials, while the center knob is the sensitivity control. The other two knobs are rheostats, which control the brilliancy of the filaments of the three vacuum tubes employed.

Crosley Trirdyn is unique in the fact that it employs radio frequency amplification, a regenerative detector, reflexing and audio frequency amplification.

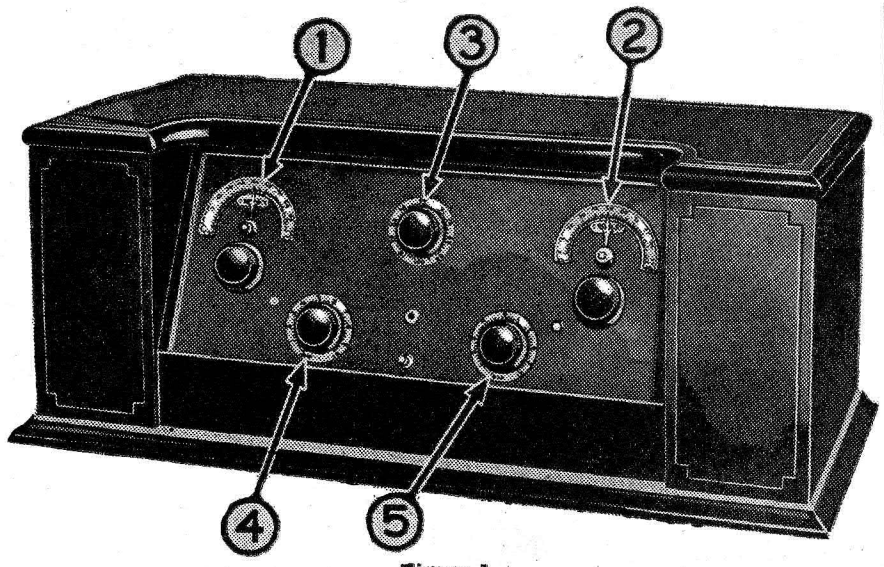

Figure 1

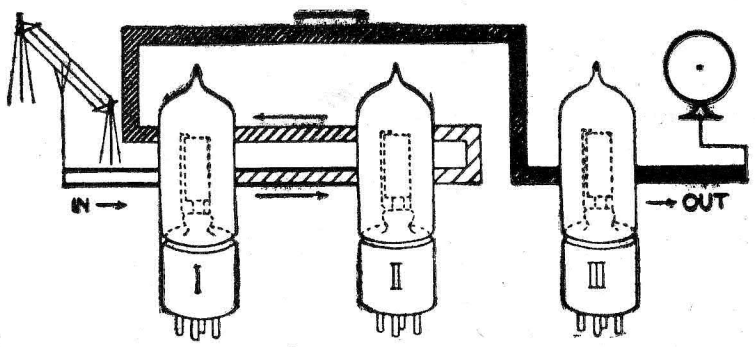

CHART OF CURRENT IN TRIRDYN
RADIO FREQUENCY AUDIO FREQUENCY
AMPLIFICATION IS DENOTED BY HEAVINESS OF SHADING

Figure 2

Figure 2 shows the path of the current through the three tubes utilized in this receiver. Three tubes are caused to do the work of five.

Figure 3 shows the rear view of this receiver. Tube socket 13 is to take the tube which is shown in figure 2 as tube I, socket 14 takes the tube shown as tube II, while socket 15 is to receive the tube shown as tube III.

The directions which accompany this receiver are very clear as to the antenna, ground, battery and loud speaker connections, so they will not be taken up here.

Let us presume that we wish to receive a station using a wave length of 375 meters (which is equivalent to a frequency of 800,000 cycles). The signals enter the antenna-ground circuit which includes coil 8, known as the primary, at a frequency of 800,000. We wish the tuned circuit, which is composed of coil 9 and the variable condenser number 1, to absorb signals from this antenna circuit and, in order that it will do so, this circuit must be adjusted or tuned so that it responds to, and will absorb, signals alternating at 800,000 per second. Turning the left dial on the front panel does this. This circuit is connected at one end to the grid of the tube in socket 13 and signals which this tuned circuit absorbs will be amplified by that tube.

Having been amplified, we wish them to go to the detector in tube socket 14. The flat disc of wire, which is really a coil or inductance, and which has been labeled 3A in the drawings, includes two separate windings, one of which, known as the primary, is connected to the output or plate of the first tube, and signals which have passed through tube 13 must go into part of this coil 3A. The rest of this coil, and variable condenser 2, form another tuned circuit, which must be adjusted to absorb frequencies of 800,000. This is done by turning the right dial, and signals which this tuned circuit absorbs will pass to the grid of the detector tube.

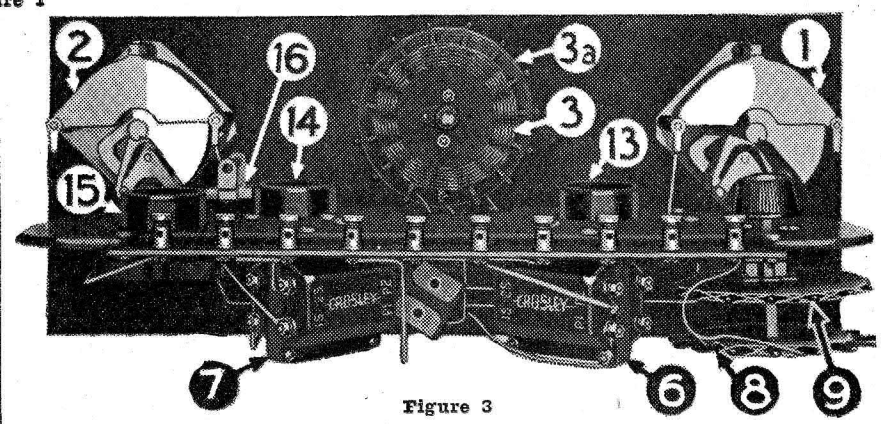

Figure 3

In the output or plate circuit of this detector tube is the coil which has been labeled 3, and which is controlled in its relation to 3A by the center knob on the panel. If this coil is too close to 3A a condition known as oscillation will be produced which prevents signals from being heard, while if this coil is too far away from 3A the valuable benefits of regeneration are not gained. It is desirable, therefore, to so adjust the relationship between these coils that regeneration will be increased to a point just before the point of oscillation is reached. This point can be recognized if the two dials are correctly adjusted, as the signals will increase in volume as the center knob is pulled out and will suddenly begin to be distorted or "mushy." This knob should, therefore, be pulled out until this point is reached and then pushed back slightly so that the volume is still present, but the distortion is not noticed.

The current, after amplification and de-

(Continued on page 28)

Reception Improved 60%

Read this letter from a prominent Doctor of Oakland, Cal.:

3242 E. 18th St., Oakland, Cal., Nov. 3, 1925.

"Kane Antennae Co., Chicago, Ill.
I am enclosing check for $6.50 for which kindly send me one Kane Antennae for R. C. A. Super-het. This is my second Kane Antennae and I believe that improved reception thru this Antennae is fully 60%. Kindly send at once.

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We will send you working drawing with instructions for erecting this wonderful Antennae for a dollar bill (a check will do). If, after looking over the drawing, you decide you would rather have a factory-built Antennae, than build one yourself, we will take back the drawing and allow you full purchase price on an order for an Antennae.

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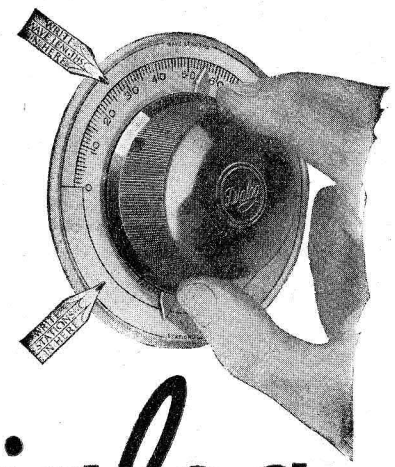

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Part III—Wiring Made Easy

By James McDonald

IN THE second article of this series, presented in last week's issue of Radio Digest, the writer described the drilling of the front panels and sub base and the assembly of the various pieces of apparatus on those panels. Presuming this has been done, we are ready to wire the assembled apparatus, which should be done carefully.

This writer uses the bus bar wire known as Celatsite, but the reader can use the usual bus bar, with spaghetti tubing where needed. As in wiring any set, the filament wires should be put on first, followed by the connections in the radio frequency stages, the last operations being on the detector and audio frequency portion of the set.

All wiring operations will be given considering the set from the rear, with socket number 1 at the right-hand side, socket number 4 at the rear left-hand corner, and sockets 5 and 6 as the sockets between number 4 and the front panel.

1. From the plus terminal of the socket at the right end drop a wire through the sub base, carry it to the left to the plus terminal of the third socket and bring it up through the sub base to that terminal. Where this wire passes under the plus terminal of the second socket put in a short wire to that terminal.

2. From the plus terminal of socket number 6, which is that closest to the front panel, run a wire beneath the sub base 3½ inches to the right and then straight back 6½ inches, then bring it to the left 1½ inches.

3. To this open end solder one end of the 4-ohm Carter resistance strip, which will bring the opposite end of the Carter unit very close to the positive terminal of socket number 4.

4. Run a short wire up through the sub base from this second end of the Carter unit to the plus terminal of socket number 4.

5. At the point where wire number 1 crosses wire number 2 solder these wires together, and also solder one end of another wire which is to go to the left and up through the hole provided to the positive terminal of socket number 5.

6. At the point where the positive terminal of socket number 2 is connected to wire number 1 run a short wire forward to the right-hand terminal of the filament switch.

7. From the left-hand terminal of the switch run a wire 1¼ inches to the left and up to the undersurface of the sub base, then straight back to the first binding post to the right of the six which are in a group.

8. From the negative terminal of socket number 1 run a long wire straight to the left on the underside of the sub base to the hole provided close to the negative terminal of socket number 5, and to that terminal.

9. From the negative terminal of socket number 6 run a wire on the under-

(Continued from page 26)

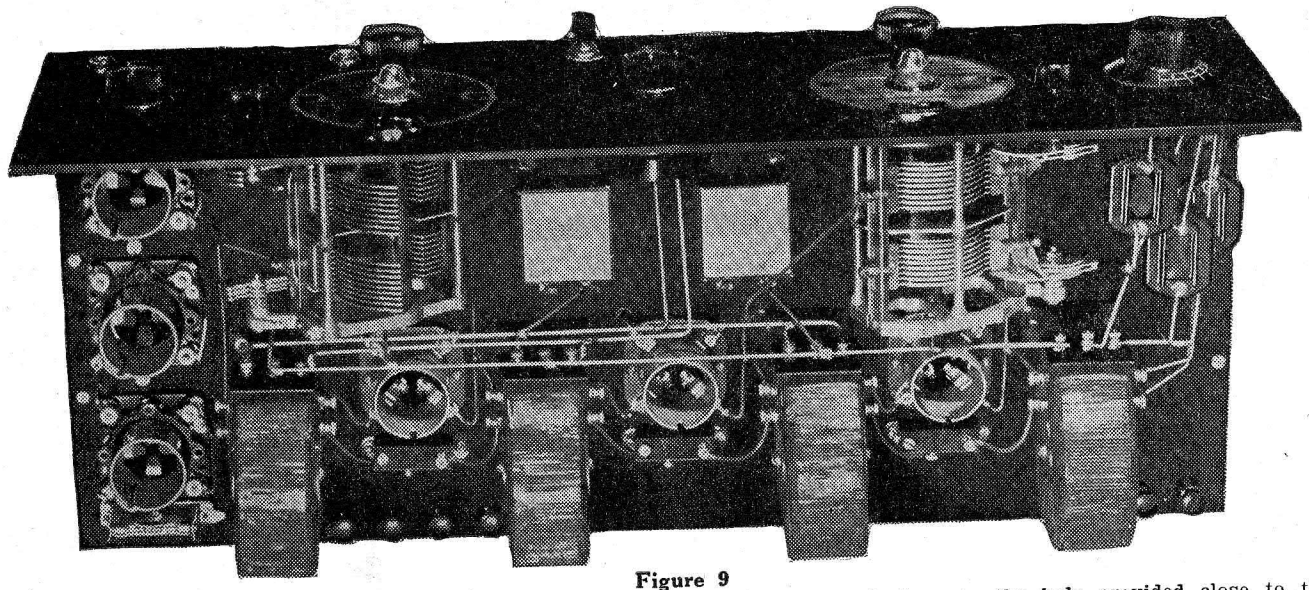
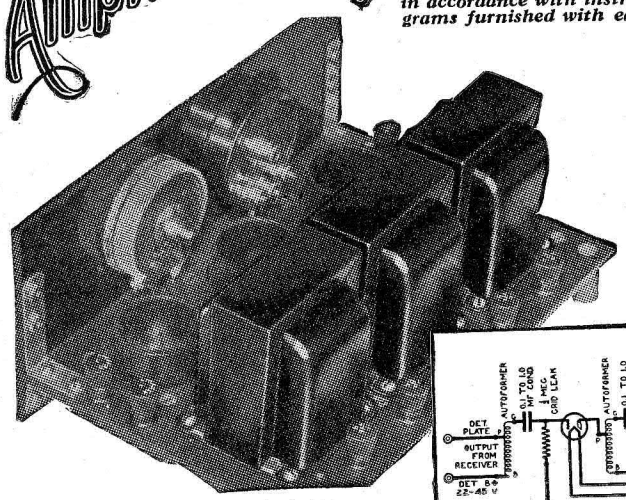


Figure 9

4 Big Improvements in Amplification!

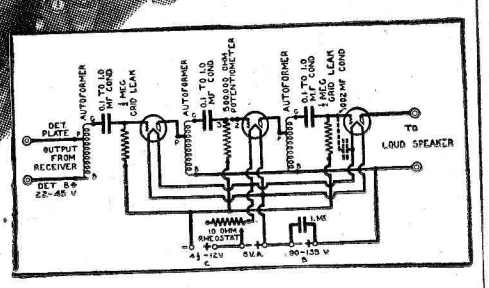
1 Full amplification of those bass notes hitherto largely "lost".
2 Greater clarity on all notes.
3 Improved reception of distant programs.
4 Better volume control.

A Thordarson Autoformer Amplifier built in accordance with instructions and diagrams furnished with each instrument.



fans!

Send for our new interesting bulletins on Autoformer amplification. They contain hook-ups and complete directions.



No note is too low—no note is too high—to be fully amplified by Thordarson Autoformers. Autoformers are *all frequency amplifiers*—they amplify with even magnitude ALL notes within range of the human ear. Developed, perfected and built only by Thordarson.

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Autoformer amplification is for those who seek the finest reproduction of programs to be had. May be used with any set in place of regular audio transformer hook-up. Full directions, with diagrams, supplied with each instrument. Autoformers are $5 each.

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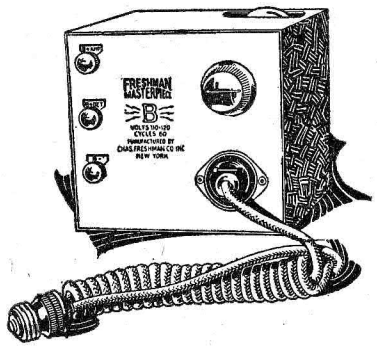
6½ inches square



weight 7½ pounds

This marvelous device absolutely eliminates the necessity of "B" batteries.

With the Freshman Master "B" Eliminator your set will always be supplied with constant and uniform power. Noiseless in operation; your reception will not be marred by the snap and crackle due to chemical action in "B" batteries.

The list price of the A. C. Model Freshman Master "B" Eliminator is $20.00. However, a tube is required to rectify the alternating current into the required direct current for radio reception. And, as we desire to furnish the best rectifying tube that is obtainable, in our opinion, Freshman Master "B" Eliminators for alternating current are now furnished only with R. C. A. Rectron UX-216-B Tubes.

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"COUNTERPHASE" SET

(Continued from page 25)

side of the sub base 4 inches to the right and then 6½ inches to the rear, then 4 inches to the left and up through the hole provided close to the negative terminal of socket number 4.

10. Where wire 9 crosses wire 8 solder them together. Where wire 8 passes beneath the negative terminals of sockets 2 and 3 run a short lead up through the sub base to those terminals.

11. At the right end of wire 8, at the point where it bends upward to pass through the sub base, solder on a wire, which is to go diagonally to the rear and to the right to the second of the two binding posts close to the right-hand corner.

12. At the opposite end of wire 8, where it bends upward to go through the sub base to the negative terminal of socket 5, attach another wire, which is to continue 1¼ inches further to the left, then forward and up through the sub base to the left-hand terminal of the rheostat.

13. From the right-hand terminal of the rheostat drop a wire through the sub base and carry it 6¼ inches to the right, then straight back to the second binding post from the right of the group of six.

14. A hole was provided, in the drilling, beneath the left-hand terminal of the 1 mfd. condenser to the right, still looking at the set from the rear, and a wire should be connected to that terminal and pass down through the hole provided and soldered to wire 8 at the point where the connection is taken off of socket number 2.

15. A similar hole was provided beneath the left-hand terminal of the other mfd. condenser, and a wire should be dropped through the sub base, bent to the left 1¾ inches and connected to wire 3 at a point where the lead is taken off for socket 3.

16. The rotor terminal of the switch is at the lower left-hand side of the switch as viewed from the rear, and from it a wire is to be dropped through the sub base, then back to the first binding post to the right at the rear corner.

17. On the variable condenser, directly in front of socket number 1, there are two terminals provided on the right-hand side, and from the rear of these two a wire is to be dropped to the top surface of the sub base, and then straight back to the G terminal on socket number 1. Where this wire passes beneath the G terminal on the first torostyle coil run a lead up to that terminal.

18. On the left-hand side of that condenser are two more terminals, and a wire should be connected to the front one of the two and then down and to the left to the G terminal on socket number 2. Where this passes the G terminal on the second torostyle coil run a 2-inch wire to that terminal from it.

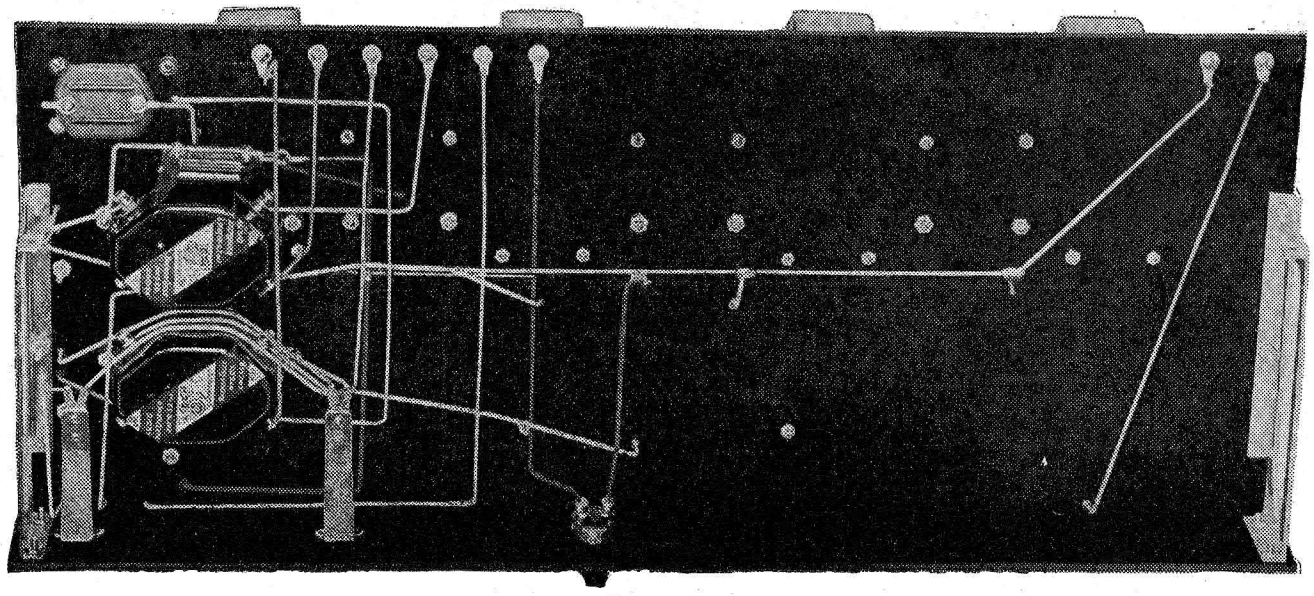

Figure 10

19. The same procedure is adopted in connection with the variable condenser in front of socket number 3, and a wire is connected to the front terminal on the right-hand side, which should go back to the G terminal on socket 3. A lead is connected to it, going to the G terminal on torostyle 3.

20. From the rear terminal on the left-hand side of this condenser a wire should be dropped 2 inches downward and to the left almost to the sub base, and then straight back to the wiring hole ½ inch to the right of socket 4. It should go down through that hole and to the right-hand terminal of a .00025 fixed condenser. Where this wire passes the G terminal of torostyle coil number 4 connect in a lead to that terminal. These wires can all be clearly seen in the photographs which accompany this article.

21. From the left-hand terminal of the .00025 condenser run a wire up through the sub base to the G terminal on socket 4.

22. With the B-T kit there are included a number of wires cut to length, and there are six maroon colored wires, three of which are slightly shorter than the other three. These three shorter maroon wires should be used to connect the P terminal on socket 1 to the P terminal on torostyle 2; the P terminal on socket 2 to the P terminal on torostyle 3, and the P terminal on socket 3 to the P terminal on torostyle 4.

23. The longer maroon wires are used to connect the rear terminal of Mikro-mike 1, behind socket 1, to the M terminal on torostyle 2; the rear terminal on Mikro-mike 2 to the M terminal on torostyle 3, and the rear terminal on Mikro-mike 3 to the M terminal on torostyle 4.

24. There are three short wires provided in the kit with a red and gold covering, and these are used to connect the T terminal on torostyle 1 with the right-hand terminal on Mikro-mike 1; the T terminal of torostyle 2 with the right-hand terminal of Mikro-mike 2, and the T terminal of torostyle 3 with the right-hand terminal of Mikro-mike 3.

25. From the F terminal on torostyle 1 run a wire to the left so that it passes about ¼ inch above the F terminals on the other three torostyle coils and then goes down through the sub base in front of torostyle 4, and then back to the right of the audio frequency transformer to that binding post second from the left of the group of six.

26. Where wire 25 passes behind the twin condenser to the right put in a short lead connecting it to the terminal on the rear of that condenser. Where wire 25 passes the F terminals on torostyles 2, 3 and 4 put in short leads to those terminals. Where it passes the other twin condenser at the left drop a short lead to the binding post on the rear of that condenser.

27. From the point where the F terminal on torostyle 2 is attached to wire 25 drop another wire to the right-hand terminal of the right-hand 1 mfd. condenser.

28. Now connect the R terminal on torostyle 2 with the B terminal of torostyle 4, this wire to be about ¾ inch below wire 25. Where it passes the B terminal on torostyle 3 connect it to that terminal. Where it passes under the B terminal on torostyle 2 connect it to that terminal also. At a point directly in front of socket number 2 run a lead forward from this wire to the center terminal on the twin resistor in the center of the panel. From the point where this wire is connected to the B terminal on torostyle 3 drop a lead to the right-hand terminal of the left-hand 1 mfd. condenser.

29. From the R terminal on torostyle 4 run a wire across to the right, so that it passes close to the R terminal on toro-

(Continued on page 30)

Ward's New Radio Catalogue is Now Ready

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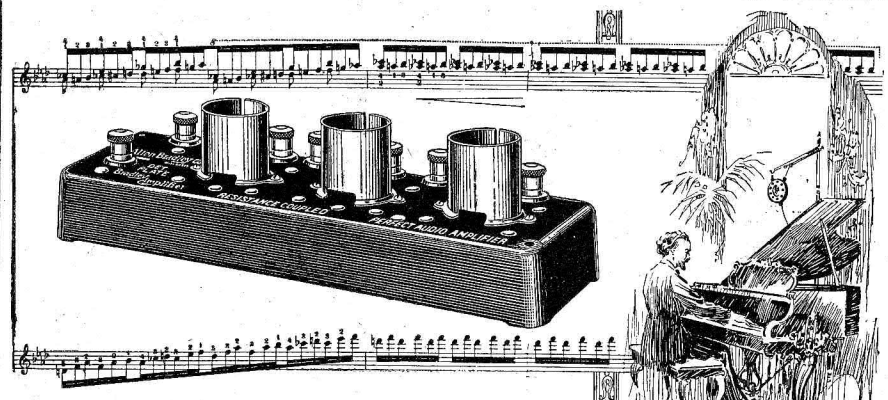

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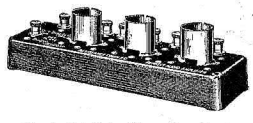
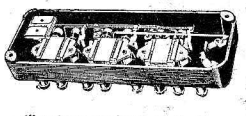


Can be installed within radio cabinet. UX as well as old tubes can be used.



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DX-Seven: Selective D-Coil 7-Tube Super-Het

Part IV—Adjusting and Tuning

By John G. Ryan

PRESUMING that the reader has assembled the DX-Seven as described in Part II, and wired it carefully following the instructions of Part III, we are now ready to connect the accessories to this set and adjust it for best operation.

Any good make of loop antenna may be used, the only special requirement being that it have a center tap, although any loop can be altered to provide this arrangement if the user will count the number of turns, find the center turn, and solder on a lead at that point. The Aero and the Lincoln loops, both of which are advertised in Radio Digest, will work very well on this set, and the writer can also personally recommend the Ajax and the Volumax loops.

Connecting Accessories

The storage battery, also known as the A battery, is provided with two terminals —the negative and the positive. The positive terminal may be identified either by the letters "POS" stamped into the case close to the terminal, or with a + sign, or by a touch of red paint on the terminal itself.

Looking at the receiver from the rear, the fourth binding post from the right is to be connected to the positive terminal, and the fifth binding post is to be connected with the negative terminal of the storage battery.

The B batteries for use with this set may be of either the storage battery or the multiple dry cell types. In either case two units of 45 volts each are required, and each unit will have a positive and a negative terminal. The negative terminal of one is to be connected to the sixth binding post, and the plus terminal of that same unit is to be connected to the seventh binding post and also to the negative terminal of the second 45-volt unit. This leaves only a positive terminal unconnected on the second B unit, and this goes to the eighth binding post at the rear of the set.

The two end terminals of the loop aerial are connected to the first and third binding posts near the right end of the set, while the center tap goes to the second binding post.

The loud speaker is provided with a long cord, at the end of which are two nickeled terminals known as phone tips. These are to be inserted in what is called a phone plug, by which the speaker can be connected to the set by inserting the phone plug in either of the two jacks at the lower right corner of the front panel. For this initial tryout we will insert it in the second jack, which is that closest to the right edge.

Seven hard tubes of the A type are used on this set, and these should now be inserted in the sockets, which is accomplished by pushing straight down and then giving a slight twist to the right. The filament switch is now pulled out, and the small lamp which is part of this set should light up. The rheostat, which is the lower of the two small knobs below the meters, should now be turned to the right as far as it will go and then slightly back so the tubes will be lit nearly but not quite to maximum brilliancy.

Preliminary Operations

The potentiometer, which is the upper of the two knobs just below the meters, should now be turned pretty well over to the left, although the best position for this instrument cannot be determined until we have tuned in a station.

Tuning is accomplished by means of the two Mar-co dials attached to the variable condensers. That at the left controls the frequency of the oscillations developed by the oscillator tube, while the dial at the right controls the condenser across the loop antenna and permits variation of the tuning of the loop antenna circuit, so that the loop circuit will be adjusted for the reception of any wave length between 200 meters and 550 meters.

Tuning the DX-Seven

As a starter try setting the right hand dial at 40 and swing the right hand dial slowly back and forth between 20 and 60. After you have done this once or twice and no signals are heard, shift the position of the potentiometer knob slightly either to the left or right and again revolve the left dial. This may have to be tried three or four times before a signal will be brought in.

The voice or music will be heard faintly at first, and the volume can be increased on slight readjustment of the right dial, and also careful adjustment of the potentiometer. After the program has been brought to maximum strength by these refinements, try adjusting the rheostat and the potentiometer together. A combination of their settings will be found which gives maximum volume and quality.

The potentiometer can be turned too far to the left, in which case there will be distortion, and it will have to be brought back slightly. Once the correct combination has been found, further adjustment of these two knobs should not be necessary.

Perfecting Resistor Values

While a resistor of .05 megohm was specified for use in the grid circuit of the oscillator tube, this value was presented as the correct average value after a long series of tests with different tubes. It may be that your particular oscillator tube would work better with a cartridge having a value of .1 or .025 megohm resistance.

In no case was it found possible to use a resistor having a value of .25 megohm, and the use of this cartridge caused all signals to stop at once.

You can either shift your tubes around in the sockets in an endeavor to find one that works best with the .05 cartridge, or you can purchase the other two values mentioned, namely, the .1 and the .025 megohm resistors, and try them with the same tube.

The only other unit about which there might be any question is the 5-megohm leakandenser. This was specified by the writer after a great deal of super-heterodyne experience as the most used value for a grid leak in that position. Here again you have the option of shifting tubes to find the one which will work best as a detector with that particular leakandenser, or purchasing additional cartridges of 4-megohm and 7-megohm values. It is highly probable, however, that you will secure most excellent results with the value specified.

C Battery Voltage

The writer has not as yet seen a model of this set nor a combination of tubes used in one of these sets where there was any advantage in using other than the full 7½ volts supplied by the C battery. The use of a lower voltage merely increased the current draw from the B batteries, as indicated on the milliameter, and cut down the volume. The use of any more voltage gave no increase in either range or signal strength, and gave only a very slight decrease in B battery current consumption.

After you have chosen the best tube of those which you have for use as second detector and as oscillator, the remaining five tubes should be shifted around a bit in their sockets to determine the three which are the most closely alike in their characteristics for use in the third, fourth and fifth sockets, in which case they are known as the intermediate frequency amplifiers. After that has been determined by carefully observing the range and volume with different combinations, you should determine which of the two remaining tubes makes the best first detector or mixer in the second socket.

In this matter of socket position the writer is considering the set as viewed from the front. The remaining or seventh tube is, of course, used in the seventh socket as the audio frequency amplifier.

Logging Stations Received

For each position of the right dial or loop dial at which a signal is brought in with maximum strength there will be found two corresponding positions on the left or oscillator dial. This is always the case with super-heterodynes, as the generated frequency heterodynes the incoming signal at a predetermined frequency difference either above or below the frequency of the incoming signal. If, for example, intermediate transformers are adjusted to pass a frequency of 40,000 cycles, and the incoming signal has a frequency of 1,000,000, signals will be heard when the oscillator system is adjusted to give either 960,000 cycles or 1,040,000 cycles.

It would be a good idea, after about five stations have been tuned in and the dial settings noted, to obtain a piece of graph paper and plot the wave lengths indicated across the bottom line of the sheet and condenser settings on the left edge of the sheet, with zero at the bottom.

Making Curves of Dial Settings

Thus, when you have a station you can determine the wave length used by that station from the directory in Radio Digest, and locate this wave length on the bottom line of your graph paper. Since you have determined the condenser settings at which you receive that station, move your pencil up from the bottom edge on the correct wave length line until you reach the horizontal line corresponding to the dial settings.

You will thus have three intersection points for each station, and after about five stations have been brought in you will find that three long lines can be drawn through your triplets of dots, one of which will give you the loop setting for any wave length, while the other will

(Continued on page 28)

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D-XSEVEN SUPER-HET

(Continued on page 27)

give you the upper and lower oscillator dial setting for any wave length. These lines are known to Radio men as curves, and from them the tuning up of other stations is easy.

On local stations it may be found desirable to insert the phone plug attached to the speaker in the first jack, as the volume may be too great when used in the second. You may also prefer to tune for distant stations with a pair of head receivers, which it will be found better to use in the first jack.

Do not forget that the loop antenna is directional, and that the plane of the loop must be parallel to the direction of the station from the point where you are located for maximum energy pickup from that station. The loop will not pick up energy from a station located in a direction at right angles to its plane. City dwellers will find that steel buildings will deflect the path of the energy, so that while a station may in reality be northwest of you, the loop may have to be pointed east and west for best reception of that station.

One might even be so surrounded by steel buildings that all stations come in with the loop in but one plane. In other words, it may be perfectly audible from all directions with the loop pointing northeast and southwest.

The writer regrets that he cannot give you a definite value for the two resistor cartridges mentioned, but until the happy time when all tubes are exactly alike in their characteristics, such direction would be impossible. On all other points, however, the directions given are best, and if you have followed them carefully you cannot go wrong.

(CONCLUSION)

Many people have the mistaken notion that the resistance of head phones is a measure of their quality. Actually, head phones of 2500 ohms resistance may be much better than others of 5000 ohms resistance. The resistance is determined by the length, size, and kind of wire used in their construction. Their performance is a matter of proper engineering design and the use of good materials.

AMPLIFIERS AND AUDIO FREQUENCY

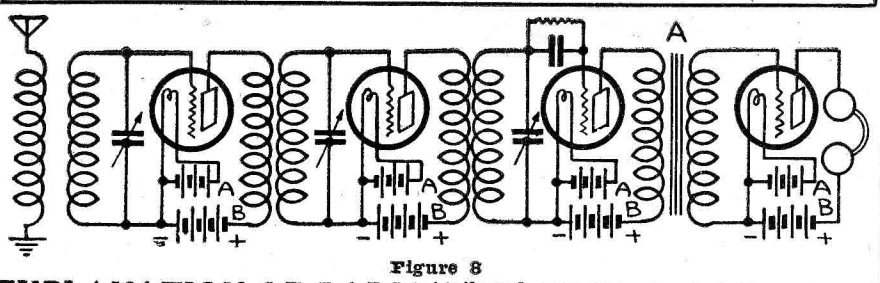

Figure 8

EXPLANATION OF RADIO

(Continued on page 23)

closed) it has the effect of amplifying the big waves (audio) more than the smaller (Radio) waves. Perhaps this is why it is called a detector for in a sense, it "detects" the big waves and neglects the little ones.

If, after detection, the audio impulses are not as intense as may be desired they may be amplified still further by the same method. See figure 8.

What an Audio Transformer Is

The audio transformer at A is another broadcasting and receiving station as before. The chief difference in construction is in the use of iron between the coils. Iron has a directional effect on the ether waves and causes all this wave energy to go where desired. This makes it decidedly more efficient than when air is between the coils.

The reason why iron core transformers were not used when the radio frequency ether waves were being broadcast from one coil to another (along with the audio waves) is because there is an inertia effect in the iron. This prevents one from sending high frequency (radio frequency) ether waves through it.

This concludes the story of Radio, the purpose of which was to explain the fundamental features to those who have had little or no opportunity to study along this line. Much has been left undone.

Some readers may be left wondering about potentiometers, heterodynes, distributed capacity, etc., but discussion of these and many other details has been intentionally omitted in order to make the truly essential principles stand out in greater relief. It is hoped the reader will follow up these details, for after all, it is attention to detail, in addition to generalities, that distinguishes the learned from the pretentious.

(CONCLUSION)

OPERATING "TRIRDYN"

(Continued on page 24)

tection, passes through tube 13 a second time, but now at audible frequencies. It passes to the jack which is shown on the front panel between the rheostats and below the knob 3. A pair of head receivers can be plugged into this jack and signals heard. If the receivers are not plugged in, the energy goes to audio transformer 7, shown at the left end of the shelf in figure 3, and finally is amplified again through tube 15, which was tube III in the original explanation. From this tube it goes to the two binding posts labeled "output," to which a loud speaker is to be connected.

The adjustment of the two rheostats 4 and 5 will not be found particularly critical, but once signals have been brought in, as outlined above, these rheostats should be adjusted for maximum volume and clearness. The piece of apparatus which has been labeled 16 in figure 3 comprises two units, one of which is known as the grid condenser and the other as the grid leak. The grid leak, which is the small glass tube held in two clips, will be found worthy of some attention in the way of changing it. Grid leak cartridges, as they are called, come in various values, such as 2 megohms, 3 megohms, etc., up to 7 megohms. Since the tubes on the market vary considerably in their characteristics, no definite value can be given for this unit and it would be a good idea to purchase one of each value from 3 to 7 megohms. One of these will be found to give considerably better results, both in volume and clearness, than any of the others, and it should be left in the clips.

(Another well-known manufactured receiver will be studied next week.—Editor's Note.)

Good reception comes when you have your aerial at least as high as other surrounding objects and from 40 to 100 feet long.

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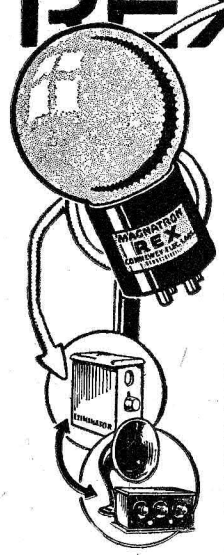

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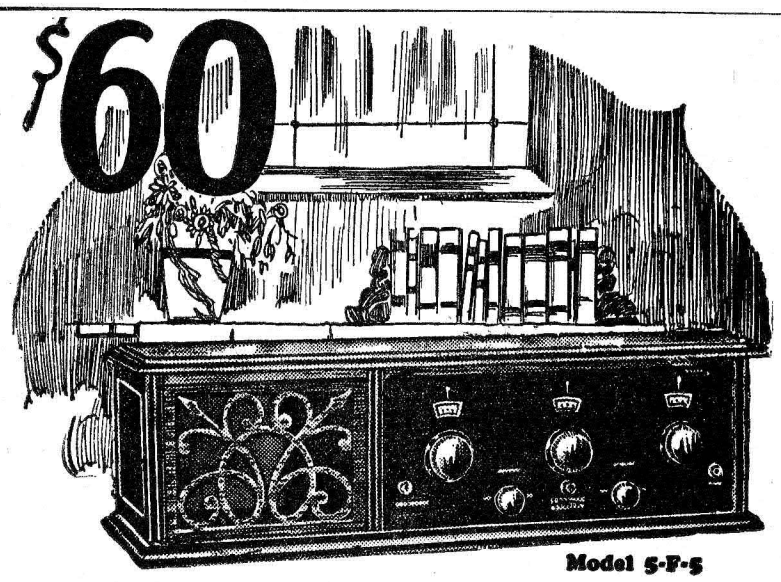

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Part II—Conclusion

HOW the reader can build himself a unit that will free his set from radiating to the detriment of his neighbors, and how that unit, the Thatcher unit it is called, will make his set tune more sharply and reach out farther, was told briefly in last week's issue.

It is the purpose of this article to amplify the details for construction of the Thatcher device. Figure 1 (last week) showed the circuit. Figure 2 shows the panel drilling layout and figure 3 shows the arrangement of parts on the panel and baseboard.

Constructional Details

Use number 26 dsc. wire for winding the coils. On the 3" tube 2¾" long wind 65 turns with a tap at the fifteenth turn, starting the winding ½" from the end. On the 3" tube 4" long, starting ½" from the end, wind 30 double turns by using two lengths of wire and winding both at the same time as a single wire. Thirty turns of this double wire will make a coil of 60 turns with four ends and is really composed of two coils of 30 turns each tightly coupled together. The beginning of one coil is connected to the end of the other coil, forming the positive B connection, while the two remaining terminals go to the plate and balancing condenser. It does not make any difference which terminal is connected to plate or condenser.

In order to check the double coil to determine the proper terminals, use a dry cell and head phones. From 1" to 1¼" from the double turn coil wind the output coil of 10 turns.

Mounting Apparatus

The various parts should now be mounted on the standard 7"x9" panel. The tube socket may be mounted on a bracket attached to the panel or fastened to the baseboard. The condenser, rheostat and binding posts are mounted on the panel. The binding posts may be mounted at the rear of the baseboard, if desired, on a strip of insulating material.

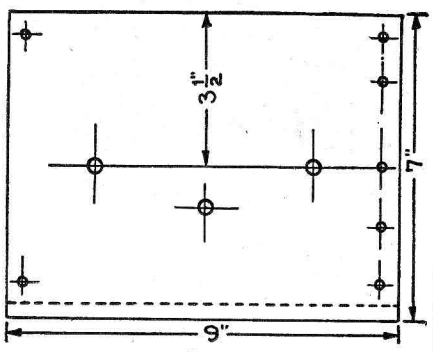


Figure 2

The 65-turn coil is mounted horizontally and the double turn coil is mounted vertically, both the same distance from the panel, and as far apart as possible. It is also important that the 65-turn coil is centered on the 30-turn section of the double turn coil. These coils are fastened by means of small brackets to the baseboard.

The small neutralizing condenser is mounted on the baseboard unless it is of the rotary type in which case it is mounted on the panel. Use number 14 round tinned bus bar wire for connections.

The output coil should be connected to the output binding posts. The rheostat

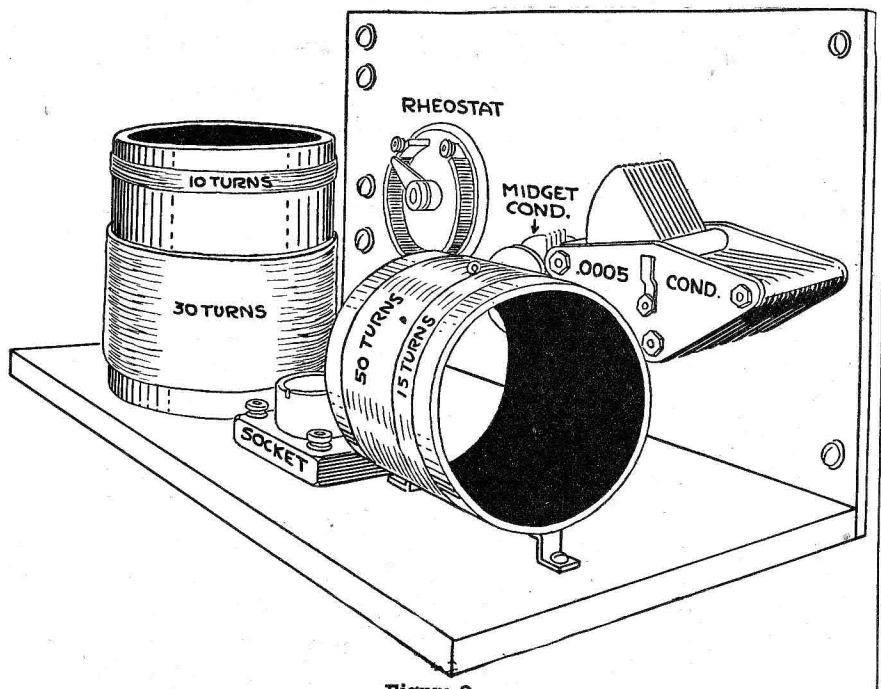


Figure 3

is in the negative A lead and the 15-turn tap is connected to the rotor plates of the .0005 variable tuning condenser and to the negative A and ground binding posts. The aerial binding post is connected to the outside of the 15-turn coil with the other end of the 50-turn coil going to stator condenser plates and to grid.

A .005 mfd. bypass condenser is connected from the positive B terminal to negative A terminal. In attaching the radio frequency unit to a receiving set, bring leads from negative A and positive A terminals on the receiving set to the corresponding terminals on the radio frequency unit. Augment the B battery of the receiving set until it totals 45 to 90 volts (or take a tap on the positive 90-volt point of your B battery) and bring this to the positive B connection on the radio frequency unit, leaving the positive B connection from the receiving set at its original value on the B battery. Connect the output terminals to the aerial and ground connections of the receiving set and connect the aerial and ground to the proper binding posts on the radio frequency unit.

Balancing the Unit

After these connections are made, light the tubes of the receiving set and radio frequency unit and turn the tuning condenser of the radio frequency unit to about 40. Increase the feedback of the receiving set until it oscillates and tune the receiving set for a signal by means of its tuning condenser. The signal will be the customary whistle. Then turn the tuning condenser of the radio frequency unit for maximum intensity. Vary the setting of the small balancing condenser until, when turning the tuning condenser of the radio frequency unit through the maximum intensity of the signal, the whistle varies only in intensity and not in pitch. The set is now balanced and the balancing condenser should remain at that point.

Local stations may be used for the initial adjustment but stations 50 to 100 miles away should be used for the final refinement as local stations have so powerful a signal as to make it difficult to tell when the pitch varies.

This radio frequency unit will work wonders with a single circuit and other receivers and the selectivity is such that vernier controls may be necessary. In connecting to any other set than a single circuit, the same general scheme may be followed until the selectivity becomes too great. For instance, with a honeycomb coil receiver, connecting the output coil to the tuned primary will make an extremely selective set having three controls which will make the set difficult to tune. This may be corrected by disconnecting the primary condenser and using a 25-turn primary coil, winding 25 turns on the output coil. These two coils will constitute a link and reduces the number of controls to two. Another way is to connect the output coil in series with the secondary coil disregarding the primary circuit giving the effect of a single circuit tuner. It is best where possible to connect the output coil in the tuned secondary circuit.

Trouble Shooting

Any standard receiving tube may be used but 5-volt tubes are recommended. If signals can be received with the radio frequency tube turned off, that tube is not properly neutralized or the aerial wire is runing too close to the receiving set and is passing the signals direct without going through the radio frequency unit.

If the receiver tunes too sharply, wind the output coil closer to the 30-turn double coil, and if the proper wave lengths cannot be received, wind more turns on the output coil.

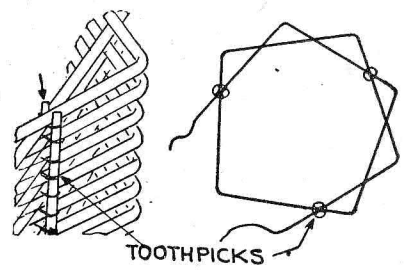
Another method of neutralizing the unit is to follow the standard practice used with neutrodynes. Darken the radio frequency tube with a piece of paper over one prong of the filament contacts. Tune in a signal and adjust the neutralizing condenser until the signal disappears or becomes a minimum.

It is necessary to be able to control oscillations on the receiving set over the entire broadcast wave band and it may be found that certain taps on the primary will not oscillate, while on other taps the oscillations cannot be controlled. This condition is corrected by changing the number of turns on the output coil and also moving the output coil closer to the 30-turn double coil.

(CONCLUSION)

Basket Coil Supports

If, when winding basket coils, a toothpick is placed on each side of the place where the wires intersect and these are sewed together with silk thread, you will have a very rigid coil when it is removed from the form.



Only three intersections need be fixed in this way. The rest are to be tied with thread alone. If this is done, especially when using small gauge wire, you will be surprised at the result.—D. Harrington, Holstein, Iowa.

Enameled Wire Best

Because bare wire quickly collects soot, which causes certain electrical losses, and fabric covered wire absorbs moisture that also causes losses, it is recommended that enameled wire be used for constructing aerials. Only the best grade of copper should be used and while it is theoretically more efficient it is hard to give practical proof that stranded wire is more efficient than the same size of ordinary round wire.

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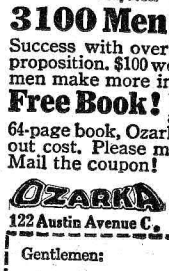

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"COUNTERPHASE" SET

(Continued from page 26)

style 3, and at a point in front of socket number 2 bend the wire toward the front of the set and connect it to the right-hand terminal of the three on the twin resistor.

30. From the left-hand terminal on the twin resistor drop a wire through the sub base and then to the left to the bottom spring of the four-spring jack.

31. From the P terminal on socket number 4, which is that in the rear left-hand corner, drop a wire through the sub base and then to the right to the P terminal on the rear audio frequency transformer.

32. From the B terminal on that same transformer run a wire to the right 2¾ inches and then straight back to the third binding post from the right in the group of six.

33. From the G terminal of socket number 5 drop a wire through the sub base to the G terminal on the rear transformer.

34. The P terminal of socket number 5 is to be connected, through the sub base, by a wire passing to the right around the front audio transformer to the top spring on the four-spring jack. The P terminal on this front transformer is to be connected to the next spring on the jack. The B terminal of the transformer goes to the third spring on that jack. Now connect the frame terminal on the single-spring jack to the bottom spring on the four-spring jack and carry this wire to the rear to the third binding post from the left of the group of six.

35. The G terminal of socket number 6 is to be connected to the G terminal on the front audio frequency transformer. From the F terminal on the front audio transformer run a wire to the rear to the last binding post to the left of the group of six. Where this wire passes close to the F terminal on the rear transformer connect it to that terminal. The P terminal of socket number 6 is to be connected to the single spring of the single-spring jack.

36. The left end of the 3-megohm cartridge resistor, which is directly behind socket number 4, is to be connected by a very short lead to the G terminal of that socket. The right end of this resistor is to be connected by a wire going straight forward to the plus terminal on socket number 4. Directly behind the rear audio transformer we will place the .001 mfd. fixed condenser, and it is to be set vertically. Its left end is connected to the P terminal on the rear audio transformer, while its right end is connected to the plus filament circuit at the right end of the 4-ohm filament resistor.

37. From the number 1 terminal at the right side of torostyle 1 drop a wire to the right and almost to the sub base, then straight forward to that terminal on the 9-point switch which is close to the sub base and the right end of the panel. From the second terminal on the switch put in a ½-inch lead, straight back, and connect it to one terminal of a .00025 mfd. condenser. To the other terminal of that condenser connect a short lead, which goes to the wire just put in connecting to terminal number 1 on the torostyle.

38. From terminal number 2 on the torostyle run a wire about 1½ inches downward and to the right and then straight forward to terminal number 3 on the 9-point switch. From the fourth terminal of that switch a wire is put in pointing straight to the rear and about 2 inches long, the other end being connected to a second .00025 fixed condenser. The rear end of the condenser is connected to the wire just put in going to terminal number 3 on the switch.

39. From terminal number 3 on torostyle 1, a wire goes to the right about two inches and then forward to the fifth terminal on the switch. The sixth terminal is then connected to the front end of a .00025 fixed condenser, the rear end of which is connected to the wire just put in connecting to the fifth terminal of the switch. The seventh point on the switch is connected to terminal 4 on the torostyle, and the eighth point is connected to the front end of a fourth .00025 fixed condenser. The rear end of this condenser connects to the wire attached to switch point 7.

This operation of putting in the series antenna condensers will be made much clearer by study of the photographs which accompany this article.

(The last of the series of four articles by Mr. McDonald on Counterphase appears in next week's issue and will cover adjusting and tuning.—Editor's Note.)

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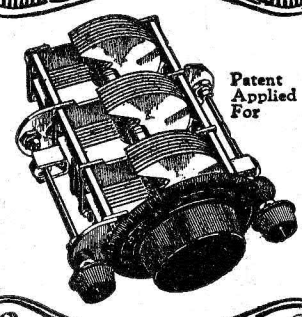

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Santa Clara, 6BY, 6DW, 6EV, 6GR, 6GT, 6HS, 6JQ
Colon, 5EV
Havana, PWX, Q2LC, 1AZ, 2AB, 2BB, 2BY, 2CG, 2CX, 2EP, 2HP, 2JL, 2JP, 2LR, 2MG, 2MK, 20K, 2OL, 2PK, 2RK, 2RM, 2RY, 2SZ, 2TW, 2UF, 2WW, 2XX
Mantanzas, 5AZ, 5BY
Santiago, 8AZ, 8BY, 8FU, 8IR, 8JQ
Tuinucu, 6JK, 6KW

France:
Lyons, YN, Radio-Lyon
Paris, FPTT, Le Petit Parisien

Germany:
Berlin, Vox Haus, Telefunken Co.
Breslau, Schlesische, Rundfunk
Cassel, Sudwestdeutscher Rundfunk.
Dresden, Mitteldeutsche Rundfunk.
Frankfort-on-Main, Sudwestdeutsche Rundfunkfienst
Hamburg, Norag.
Konigsberg, Ostmarken Rundfunk
Leipzig, Mitteldeutsche Rundfunk
Munich, Deutsche Stunde
Munster Station
Nuremberg, relayed from Munich
Stuttgart, Station

Great Britain:
Aberdeen, 2BD
Belfast, 2BE
Birmingham, 5IT
Bournemouth, 6BM
Bradford, 2LS
Cardiff, 5WA
Dundee, 2DE
Edinburgh, 2EH
Glasgow, 5SC
Hull, 6KH
Leeds, 2LS
London, 2LO
Manchester, 2ZY
Newcastle, 5NO
Nottingham, 5NG
Plymouth, 5PY
Sheffield, 6FL
Stoke-on-Trent, 6ST

Mexico:
Chihuahua, CZF
Mazatlan, CYR
Mexico City, CYA, CYB, CYG, CYH, CYL, CYX, CYZ, CZA, CZE, XDA
Monterey, CYS
Oaxaca, CYF

STATION SCHEDULES

(Continued from last week)

Cuba

PWX, Havana, Cuba. 400 meters. 500 watts. Cuban Telephone Co. International Tel. & Teleg. Corp. Wed, Sat, 8:30-11 pm, music. Eastern.

Q2LC, Havana, Cuba. 250 meters. 50 watts. Luis Casas.

1AZ, Havana, Cuba. 275 meters. 5 watts. Antonio Sarasola.

2AB, Havana, Cuba. 235 meters. 10 watts. Alberto S. Bustamante.

2BB, Havana, Cuba. 255 meters. 15 watts. Bernardo Barrie.

2BY, Havana, Cuba. 315 meters. 100 watts. Electrical Equipment Co. of Cuba. Mon, Thurs, 7:00-8:00 pm. Eastern.

2CG, Havanna, Cuba. 350 meters. 15 watts. Humberto Giquel.

2CX, Havana, Cuba. 320 meters. 10 watts. F. W. Borton.

2EP, Havana, Cuba. 355 meters. 400 watts. El Pais.

2HP, Havana, Cuba. 295 meters. 100 watts. Credito y Construcciones Co.

2JL, Havana, Cuba. 275 meters. 5 watts. Jose Leiro.

2JP, Havana, Cuba. 270 meters. 20 watts. Julio Power.

2LR, Havana, Cuba. 235 meters. 10 watts. Jose Lara.

2MG, Havana, Cuba. 280 meters. 20 watts. Manuel Y. Guillermo Salas Music Store. Announcer, Roger Morales. Daily, 3-4 pm, music. One day each week, 8-11 pm. Eastern.

2MK, Havana, Cuba. 85 meters. 20 watts. R. V. Waters.

2OK, Havana, Cuba. 360 meters. 100 watts. Mario Garcia Velez.

2OL, Havana, Cuba. 300 meters. 100 watts. Columbus Cycle Radio Co.

2PK, Havana, Cuba. 195 meters. 10 watts. George A. Lindeaux.

2RK, Havana, Cuba. 310 meters. 100 watts. Raoul Karman. Casa De La Porte.

2RM, Havana, Cuba. 210 meters. 10 watts. Rogelio Morales.

2RY, Havana, Cuba. 170 meters. 5 watts. Salvador de la Torre.

2SZ, Havana, Cuba. 180 meters. 10 watts. Homero Sanchez.

2TW, Havana, Cuba. 230 meters. 20 watts. Roberto E. Ramirez.

2UF, Havana, Cuba. 265 meters. 10 watts. Roberto E. Ramirez.

2XX, Havana, Cuba. 150 meters. 5 watts. Antonio A. Ginard.

5AZ, Mantanzas, Cuba. 200 meters. 20 watts. Ernesto V. Figueroa.

5BY, Mantanzas, Cuba. 190 meters. 10 watts. Leon Gonzalez Velez.

5EV, Colon, Cuba. 360 meters. 10 watts. Leopoldo V. Figueroa. Sun, 9-11 pm. Eastern.

6BY, Santa Clara, Cuba. 260 meters. 200 watts. Jose Ganduxe.

6DW, Santa Clara, Cuba. 225 meters. 10 watts. Eduardo Terry.

6EV, Santa Clara, Cuba. 250 meters. 100 watts. Maria Josefa Alvares. Daily, 10:30 pm.

6GR, Santa Clara, Cuba. 250 meters. 10 watts. Luis del Castillo.

6GT, Santa Clara, Cuba. 190 meters. 5 watts. Juan Pablo Ros.

6HS, Santa Clara, Cuba. 200 meters. 10 watts Santiago Ventura.

6JK, Tuinucu, Cuba. 275 meters. 100 watts. Frank H. Jones.

6JQ, Santa Clara, Cuba. 250 meters. 10 watts. Eligio Cobelo Ramirez.

6KW, Tuinucu, Cuba. 338 meters. 4,000 watts. Frank H. Jones. Slogan, "If You Hear the Koo of the Cuckoo You Are in Tune With Tuinucu." Daily, 8-10:15 pm. Eastern.

6YR, Camaguey, Cuba. 200 meters. 20 watts. Diego Ibarra.

7AZ, Camaguey, Cuba. 225 meters. 10 watts. Pedro Nogueras.

7BY, Camaguey, Cuba. 235 meters. 20 watts. Eduardo V. Figueroa.

7CX, Camaguey, Cuba. 85 meters. 10 watts. Leonard B. Fox.

7DW, Camaguey, Cuba. 90 meters. 10 watts. M. L. Quintana.

7SR, Camaguey, Cuba. 300 meters. 500 watts. Salvador C. Rionda. Slogan, "Cuba, the Land of Sunshine, Sugar and Tobacco." Mon, Tues, Thurs, 8:30 pm. Eastern.

8AZ, Santiago, Cuba. 240 meters. 20 watts. Alfredo Brooks.

8BY, Santiago, Cuba. 250 meters. 100 watts. Alberto Ravelo.

8FU, Santiago, Cuba. 225 meters. 15 watts. Andres Vinent.

8IR, Santiago, Cuba. 190 meters. 20 watts. Ceferino Ramos.

8JQ, Santiago, Cuba. 275 meters. 20 watts. Jose Fernandez Heredia.

France

FPTT, Paris, France. 458 meters. 500 watts. Superior School P. T. T. Announcer, M. Chanton.

YN, Lyons-la-Doua, France. 340 meters. French Government.
Lyons, Radio-Lyon, 284 meters. 600 watts.
Paris, France, Le Petit Parisien. 345 meters. 500 watts.

Germany

Berlin, Germany. 505 meters. 1,500 watts. Vox Haus.
Berlin, Germany, 290 meters. 100 watts. Telefunken Co.
Breslau, Germany. 418 meters. 1,500 watts. Schlesische Rundfunk, A. G.
Cassel, Germany. 288 meters. 1,500 watts. Sudwestdeutscher Rundfunk. A. G.
Dresden, Germany. 280 meters. 1,500 watts. Mitteldeutsche Rundfunk. A. G. (Mirag).
Frankfort-on-Main, Germany. 470 meters. 1,500 watts. Sudwestdeutsche Rundfunkienst.
Hamburg, Germany, 395 meters. 500 watts, Nordischer Rundfunk, A. G. Announcer, Hans Bodenstedt.
Konigsberg, Germany. 463 meters. 1,000 watts. Ostmarken Rundfunk, A. G.
Leipzig, Germany. 444.5 meters. 1,500 watts. Mitteldeutsche Rundfunk, A. G. (Mirag).
Munich, Germany. 414 meters. 10,000 watts. Deutsche Stunde in Bayern.
Munster, Germany. 410 meters. 5,000 watts.
Nuremberg, Germany. 298 meters. Relayed from Munich.
Stuttgart, Germany. 443 meters. 1,500 watts.

Great Britain

2BD, Aberdeen, Scot. 495 meters. 1,500 watts. British Broadcasting Co. Announcer, H. M. Fitch.

2BE, Belfast, Ireland. 438 meters. British Broadcasting Co., Ltd. Announcer, W. T. Guthrie, Capt. T. O. Corrin.

2DE, Dundee, Scot. 330.5 meters. British Broadcasting Co.

2EH, Edinburgh, Scot. 328 meters. British Broadcasting Co.

2LO, London, Eng. 365 meters. 3,000 watts. British Broadcasting Co., Ltd.

2LS, Leeds and Bradford, Eng. 342 and 310 meters. British Broadcasting Co., Ltd.

2ZY, Manchester, Eng. 377.5 meters. British Broadcasting Co.

5IT, Birmingham, Eng. 477.5 meters. British Broadcasting Co.

5NG, Nottingham, Eng. 326 meters. British Broadcasting Co.

5NO, Newcastle, England. 403.5 meters. British Broadcasting Co.

5PY, Plymouth, Eng. 338 meters. 200 watts. British Broadcasting Co., Ltd. Announcer, J. E. C. Langham.

5SC, Glasgow, Scot. 422 meters. British Broadcasting Co.

5WA, Cardiff, Wales. 353 meters. British Broadcasting Co.

6BM, Bournemouth, Eng. 386 meters. British Broadcasting Co.

6FL, Sheffield, Eng. 303.5 meters. British Broadcasting Co.

6KH, Hull, Eng. 334 meters. British Broadcasting Co., Ltd.

6LV, Liverpool, Eng. 314.1 meters. British Broadcasting Co.

6ST, Stoke-on-Trent, Eng. 306 meters. British Broadcasting Co.

Mexico

CYA, Mexico City, Mex. 320 meters. Partido Liberal Avanzado.

CYB, Mexico City, Mex. 270 meters. 500 watts. El Buen, Tono. Tues, Thurs, Sat, 7:30-9 pm, concert. Mexican.

CYF, Oaxaca, Oax., Mex. 260 meters. Federico Zorrilla. "The Voice from South of Mexico." Tues, Thurs, 7-8 pm. Sun, 8:30-10 pm. Mexican.

CYG, Mexico City, Mex. 300 meters. 1,000 watts. Secretara de Guerra y Marina.

CYH, Mexico City, Mex. 325 meters. 100 watts. High Life. Slogan, "Los Proveedores del Caballero Que Viste Bien." Announcer, Jorge Chulia Mallet. Fri, 8:30-10 pm. Mountain.

CYL, Mexico City, Mex. 480 meters. 500 watts. La Casa del Radio. Announcer, George Marron. Slogan: "The Land of Eternal Summer. Daily ex Sun, 1:30-2 pm, weather, financial reports, music. Tues, Fri, 8-9:30 pm. Sun, 8-9:30 pm, church. Mexican.

CYR, Mazatlan, Sin., Mex. Rosseter Y Cia.

CYS, Monterey, Mexico. 314.5 meters. 250 watts. Tarnava & Cia. Slogan, "The Industrial Center of the Mexican Republic." Daily and Sun, 7:55-8:05 pm. Mon, 8-9:30 pm. Mountain.

CYX, Mexico City, Mex. 333 meters. 500 watts. Excelsior & Cia. Parker. Announcer, Rafael Hermandez Dominguez. Slogan, "Land of the Aztecs." Mon, 8-9:30 p. m. Fri. 8:30-9:30 pm. Mexican.

CYZ, Mexico City, Mex. 400 meters. Liga Central Mexicana de Radio.

CZA, Mexico City, Mex. 70-500-1,070 meters. Aviation Dept., War Ministry. Announcer, Ricardo S. Bravo. Daily, 12:30-1 pm, time, weather, news; 6:30-7:30, time, markets, music. Mexican.

CZE, Mexico City, Mex. Secretary Public Education.

CZF, Chihauhau City, Mexico. 325 meters. 250 watts. nouncer, C. A. Nieto. Slogan, "United by Radio." Tues, 8-9:30 pm. Mountain.

XDA, Mexico City, Mexico. Variable wave. 4000 watts Government station. Slogan, "Radio Chapultepec."

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for the wonderful new Tower Diaphragm

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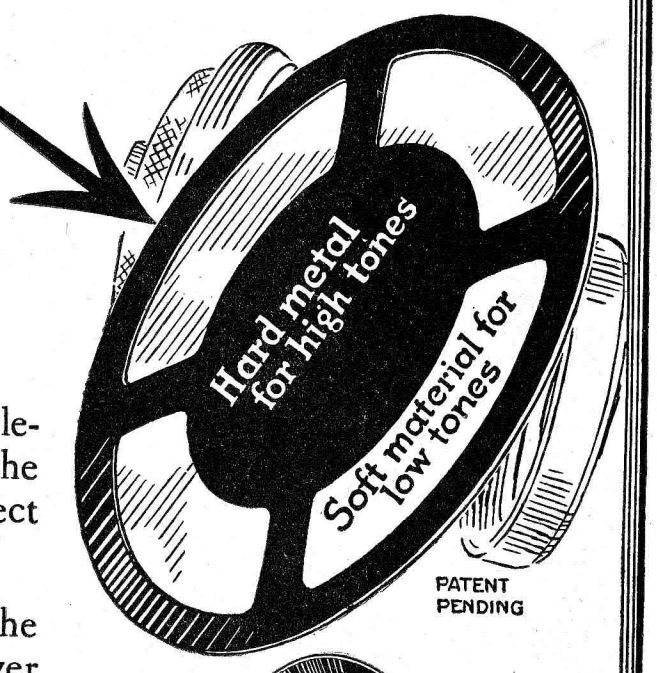

Over fifty years ago Alexander Graham Bell invented the telephone receiver with its all-metal Diaphram. Until now the world's greatest acoustical experts have been unable to effect any radical improvement on this type.

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Dr. Fisher

Eminent Scientist

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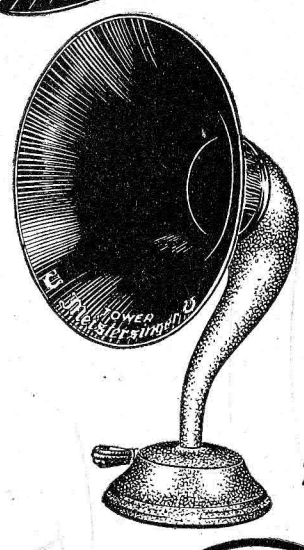

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*Little Spitfire Headset	1.95

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