

How to Make New Push Pull Resistance Coupled Amplifier; Story of WNAC
 Instructions for Operating Hetduogen Set; Winding Low Loss Inductances

Radio Digest

EVERY
WEEK

PROGRAMS
Illustrated

TEN
CENTS

REG. U. S. PAT. OFF. & DOM. OF CANADA

Vol. XII

Copyright 1925
By Radio Digest Publishing Co.

SATURDAY, JANUARY 31, 1925

No. 4

NO FADING IN NEW SET

MC CORMACK SONGS HELP RECORD SALES

BUSINESS PICKUP ASSURED BY VICTOR COMPANY

Famous Irish Tenor Satisfied with Results—Madame Bori Also Flattered by Response

NEW YORK.—Direct evidence that the McCormack-Bori broadcast on New Year's night caused a tremendous increase in the sales of Victor records, especially those of John McCormack, comes in the form of an announcement by the Victor Talking Machine company.

While no official figures have as yet been compiled, the recording company is happy in the very encouraging results of the broadcasting experiments and will continue indefinitely with the semi-monthly concert.

One of the leading retail music shops here reported a large increase in the sale of records by both Victor artists. Particularly noticeable was the increased popularity of "All Alone," a McCormack record which had sold poorly since listening in became popular and until the New Year's Radio concert.

(Continued on page 7)



ACCOMPLISH NON-CARRIER BROADCASTS

Room for More Stations

H. A. Brown and C. A. Keener
Perfect New Transmission System Giving Improved Radio

CHAMPAIGN, Ill. — Broadcasting without the use of a carrier wave has been accomplished at Station WRM of the University of Illinois in this city. By eliminating the carrier wave, the men responsible for the development of this system claim that all traces of fading are abolished.

The non-carrier system was perfected in the university laboratories by Hugh A. (Continued on page 2)



Left, Polly Willis, incomparable soprano and KYW, Chicago, entertainer. Above, Aline Beshinska, soprano, who is heard with great regularity from Station WEAR, Cleveland. Right, Phyllis Haver, Mack Sennett star, recently heard from Station WOR, Newark.

CONTEST RECEIVERS NOW BEING TESTED

FORTY-NINE SETS WAITING JUDGES' DECISION

Many Manufacturers Have Requested Opportunity to Inspect Sets Submitted—Winners Notified Soon

The Gold Award Set contest is now closed—receivers of all kinds and sizes are lined up for inspection—the judges are studying diagrams and letters. Few contests of interest to the Radio fraternity have created the interest that did this one. Many letters, accompanied by diagrams, came in with the request for an opinion as to whether the idea was worth submitting in set form.

Some of the writers were asked to refrain from going to the expense of sending their sets as nothing seemed to be embodied in their outfits. Others were advised to try for a patent on their apparatus before giving it to the Radio field. Still others wanted more money for divulging their developments and suggested a conference to settle a price. Those that had something that seemed to contain improvements were wired to send their sets immediately.

Forty-nine Receivers on Trial

Forty-nine receivers are therefore awaiting trial. Missouri, Kansas, New Jersey, Tennessee, Virginia, Montreal, Quebec, Pennsylvania—in fact, nearly every state in the Union and province of Canada—are represented in the collection. Whether anything that will warrant the attention of Radio engineers is among the ideas submitted, remains to be seen. If, somewhere between Alaska and the Canal Zone, there is a new departure in Radio receivers by an amateur, Radio Digest has done its best to bring it out.

There have been requests from manufacturers for an opportunity to inspect the sets now in. This matter now awaits decision by the owners of this publication. In all probability representatives from these concerns will be invited to a demonstration of sets at which time all sets can be seen at once by all.

It is hoped that winners can be announced next week. Receivers are complicated, and testing them fairly, under varying conditions, takes time. Winners will, however, be notified by wire when a decision is reached.

NO FADING IN NEW SET

(Continued from page 1)

Brown and C. A. Keener, and by its use, it is asserted, much transmitter noise is done away with and the sharpness of tuning by the receiver is increased.

When Mr. Brown and Mr. Keener first started working on the experiments which led to their non-carrier wave system, they were aware that other investigations had been carried on along similar lines but most of these had been devised for small power outfits. None of the systems were of the exact nature of the University of Illinois arrangement.

These two men simply set about trying out several different methods, first this one and then that, and finally concluded in their own minds what they considered the best and then settled on that. Since that time all their work has been towards the perfection and development of the idea they adopted.

Work Started Year and a Half Ago

Experimental work on the non-carrier system in the university laboratories was started by Mr. Brown about a year and a half ago, in conjunction with Professor Kneipp. It suggested itself when Mr. Brown and Mr. Keener—who later took up the work—were working on a comparison of various modern systems of modulation. The thing suggested itself on account of the large amount of unmodulated energy in all the conventional systems, that is, the amount of lost or wasted energy that was noticed in other systems which wasn't doing any work, but was causing interference with other stations.

Tests made show that it is possible to check the theoretical ratio of power required for the non-carrier system to that required for the carrier system, for the same intensity of signal at a distant receiver.

It was found, for instance, in tests over a considerable distance, that about one-third the power needed for a given signal using constant current modulation was necessary for the same signal strength using the non-carrier system.

Carrier Produces Interference

In the constant current system of modulation now in general use in broadcasting work, the practical limit of modulation is reached before the carrier wave is completely modulated, and consequently a listener may pick up the carrier or the carrier may produce interference even though the program may be audible. With the non-carrier system the program may be heard if the station can be heard at all. In other words, if your receiver can reach the station, the program can be heard.

In this regard it may be said that the

DR. F. H. VIZETELLY HELPS VOCABULARY

"A WORD a day" is Dr. Vizetelly's idea of increasing the vocabulary of the Radiophans. Station WJZ is the proud dispatcher of this stimulating educational feature, and Dr. Vizetelly has many hundreds of thousands of days ahead of him with his inexhaustible supply of words.



Dr. F. H. Vizetelly

Another feature that Dr. Vizetelly finds very valuable as an education dispenser is the WOR feature—25-minute talks on the origin of the English language.

"There is only one grievance I nurse against the 25-minute talk," said Dr. Vizetelly. "Not enough time. I want to hold my audience, magnetize them. In order to do this, I've got to make my talks interesting. Let me tell you, it is a very difficult thing to do in so short a time. My mail response has been very flattering, however, and I intend to continue with these talks as long as possible."

tuning will be much sharper, and fading eliminated. Fading, according to the developers of the idea, can be traced directly to the carrier wave.

The additional selectivity of this new type of transmission might permit a closer spacing of stations in the broadcasting band without introducing additional heterodyning on account of the greater selectivity or sharpness of tuning possible with the receivers when the non-carrier system is used. However, no positive statement to this effect would be made by either Mr. Brown or Mr. Keener.

WENDELL HALL NOW ON WAY TO LONDON

HAVANA, Cuba. — Wendell Hall, "Red Headed Music Maker," and his wife are here now on their honeymoon tour. They have just completed their trip around the United States and to Hawaii, and will go to London next. The man who made "It Ain't Gonna Rain No Mo'," famous extends his best wishes for the New Year to all of his many friends.

Detroit News Replaces Its Luncheon Musical Program

DETROIT.—The Detroit News station, WWJ, is again broadcasting a luncheon musical program. This was dropped about a year ago, but owing to the many requests from the Radio audience of Detroit, it had to be placed on the schedule again.

The orchestra consists of five pieces. The News now employs three orchestras—Jean Goldkette's Victor recording orchestra, considered as one of the leading orchestras in the Middle West; The Detroit News orchestra, composed of members of the symphony orchestra, and the one named above. WWJ broadcasts on 516 meters.

Burr McIntosh at WAAM

NEWARK, N. J.—Burr McIntosh, the cheerful philosopher, whose voice and splendid stories have won for him a high regard from the Radio audience, is booked for an indefinite period at the I. R. Nelson company station here. Beginning January 9 at 9 o'clock Eastern time, he was on the air for forty-five minutes. He will continue to be on over WAAM every Friday evening at the same hour.

When search was being made for entombed men in the Killan colliery, Wales, Senatore Marconi foretold that the day would come when permanently adjusted sets would enable miners to let searchers know exactly where they were.

CONTENTS

Radio Digest, Illustrated, Volume XII, Number 4, published Chicago, Illinois, January 31, 1925. Published weekly by Radio Digest Publishing Company, 510 N. Dearborn Street, Chicago, Illinois. Subscription rates, yearly, Five Dollars; Foreign Postage One Dollar additional; single copies Ten Cents. Entered as second class matter at the postoffice at Chicago, Illinois, under the Act of March 3, 1879.

All the Live News of Radio.....	1 to 8
WNAC, Shepard Stores, in the Hub City.....	5
An Evening at Home with the Listener In, a popular chart showing when to listen in for your favorite station.....	8
Advance Programs for the Week at All the Larger Stations.....	9 to 14
Winding Low Loss Inductances, by Jacques Fournier.....	15
Editorial; Indi-Gest, Condensed by Dielectric.....	16
Demonstrating Radio Principles at Home, Chapter VIII—Experimenting with Push Pull Amplifiers, by J. E. Owen.....	17
Construction of the Hetduogen; Operating the Set, by C. E. Brush.....	19
Improvements on the De Forest Circuit, by M. C. Williams.....	21
Questions and Answers.....	22
Radiophone Broadcasting Stations, Part I.....	23

Looking Ahead

Another Series for Newcomers in Radio will start in the next issue. Edward T. Jones will start with the simpler apparatus and circuits, and take the beginner week by week to the long range, strong volume multi-tube outfits. The advice of one of the "old timers" is always worth getting, so fans, both novice and advanced should read this series carefully.

More Detailed Information on the Radio-Theater Controversy. With the numerous artists taking the stand pro and con, this little war may mean the ultimate decision as to whether or not plays may be broadcast. The English producers are now having the same trouble across the Atlantic. Next week we will give the information from both "fronts."

The Do's and Don'ts of Home Construction are gone into in detail by W. S. Standiford. There are so many things that the home builder can do wrong, which are hard to find later, that suggestions by Mr. Standiford should be remembered. The manufacturer can give you high quality parts, but the construction depends on you.

The Knox Reflex Utilizes Plate Tuning and Reverse Feedback, which makes it one of the most selective long range "two tubers" that reflex adherents have yet known. W. H. Knox, the designer, lives in Los Angeles, where conditions are exceptionally trying, and a set that will give one "what you want when you want it" out there, is worth building.

Newsstands Don't Always Have One Left

WHEN YOU WANT

Radio Digest

YOU WANT IT!

BE SURE OF YOUR WEEKLY COPY BY SUBSCRIBING NOW

SEND IN THE BLANK TODAY

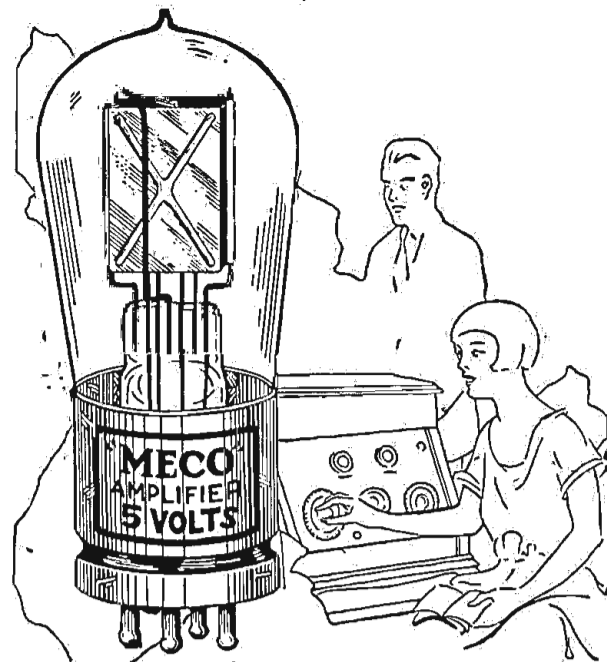
Publisher Radio Digest, 510 N. Dearborn St., Chicago, Illinois.

Please find enclosed check M. O. for Five Dollars (Six, Foreign) for One Year's Subscription to Radio Digest, Illustrated.

Name

Address

City.....State



"The Trouble Stoppers"

That is what many radiophans have nicknamed their Meco Tubes. The name gives its own reason. Trouble started. Batteries were tested or changed. New extras were introduced. All to no avail.

Then they standardized on Meco Tubes. The trouble stopped.

A radical improvement in the construction of Meco Tubes gives greater volume without impairing its clear, distinct receptive tone.

All genuine Meco Tubes have Meco stamped on the base.

Look for it. Your dealer has them in both 3 and 5 volt sizes or can get Meco Tubes for you from recognized radio jobbers.

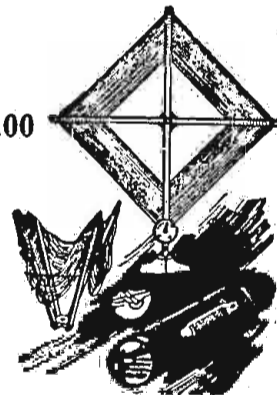
Metropolitan Electric Co. Des Moines, Iowa



Four Point Tapped Loop \$8.00

Center-tapped Loop \$6.50

If your dealer cannot supply you, order direct giving your dealer's name.



Electrically and Mechanically the finest loop ever designed

RADIO engineers designed Lincoln Collapsible Loop Aerials. That is the reason for their remarkable efficiency. They are electrically and mechanically correct. They combine with greater selectivity—volume—and clearness of reception—a graceful beauty which is the result of painstaking manufacturing.

The center-tapped loop can be used on any sets employing radio frequency amplification—particularly fine for use with certain super-heterodynes requiring a center-tap. The 4-point tapped-loop—for any circuit where it is desired to vary the inductance of the loop—most super-heterodynes—neutrodyne receivers where outside aerial is impractical.

A better loop—for less money

Lincoln Loops cost less—and do more. Volume production—engineering efficiency—are the reasons. Fully guaranteed—sold by leading dealers.



Write for catalog Send your name and dealer's name for copy of the Lincoln Catalog fully describing Lincoln Radio products.

To Jobbers and Dealers

Lincoln Radio Products are sold only through the legitimate trade. Dealers please write us for the name of the nearest Lincoln jobbers. We will be glad to send our sales' proposition to jobbers.

Lincoln Radio Corporation 224 North Wells St. CHICAGO

NEGRO REVIVAL CAN BE HEARD VIA WBAP

ENTIRE CEREMONY WILL BE BROADCAST

Whole Scale of Human Emotions to Be Run While Awaiting Coming of Holy Ghost

FT. WORTH, Texas.—Did you ever attend a "nigger camp-meeting?" More than likely if your home is way down in Dixie, you have witnessed one of these events in the church life of certain sects of the picturesque colored folk of the sunny South.

Just dial WBAP, the Star-Telegram station at midnight, Central time, on Wednesday, February 4, and hear the entire services of the Holiness Church of God in Christ (negro), broadcast direct from the church on the outskirts of the city of Fort Worth.

A short time ago, WBAP broadcast a sermon from a negro church and Radiophans who had never before heard the characteristic singing and fervent "amens" sent generous applause and requested WBAP to again put the church services on the air.

Expect One Thousand Negroes Present

Worship will commence with approximately one thousand negroes present, many of whom come from great distances and at great personal sacrifices. This number is expected to be greatly decreased by 4 a. m., at which time possibly only four hundred worshippers will be present, the rest having become exhausted and carried out, "under the power of the Spirit."

The Hired Hand will forego his duties in the boiler room and will be in attendance as announcer. Overlooking no detail, WBAP has made provision for a second announcer to be present, as it is expected that the Hired Hand will "get religion" before many hours have elapsed. W. E. Branch will be on hand to make announcements when the popular announcer of WBAP "falls under the power of the Spirit" and is carried out.

To Broadcast Entire Service

The entire ceremonials will be broadcast. And while visual communication by Radio is not yet a possibility, listeners may hear the reverent shouting, sermons delivered as they never heard before, chantings, orchestra music, groanings, vociferous hand-clappings and songs of praise—outbursts of fervid worshippers in their emotional religion.

The whole scale of human emotions is run while the coming of the Holy Ghost is awaited. His coming—or rather the feeling of His presence—is the sign for lusty paens; songs of triumph straight from the hearts of the worshippers. Under the influence of His power, manifestations are made known by the resonant shouting of the cleansed. Collections are taken up under the watchful eye of the deacons, and to the accompaniment of hand-clapping.

Canary, "Radio Joy," Wins Prize on Coast

Gets Practice Listening to Artists at Station KHJ

LOS ANGELES.—Who now can gainsay the fact that Radio is educating all of us to a better appreciation of fine music? Many listeners in have appreciated the fact that "Uncle John" at KHJ occasionally stops a program in the middle in order to allow one or more of the triumvirate of canaries, Radio Kindness, Radio Happiness, Radio Joy, to render solos, duets and trios as only well-trained canaries can sing.

Radio Joy, one of the birds, was entered in competition with a brilliant field at the Annual Los Angeles Roller show and received a special prize for an extraordinary fine exhibition of singing what is known as the "water roll."

SHENANDOAH CREW HEARS SHENANDOAH

SHENANDOAH, Ia.—It's a case of Shenandoah listening to Shenandoah when Aviation Chief Mechanic Walter Johnson, of the giant dirigible U. S. S. Shenandoah, tunes in KFNF of this city. Mr. Johnson has written the Henry Field Seed company station from Lakehurst, N. J., naval air station that he listens in regularly to the broadcasts from Shenandoah.

MADAME ALDA MAKES BROADCASTING DEBUT

Heard from WEAJ on Victor Talking Machine Program

NEW YORK.—The Radio public had its introduction to another of the world's famous operatic stars, January 15, when Madame Frances Alda, prima donna of the Metropolitan opera, appeared before the microphone for the first time in her career. Madame Alda's recital, given under the auspices of the Victor Talking Machine company, was broadcast from the studio of WEAJ, New York, and relayed by telephone lines through seven other stations, WCAP, WJAR, WFI, WDBH, WGR, WCAE and WEEL.

The practice of sending reproductions of autographed photographs of the principals of the recitals to those who wrote in would be continued, it was stated, and it was announced that reproductions of Madame Alda's autographed photo would be sent upon request to the listeners in.

The recital included selections by Frank La Forge, pianist; the Victor Concert orchestra. Rosario Bourdon, conducting, and the Florentine quartet.

Victor officials say letters are still coming into the office praising the McCormack-Bori broadcasting and that nearly 60,000 such communications have been received by the company and the two artists.

WSB Organist Honored by Fan; Boy Named After Him

ATLANTA.—Dr. Charles A. Sheldon, Atlantic City organist, whose regular Thursday night organ recitals relayed by WSB from the First Presbyterian church are one of the Journal's most popular attractions, was recently accorded a unique honor by a family of his admirers. A letter from Mr. and Mrs. Carey N. Shearer, of Alapaha, Ga., tells Dr. Sheldon that they have a new Radiowl in their home and in appreciation of Dr. Sheldon's music have named him Charles Sheldon Shearer. This is the first time any member outside WSB's staff has been so honored.

RADIO SUPPLIES ARE LISTED AS "SCOTCH"

BUFFALO, N. Y.—Here are a bunch of wild waves! One of those cases where they said it with "Scotch." Cases is right. Federal dry agents in Buffalo recently seized thirty-six cases of Scotch whiskey, so-labeled, at the American Express company's warehouse. It came from Newark, N. J., and was consigned under the billing of "Radio Supplies" and "Dry Goods."

High Prices Secret of Theater Failures

Boston Showman Lauds Radio and Criticises Shows

BOSTON, MASS.—"The American theater will be saved, and Radio and the motion picture are working for its preservation."

Thus speaks E. E. Clive, manager of the Copley theater, at a time when managers are sitting in conclave, in despair over the meagre houses New York successes are experiencing on tour, as well as over the great list of productions Broadway has failed to support this season.

"Lower prices and crowded theaters; that's the answer," says Mr. Clive, "The fault is not with the people; it is with the managers. The majority of our professional classes cannot afford to pay \$5.50 for two seats, and the result is they stay away. (In New York the average price for a good seat has been \$5 per head.)

"They are blaming Radio for the poor attendance on New Year's night at the New York theaters. But why not blame the high prices, too? Radio is no menace to the theater. It is the high prices."

Station KSAC Puts College Into 9,000 Rural Schools

MANHATTAN, Kans.—Opening exercises by Radio for the 9,000 rural country schools in Kansas and a rural Radio Sunday service for the hundreds of communities without pastors are two innovations in Radio activity to be introduced by the extension service of the Kansas State Agricultural college, Sunday, February 1.

An unrivalled popularity for service is the mark of distinction accorded Station KSAC, judging the barometer of public opinion as expressed by a deluge of congratulatory communications received since its dedication December 1.

The British Radio association has instituted a fellowship for the members showing during the year the greatest technical knowledge of the science of Radio.

JOHN GOLDEN SEES RADIO AS SHOW AID

NOTED PRODUCER WRITES ABOUT BROADCASTING

Says He Will Treat New Art of Communication as Useful Ally to Theater

By John Golden

RADIO is not hurting the theater. Instead of opposing Radio, it is my intention to try to find a way to utilize this new power for the benefit of the theater. I made these two statements in a newspaper interview a week or more ago.

They seemed commonplace enough, but the response has been electrifying. And still I do not understand WHY people should marvel that Radio has NOT hurt the theater or that I am doing something revolutionary in trying to harness this new force for the benefit of the profession in which I happen to be interested.

It is my candid opinion that Radio does not hurt the theater as much as a rainy night, for instance, or for that matter, petting parties, cross-word puzzles, the cook's night out and the crowded subways. Possibly Radio keeps a few persons away from the theater. But so also do these other things I have mentioned. If your show is not doing business and you are looking for an excuse—cuss the Radio!

Sees Radio as Benefit

On the other hand, why should I not use Radio for the BENEFIT of the theater? In the first instance, Radio is not essentially a means of entertainment, but a means of communication. We must remember that the present free broadcasting may not continue always—in all probability it will not. But Radio, conceived as a means of communication, is here to stay. So the theater manager, who heretofore has reached his audiences solely by the mails and by the printed page, now has another means of communication. There is a reading public and a Radio public, so dramatic reviewers for the broadcasting stations (around New York, at least) will be on my first night lists in the same manner as the reviewers for the newspapers.

I think the Radio audiences will be deeply interested in the personalities of the theater, the news of the theater, the legends and lore of the theater and even the technique of the theater when they are put on the air.

I am not so certain they will be so deeply interested in the broadcasting of plays. It is the actual physical presence which will always guarantee the existence of the spoken drama. Everyone thought the motion picture, twenty years ago, meant the doom of the spoken drama. But it didn't. The theatrical public is bigger than ever before, and the movies have helped. So Radio is the biggest potential aid to the theater. Instead of attempting to block progress by opposing Radio, I am going to let it help my plays.

Coal Miners Hear Program

MINNEAPOLIS.—Two hundred twenty-five feet below the surface of the earth, coal miners at Lincoln, Ill., recently heard the Gold Medal station, Saint Paul-Minneapolis, WCCO.

John Golden

PENN STATE THESPIANS ON AIR



THEATER MANAGERS ALARMED AT RADIO

BLAME NEW SCIENCE FOR HURTING BOX OFFICE

Madge Kennedy Anticipates Change in
Theatricals Toward Psychological
Element—Makes Radio Debut

NEW YORK.—Theatrical producers are alarmed at the position Radio has taken in the amusement field. Certain producers here blame the failures of this season on Radio, while it is a definitely ascertained fact that several good shows died on the road this year for this reason, the road refusing to accept even a Barrymore.

A leading Radio man has estimated the Radio audiences in New York city alone as more than a million. This represents very nearly the capacity attendance of the leading Broadway movie houses and theaters, and managers of these houses while refusing to comment upon the situation admit that Radio does affect the box office considerably.

With improvement in Radio programs, represented especially in the appearance before the microphone New Year's night of John McCormack and Lucrezia Bori from WEA, Radio seriously threatens to encroach upon the solid position the theater has held. One of those who expresses a frank opinion in the matter is Miss Madge Kennedy, stage and screen star, who is at present co-starring with Gregory Kelly in "Badges" on Broadway. She anticipates a change in theatricals toward the psychological element.

Miss Kennedy will make her Radio debut Saturday, January 31, at 7:00 p. m., Eastern standard time, from WEA. At that time, she will sing a group of songs, including the Viennese waltz.

Chickering Piano Program at WOR

Famous Pianists Play Recitals at Newark
Station—One Given Each
Wednesday

NEWARK, N. J.—The deferred concert program in the "Chickering Artists Series," which is the first of a stellar group of famed musicians who will broadcast through WOR, was given Wednesday evening, January 21. The series promises to develop into one of the outstanding events of broadcasting.

Extensive plans are at the point of completion by the WOR management working in collaboration with the Chickering firm, which will provide the Radio audience with the highest grade musical talent as a regular feature of the Wednesday evening programs. The broadcasting is done from the Chickering hall studio of WOR.

No definite announcement of the names of the participating artists has come from WOR, but a statement is made to the effect that "the quality of the material to be sent over the air has never been excelled."

Ft. Worth Rotary Club Is Host at Big Celebration

FT. WORTH, Texas.—Fans throughout the country heard the special Rotary club program broadcast from Station WBAP on January 6. The program included music, monologue, dialogue and entertainment typical of the popular Rotarians.

Amon G. Carter, president and publisher of the Fort Worth Star-Telegram, was acting as chief announcer.

A. C. Farmer, local manager of the Western Union, wired every Western Union Rotarian in the United States previously about the program. These men in turn passed the good word along to their cities in the manner of true Rotarians. That many of the clubs listened in "100 per cent" was the natural result.

WBAP was deluged with telegrams and messages during and following the program.

Movie Criticism Popular

NEW YORK.—Where to see the best pictures in town and what makes them worth seeing is embodied in the weekly advice to movie fans broadcast every Wednesday afternoon and evening from Station WHN here.

Judging from the mail received from listeners in, this service is proving very satisfactory to the countless number of people who are anxious to follow up the screen output. Movie gossip from the coast about the leading stars and players in the picture world is also included in the WHN talk.

UNCLE REMUS GIVES RADIOPHANS TREAT



AT ONE time or another there have probably been hundreds of Uncle Remus impersonators traveling about the country since the original B'r'er Rabbit stories came into being, but so far as California is concerned, and particularly so far as California's listening public is concerned, there is one, and only one Uncle Remus.

Say "Uncle Remus" to a Los Angeles Radiophan and he will probably shout back, "KHJ!" Likewise, mention KHJ to the same bug and he will think at once of Uncle John, peerless announcer of that station, and in the next instant of Uncle Remus, for it is only when Uncle John and Uncle Remus get together before the "mike" at KHJ that the fun really starts.

Uncle John together with Uncle Remus spent a couple of weeks last summer in the high Sierras on a fishing trip. Upon their return Uncle John spent the last day of his vacation at Catalina island, off the southern California coast. Major Mott, known to Radio experimenters everywhere, undertook to take Uncle John tuna fishing and it happened that John hooked a whale of a tuna, and after battling with it for nine hours and twenty-five minutes (so the story goes) lost the fish.

It was a terrible blow, and in true sportsman's spirit Uncle John confided to Uncle Remus of the loss of the magnificent tuna. It was too much for Uncle Remus to withstand and for days afterward Radioland rocked with laughter whenever Uncle Remus got Uncle John in front of the microphone to tell his story of the tuna.

Uncle Remus comes by his title honestly. For over twenty years he traveled with a minstrel show as blackface comedian, later going into the musical business. To hear Uncle Remus play old plantation melodies on the celeste from KHJ is enough to make a Connecticut Yankee vote bonds to erect a statue of Jefferson Davis.

Broadcast Series of Talks on Income Tax Preparation

SPRINGFIELD, Mass. — A series of talks on the preparation of individual Federal income tax returns by Thomas McCarty, public accountant, will be broadcast from Station WGY. The first talk was on January 15. The last will be on March 12.

These talks should be of special interest to the public in view of the fact that the correct preparation of a return this year will require the interpretation of a new tax law.

Mr. McCarty is well known to many Radiophans as he gave a similar series of talks from this station in 1923 and last year. He is well qualified to explain the tax law, having been employed for five years by the bureau of internal revenue, preparing and auditing the Federal income tax returns.

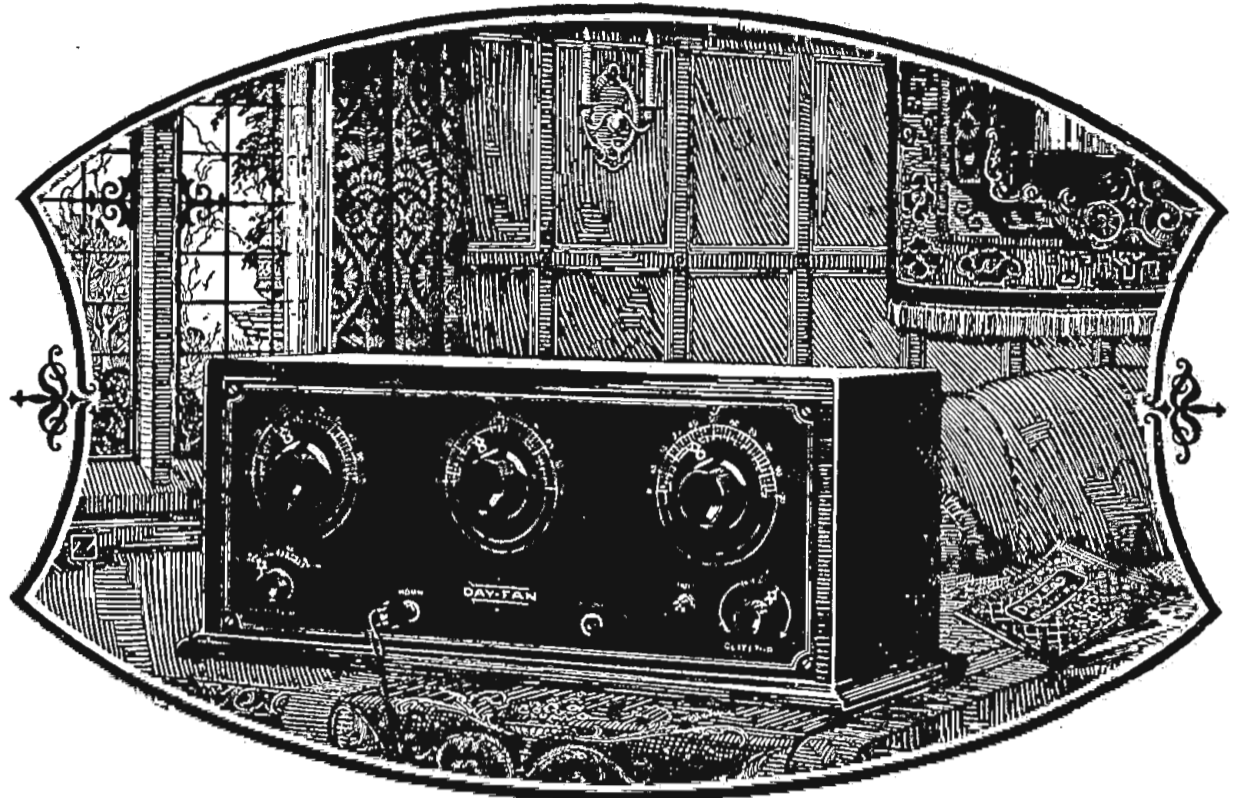
Lafayette Offers Radio Course

EASTON, Pa.—Radio will be added next semester to the curriculum at Lafayette college here. A. W. Parkes, instructor in physics, who served as a Radio operator with the aviation division of the Navy during the war, will instruct.

Day Fan

RADIO

A YEAR AHEAD



Amazing Simplicity The Set That Is Already Logged

CAN you imagine anything more simple—
more practical—than a radio set with all
the dial settings exactly identical for any sta-
tion—regardless of where you live or what
antenna you use?

The entire DAY-FAN line, comprising six
models ranging in price from \$90 to \$285, is
distinguished by this feature.

APPEARANCE. Every DAY-FAN set is a splendid
example of the cabinet maker's art. Made of the finest
materials, they have a finish and design which har-
monize with the surroundings of the most tastefully
furnished homes.

VALUE. In everything that you want—long range,
selectivity, purity of tone, volume—there is no greater
value.

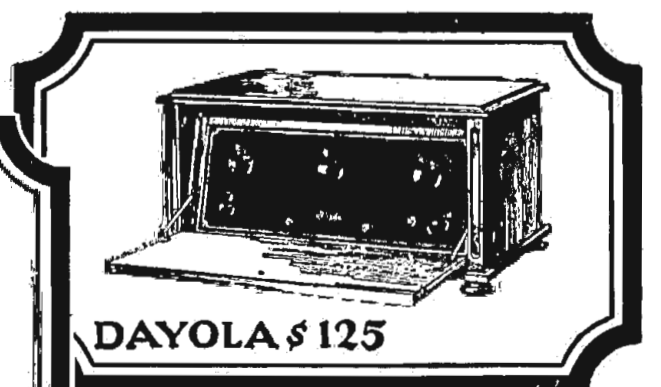
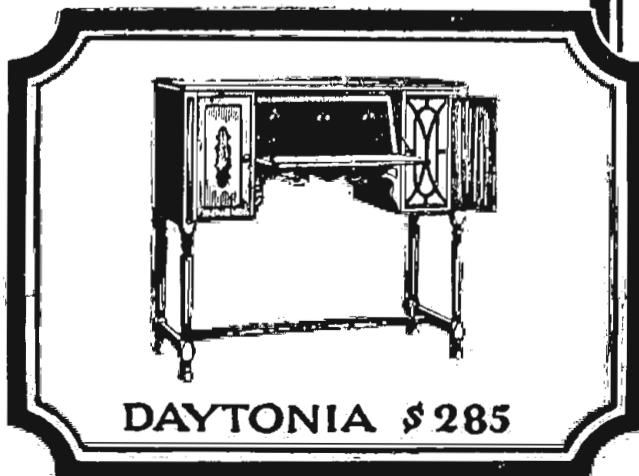
PERFORMANCE. The age of technical discussion
and experimenting in radio is past. Today a set must
do certain definite things. You may want entertain-
ment, business information, or an educational program.
Whatever your desires, a DAY-FAN will get it for you,
quickly and easily.

Sold by Leading Radio Dealers Almost Everywhere

The Dayton Fan & Motor Co.

Dayton, Ohio

For 36 Years Manufacturers of High-Grade
Electrical Apparatus.



~and other
models~

WNAC, Shepard Stores, in the Hub City



Major J. J. Fanning, director of The Shepard Stores broadcast station, WNAC.

View of large studio, decorated in rose and taupe. Vista of the smaller studio in the rear.

Studio control room, showing J. J. F. operating the control board during a broadcast.

View of the small studio decorated in gray and blue. Piano and microphone in the foreground. The control room is between the two studios.

Mrs. M. K. Stewart, WNAC bedtime story lady with a few friends.

STATION WNAC, owned by the Shepard Stores of Boston, Mass., came into existence in July, 1922, and was originally a 100-watt station. November 22, 1924, they went on the air as a 500-watt station and the first broadcast with increased power was the Harvard-Yale football game relayed from New Haven to Boston.

During the installation of the 500-watt station, they did not shut down a minute, carrying through their daily program without interruptions during the installation, an accomplishment that required no small amount of skill.

The quality of the programs that have been put on the air by this station are such that they have been instrumental in building up a great amount of good-will for the store through the splendid programs offered. It is more or less amusing for those who are connected with the broadcasting station to learn that strangers coming to town invariably seek the store if they require merchandise.

The idea behind WNAC is for the purpose of entertainment, education, and amusement, and to create a good-will feeling toward The Shepard Stores and the owner of The Shepard Stores, Mr. John Shepard, Jr.

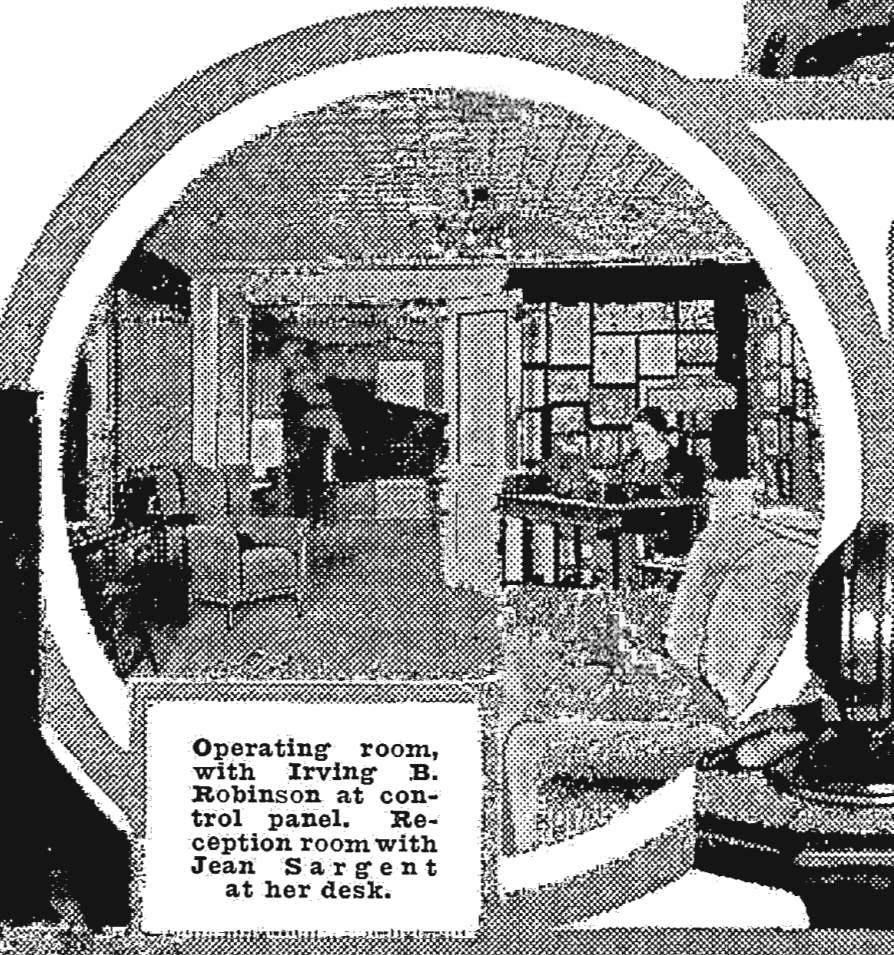
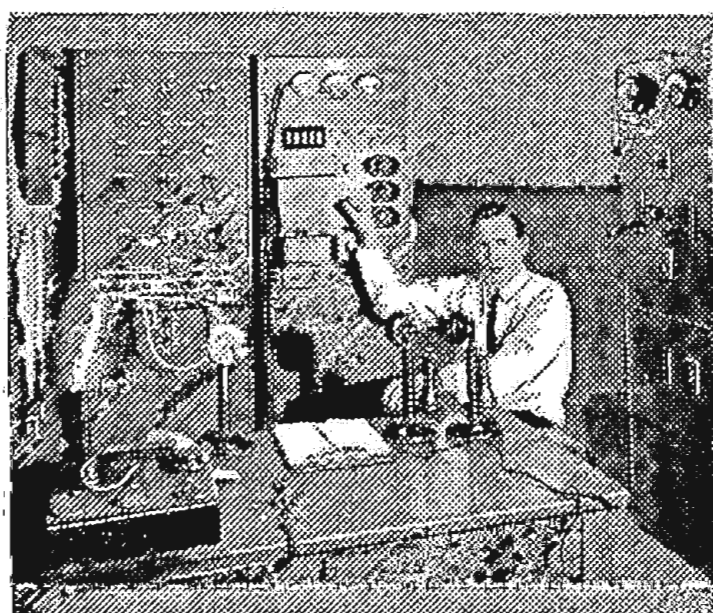
John Shepard, III, vice-president of The Shepard Stores, can honestly be called the father of Station WNAC. He became interested in Radio and installed a very small department in the men's department of The Shepard Stores. The business that came in increased with such rapidity that an entire section of the fourth floor of the Winter street

store was given over to the Radio sales department and the Radio studio was on this same floor. To say that he is admired—and liked—by the Radiophans—would be putting it mildly.

Major John J. Fanning has been director of broadcasting since the station was installed and J.J.F.'s well modulated business-like tones are well known to Radiophans everywhere. He has directed the programs for the station and has used a very keen foresight in knowing just what would please most.

Irving B. Robinson, who is chief operator of Station WNAC, is not only an experienced Radio operator, but has a real experience as a Radio engineer. He has handled the installation of the new 500-watt station, and it was through his personal efforts that WNAC was not off the air during its installation. His ability is attested to by the quality of the transmission and the fact that the station has operated without interruption, since he assumed charge of it in 1923.

(Continued on page 7)



Operating room, with Irving B. Robinson at control panel. Reception room with Jean Sargent at her desk.



John Shepard, third vice-president of The Shepard Stores and "Father" of WNAC.

ASSIGN NEW WAVES TO MANY STATIONS

LESS INTERFERENCE HOPE OF RADIO OFFICIALS

Thirty-Five Broadcasters on Different Lengths—List Showing Many Changes Is Given

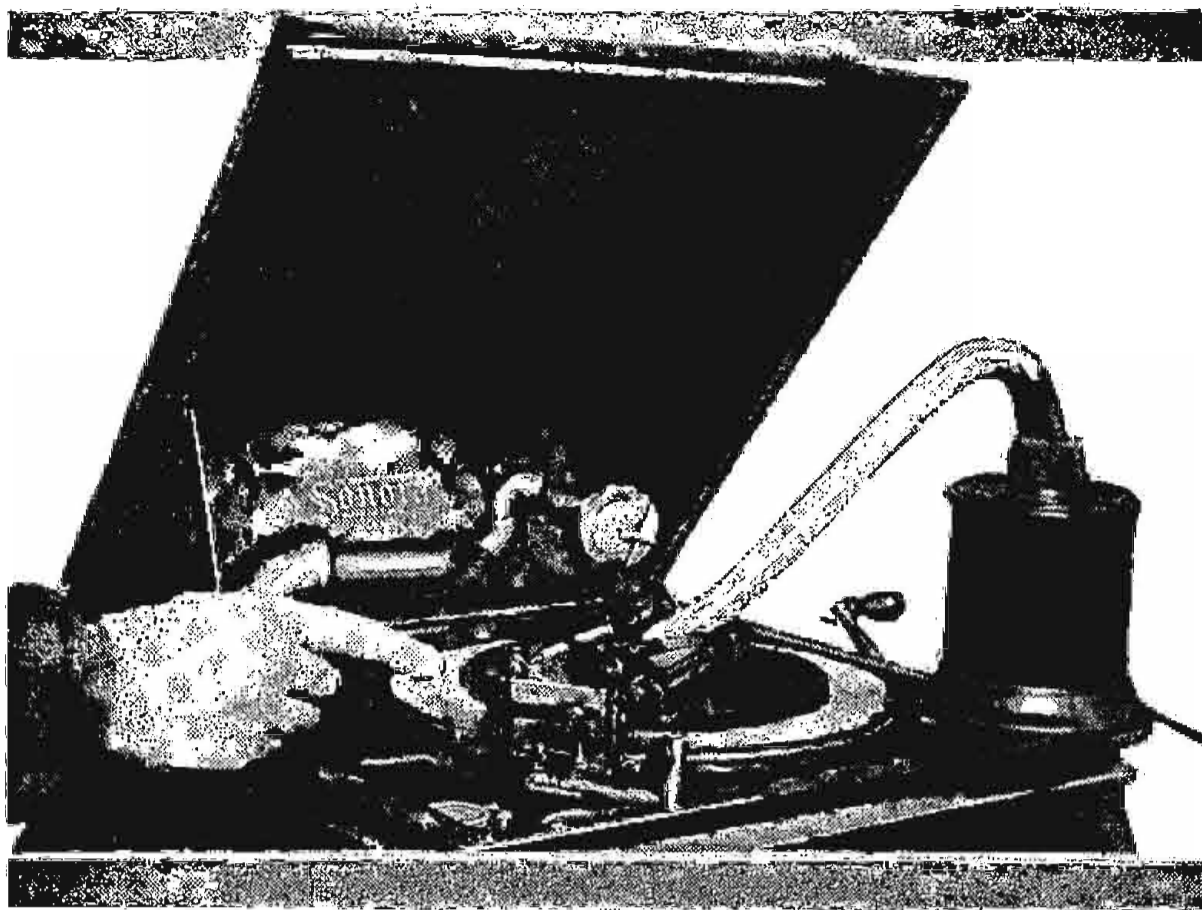
WASHINGTON.—To make room for more class B stations, and give more exclusive wave lengths with less interference, a number of wave assignments have been altered. So that listeners may have a record of the old and new waves, both are listed below for the thirty-five stations making the changes:

	Old	New
KOKA, East Pittsburgh	326	309.1
KFDM, Beaumont, Texas	306	315.6
KFKX, Hastings, Neb.	291	288.3
KFOA, Sestile, Wash.	405	435
KFUO, St. Louis, Mo.	516	549.1
KGW, Portland, Ore.	492	485.1
KOB, State College, N. M.	360	348.6
KSO, St. Louis, Mo.	516	549.1
KYW, Chicago	536	535.4
WBAP, Fort Worth, Texas	476	472.9
WBVA, Columbus	423	293.9
WCX, Detroit, Mich.	517	516
WEAR, Cleveland, Ohio	390	364.3
WFAA, Dallas, Texas	476	472.9
WHA, Madison, Wis.	536	535.4
WHAA, Iowa City, Iowa	484	498
WHK, Cleveland, Ohio	283	273
WHN, New York, N. Y.	360	360.4
WHO, Des Moines, Iowa	526	522.3
WIP, Philadelphia	509	509.9
WJJD, Mooseheart, Ill.	278	302.8
WMC, Memphis, Tenn.	500	503.9
WMH, Cincinnati, Ohio	309	325.9
WNAC, Boston	278	280.2
WNYC, New York	526	528.8
WOAI, San Antonio, Texas	385	394.5
WOAW, Omaha, Neb.	526	522.3
WOC, Davenport, Iowa	484	498
WOL, Ames, Iowa	360	270
WOO, Philadelphia	509	509.9
WREO, Lansing, Mich.	288	288.5
WSAI, Cincinnati, Ohio	309	325.9
WTAM, Cleveland, Ohio	390	364
WTAS, Elgin	286	302.8
WVJ, Detroit, Mich.	517	516

Terrell Authority on Rules

WASHINGTON, D. C.—W. J. Terrell, chief of the Radio section of the department of commerce, has been asked for information concerning Radio inspection and administration in the United States by the government of New Zealand, which it is understood is just organizing its Radio work.

RECORDS BROADCAST SPEECHES



Further advance in the science of Radio broadcasting is inevitable—it is also inevitable that broadcasting as we know it will eventually be discarded as too crude. And so, the device shown above has been perfected to record broadcasts on wax records so that they can be stored away for future use.

Radio trade in Australia is experiencing a boom, following the adoption of new regulations permitting any type of set to be used.

Pierre Hemardinquer of France has completed a new diagram card for a standard hook-up in which certain parts are changeable.

Will Open Catholic Station in New York

Paulist Fathers Plan Others in Chicago and San Francisco

NEW YORK.—The Paulist Fathers, propagandizing organization of the Roman Catholic church, have completed plans for and are erecting a 500-watt broadcaster here for the purpose of "acquainting the public with the Catholic viewpoint on current affairs."

The station will be known as WPL and will use a wave length of 405 meters. Plans of the Paulist Fathers also call for similar stations in Chicago and San Francisco.

Speaking of the new station, the Very Rev. Joseph MacSorley, superior general, has said: "Our station will be the official mouthpiece of everything catholic. We want especially to reach isolated communities where there is no Catholic church. We want owners of Radio sets everywhere to be in a position to understand Catholicism and the Catholic viewpoint."

Saves \$50,000 Necklace

NEW YORK.—A pearl necklace valued at \$50,000 was saved by Radio recently when the Marquise d'Orgeix of Paris, suddenly remembered while aboard ship bound for France, that she had left the jewels hidden under a pillow in her former apartments here. A Radiogram from her located the mere bauble which was then put in safe keeping.



You secure Marvelous Reception with these Scientifically Designed, New KARAS HARMONIK Audio Frequency Amplifying Transformers.

What Karas Harmoniks Do That Other Transformers Cannot Do

They amplify with GREAT VOLUME the extremely low frequency tones that other transformers fail to amplify at all—KARAS HARMONIKS also amplify EQUALLY all of the many vital harmonics and rich overtones that combine to form musical sounds.

With KARAS HARMONIKS there is no muffling of sounds—no fuzz on the edges of words—no thin, squeaky distorted tones. Instead, EVERY tone is clean-cut, separate and distinct from every other tone—natural.

The Results of Karas Harmoniks

The result from any radio set of any and all efficient circuits is an outpouring from the loud speaker of soft, rich, round, full, mellow tones such as you have never before heard from any radio—a surprising volume of REAL MUSIC to which it is a delightful pleasure to listen.



Scientific Evidence of Actual Performance

The secret of the strikingly wonderful reception of Karas Harmonik Transformers is disclosed by this Scientific Laboratory CURVE of their actual performance.

Low frequencies represent low notes—high frequencies represent high notes and the harmonics of low notes. All musical sounds are composed of a fundamental harmonic and many other harmonics and overtones of varying and successively higher frequencies.

Equal Amplification

It is the combination of these many harmonics and overtones forming a single note that makes it a beautiful, pleasing, musical sound. The inability of ordinary transformers to fully and equally amplify all of these many harmonics and overtones is the cause of distorted and unnatural sounding tones in the loud speaker.

This Scientific Laboratory CURVE shows that Karas Harmonik Transformers amplify all sounds and all harmonics and overtones of all sounds equally—delivering to the loud speaker a pure, natural sounding musical reception.

Structural Factors That Produce the Flat Curve

LARGE COILS of many thousands of turns of wire giving a very high inductance; LARGE IRON CORE offering an easy path for the lines of magnetic force to influence the secondary windings; VERY HIGH IMPEDENCE to retain the full amplification delivered by the amplifier tubes; CONTROLLED AIR GAP insuring high amplification of low frequencies, volume-carrying, fundamental harmonics—this factor enables Karas Harmoniks to deliver more total amplification with a low ratio than cheap transformers do with a high ratio; LOW DISTRIBUTED CAPACITY insuring full amplification of high audio frequency harmonics and overtones; LOW HYSTERESIS LOSS insuring a maximum amount of energy for amplification of all frequencies; SCIENTIFICALLY SHIELDED against intercoupling of electrostatic and electromagnetic fields; PERFECTLY MATCHED insuring the same values of amplification in both first and second stages.

Price \$7 Each

If your dealer has not yet been able to secure a supply they will be sent direct upon receipt of price.

Karas Electric Company
4042 N. Rockwell St. Chicago, Ill.

Herald MODEL B

NOW \$12

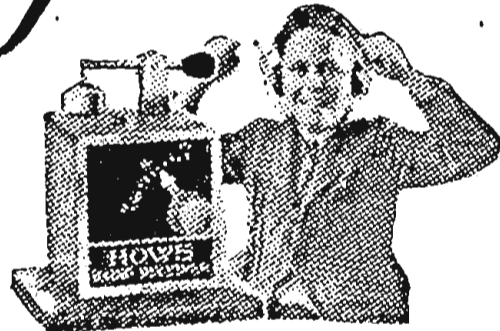


The Big, Clear Voice of Radio!

THE same speaker that won nationwide popularity at \$18, in competition with the most expensive speakers built. At the new price of \$12, the Herald-B is the greatest value ever offered in Radio. The only speaker in its class with full-sized, gooseneck fibre horn, 25 inches high over all, 12 inch bell, art metal base. Clear, loud and delightfully mellow! Hear the Herald before you buy!

Herald Electric Co., Inc., 113 Fourth Ave., New York

Gee! I've got 'em



Loud and Clear with the
Howe Radio Receiver

\$1.75

DO you know that you can listen to every radio broadcasting station in and around your city with a Howe Radio Receiver costing only \$1.75? Thousands of folks—young and old—all over the country are having many hours of solid enjoyment listening to the wonderful and varied programs—music, talks, sport and church services.

The Howe Radio Receiver is not a toy but a very sensitive, practical, radio set made of the best materials and furnished in a strong, steel case finished in a beautiful dark olive antique verde. It is fool and trouble proof. No Batteries to Buy. Guaranteed you can hear any broadcasting stations within 25 miles. One or more persons can "listen in" at the same time.

For perfect local reception use a Howe Radio Receiver crystal set.

For Sale by All Dealers

Howe Auto Products Co
Radio Division
Chicago, Illinois

RADIO TEACHES ART IN PUBLIC SCHOOLS

CALIFORNIA CHILDREN GET INSTRUCTIONS VIA ETHER

Judges Surprised at Quality of Work
Turned in by the Pupils—
Immediate Response

OAKLAND, Calif.—Successful drawing lessons by Radio is the latest development in the experiment to use broadcasting for classroom instruction being conducted by the Oakland public schools, co-operating with KGO, General Electric station here. Children assembled under normal classroom conditions in eight different schools in the city have just completed a course of six drawing lessons. The problem assigned was to create an original design for a Christmas card, using the Christmas tree for a decorative motive and actually produce individual work in response to suggestions issuing from loud speakers. Examination of the papers turned in reveals the fact that by Radio greater originality is accomplished than when lessons are conducted in person by the teacher before the class.

Collect and Judge Response

In sharp contrast to other lessons broadcast by KGO, when children only listened to lectures without responding, the course just completed was designed to bring a type of response which could afterward be collected and judged.

In the studio of KGO, miles away from the schools, the Radio teacher spoke her instructions before the microphone. She began by briefly suggesting the Christmas spirit and the beauty of its expression in art. Then, she proposed to her invisible pupils that they set about creating Christmas greeting cards for their friends.

In the minds of the examining judges, the experiment revealed not only the latent emotional qualities of young people as artists, but offered a lesson on methods of teaching as to secure intellectual criticism and balance in children's creative art without bringing about the destruction of originality." By Radio lessons the children received suggestions through their ears, and sent out the response to create through eager busy fingers. No model was offered to the eye. "In the child's heart and mind alone took place that transmutation which makes out of spoken word the created image."

STATION OWNER IS POPULAR ON COAST



Earle C. Anthony, owner of the new KFI super station. Mr. Anthony is a pioneer in Radio on the Pacific coast.

OPERA HELPS SALES

(Continued from page 1)

That the famous Irish tenor was satisfied with the acclaim which greeted his Radio appearance was voiced by his secretary, who said:

"Mr. McCormack approves heartily of Radio broadcasting, entirely because it is such a pleasure-spreading medium. As to the commercial value effected, it is very difficult to venture an authentic reply so soon after the trial. The mail response was tremendous.

"The concert crowds have increased somewhat, but it is not fair to attribute it to Radio yet. When Mr. McCormack returns in March from his tour he shall be able to answer more definitely."

Mme. Bori also is in favor of Radio and says that the mail response has been very flattering.

Plans are now being laid for a broadcasting station in Bouzaria, Algeria, the studio being located in Algiers and connected to the station by ground wire.

PRODUCER BACKS UP STATEMENTS

John Golden Proves to Public
When He Says a Thing,
It Goes

NEWARK, N. J.—As though translating into action his spoken and written approval of Radio as an ally of the modern theatrical showmen, John Golden, producer of "Pigs," was a headline attraction of the WOR afternoon program last Friday, when he presented to the Radio audience, Anne Morrison and Patterson McNutt, co-authors.

In company with them were Lydia Westman and Wallace Ford, featured players in the successful laugh hit which is attracting capacity crowds to the Little theater, New York.

"Pigs" has done much to make theatrical history in New York. The unusual comedy has flourished throughout the present lean theatrical season and Mr. Golden, rated one of the most clever and discriminating American producers, has another hit to his credit. A feature of the performances at the Little theater is the Radio concert, tuned in between acts to enable confirmed Radiophans to get an earful during the evening.

Present World's Greatest Accompanist in Recital

NEWARK, N. J.—Frank La Forge, composer-pianist and the artist to whom goes credit for being the greatest accompanist in the world, was presented in recital under his direction at WOR last Saturday evening, January 24, with Ernesto Berumen, pianist; Frances Fattmann, soprano; Valeriano Gill, tenor; Grace Demms, soprano; Zelina Bartholomew, soprano, and Madeleine Hulsizer, soprano. The latter artist will sing a complete program of the songs of Mr. La Forge with the composer at the piano.

WNAC—THE HUB CITY

(Continued from page 5)

Jean Sargent, who is secretary of WNAC, and has charge of all of the detail work in connection with the station, is one of the few women announcers who have a complete program in their care. For some time Jean Sargent was known by the pen name only, before her first announcement came over the air and to the utter confusion of some of the masculine fans who had invited her to smokers, and on fishing and hunting trips, it was proclaimed that Jean was a woman and not a man.

Mrs. M. K. Stewart, the bedtime story lady, is hostess of the Little Folks' store, of the Shepard stores and is a Southern woman, whose interest in, and love for children, made her an ideal person to tell the kiddies their good-night stories.

Some of the unique features of WNAC were the broadcasting of a circus, taking the microphone to the tent, and going so far as to taking the microphone in to the part of the circus where the animals were being displayed so that the public might hear them as they were transferred from cage to cage. The broadcast of plays, direct from the theaters with the amplifier in an upper stage box so that the operator might catch each portion of the drama or musical comedy, is another feature that has made WNAC popular. It has broadcast grand operas each season since its existence and one of the popular weekly features is the concert by the Boston American orchestra.

Dick Long Makes Record

MINNEAPOLIS.—The first Minneapolis orchestra to broadcast by remote control, and the first local orchestra to make Victor records are distinctions now held by Dick Long and his Nankin Cafe musicians.

Recently they were selected to record for the Victor company. The records were released last week when the Gold Medal station, WCCO, broadcast four special programs by Dick Long and his orchestra.

Each Instrument of the Orchestra
in
Perfect Tune

IT MAKES all the difference in the world with the enjoyment you get out of radio whether the high notes of voice and orchestra are in tune or just a little "off."

A big point of the Bristol Audiophone is that each instrument, and each vocal note, comes in in proper pitch. You will love your Audiophone for its pure harmony of reception.

There are five Bristol Audiophones, priced from \$12.50 to \$30.00. If not at your dealer's, write for Bulletins AY-3011, 3017 and 3022.

The Bristol Company, Waterbury, Conn.

Model S Audiophone
\$25.00

Rubber horn, 14 1/2" in diameter. Cast metal throat. Velvet mat finished, mottled bronze and gold.

Cabinet Model
\$30.00

Beautifully finished mahogany. Full floating wooden horn. Cast metal throat. Size 17x10x10 1/4".

BRISTOL AUDIOPHONE Loud Speaker

GOLDEN-LEUTZ
PLIODYNE-6
TRADE MARK REG.
"The Perfect Broadcast Receiver"

A New Superior Broadcast Receiver

Simple—Long Range—Highest Quality
Non Radiating — Non Regenerative

Two Stages Tuned Radio Frequency,
Detector and Three Stages of Audio
Frequency Amplification

\$60.00

Completely Constructed
Without Accessories

PLIODYNE 6
Front View Showing
Simplicity of
Control

PLIODYNE 6
Interior View Showing
Compact and
Efficient Design

Sold Direct
from
Manufacturer
to Consumer
Only

Sent C. O. D. Subject
to Examination

OUR GUARANTEE

We guarantee every Golden-Leutz "Pliodyne 6" to be the finest broadcast receiver that can be manufactured using 6 tubes or less and to be satisfactory to you in every way and to reach you in perfect condition.

You take no risk whatever in sending us your order for unless you are completely satisfied with the receiver and with your saving you may return the receiver to us and we will refund your money.

GOLDEN-LEUTZ, Inc.

476 BROADWAY NEW YORK CITY

Licensed under Farrand Agreement and Hogan Patent No. 1,014,002

AN EVENING AT HOME WITH THE LISTENER IN (SEE INSTRUCTIONS FOR USE BELOW)

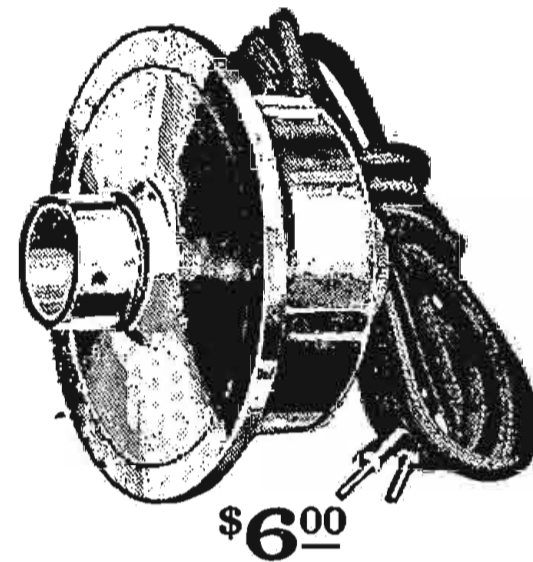
Table with columns for Station and City, Met., Saturday, Sunday, Monday, Tuesday, Wednesday, Thursday, Friday. Lists radio stations and their broadcast times.

Instructions for Use.—All the hours above are given in Central Standard Time. If your city uses Eastern Time, add one hour to each of the periods stated; if your city uses Mountain Time, subtract one hour; if your city uses Pacific Time, subtract two hours. This table includes only the evening Radiocasts, and, on Sunday, the late afternoon program.

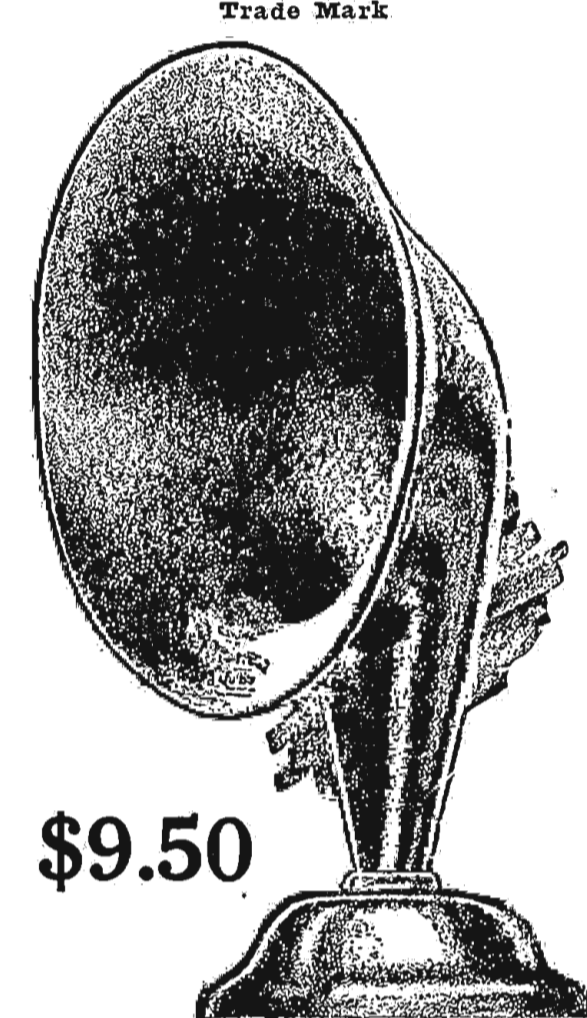
STATIONS IN ORDER OF WAVE LENGTHS USED

Table with columns for Meters Call, Meters Call, Meters Call, Meters Call, Meters Call, Meters Call. Lists stations in order of wave lengths.

Make a Loud Speaker of Your Phonograph



Fultone Trade Mark



With Fultone Speaker Unit, any standard make of talking machine can quickly be converted into a loud speaker of unsurpassed clearness and tone quality. Adjustable to any "B" battery voltage and strength of signal, this heavily constructed unit reproduces without blur or rattle.

THE FORD of LOUD SPEAKERS

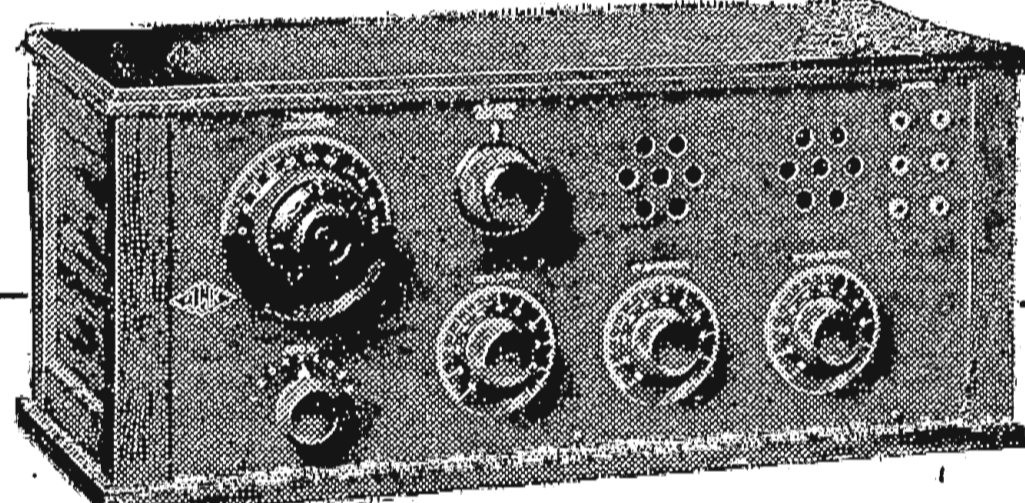
No better reproduction can be had at any price than that obtainable from Fultone Loud Speaker. The solid, composition horn is non-ringing and designed especially for the unit in the base. Because of its small size Fultone Speaker is hardly noticeable in a living room or parlor, yet it is as powerful as much larger competitors.

Either speaker or unit will be shipped on a satisfaction or money back basis on receipt of price in money order or currency. The coupon is provided for your convenience in ordering if your dealer cannot supply you.

- Phonograph Adapter Units
Edison25c
Columbia or Pathe.....20c
Brunswick30c

HALL & WELLS, Inc. 128 N. Wells St. Chicago, Ill.

Form with fields for NAME, ADDRESS, CITY AND STATE, and a coupon for ordering.



You Can Build This Set Without Soldering. Save Fifty-Dollars!

Don't pay the other fellow for doing what you can do yourself. Build your own Radio set—and have the fun of building it! The Elgin Super-Reinartz is supplied "knocked down."

The Elgin Super-Reinartz is the set that has repeatedly tuned in 2LO, the hard-to-get London station. This same set has logged every worthwhile station in the United States, Canada, Mexico and Cuba.

Every thing is drilled, the panel is engraved—and there is absolutely nothing to solder. The parts assemble just like building blocks, all wires "clip" into place and the panel slides in the grooved cabinet and fits! Nothing to do but drive a few screws!

The parts supplied you are exact duplicates of the parts we used in the original model, the hook-up is the same and an exact simplified working drawing is supplied. You can't go wrong! We guarantee every part in the Elgin Super-Reinartz to be the utmost in efficiency. We guarantee the drawings furnished you to be duplicates of the same set that heard London. We guarantee reception that is only possible on other sets twice the size and price, providing our drawings are followed and the set is properly constructed as we direct! Read our FREE offer to you.

FREE!

We want you to learn more about this amazing set—mail the coupon with your name and address and we will send you the complete working drawings of the Elgin Super-Reinartz—absolutely FREE!

If you can use a screw driver you can build this highly efficient receiving set in an hour or so. Then call in your friends and show them the set you built yourself! Show them how easy it is to tune in the stations they have been unable to get with ordinary sets.

possible on other sets twice the size and price, providing our drawings are followed and the set is properly constructed as we direct! Read our FREE offer to you.

ELGIN Super-Reinartz "The Ford of Radio"



Elgin Radio Supply Company, Suite A, 207 E. Chicago St., ELGIN, ILL.

I want to know all about the set that heard London. Send the working drawings of the Elgin Super-Reinartz set by return mail—Free! I am enclosing a stamp to cover postage.

Form with fields for Name and Address.

WCBD OPENS HIGH POWER STATION

Saturday, January 31

Saturday, silent night for: CFAC, CFCA, CKY, KFAE, KFDM, KFXX, KHJ, KOB, WBAP, WJAZ, WBBG, WCAU, WCBD, WJAO, WEBL, WEEI, WEMC, WHA, WHB, WHO, WJY, WKAQ, WLW, WOI, WOT, WYAT.

CHIC, Toronto, Can. (Eastern, 350), 7:30-8:30 p. m., instrumental quintet; Arthur E. Vandervoort, baritone; Lawrence DeFoe, tenor; Hazel Hall Vandervoort, soprano; 9:30-11, Chrlies E. Bedley and his orchestra.

CHNC, Toronto, Can. (Eastern, 350), 9-11 p. m., dance music, Charles E. Bodley and his orchestra; Jack Gourlay, Scotch monologist; Dwight Wilson, baritone; CKAC, Montreal, Can. (Eastern, 425), 7 p. m., kiddies' stories in French and English; 7:30, Windsor hotel dinner concert; 8:30, studio variety program; 10:30, Windsor hotel dance orchestra.

CMRO, Ottawa, Can. (Eastern, 435), 7:30 p. m., bedtime story and lullaby, Aunt Agnes; 8, "William Tell," "Danse des Enfants," "Danse des Galants," "The Mikado," Chateau hotel orchestra; 8:30, "Homings,"

Forbes W. Van Why; 5:30, Town Crier and Village Urchins; 6-7, dinner hour music; 7-7:30, D. B. Carpenter's musical half hour; 8-10, program, Salisbury and Alexander, Captain Edward Salisbury, lecturer; 10-11, Abe Lyman's Coconut Grove dance orchestra from Ambassador hotel; 11-12, program, The Green Mill.

KOA, Denver, Colo. (Mountain, 322.4), 9-12 midnight, Joe Mann and his Rainbow-Lane orchestra. KPO, San Francisco, Calif. (Pacific, 423), 7 a. m., setting-up exercises, Bernard Drury; 1-2 p. m., Rudy Seiger's Fairmont hotel orchestra; 2:30-3:30, musical matinee, Puckett's dancing academy orchestra; 3:30-5:30, tea dansant, E. Max Bradford's Versaille band; 8-12, Art Weldner's dance orchestra.

KSD, St. Louis, Mo. (Central, 549.1), 8 p. m., City club glee club and orchestra.

KTNS, Hot Springs National Park, Ark. (Central, 375), 8:30-10 p. m., concert, McAfferty sextet and other artists; 10:30-11:30, New Arlington Meyer Davis orchestra.

KYW, Chicago, Ill. (Central, 535.4), 6:30 a. m., morning exercises, Y. M. C. A.; 11:35, table talk, Mrs. Anna J. Peterson; 6:35-7 p. m., children's bedtime story, Uncle Bob; 7-7:30, dinner concert, Congress hotel; 8-8:58, Ann H. Swenson, contralto; Oscar Heather, tenor; Indiana male quartet; 9:35-11:30, Congress classic; 12-2 a. m., Congress carnival.

PWX, Havana, Cuba (Eastern, 400), 8:30 p. m., concert,

orchestra, Prof. Antonio M. Romeu.

WAHG, Richmond Hill, L. I. (Eastern, 316), 12 p. m., 2 a. m., Ascolto Brothers dance orchestra.

WBBR, New York, N. Y. (Eastern, 273), 8 p. m., violin duets, George Twaroschk, Carl Park; 8:10, Carl Park, violinist; 8:15, Bible questions and answers; 8:45, violin duets, George Twaroschk, Carl Park.

WBCN, Chicago, Ill. (Central, 266), 6-6:30 p. m., Purple Herons orchestra; 6:30-7, American trio; Bernard Schweitzer, tenor; 7-8, fireside hour, George R. Cleveland Walt Goodwin's band; 8-12, Midway Dancing Garden orchestra; George Forsyth, tenor; Southtown harmonizers; Triangle trio; Will Dillon, tenor; Englewood string quintet; Les Cameron, tenor.

WBZ, Springfield, Mass. (Eastern, 337), 6 p. m., Leo Reisman's Hotel Lenox ensemble; 7:05, bedtime story for the kiddies, Hotel Kimball; 7:15, sketches, naval history, E. S. R. Brandt, Lieut. Commander U. S. N.; 7:30, concert Hotel Kimball trio; 8, Boston Arena of the B. A. A. track and field games.

WCAE, Pittsburgh, Pa. (Eastern, 462), 2:30 p. m., teadansant, Nixon restaurant; 4:30, orchestral program, Ed Lally's Rendezvous cabaret orchestra; 6:30, dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 7:45, inside movie chats; 8:30, Royal entertainers.

WCAI, Northfield, Minn. (Central, 337), 9:45 a. m., chapel services; 12 midnight, Herbert Hauge, saxophonist; Reuben Benson, banjoist; Luther Noss, pianist.

WCCO, Minneapolis-St. Paul, Minn. (Central, 417),

10:45 a. m., home service, Betty Crocker; 8 p. m., "Fireside Philosophers," Rev. Roy L. Smith, pastor; 8:15, opening of Twin City Automobile Show and Trade week.

WDAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., The Star's Radio orchestra; 6-7, School of the Air, address, Tell-Me-a-Story Lady; Trianon ensemble, Hotel Muehlebach.

WDAR, Philadelphia, Pa. (Eastern, 395), 11:45 a. m., dally almanac; 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 2:30, Charles Silverthorne, baritone; Mrs. Paul R. Gibson, soprano; 4:30, Cotton Pickers dance orchestra; 7:30, Arcadia cafe dance orchestra.

WEAF, New York, N. Y. (Eastern, 492), 4-5 p. m., Dart's Brooklake orchestra; 6-7, dinner music, Waldorf-Astoria hotel; 7-7:30, Madge Kennedy, screen and stage star; 7:45-8, Phillips Steele, baritone; 8-8:30, talk, "A Home for Every Child," Sophie Irene Loeb, President of Child Welfare committee of America; 9:30-10:30, concert, Waldorf-Astoria hotel; 10:30-10:45, Ida Davenport, soprano; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra.

WFAA, Dallas, Texas (Central, 472.9), 12:30-1 p. m., address, G. F. Thomas; 8:30-9:30, Baylor University Alumni's Founder's day program; 11-12, Adolphus hotel orchestra.

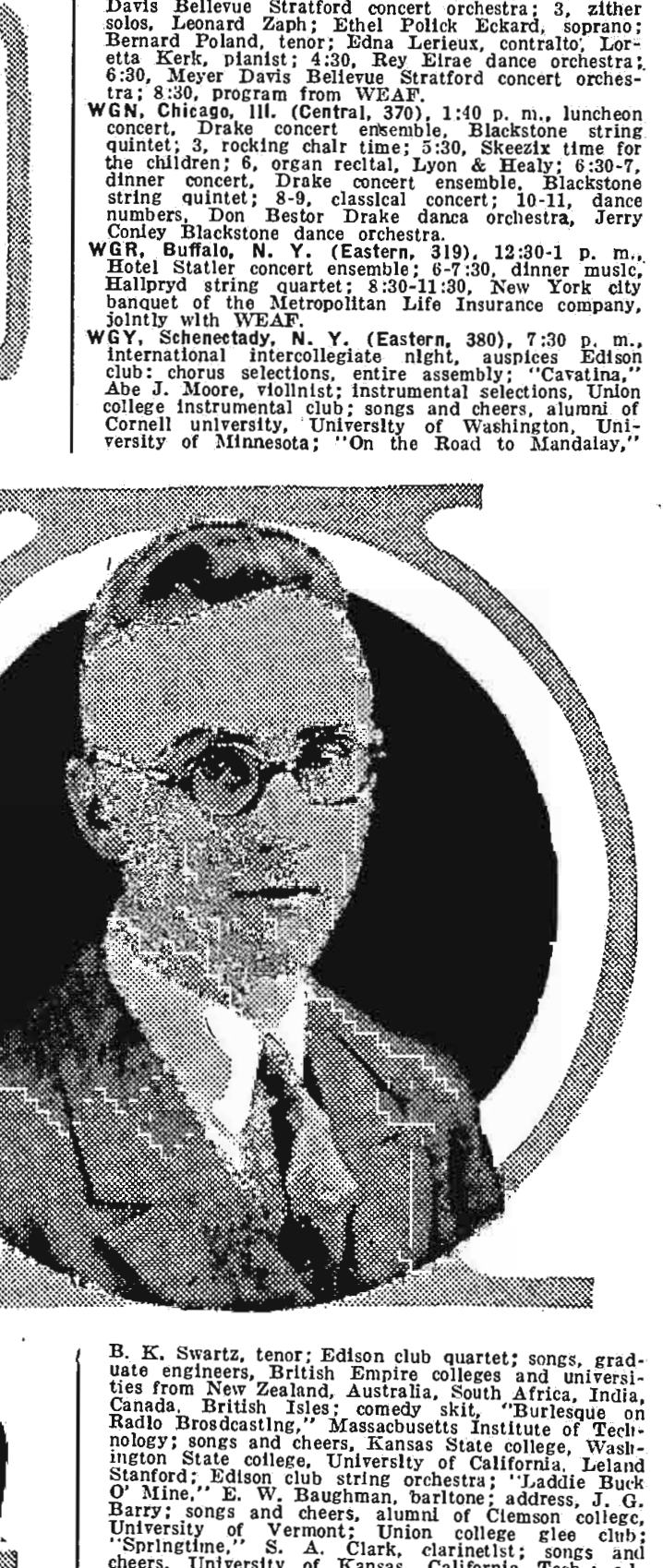
WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3, zither solos, Leonard Zaph; Ethel Polick Eckard, soprano; Bernard Poland, tenor; Edna Lerieux, contralto; Loretta Kerk, pianist; 4:30, Rey Elrae dance orchestra; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 8:30, program from WEAF.

WGN, Chicago, Ill. (Central, 370), 1:40 p. m., luncheon concert, Drake concert ensemble, Blackstone string quintet; 3, rocking chair time; 5:30, Skeelix time for the children; 6, organ recital, Lyon & Healy; 6:30-7, dinner concert, Drake concert ensemble, Blackstone string quintet; 8-9, classical concert; 10-11, dance numbers, Don Bestor Drake dance orchestra, Jerry Conley Blackstone dance orchestra.

WGR, Buffalo, N. Y. (Eastern, 319), 12:30-1 p. m., Hotel Statler concert ensemble; 6-7:30, dinner music, Halpryd string quartet; 8:30-11:30, New York city banquet of the Metropolitan Life Insurance company, jointly with WEAF.

WGY, Schenectady, N. Y. (Eastern, 380), 7:30 p. m., international intercollegiate night, auspices Edison club; chorus selections, entire assembly; "Cavatina," Abe J. Moore, violinist; instrumental selections, Union college instrumental club; songs and cheers, alumni of Cornell university, University of Washington, University of Minnesota; "On the Road to Mandalay,"

Professor Marshall S. Brown, Dean of the faculties of New York university, delivers the N. Y. U. "Air College" lectures on American history every Monday evening from Station WJZ, New York city. Mrs. Rose Ellen Dickey, new home adviser of WLS, Chicago, talks every morning at 9:15 a. m., about home management, home economics, children, correct dress, beauty hints, recipes, home decoration and other matters pertinent to the ladies who dial. Robert Worthington Davie (right) will read his own poems at WOAW, Omaha, Monday, February 2.



"Wait," Irene Babin, soprano; "Saxophonia," A. Lewis, monologue; "The Spell of the Yukon," Gordon Rogers; "I Am a Frier of Orders Grey," Frank A. Slmm; "Gavotta and Variations," C. C. Ballantyne Fuller; play, "Suppressed," Ottawa drama players; "Why Is the Geological Survey," E. D. Ingall; "Bird of Love Divine," Irene Babin, soprano; "Nola," A. Lewis, saxophonist; monologue, "Pledge," Gordon Rogers; "The Lost Cord," Frank A. Sim, tenor; "Nocturne in C Major," C. C. Ballantyne Fuller; Chateau Laurier hotel orchestra; Jack Grace.

Headliners of the Week
SATURDAY night the new Northern Electric company's station, CHIC, opens at Toronto. America's new Passion Play, "Vision," which will probably be the outstanding Radio event of 1925 will be given this same evening at WIP by the Villanova players. WRC is featuring this evening the Elena de Sayn string quartet, a group of artists well known in America and Europe.
For the first time in the history of the Rocky mountain territory complete Roman Catholic services will be broadcast in the morning and evening by KOA, Denver. Bishop J. Henry Thien will preach in the morning and Rev. Hugh L. McMenamin in the evening.
WCBD will give a special program Monday to dedicate its new high power station. All the Radio artists of this station will appear and the program will last from 8-12 midnight. WCBD is well known for its good music. Dixie melodies will be sung at WEMC by Dixie members of this college.
Tuesday night the American Pen Women of the Atlantic coast will give a program at WJY, New York. Tune in and hear some of your favorite authors. Mr. "Bones" and Mr.

"Tambo," well-known characters of the American minstrel show, will make their Radio debut at KGO tonight.
At midnight Wednesday tune in for WBAP and get religion with the Hired Hand broadcasting from the Negro Holy Ghost Camp meeting. The Hired Hand will broadcast direct from the church.
"Il Trovatore," an opera popular for its beautiful music, will be given by the WGY Opera company, Thursday at WGY, Schenectady. The entire opera will be given. Later in the evening at 9-10 p. m., Pacific time, the American Pen Women of Santa Clara will take charge of the KPO program. If you prefer something frivolous, dial for KSAC and listen to two professors give a "Swede" program.
The original Peggy O'Neil, character singer, will be on the air for the first time Friday at WAHG, Richmond. Whether he will sing "Peggy O'Neil" is still unknown. W. T. McDermidd will give an interesting talk at KFAE, Pullman, on the art of the northwest.
KFQX may soon change its call letters to KSND. Do not be surprised if you hear this call from Seattle.

B. K. Swartz, tenor; Edison club quartet; songs, graduate engineers, British Empire colleges and universities from New Zealand, Australia, South Africa, India, Canada, British Isles; comedy skit, "Burlesque on Radio Broadcasting," Massachusetts Institute of Technology; songs and cheers, Kansas State college, Washington State college, University of California, Leland Stanford; Edison club string orchestra; "Laddie Buck O' Mine," E. W. Baughman, baritone; address, J. G. Barry; songs and cheers, alumni of Clemson college, University of Vermont; Union college glee club; "Springtime," S. A. Clark, clarinetist; songs and cheers, University of Kansas, California Tech.; address, Francis C. Pratt; guitar and banjo duo, "Southern Melodies," E. O. Ricker, George Ricker; reading; songs and cheers, alumni of University of New Hampshire, Georgia Tech., Virginia Polytechnic Institute; trumpet and flute duo, "An Evening on the Sea," A. F. Sellers, F. L. Hempker; songs and cheers, alumni of Worcester Polytechnic Institute, University of Colorado, University of North Carolina; "Native Songs," General Electric Chinese engineers; "A Test Man's Opinion of Test Men," A. E. Marshman; songs and cheers, alumni of Texas Agricultural Mechanical college, University of Texas, Pa. State college, University of Nebraska; "The Trumpeter," R. E. Welton, bass; chorus selections; songs and cheers, alumni of University of Mississippi, Auburn Polytechnic Institute, Tulane, Oregon State college; Edison club.
WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., selections, Alamo theater organ; 7:30-9, concert, Barney Rapp's orchestra; fifteen-minute specialty, Wendell Hall.
WHK, Cleveland, Ohio (Eastern, 273), 6 p. m., dinner music, Radiograms; 9, Rainbow club entertainers, Billie Bugbee, Violet Owens, June Farley, Bobbie and Dede Fitzpatrick, Lucilla Phillips, Dean Smith, John Peattie, Art Cooke; McCoy entertainers; 10, Emerson Gill and his Bamboo Garden entertainers.
WHN, New York, N. Y. (Eastern, 360.4), 6:30-7:30 p. m., Vincent Catanese and his Hotel Alamo orchestra; 7:30-8, Hotel Carlton Terrace orchestra; 8:30-9, Strand Roof Entertainers; 9:10-9:20, Alfred Dulin, concert, pianist; 11-11:30, Jimmy Clarke and his entertainers; 11:30-12, Roseland dance orchestra.
WIP, Philadelphia, Pa. (Eastern, 509.9), 1 p. m., Karl Bonawitz, clarinetist; 5:05, Hotel St. James dinner dance orchestra; 7, Uncle Wip's bedtime stories; America's new "Passion Play," "Vision," presented by Villanova players, Robert Christis, Peter Smith, Howard Brady, Josephine Burella, Mae Dougherty, Louis Memminger, John Larkin, Kenneth Cook, James McFadden, M. Gilbert Johnson, James Phelan, Joseph McGuinn Arthur Farren, James Downey, William Foley, Michael Foley Thomas Graney, Phillip Danahy, John Cronin, James Judge, Mortimer Sullivan, Francis Kane, John Callahan and Plur Plazzi; singing by St. Mary's double quartet; 10:05, Art Coonan and his St. Mary's orchestra; 11:05, Karl Bonawitz, organist.
WJJD, Mooseheart, Ill. (Central, 302.8), 7:15-8:15 p. m., Mooseheart theater orchestra; 9-12, Log Cabin dance music.
WJZ, New York, N. Y. (Eastern, 455), 1-2 p. m., Erdody's Park Lane orchestra; 4-4:30, Eock and Jerome, songs; 4:30-5:30, Sherry's Tea orchestra; 7-8, Joseph Knecht's Waldorf-Astoria dance orchestra; 8-8:15, "Art for Laymen," Walter M. Grant; 8:15-8:30, Letitia Graham, soprano; Paul Haensler, accompanist; 8:30-8:45, "With Baron Von Humboldt in the Wonderland of South America," Harry Chapin

(Continued on page 10)

NEGRO CAMP MEETING AT WBAP

Saturday, January 31

(Continued from page 9)

Plummer; 8:45-9:15, Elena DeSays string quartet; 9:15-9:30, "Radio as a Vacation," J. H. Dellinger of Bureau of Standards; 9:30-10, Silvio Sidell, baritone; 10:10-10:30, Diltborn Howard's string orchestra; 10:30-11:30, Freddie Rich and Hotel Astor dance orchestra.

WLB, Stevens Point, Wis. (Central, 278), 12 midnight, "Enemies of Sleep."

WLS, Chicago, Ill. (Central, 345), 7 p. m., Ford and Glenn's trip to Paris; 7:20, national barn dance, Isham Jones and his College Inn orchestra; Ralph Emerson, organist; Walter Peterson; Grace Wilson; Harmony Girls; Glenn's Corn Huskers; Ford and Glenn; Barn dance fiddlers; 11:15-12:45, Senate theater review.

WLW, Cincinnati, Ohio (Central, 423), 8 a. m., physical exercises, William Stradman, instructor; 3 p. m., dance program, Marco Melody boys, Fred Lindeman, director; other features; 6, dinner hour concert, Cincinnati Post, featuring Selinsky; 7, Lafayette, E. D. Leonard.

WMAQ, Chicago, Ill. (Central, 447.5), 2 p. m., Union League club forum; 6, Young Folks' Catholic association; 8, LaSalle hotel orchestra; 8:30, "World Reporting," Junius B. Wood; 9, weekly Chicago theater revue.



Stephen E. Boisclair is the organist who plays on the late Tuesday and Thursday programs at WGY, the General Electric station at Schenectady, New York. Mr. Boisclair is the official organist of this station.

WMC, Memphis, Tenn. (Central, 503.9), 12 m., musical program, O. K. Houck Piano company; 8 p. m., bedtime story, Uncle Percy; 8:30, classical program, Gladys Barber.

WNI, Newark, N. J. (Eastern, 233), 10:30-1 a. m., dance revue, Paradise dance palace.

WNYP, New York, N. Y. (Eastern, 528.8), 5:30-6:30 p. m., Frederick Benson and his orchestra; 6:30-7:30, Sam Wooding and his Club Alabama orchestra; 7:35-8, Chateau Four; 8:30-9, Police quartet; 9-10, instrumental novelties and recitals; 10:10-10:30, New York public lecture.

WOAW, Omaha, Nebr. (Central, 522.3), 6 p. m., dramatic hour, Davis Studio of Expression; 6:45, Sammy Helman's orchestra; 9:30, program, quartet; 11, Frank Hodek and his Omaha Nightingales; 11:30, organ music, Arthur Hays, World theater.

WOC, Oavenport, Iowa (Central, 498), 12 m., chimes; 7 p. m., sandman's visit; 9, Lonis Coner and his LeClair hotel orchestra; songs and novelty numbers, Peter MacArthur, baritone.

WOI, Ames, Iowa (Central, 270), 12:30 p. m., college chimes; "Feeding and Management of Chicks," Prof. W. E. Lapp.

WOO, Philadelphia, Pa. (Eastern, 509.9), 11 a. m., organ recital, Mary E. Vogt; 12:02 p. m., Wana-maker crystal tea room orchestra, Robert E. Golden, director; 4:45, organ recital, Mary E. Vogt; band concert, John Wana-maker Commercial Institute band.

WOR, Newark, N. J. (Eastern, 405), 2:30-4 p. m., children's program; 6:15-7:30, "Music While You Dine," Freddie Steckman and his Green Mt. Idlers; 8:30-8:45, Winfred DeWitt Vogelius, contralto; 9:15-9:30, Winfred DeWitt Vogelius; 9:30-10:30, concert, Sonerville male chorus.

WQJ, Chicago, Ill. (Central, 448), 11-12 m., home economics, Helen Harrington Downing; "Eve-Evolved," Mrs. Darius T. Phillips; talk, J. W. Foley; "Fancy Cookies," Bertha M. Harris; 3-4 p. m., Koffee Klatsch, special musical features; 7-8, dinner concert, Ralph Williams and his Rainbo Garden orchestra; Otis Pile Jester, soprano; Mary T. House, accompanist; George Sippel, pianist; 10-2 a. m., Ralph Williams and his Rainbo Garden orchestra; Jerry Sullivan, songs; George A. Little and Larry Shays, harmony singers; Alfred Tweed, harmonica selections; the McClodians; Clarence Theders, tenor; Yukona Cameron, soprano; June Lee, comedienne.

WRC, Washington, D. C. (Eastern, 469), 6:45 p. m., children's hour, Marjorie Tucker; 7, dinner music, Hotel Washington-Irving Boernstein orchestra; 8, Bible talk; 8:45, concert of chamber music, Elena Do Sany string quartet; 9:15, music; 10:30, dance program, Astor hotel orchestra; 11:15, Otto Beck, organist.

WREO, Lansing, Mich. (Eastern, 288.5), 9-12 midnight, Frank Logan and his orchestra.

WSAI, Cincinnati, Ohio (Central, 325.9), 8 p. m., chimes; 8:15, Bicycle mixed quartet; 9, weekly news review, Allison F. Stanley; 9:15, Bicycle male quartet; 12, WSAI midnight entertainers; 12:30, Freda Sanker's Toad Stool orchestra.

WSB, Atlanta, Ga. (Central, 429), 6 p. m., songs, Bonnie Barnhardt; 8-9, orchestra Mrs. Rose Mathews, soprano; 10:45, Ecce an Grace McConnell.

WTAM, Cleveland, Ohio (Eastern, 364), 6 p. m., Maurice Splainy's Hotel Statter orchestra; 9, WTAM dance orchestra, Ev Jones, director.

WVJ, Detroit, Mich. (Eastern, 516), 8 a. m., setting-up exercises, I. J. Horton; 9:30, tonight's dinner; 3 p. m., the Detroit News orchestra.

Sunday, February 1

Sunday, silent night for: CFAC, CHNC, CKAC, KFAE, KFDM, KFDM, KFDM, KFDM, KOB, KSD, PWS, WAHG, WBAV, WBBG, WCAU, WDAF, WEO, WBJ, WHA, WHAS, WHO, WJID, WKAQ, WLB, WMAQ, WVJ, WOJ, WOR, WTAY.

CFAC, Calgary, Can. (Eastern, 430), 11 a. m., morning service.

CFCA, Toronto, Can. (Eastern, 400), 11 a. m., services, Bloor Street Presbyterian church, Rev. George C. Pidgeon, pastor; 5:55-6 p. m., Bible story for small children; 7, service, Timothy Eaton Memorial church, preacher, Dr. Trevor H. Davies.

CKAC, Montreal, Can. (Eastern, 425), 4:30 p. m., band concert.

CKY, Winnipeg, Can. (Central, 450), 7 p. m., service, Grace Methodist church.

KOKA, E. Pittsburgh, Pa. (Eastern, 309.1), 11 a. m., services, Point Breeze Presbyterian church, Rev. Percival H. Baker; 2:30 p. m., concert; 4, Dr. Charles Heinroth, organist; 4:45, vesper services, Shadyside Presbyterian church, Rev. Hugh Thomson Kerr, minister; 6-15, dinner concert, Scalo's orchestra; 7:30, services, Calvary Episcopal church, Rev. E. J. Van Eften, pastor.

KFI, Los Angeles, Calif. (Pacific, 469), 10-10:45 a. m., L. A. Church Federation service; 4-5 p. m., vesper service, L. A. Church Federation musicians; 6:45-7, musical appreciation talk; 7-8, stage acts, specialities and orchestra from Metropolitan Theater; 8-9, Electric Ferry, soprano and trio of women's voices; 9-10, Examiner, Anton Lada's Louisiana five dance orchestra; 10-11, Therson Bennett and his orchestra.

KNFN, Shenandoah, Iowa (Central, 266), 10:45 a. m., regular church service; 3 p. m., program, Baptist church; 6:30, concert, Smith-Belding Harmony orchestra.

KFSG, Los Angeles, Calif. (Pacific, 278), 10:30-12:30 p. m., complete morning religious services of Angelus temple, Almee Scumpio McPherson, pastor; Esther Fricke Green, organist; 2:30-4:30 p. m., afternoon service of the temple, sermon by pastor-organist, music by temple choir and Silver band; 7-9:45, complete evening services of Angelus temple, including special opening musical hour, evangelistic sermon, Almee Scumpio McPherson; 10-11, organ recital, Esther Fricke Green.

KGO, Oakland, Calif. (Pacific, 312), 11 a. m., service, St. Luke's Episcopal church, Arthur McHoul, organist; Rev. W. W. Jennings, rector; 3:30 p. m., KGO Little Symphony orchestra, Carl Rhodehamel, director; "Remembrances," "Comique," selections from "Alda," orchestra; "By the Waters of Babylon," "Beyond the Dawn," "A Sunset Song," Irwin Johnson, organist; violin solos, Glenn W. Halk; "Scott's Poem," orchestra, preceded by talk on life and work of MacDowell, Arthur S. Garbutt; four Mexican dances, orchestra; "Sancta Lucia," "Sweet Genevieve," Irwin Johnson; "Clarice," orchestra; 8, musical service, St. Luke's Episcopal church, Rev. W. W. Jennings, rector.

KGW, Portland, Ore. (Pacific, 485.1), 10:30 a. m., service, First Presbyterian church, Dr. Harold Leonard Bowman, pastor; 3 p. m., municipal concert; 6, church services, Portland Council of churches; 7, dinner concert, Colburn concert orchestra.

KH, Los Angeles, Calif. (Pacific, 395), 10 a. m., Dr. H. C. Cubertson, pastor, Plymouth Congregational church; 10:30-12:30 p. m., complete morning services and organ recital, First Methodist Episcopal church, E. E. Helms, pastor; Arthur Blakely, organist; 6:30-7, Art Hickman's Billmore hotel concert orchestra; Edward Fitzpatrick, director; 7-7:30, organ recital, Arthur Blakely, organist; 8-10, Zenith Radio concert company, Rola quartet.

KJS, Los Angeles, Calif. (Pacific, 252), 10:30-12:30 p. m., complete morning religious services, Church of the Open Door, Dr. French E. Oliver, pastor; 6-6:45, vesper services, instrumental and vocal program with short scriptural talk; 7:15-9:30, complete evening services of the Church of the Open Door, Dr. French E. Oliver, pastor.

KNX, Los Angeles, Calif. (Pacific, 337), 7-7:45 p. m., International Bible Student's association; 8-9, Ambassador hotel concert orchestra, Josef Rosenfeld, director; 9-11, program, Carson-Baruch Baking company.

KOA, Denver, Colo. (Mountain, 322.4), 11 a. m., solemn pontifical mass and sermon, Immaculate Conception cathedral, Bishop J. Henry Tihen; 7:30-8:30, service, Immaculate Conception, Rev. Hugh L. McMenamin.

KPO, San Francisco, Calif. (Pacific, 423), 11-12 m., church service, Rev. Homer K. Pitman; Lenore Sollen-der Campbell, soprano; Theodore J. Irwin, organist; 8:30-10, concert, Rudy Seiger's Fairmont hotel orchestra.

KSAC, Manhattan, Kans. (Central, 340.7), 8 p. m., piano voluntary; 9:05, special sacred music; 8:10, prayer of affirmation; 8:15, hymn; 8:20, "Common Folks," understanding them; 8:35, song of benediction.

KTHS, Hot Springs National Park, Ark. (Central, 375), 11 a. m., services, First Presbyterian church, Rev. Chauncey Hickok, pastor; 8:30-10:30 p. m., vocal solos, Mrs. Harry A. Jones; New Arlington Meyer Davis ensemble, Jack Renard, director; 10-11:30, jazz concert, Phil Baxter and his singing orchestra.

KYW, Chicago, Ill. (Central, 535.4), 11 a. m., Central church service, Dr. Frederick F. Shannon; 4-5 p. m., studio concert; 7, Chicago Sunday Evening club, speaker, Bishop Thomas P. Galloway.

WBAP, Fort Worth, Texas (Central, 472.9), 11 a. m., services, St. Paul's M. E. church, Rev. C. D. Meads, pastor; Mrs. P. L. Jaccard, organist; 4 p. m., concert, Rialto theater; 11-12, midnight frolics, Ted Miller's

WCX, Detroit, Mich. (Eastern, 516), 7:15 p. m., church services.

WOAF, Kansas City, Mo. (Central, 411), 4-5 p. m., classical music, Star's orchestra.

WOAR, Philadelphia, Pa. (Eastern, 395), 2:30 p. m., Arcadia cafe concert orchestra, Feri Sarkozel, director; 6, W. I. Oppenheim's Ben Franklin hotel concert orchestra.

WEAF, New York, N. Y. (Eastern, 492), 7:20-9:15 p. m., musical program, Roy and his Gang, Capitol theater; 9:15-10:15, organ recital.

WEAR, Cleveland, Ohio (Eastern, 364.3), 1 p. m., Philip Splainy's Allen theater symphony orchestra.

WEBB, Chicago, Ill. (Central, 370), 5 p. m., twilight musicale; 7-9, selected artists program.

WEEL, Boston, Mass. (Eastern, 303), 3:45-5:30 p. m., men's conference, Bedford Branch, Y. M. C. A.; 7:20-9:15, "Roxy and his Gang," Capitol theater.

WEMC, Berrien Springs, Mich. (Central, 285), 11-11:20 a. m., Radio Lighthouse choir; 11:20-11:30, Scripture reading and prayer, Pastor W. R. French; 11:30-11:40, Thelma Abel, soprano; Nelva Mundt, contralto; 11:40-12, sermon, Pastor W. R. French; 8:15-8:40 p. m., Radio Lighthouse choir; 8:40-8:45, Scripture reading, Pastor John Knox; 8:45-8:55, vocal duet, Mrs. Gertrude Hanson, contralto; Mrs. H. B. Taylor, soprano; 8:55-9:25, Bible lecture, Pastor John Knox.

WFAA, Dallas, Texas (Central, 472.9), 6-6:30 p. m., Radio Bible class, Dr. William Anderson, pastor; 6:30-7:30, Christian Endeavor Union service; 7:30-8:45, service, Central Baptist church, Dr. George W. Truett, pastor; 9-11, Grace Methodist church male quartet and orchestra.

WFI, Philadelphia, Pa. (Eastern, 395), 4:30 p. m., Central Y. M. C. A. services; 7:30, services, Arch Street Presbyterian church.

WGN, Chicago, Ill. (Central, 370), 11 a. m., Uncle Walt reads the comics to the children; 11:45, program, Chicago theater, twin organ recital, Mr. and Mrs. Jesse Crawford; 2 p. m., organ recital, Lyon & Healy; 3, Tribune Master artist concert, Margaret Anderson, pianist; 3:30, program, faculty artists, Chicago Musical college; 9-10, special program, "Sir Edgar Elgar, British Composer," Charles H. Gabriel, Jr.

WGR, Buffalo, N. Y. (Eastern, 319), 3-4 p. m., vesper service; 4-5, John F. Gunderman, Jr., organist; 7:15, Central Presbyterian church service and organ recital, William Wall Whiddit, organist, and Dr. Robert J. MacAlpine, speaker.

WGY, Schenectady, N. Y. (Eastern, 380), 10:30 a. m., First English Lutheran church, Rev. Herbert D. Shimer, pastor; 3:35 p. m., WGY symphony orchestra; Roger H. Stonehouse, soloist; Dr. Frank Hill Rogers, organist; 7:30, service, First English Lutheran church.

WHAS, Louisville, Ky. (Central, 400), 9:57 a. m., organ music; 10, church service, auspices Fourth Avenue Presbyterian church, Rev. Dr. Charles W. Welch, pastor; 4 p. m., George Latimer, organist; 4:30-5, choral evensong service, Christ church cathedral.

WHB, Kansas City, Mo. (Central, 411), 9:45-11 a. m., Linwood Christian church services; 8-9:15 p. m., M. E. church services; 12, program of dance and popular music.

WHK, Cleveland, Ohio (Eastern, 273), 10:30 a. m., morning services, Old Stone church, Rev. W. H. Poulkes, pastor; 4:30 p. m., vesper service, Cleveland Federated churches, Rev. E. R. Wright, conductor; current religious topics; hymns, sermon; 7:30, evening service, Epworth-Euclid Memorial church, Rev. Louis Wright, pastor; 9, Conn symphony orchestra, Ralph E. Story, director; Fred W. Hinz, baritone; Roy J. Crocker, pianist; A. E. Clark, trombone soloist; Elizabeth Weideman Kelly, soloist.

WHN, New York, N. Y. (Eastern, 360.4), 3-4 p. m., Queens County Christian Endeavor program; 5-5:30, Roseland dance orchestra; 5-5:30, Olcott Vail and his string trio; 10-10:45, Gem Razor entertainers; 11-11:30, Vandy club revue; 11:30-12, Connie's Inn revue,

WMC, Memphis, Tenn. (Central, 503.9), 11 a. m., services, First Baptist church, Rev. A. U. Boone, pastor.

WNYC, New York, N. Y. (Eastern, 528.8), 9-11 p. m., Mark Strand Brooklyn theater.

WOAI, San Antonio, Texas (Central, 394.5), 11 a. m., services, First Presbyterian church; 7:30 p. m., services, Central Christian church; 9:30, religious music, "Gallia," WOAI entertainers.

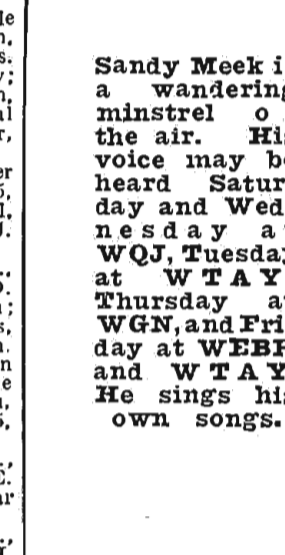
WOAW, Omaha, Nebr. (Central, 522.3), 9 a. m., Radio chapel service, conducted by Rev. R. B. Brown, pastor; 1:30 p. m., matinee program transmitted from WOAV's remote station in the May Seal & Nursery company building, Shenandoah, Iowa; 6, Bible study period, personal direction of Mrs. Carl Gray; 9, musical chapel service, Dundee Methodist church.

WOC, Oavenport, Iowa (Central, 498), 8 p. m., Palmer Little symphony; Apostle church, Rev. C. J. Donahoe; 9:30, Palmer Little symphony, Erwin Swindell, conductor.

WOI, Ames, Iowa (Central, 270), 10:45 a. m., college chimes; 11, chapel services, Dean Mathews, Dean of Divinity school, University of Chicago.

WOO, Philadelphia, Pa. (Eastern, 509.9), 2:30 p. m., services, Bethany temple; 2:30 p. m., Sunday school exercises, Bethany temple; 6:05, organ recital, Clarence K. Bawden; 7:30, services, Bethany temple; sermon, Rev. Gordon A. MacLennan; organ recital, Caroline Quigg.

WQJ, Chicago, Ill. (Central, 448), 10:30 a. m., sermon, Dr. Preston Bradley; 100 voice choir; Clarence Eddy, organist; 8-10 p. m., Ralph Williams and his Rainbo orchestra in concert; Miriam Burns, soprano; Lois



Sandy Meek is a wandering minstrel of the air. His voice may be heard Saturday and Wednesday at WTAJ, Thursday at WGN and Friday at WEBB and WTAY. He sings his own songs.

Maekey, pianist; Milford Burdsall, tenor; Mardean Borresen, baritone; Fern Denicke, accompanist; Oscar H. Williamson, tenor; Harry Abernathy, accompanist; Rick Whalen and Gardner, "Rainbo Greetings" company.

WREO, Lansing, Mich. (Eastern, 288.5), 10 a. m., chimes, Beffy Plymouth Congregational church; 10:30, services, Plymouth Congregational church, Dr. Edwin W. Bishop, pastor; 7 p. m., services, Central M. E. church, Dr. Frank Kingdon, pastor.

WSAI, Cincinnati, Ohio (Central, 325.9), 3 p. m., sermonette; 5:10, sacred chimes.

WSB, Atlanta, Ga. (Central, 429), 11 a. m., service, First Presbyterian church; 5-6 p. m., sacred service, Georgia Railway and Power company quartet; 7:30, Memorial church service.

WVJ, Detroit, Mich. (Eastern, 516), 11 a. m., church services; 2 p. m., the Detroit News orchestra.

Monday, February 2

Monday, silent night for: CFAC, CFCA, CKAC, CKY, KFDM, KFSS, KIS, KYW, PWX, WBCN, WCAL, WCAU, WEAO, WEBB, WEBJ, WFI, WGN, WHAS, WIP, WJY, WKAQ, WLB, WLS, WMAQ, WNI, WOAI, WREO.

CHNC, Toronto, Can. (Eastern, 350), 8:30 p. m., CHNC instrumental trio, Frank Blachford, violinist; Lionel H. Bilton, cellist; Simeon Joyce, pianist; the Schuch singers, Vernon Gearing, Harvey Binns, Hamilton Hill, Lois Erie Waters, Evelyn Hall, Marion Simons.

CKAC, Montreal, Can. (Eastern, 425), 1:45 p. m., Windsor hotel trio; 4:30, 110 lessons.

KOKA, E. Pittsburgh, Pa. (Eastern, 309.1), 7 a. m., morning exercises, O. Shannon; 8, morning exercises; 12:15 p. m., Scalo's orchestra; 6:15, concert KDKA Little Symphony orchestra; 7:30, children's period; 8, Girl Scout meeting; 8:15, address, University of Pittsburgh's 8:30 concert.

KFAE, Pullman, Wash. (Eastern, 330), 7:30-9 p. m., Kappa Alpha Theta sorority program; Kathryn Fowler, pianist; Geraldine Guertin, soprano; Phyllis Benefield, pianist; vocal solos, Eva LaFollette; group songs; mechanical engineering talk, Prof. G. E. Thornton; "Masefield's Poetry," Prof. T. M. Raysor; "Rural Women and the Past Year," Maud Wilson; book chat, Alice L. Webb.

KFI, Los Angeles, Calif. (Pacific, 469), 5-5:30 p. m., Evening Herald, table talk and news; 5:30-6, Examiner, musical half hour; 8-9, Evening Herald Radiolians dance orchestra; Charlie Melson, tenor; 9-10, program, Walter M. Murphy Motors company; 10-11, Examiner, Ray West's Alexandria hotel orchestra.

KFKU, Lawrence, Kans. (Central, 275), 6:50 p. m., piano tuning-in number; 7, music; 7:15, Spanish lesson V; 7:30, basketball game, K. U. vs. Okla. U.; 8:30, debating, "Delivery," Prof. B. A. Gilkinson; 8:45, "Team Offense," Dr. F. C. Allen.

KFKX, Hastings, Nebr. (Central, 288.3), 9:30-11 p. m., program, York Amateur musicale of York, Nebr.

KFOA, Seattle, Wash. (Pacific, 455), 4-5:15 p. m., studio music, educational talks, today's recipe; 6:45-8:15, Sherman, Clay & company program; 8:30-10, Seattle Times studio program.

KFQX, Seattle, Wash. (Central, 238), 6:30-7:15 p. m., topics of the day; 7:15-8, bedtime story, Aunt Vivien; 8-9, Earl Gray and his Butler hotel orchestra; 9-10, concert hour; 10-11, Earl Gray and his orchestra.

KGO, Oakland, Calif. (Pacific, 312), 9 a. m., music and lecture, California State Department of education; 11:30-1 p. m., luncheon concert, Pacific States Electric company; 4-5:30, Henry Halstead and dance orchestra; 5:30-6, Aunt Betty stories and KGO kiddies' club; 8, "Raymond Overture," song of love from "Blossom Time," Arion trio; "Some Principles and Facts Concerning Pruning," Prof. H. M. Butterfield; cello solos, Margaret Avery; "Lesson in English," Wilda Wilson; "March of the Tin Soldiers," Arion trio; "The High School Student," Dr. Aurelia Henry Reinhardt; "Calm as the Night," "Gavotte," Arion trio; "Chats About New Books," Joseph Henry Jackson; "Aloha Oe," Arion trio; 10-1 a. m., dance music, Henry Halstead's orchestra.

KGW, Portland, Ore. (Pacific, 485.1), 5 p. m., children's program; story, Aunt Nell; 8, concert, Oregonian concert orchestra; 10, Colburn's Melody men, Hotel Portland; Sheffer's string orchestra.

KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:30 p. m., Piggly Wigly girls' trio; 8-10, program, El Eneano apartments.

KNX, Los Angeles, Calif. (Pacific, 337), 8 a. m., morning prayer; 9, Hired Hand, news; 10, Hired Hand's morning message; 10:30, home economics, Mrs. Kate Brev Vaughn; 6:30-7:30 p. m., program John A. Evans corporation of Hacienda Park; 8-10, program, Western Auto Supply company; 10-11, Abe Lyman's Coconut Grove dance orchestra from Ambassador hotel.

KOA, Denver, Colo. (Mountain, 322.4), 8 p. m., "My Old Kentucky Home," KOA orchestra, Lewis H. Chernoff, director; "Value in E," Mary Marzcyk, pianist; "The Garden of Your Heart," Ina Mae Balns, soprano; Ralph Freese, tenor; G. Ralph Crowder, accompanist; "At the Spring," "Sonnet," Mary Marzcyk, pianist.

Here are four of the popular WOAI Entertainers of WOAI, San Antonio, Texas, in costume as they sang "In a Persian Garden." They are, left to right, Mrs. Fred Jones, soprano; Charles Stone, tenor; Warren Hull, bass; and Mrs. Guy Simpson, contralto. This Sunday, February 1, they will sing "Gallia."

Crazy hotel orchestra.

WBRR, New York, N. Y. (Eastern, 273), 9:10 p. m., I. B. S. A. choral singers; 9:20, vocal duet, Thyra Lundberg, Fred Twaroschik; 9:30, Bible lecture, "The Night and Morning of Man's Experience," W. L. Peltie; 10, Fred Twaroschik, tenor; 10:20, I. B. S. A. choral singers.

WBCN, Chicago, Ill. (Central, 266), 10:30-12 m., People's Liheral church, Dr. R. A. White, pastor; 4-5 p. m., classical concert, Lalin & Son chapel; 5:15-6:15, vesper service, Emerald Avenue Presbyterian church, Rev. Richard D. Hughes; 7-8, Walther League classical program; 8-10, Ned Santry, tenor; J. W. Kling, announcer of WTBZ; Midway Dancing Gardens orchestra; Borden brothers; Bobbie Mehr.

WCAL, Northfield, Minn. (Central, 337), 8:30 p. m., sacred program, sermon, J. J. Thompson, dean of men; J. D. Gay, organist.

WCAU, Philadelphia, Pa. (Eastern, 278), 5:14 p. m., recital; 5:30, talk; Dr. John W. Stockwell; 6, Meyer Davis Hotel Pennsylvania dinner orchestra, direction Lon Chassey.

WCB, Zion, Ill. (Central, 345), 8 p. m., mixed quartet; cello and bell; G. Mason, conductor; Richard Hirc, Sidney Stewart, violinists; Mrs. J. D. Thomas, soprano; M. P. Barton, tenor; Mrs. P. M. LaRose, contralto; Erwin Rendahl, Hulst; Mrs. Grace Lund, pianist; ladies' trio.

WCCO, Minneapolis-St. Paul, Minn. (Central, 417), 10:30 a. m., Plymouth Congregational church, Rev. H. P. Dewey; 4:10 p. m., House of Home Presbyterian church, Rev. H. C. Swenson; 7:45, Central Lutheran church, Rev. J. A. O. Stub; 9:15, classical concert,

(Continued on page 11)

AMERICAN PEN WOMEN MEET AT KPO

Monday, February 2

(Continued from page 10)

selections from "The Mikado," KOA orchestra; "How Do You Do," "Nancy," "Pickaninny Blues," Blue Bell trio; "Lies," Harry Barris, tenor; "Blue Eyes Sally," "Waiting for the Love Light in Your Eyes," "Back in Hackensack, New Jersey," Blue Bell trio; "On My Knees," "Onion Time in Bermuda," Blue Bell trio; concert, Denver Lions glee club; "Medley of Old Time Songs," glee club; banjo solos, medley of southern songs, "Hustlers' March," Charles H. Spencer; chorus with soprano obligato, "The World is Waiting for the Sunrise," Mrs. Russell J. Brown and glee club; "Old Uncle Moon," "Mrs. Winslow's Soothing Syrup," "Drink to Me Only with Thine Eyes," Olinger male quartet; "Old Plantation Melody," club; saxophone selections, "Asleep in the Deep," "Margie-Marie," Lions' saxophone sextet; "The Winter Song," glee club; "Radio March," KOA orchestra.

KOB, State College, N. M. (Mountain, 348.6), 7:30-8:30 p. m., "Water Supply and Sewerage in Rural Communities," C. W. Gerber; Alice and Sam Marshall, readers; Mrs. Burke, accompanist; Alice M. Marshall, contralto; Alice Marshall Willis, soprano; Sam Marshall, tenor; Burton Marshall, baritone.

KPO, San Francisco, Calif. (Pacific, 423), 7 a. m., daily dozen, Bernard Drury; 10, town crier; 10:15, "What is Playing at Local Theaters," 11, chat to the housewives, Prudence Penny; 12-2 p. m., Rudy Selger's Fairmont hotel orchestra; 4:30-5:30, Rudy Selger's Fairmont hotel orchestra; 5:30-6:30, children's hour stories, Big Brother of KPO; Frederica Levine, pianist; 7-7:30, Rudy Selger's Fairmont hotel or-

P. Barton, tenor; Zion orchestra; euphonium solo, W. C. Dunn; contralto and tenor duet, Mr. and Mrs. Glenn R. Sparrow; Richard F. Hire, violinist; E. B. Paxton, haritone; Miriam Hollingshead, flutist; brass quartet; Mrs. H. E. Mayfield, soprano; Arthur B. Rendall, clarinetist; Hermann Becker, cellist; Fred Passen, organist.

WCCO, Minneapolis-St. Paul, Minn. (Central, 417), 2 p. m., "Among Good Books," Eleanor Poehler; 2:30, matinee music; 4, magazine hour, excerpts from "In the Beauty of the Purple," 5-5:30, children's hour, Mrs. R. G. Cargill; 8, "Radio and Agriculture," Dean W. C. Coffey; 8:30, Twin City Auto show; Art Landry's Victor recording band; style talk, Lucile Babcock; 10:30, dance program.

WCX, Detroit, Mich. (Eastern, 516), 4:15 p. m., musical program; 8:30, musical program.

WOAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., program, Newman and Royal theaters; 5-5:30, weekly Boy Scout program; 6, school of the air; banking talk, C. H. Cheney; request story night, story lady; Trio ensemble, Hotel Muehlebach; 8-9:15, around the town with WDAP; 11:45-1 a. m., Night-hawk frolic; the Merry Old Chief and Plantation plays.

WOAR, Philadelphia, Pa. (Eastern, 395), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 4:30, Clara Zagar, violinist; Marcella North, pianist; 7:30, Dream Daddy's bedtime stories; 7:55, "Short Agro-Waves," Chas. Shoffner; 8:30, Pottstown night; 9:30, Stanley theater symphony orchestra, Sydney Lowenstein, director; 10:03, Arcadia cafe dance orchestra; vaudeville features, Fay's Knickerbocker theater.

WEAF, New York, N. Y. (Eastern, 492), 6-7 p. m., dinner music, Waldorf-Astoria hotel; 7:15-9, musical program, Mark Strand theater; 9-10, A and P Gypsies; 10:30-11:30, Ben Bernie and his Hotel Roosevelt orchestra.

WHO, Des Moines, Iowa (Central, 522.3), 7:30-8 p. m., Mrs. Robert Finch, contralto; speech, Rev. Muriel Adams; 8-9, classical program, Dean Holmes Cowper.

WIP, Philadelphia, Pa. (Eastern, 509.9), 1 p. m., Gimbel tea room orchestra; 6:05, Hotel St. James dinner dance orchestra; 7, Uncle Wip's bedtime stories, dancing lessons, Miller Conservatory of Music.

WJIO, Moschert, Ill. (Central, 302.8), 3:30-4:30 p. m., music, Moosheart children, assembly; talks; 6:45-7:15, Albert Brown, organist; 7:15-8:15, Novelty orchestra; talk, Ben Oswald; 11:30-12:30, request organ music, Albert Brown.

WJZ, New York, N. Y. (Eastern, 455), 10:20-10:30 a. m., "Laundry Experience," Mrs. Julian Heath; 10:30-10:40, Home beautiful, Dorothy Ethel Walsh; 10:40-10:50, talk, John C. Cutting of Meat Council of New York; 10:50-11, fashion talk, Eleanor Gunn; 1-2 p. m., Henry Vander Zanden's Hotel Ambassador trio; 4:30-5:30, Fred Hall's Royal Terrace orchestra; New York Stock Exchange reports, Evening Post News; 7-8, Bernhard Levitov's Hotel Commodore dinner concert; 8-8:10, Wall Street Journal review; 8-10-8:30, "American History," N. Y. U. Air college, Dean M. S. Brown; 10:45-11:45, Jacques Green and his Club Deauville orchestra with Clark's Hawaiians.

WLS, Chicago, Ill. (Central, 345), 12-1 p. m., R. F. D. program; music numbers, George Simons, tenor; 3:45-4:45, homemakers' hour, music.

WLW, Cincinnati, Ohio (Central, 423), 8 a. m., physical exercises, Y. M. C. A., Wm. Stradttman, instructor; 12:15 p. m., Williamson revue and entertainment; 6, dinner hour concert, Selinsky Instrumental quintet; 8, Times-Star program, Indra Consistory Choir of Covington, Ky., J. Lincoln Newhall, director; Erich Soranthen, celebrated Viennese violinist; Lyric male quartet, Howard Evans, director; Howard Hafford, tenor; entertainment, the Ragauuffins from Liberty theater, Covington, Kentucky.

Tuesday, February 3

Tuesday, silent night for: CHNC, KFAE, KFKY, KFNF, KOA, KOB, PWX, WAHG, WBVA, WBBG, WBBR, WCAL, WCCD, WCCO, WEOA, WEMC, WHO, WOC, WOJ, WOO.

CFCA, Toronto, Can. (Eastern, 400), 8:15 p. m., "The Romance of Science," Dr. E. F. Burton.

CKAC, Montreal, Can. (Eastern, 425), 7 p. m., kiddies' stories in French and English; 7:30, Windsor hotel dinner concert, Harry Salter, director; 8:30, studio variety program; 10:30, Windsor hotel dance program, Ben Leonard; 12, frolics.

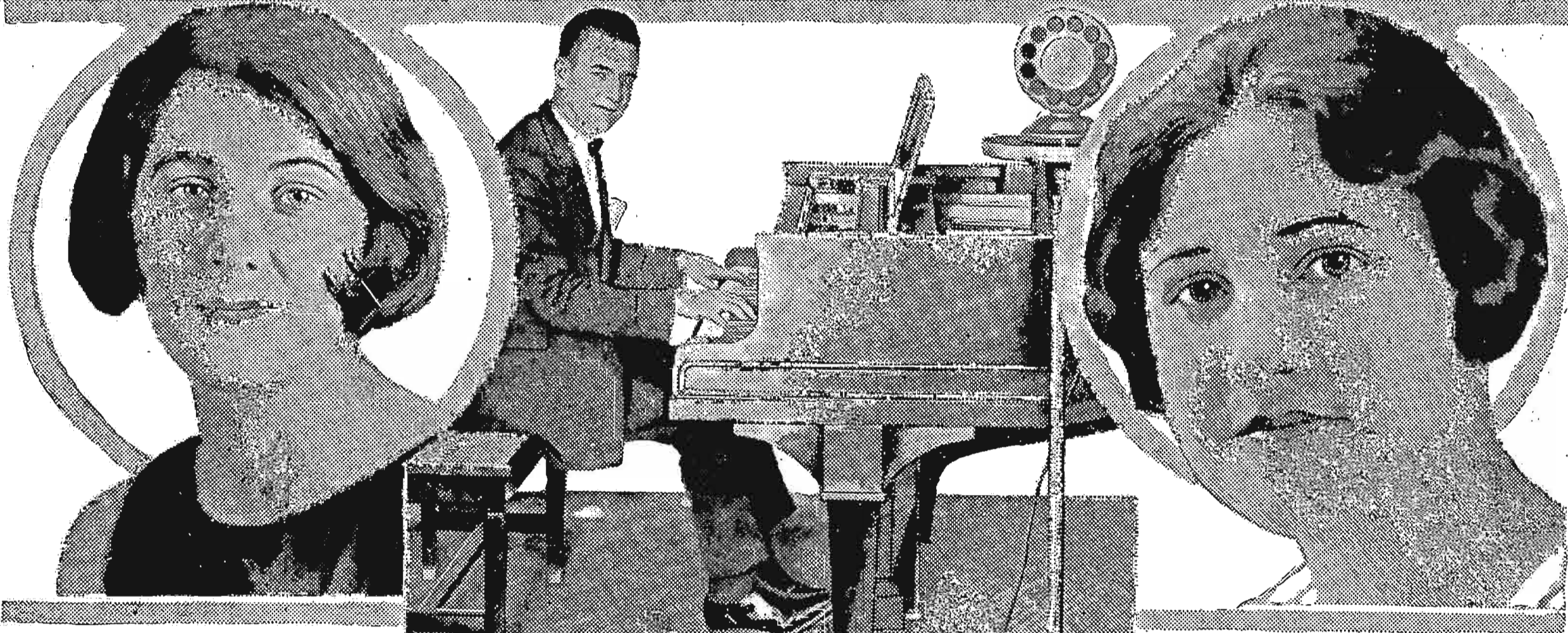
CKY, Winnipeg, Can. (Central, 450), 7:30 p. m., university lecture; 8:15, concert, "Toc H," 9, half-hour program, Capitol theater; 9:30, Roseland dance gardens.

KDKA, E. Pittsburgh, Pa. (Eastern, 309.1), 12:20 p. m., Institute from the Trinity church; 6:15, dinner concert; 7:30, children's period; 8:30, concert; 11, concert, Pittsburgh Post studio.

KFDM, Beaumont, Tex. (Central, 315.6), 8 p. m., musical concert.

KFI, Los Angeles, Calif. (Pacific, 469), 5-5:30 p. m., Evening Herald, table talk and news; 5:30-6, Examiner, musical half hour; 6:45-7, speaker; 7-8, program, Hills Brothers company; 8-9, Aeolian residence pipe organ recital, Dan McFarland, organist; 9-10, Examiner, program arranged by Jane of the Examiner; 10-11, Packard ballad hour.

KFOA, Seattle, Wash. (Pacific, 455), 4-5:15 p. m., Olympic hotel concert orchestra; today's recipe; 6:45-8:15, Rhoades' Department store program; 8:30-10, Seattle Times orchestra; 10:05-11, Olympic hotel dance music.



Lucienne Paquet is the pianist of the Hotel Statler orchestra broadcast during the luncheon hour program of WWJ, Detroit. Everybody knows Ev Jones (right), director of the WTAM dance orchestra heard on Saturday nights at WTAM, Cleveland.

Mrs. Harry A. Jones, wife of Mayor Jones of Hot Springs, has been heard many times at the new Hot Springs National Park station, KTHS, and will sing again this Sunday evening, February 1.

tra; 8-9, Theodore J. Irwin, organist; talk on rhythm, Hazel Johnson, soprano; 9-10, old ballad night, Mrs. Lessor, pianist; Mrs. Mark, contralto; T. Shawyder, accompanist; Theodore J. Irwin; Victor Vogel, bass; Fawn Post Trowbridge, soprano; 10-11, E. Max Bradford's Versatile band.

KSAC, Manhattan, Kans. (Central, 340.7), 9 a. m., march; 9:02, music lesson; 9:07, music for singing exercises; 9:15, inspirational talk; 9:20, callisthenics; 10, back yard gossip; 10:05, all around the house; 10:20, "Suggestions for Today's Meals," Amy Kelly; 12:30 p. m., readings, Osceola Hall Burr; "Legume as a Food," J. W. Linn; "Plans for Summer Pasture," A. W. Knot; 7:20, college bell and quartet; 7:30, "Spotted Poland China, Hampshire and Berkshire Breeds," A. D. Weber; 7:50, "Keeping of Herd Records," J. B. Fitch.

KSD, St. Louis, Mo. (Central, 549.1), 7 p. m., music, Missouri theater; 9, Grand Central theater; 10:45, studio recital, Mrs. Evelyn Fraley, soprano; Lila Harrison Cantor, pianist.

KTHS, Hot Springs National Park, Ark. (Central, 375), 8:30-10 p. m., Hot Springs artists; 10-11, concert, Charles L. Fisher and his 11-piece Eastman hotel orchestra.

KYW, Chicago, Ill. (Central, 535.4), 6:30 a. m., morning exercises; 11:35, table talk, Mrs. Anna J. Peterson; 6:35-7, children's bedtime story, Uncle Bob.

WAHG, Richmond Hill, L. I. (Eastern, 316), 8-8:30 p. m., Gordon's orchestra; 8:30-8:45, Emery Deutsch, violinist; 8:45-9, Jean Gordon, soprano; 9-9:10, St. Valentine of WAHG; 9:10-9:45, Synchronphase string trio; 9:45-10, Irving Firstenberg, pianist; 10-10:10, Emery Deutsch, violinist; 10:10-10:20, Jean Gordon; 10:20-10:35, Bessie Leihowitz, pianist; 10:35-11, Synchronphase string trio; 12-2 a. m., special midnight dance program.

WBAP, Fort Worth, Texas (Central, 472.9), 12:05-12:30 p. m., musical program; 7:30-8:30, dance music, Frenley Moore's Black and Gold serenaders; 9:30-10:45, musical program, Montgomery Ward and company entertainers; 12-1 a. m., popular dance music, Swayne's Southern serenaders.

WBAV, Columbus, Ohio (Eastern, 293.9), 8 p. m., WBAV orchestra, Frances Handheau, director.

WBBG, Mattapoisett, Mass. (Eastern, 248), 8 p. m., Baltimore orchestra.

WBBR, New York, N. Y. (Eastern, 273), 8 p. m., Syrian Oriental music, Toufic Mouhaid, Elizabeth Awad; 8:10, Irene Kleinpeter, soprano; 8:20, world news digest, editor of Golden Age magazine; 8:40, Irene Kleinpeter, soprano; 8:45, Syrian Oriental music, Toufic Mouhaid, Elizabeth Awad.

WBCN, Chicago, Ill. (Central, 266), 6-6:30 p. m., juvenile period, Lucila Drew Wilson, director.

WCAE, Pittsburgh, Pa. (Eastern, 462), 6:30 p. m., dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 7:45, address; 8, musical program; 9, concert, A. & P. Gypsy string ensemble; 10, music; 11, concert, artists and orchestra, Nixon restaurant.

WCBO, Zion, Ill. (Central, 345), 8 p. m., special declatory Itadio program for new high-power station; Zion band; male quartet; marimba solos, George Beem; Zion choir; McElroy saxophone quintet; trio, violin, viola, piano, Richard F. Hire, Mrs. and Mrs. L. J. Hire; soprano and contralto duet, Mrs. J. D. Thomas, Mrs. P. M. LaRose; Carl Newcomer, saxophonist; M.

WEAR, Cleveland, Ohio (Eastern, 364.3), 7 p. m., musical program, Loew's State theater.

WEEI, Boston, Mass. (Eastern, 303), 6:30 p. m., Boston Edison Big Brother club; 7, Dok-Eisenbourg and his Sinfonians; 8, Louise Noera, mezzo-soprano; 8:15, Manuel Silveira, pianist; 8:30, Buddy's Bostonians; 9:30, Mendelssohn Choral Union, C. F. Woods, director.

WEMC, Berrien Springs, Mich. (Central, 286), 8:15-9:15 p. m., program, Dixie men and women, Emanuel Missionary college.

WFAA, Dallas, Texas (Central, 472.9), 12:30-1 p. m., address, Judge Charles F. Greenwood; 6:30-7:30, vespers, Buddy's Blue Melody boys; 8:30-9:30, Magnolia Petroleum company's Dallas band.

WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Bellevue Stratford orchestra concert orchestra; 3, talk, Doylestown Library company; double quartet, Swarthmore Women's club; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim.

WGN, Chicago, Ill. (Central, 370), 1:40 p. m., luncheon concert, Drake concert ensemble, Blackstone string quintet; 2:30, artist series, Lyon & Healy; 3, rocking chair time; 5:30, Skeezix time for the children; 6, organ recital, Lyon & Healy; 6:30-7, dinner concert, Drake concert ensemble, Blackstone string quintet.

WGR, Buffalo, N. Y. (Eastern, 319), 10:45 a. m., Gold Medal home service talk by Betty Crocker; 12:30-1 p. m., Hotel Statler concert ensemble; 2:30-4:30, Radio Dealers' program; 6:30-7:30, dinner music, Vincent Lopez Hotel Statler orchestra; 8:25-8:40, Francis Bush, tenor; Margaret Pelree, pianist; 8:40-8:55, Erich Hechter, violinist; Norman F. Tanager, pianist; 9-10, Hewitt Rubber company concert, direction of Jack Brindley; 10-11, Robertson Cataract company concert, direction of A. J. "Al" Erisman; 11:30, supper dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

WGY, Schenectady, N. Y. (Eastern, 380), 2 p. m., "A Study Place for Children," George M. York; 6:30, sport talk, Harold Anson Bruce; 7:45, "The Criminal and the Napanoch Plan," Walter M. Thayer; 8, program, Hawaiian Pour.

WHA, Madison, Wis. (Central, 535.4), 7:45 p. m., Mary Watts, violinist, playing "Allegro Brillante," "Cavatina," "Gavotte," Mary McKittrick, contralto; address, "Health in the Home," Dr. Herman Bundeson.

WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., selections, Alamo theater organ.

WHB, Kansas City, Mo. (Central, 411), 2-3 p. m., ladies' theatrical hour; 7-8, Gilbert Jaffy's music masters; dental talk, Dr. H. A. Potter; automotive talk, Sweney instructor.

WHK, Cleveland, Ohio (Eastern, 273), 6 p. m., music, Radiograms; 7, bedtime story, Ethel O. Hawes.

WHN, New York, N. Y. (Eastern, 360.4), 5-5:45 p. m., Charles Taylor and his Southerners orchestra; 6:30-7-10, Vincent Catanos and his Hotel Alamac orchestra; 7:10-7:20, fashion chats, Mme. Belle; 7:20-7:30, Hotel Carlton Terrace orchestra; 7:35-8, Hotel Carlton Terrace orchestra; 8-8:05, "Storage Batteries," H. B. Shontz; 8:05-8:30, Roseland danc orchestra; 8:50-9:20, Littmann's Employes' orchestra; 9:30-10, Dan Gregory and his Crystal Palace orchestra; 10-11, Jack Shack direct from Radio Shack.

WMAQ, Chicago, Ill. (Central, 447.5), 4 p. m., mothers in council, Mrs. Frances M. Ford; 6, Chicago theater organ recital; 6:30, Hotel LaSalle orchestra.

WMC, Memphis, Tenn. (Central, 503.9), 12 m., musical program, O. K. Hotck Piano company; 8 p. m., bed-director; 11:15-12 midnight, L. Carlos Meier, organist, time story, Uncle Jerry; 8:30, Hotel Gayoso orchestra.

WNYC, New York, N. Y. (Eastern, 528.8), 7-7:30 p. m., Harry Ash and his Royal orchestra; 7:35-7:40, health talk; 7:40-8:15, Harry Ash and his Royal orchestra; 8:15-9:25, vocal and instrumental recitals; 9:25-10:30, Riesenfeld's Rialto theater; 10:35-10:40, Trend of Times, Dr. Sydney Neville Usher.

WOAW, Omaha, Neb. (Central, 522.3), 6 p. m., Arthur Hays, organist; 6:45, Pat's Melody Boys; 9:30, concert program, 17th U. S. Infantry band, Herman Weibel, bandmaster.

WOC, Gavenport, Iowa (Central, 498), 7:20 p. m., "Function of the Liver," K. G. Stephan; 8, Troy Laundry Machine company band; Nora Jorgensen, pianist; 10, W. R. Van Allen, reader; Black and White string trio.

WOI, Ames, Iowa (Central, 270), 12:30 p. m., college chimes; 10, program, popular music.

WOO, Philadelphia, Pa. (Eastern, 509.9), 11 a. m., organ recital, Mary E. Vogt; 12:02 p. m., Wanamker crystal tea room orchestra, Robert E. Golden, director; 4:45, organ recital, Mary E. Vogt; 7:30, A. Candelori's French Room ensemble, Hotel Adelphi; 8:25, concert, Fox theater studio; 9:30, WOO orchestra; 10:03, William Bove's Royal Palm dance orchestra; 10:30, Vincent Rizzo's Hotel Sylvania dance orchestra.

WOR, Newark, N. J. (Eastern, 405), 2:30-2:45 p. m., Y. M. C. A. talk; 3:45-4, talk, Charm magazine; 6:15-7:30, "Music While You Dine," Dave Harman's Cindarella orchestra; 8:15-9:30, Branford theater musical program; 9:30-9:45, talk, Dr. Frank H. Vitezely, editor of New Standard dictionary; 9:45-10:45, Dr. Sigmund Spaeth, his studio party and music reviews; 10:45-11:15, Carolinians orchestra, under Charles M. Koch; 11:15-12, Perry and Russell, two man singing orchestra.

WQJ, Chicago, Ill. (Central, 448), 11-12 m., home economics, Helen H. Downing; "Ice Cream Gossip," L. L. Jones; "Antisepsis," Madeline Gregory; "Ladies' Colifours for 1925," Leon Tryon; 3-4, "Carefully Planned Breakfasts," Helen H. Downing; "Care of the Hair," Madame Huntingford.

WSAI, Cincinnati, Ohio (Central, 325.9), 10 p. m., songs, Malle and Stept; Cliff Burns' Country club orchestra.

WSB, Atlanta, Ga. (Central, 429), 12 m., entertainment; 5-6 p. m., songs and bedtime story, Bonnie Barnhardt; 8-9, Elk Royal Purple band; 10:45, Warner's Seven aces.

WTAM, Cleveland, Ohio (Eastern, 364), 6 p. m., Guy Lombardo's Royal Canadians orchestra; 8, studio program.

WWJ, Detroit, Mich. (Eastern, 516), 8 a. m., setting-up exercises, R. J. Horton; 9:30, tonight's dinner; 12 m., Jules Klein's Statler orchestra; 6 p. m., Jules Klein's Statler orchestra; 7, the Detroit News orchestra; Stanley Perry, tenor; Ina M. Lockhart, contralto.

KFQX, Seattle, Wash. (Central, 238), 6:30-7:15 p. m., news; 7:15-8, bedtime story, Aunt Vivien; 8-9, Earl Gray and Hotel Butler orchestra; 9-10, concert hour; 10-11, Earl Gray and his orchestra.

KFSG, Los Angeles, Calif. (Pacific, 278), 10:30-11:30 a. m., sunshine hour; 3:30-4:30 p. m., organ recital, Esther Fricke Green and assisting artists; 6:30-7:30, children's hour, Harry James Beardsley (Cousin Jim) and others.

KGO, Oakland, Calif. (Pacific, 455), 11:30 a. m., luncheon concert, Pacific States Electric company; 4-5:30 p. m., concert orchestra, Hotel St. Francis; 8, Scouts' minstrels, Arthur C. Toft, director; 10-1 a. m., dance music, Henry Halshead's orchestra.

KGW, Portland, Ore. (Pacific, 485.1), 12:30 p. m., concert; 5, children's program, story, Uncle Dave; 8, lecture, Oregon Agricultural college extension service; 8:30, concert; 10, Multnomah hotel strollers.

KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:30 p. m., Major and his Forum Roof orchestra; 6-6:30, Art Hickman's Baltimore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, little stories, American history, Prof. Walter Sylvester Hertzog; weekly visit of Queen Titania; Sandman of Fairyland; Louis F. Klein, auto-harp and harmonica soloist; Uncle John; 8-10, program, Globe Ice Cream company; 10-11, Earl Burnett's Baltimore hotel dance orchestra.

KJS, Los Angeles, Calif. (Pacific, 252), 8-9:30 p. m., program of vocal and instrumental numbers, members of the Church of the Open Door, Dr. Book, director.

KNX, Hollywood, Calif. (Pacific, 337), 8 a. m., morning prayer; 9, State Board of Education musical program for schools; 10, Hired Hand's morning news-sage; 10:30, Mrs. Kate Brew Vaughn, home economics; 5:30, Town Crier and Village Urchins; 6, sport talk; 6:30-7:30, program sponsored by R. C. "Cliff" Durant; 8-9, program, Peerless Products company; 10-11, feature program; 11-12, Abe Lyman's Coconut Grove dance orchestra from Ambassador hotel.

KOA, Denver, Colo. (Mountain, 322.4), 3 p. m., "When Song Is Sweet," "Rejoice Greatly from the Messiah," Olive Riley, soprano; "How Everything Started," "Courtship of Miles Standish," Iris Ruth Pavey, reader; piano solos, Bonnie Veeder.

KPO, San Francisco, Calif. (Pacific, 423), 7 a. m., daily dozen; 10, town crier; 10:15, "What Is Playing at the Various Theaters," 1-2 p. m., Rudy Selger's Fairmont hotel orchestra; 4:30-5:30, Rudy Selger's Fairmont hotel orchestra; 5:30-6:30, children's hour stories, Big Brother of KPO; Natalie Heyman, cellist; 7-7:30, Rudy Selger's Fairmont hotel orchestra; 8-8:30, Woodrow Wilson memorial program; address, James Phelan; 8:30-10, program, Oakland Real Estate glee club; 10-11, E. Max Bradford's Versatile band.

KSAC, Manhattan, Kans. (Central, 340.7), 9 a. m., march; 9:02, music lesson; 9:07, music for singing exercises; 9:15, inspirational talk; 9:20, callisthenics; 10, back yard gossip; 10:05, all around the house; 10:10, question and answers; 10:20, "Suggestions for Today's Meals," Amy Kelly; 12:30 p. m., Osceola Hall Burr, reader; "Making Plans for the Farmstead," Walter G. Ward; "Seed Experiences," H. R. Sumner; 7:20, college bell and music; 7:30, "Varieties of Alfalfa," S. C. Salmon; 7:40, music, Mrs. G. W.

(Continued on page 12)

CHIC, NEW TORONTO STATION, HALL

Where to Hear Concerts

Central Standard Time

THESE are the stations for music lovers to dial, and you can hear, providing you dial correctly and read the programs carefully, everything from jazz to opera.

Saturday, January 31: 6, KGO, WEAF, WLW, WRC; 6:30, CHIC, CKAC, KFNF, WBZ, WBCN, WDAF, WGN, WGY; 6:35, WNYC; 6:45, WJZ; 7:20, WLS; 7:30, CKAC, KDKA, PWX, WCAE, WFI, WGR, WHAS, WEA; 7:35, WBBR; 7:45, WJJD, WHN, WNYC, WOR; 7:45, WBBR, WRC; 8, KHJ, KSD, KYW, WGN, WSAI; 8:10, WHN; 8:15, WOR; 8:30, KTHS, WEA, WFAA, WJZ, WMC, WOR; 8:45, KFOA; 9, KNX, WMAQ; 9:30, KTHS, WEA, WOAW; 9:35, KYW; 10, KFI, KGO, KHJ, KNX, WFQJ; 10:30, KFOA; 10:45, WSB; 11, KFQX, KGO; 11:15, WLS; 11:30, WOAW; 12, WCAL.

Sunday, February 1: 6:20, WEAF, WEEI; 6:30, WLS; 7, KYW, WBCN, WLS, WREO; 7:30, WBZ, WJZ; 8, KSAC, WBCN, WCB, WGY, WHK, WNYC; 8:10, WBBR; 8:15, WEAF, WEMC; 8:30, KTHS, WBZ, WCAL, WIP; 8:45, WEMC; 9, KFI, KGW, KHJ, WBBR, WFAA, WGN, WGY, WOAW; 9:15, WCCO; 9:30, KTHS, WOAI, WOC; 10, KFI, KHJ, KNX; 10:30, KPO; 11, KNX; 12, KFSG, WHB.

Monday, February 2: 6, WEAF, WGN, WJZ, WMAQ; 6:15, WEAF, 6:30, KFNF, WFAA, WGN, WOO; 6:45, WJJD; 7, KSD, WBBG, WBBR, WCAE, WEEI, WGY, WHB, WTAM; 7:15, WEEI, WNYC, WOR; 7:20, KSAC; 7:25, WGR, WOO; 7:30, CHNC, KDKA, KFI, WAHG, WBZ, WDAE, WHO; 7:45, WHA; 8, WAHG, WBZ, WCAE, WCB, WDAE, WGR, WHO, WOC, WSB; 8:10, WAHG; 8:15, WEMC; 8:25, WNYC; 8:30, KNX, KTHS, WCCO, WDAE, WEEI; 8:45, KFOA, WAHG; 9, KOA, KOB, KSD, WAHG, WCAE, WCB, WGR, WOAW; 9:20, WAHG; 9:30, KFAE, KFQX, KTHS, WBAP; 9:35, WAHG; 10, KGW, KHJ, KNX, KPO, WCAE, WCB, WOC, WOI, WSAI; 10:30, KFOA; 10:45, KSD; 11, KFI, KFQX, KPO, WCB, WHO; 11:30, WJJD.

Tuesday, February 3: 6, KGO, KSD, WGN, WMAQ; 6:25, WOAW; 6:30, CKAC, WCCO, WDAF, WFAA, WGN, WLS, WMAQ; 6:45, WJJD; 7, KYW, WBCN, WCAU, WEHN, WEBJ, WEA; 7:15, CKY, WCAU, WGY, WIP, WJJD, WKAQ, WLS; 7:20, KSAC; 7:25, WJZ; 7:30, CKAC, KDKA, KFI, WBAP, WCAE, WEA, WHAS, WSAI; 8, CKY, KFD, KHJ, KYW, WBCN, WCAE, WEA, WEAF, WEEI, WFI, WGN, WGR, WHB, WLBL, WSB; 8:30, KGW, KNX, KTHS, WFAA, WMC, WNYC, WOAI; 8:45, CFAC, KFOA, KYW; 9, KFI, KSD, WCAE, WEBH, WGY, WHN, WJY, WLS, WSAI; 9:15, WMAQ, WREO; 9:30, WBAP, WJY, WOAW; 10, KDKA, KFI, KGO, KHJ, KJS, KNX, KPO, KSD, KYW, WQJ; 10:30,

KPO, WGY; 11, KFI, KFQX, WEBH, WFAA; 12, KNX, WLS.

Wednesday, February 4: 6, KGO, WGN, WKAQ, WMAQ; 6:30, KFNF, WDAE, WGN, WHO, WKAQ, WLS, WOO, WTAY; 6:45, KSD, WCAE, WJJD; 7, KYW, WBBR, WBCN, WBZ, WCAU, WEA, WEBH, WHB, WQJ, WTAM; 7:15, WEEI, WGR, WJJD; 7:30, KDKA, KFI, WBZ, WCAE, WCAU, WHAS, WHO, WOO; 7:40, WBBR, WLS; 7:45, WHA; 8, KHJ, KSAC, KYW, WBCN, WDAE, WEEI, WGN, WOC; 8:15, WBZ, WEMC; 8:30, WFSG, KNX, KTHS, WBAP, WMAQ; 8:45, CFAC, KFOA; 9, KOA, KYW, WCCO, WEBH, WEEI, WHO, WLS, WMAQ, WTAY; 9:15, WTAY; 9:30, KFAE, KFI; 9:45, KYW; 10, KGW, KNX, WEEI, WLS, WJY, WQJ; 10:30, KFOA, KHJ, KYW; 11, KFI, KFQX, KNX, WEBH; 11:30, KYW; 12, WBAP, WTAY; 12:30, KYW; 2, KYW.

Thursday, February 5: 6, KGO, WEAF, WEEI, WGN, WMAQ; 6:15, WTAY; 6:30, KFNF, WCCO, WQJ, WDAE, WFAA, WGN, WLS, WMAQ, WTAY; 6:45, WCAE; 7, CKY, KDKA, KYW, WBCN, WEAF, WEAF, WEEI, WEEI, WGY, WHK; 7:20, WLS; 7:30, CKAC, KDKA, KFI, WBAP, WCAE, WHAS, WJZ, WNYC; 7:45, WHA, WJY, WOR; 8, KHJ, KSAC, WBCN, WCB, WCCO, WEA, WFI, WGN, WHB; 8:10, WBBR; 8:15, WOI, WOR, WREO; 8:30, KNX, KTHS, WFAA, WMAQ, WMC; 9, WBBR, WCAL, WEBH, WHN; 9:05, KYW; 9:30, KFI, KFQX, WBAP, WOAW; 10, CFAC, KDKA, KFI, KGO, KHJ, KJS, KNX, KPO, KYW, WQJ; 10:30, WGY; 10:45, WSB; 11, KFI, KNX, KPO, WEBH, WFAA; 11:15, KFSG; 11:30, KHJ.

Friday, February 6: 6, KGO, WEAF, WEAF, WGN, WJZ, WMAQ; 6:30, KFNF, WCCO, WEEI, WFAA, WGN, WLS, WMAQ, WOO, WTAY; 6:45, WJJD; 7, KYW, WAHG, WBAV, WBCN, WCAU, WEAF, WEAF, WEEI, WHB, WOR, WQJ; 7:15, WGR, WJJD, WLS; 7:25, WAHG, WOO; 7:30, CNRT, KDKA, KFI, WBAP, WCAE, WDAE, WEAF, WHAS, WJY, WNYC, WOR; 7:40, WJZ; 8, CFAC, CKY, KFD, KHJ, KSD, WAHG, WBCN, WCCO, WDAE, WEAF, WGN, WGR, WMAQ, WSB; 8:15, WEMC; 8:30, KNX, KTHS, WDAE, WFAA, WMAQ, WMC; 8:45, KFI, KFOA, WAHG; 9, KOA, KTHS, KYW, WCCO, WEBH, WEEI, WLS, WOR; 9:10, WHN; 9:15, WMAQ; 9:30, KFAE, WAHG, WBAP, WOAW; 10, KHJ, KNX, WLS, WJY, WQJ; 10:30, KFOA; 10:45, WSB; 11, KFI, KFQX, KHJ, KNX, KPO, KYW, WEBH; 11:15, KFSG; 11:30, WJJD; 12, KFI, KFSG, KNX, KYW; 1, KYW; 2, KYW.

Tuesday, February 3

(Continued from page 11)

Sallsbury; 7:50, "Artificial Method and Some Problems to Overcome," L. F. Payne.
KSD, St. Louis, Mo. (Central, 549.1), 6 p. m., Benjamin Rader's orchestra; 9, studio recital, E. T. Trovato; address, Dr. A. G. Polman; 10, Mrs. F. Ingalls, soprano; F. Ingalls, haritone; Mrs. Frank Neal, pianist.
KTHS, Hot Springs National Park, Ark. (Central, 375), 8:30-10 p. m., concert, Eastman hotel ensemble, Charles Fisher, director.
KYW, Chicago, Ill. (Central, 535.4), 6:30 a. m., morning exercises; 11:35, table talk, Mrs. Anna J. Peterson; 2:35-4 p. m., studio frolic; 6:35-7, children's bedtime story, Enle Bob; 7-7:30, dinner concert, Congress hotel; 8-8:30, Chicago Musical college; 8:20-8:45, speeches, direction of American Farm Bureau federation, "Booster Stations," E. P. Taylor; 8:45-9:30, musical program; 10-11:30, evening at home program.
WBAP, Fort Worth, Texas (Central, 472.9), 12:05-12:30 p. m., popular music, Montgomery Ward and company's "Trail Blazers"; 7:30-8:30, program, Manufacturers' association of Fort Worth; 9:30-10:45, McDowell sisters.
WBCN, Chicago, Ill. (Central, 266), 6-6:30 p. m., juvenile period, Buella Drew; 7-8, classical program, David Cruzer, violinist; R. F. Silas, tenor; Mrs. Mulvey, reader; Victoria Swanson, pianist; Harold Cline, reader; P. E. Hathaway, baritone; Ady May Hathaway, violinist; 8-8:30, popular program, Harry Bundy; P. E. Hathaway, haritone; George Forsyth, tenor; Midway Dancing Gardens orchestra; 8:30-9, Walton School of Commerce program; 9-10, Wonderland Wonder orchestra; 10-12, popular program, Finney Brace, reader; Famous Four, F. H. McDonald, A. M. William, soprano; Will Rossiter's Melody Girls, Al Phillips, tenor; Buster Graves, boy soprano; Blanch Robinson, pianist; Alex Santry, tenor; 12-1, Plrate ship.
WCAE, Pittsburgh, Pa. (Eastern, 462), 8:30 p. m., dinner concert, William Penn hotel; 7:30, Uncle Kayber; 7:45, address; 8:30, Stephen Sutch, pianist; 9, Eveready hour; 10, concert, Goodrich Silvertown Cord orchestra.
WCAL, Northfield, Minn. (Central, 337), 9:45 a. m., St. Olaf college chapel services.
WCAU, Philadelphia, Pa. (Eastern, 278), 6 p. m., Meyer Davis Hotel Pennsylvania dinner dance orchestra; 7, series of short talks; 8, recital; 8:15, Meyer Davis Hotel Pennsylvania concert trio.
WCCO, Minneapolis-St. Paul, Minn. (Central, 417), 10:15 a. m., "The Recipe Exchange," Betty Crocker; 2 p. m., woman's hour, League of Women Voters; 4, magazine hour, "A Special Purpose," 5:30, children's hour, Mrs. Charles Ramsdell; 6:30, dinner concert, Reinmuth trio; 7:30, lecture, "Personal Exemptions

and Credits on Independent Income Tax Returns," J. A. McHardy; 7:45, current events, W. P. Lemon.
WCK, Detroit, Mich. (Eastern, 516), 4:15 p. m., musical program; 8:30, musical program; 10, the Red Apple club.
WDAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., Star's Radio trio; 5-5:30, weekly child talent program, arranged by Florence M. Woodward, Missour Federation Music clubs; 6-7, piano tuning-in number on Duo-Art; Tell-Me-a-Story Radio; Radio piano lesson, Maudellen Littlefield; 11:45-1 a. m., Nighthawk frolic, Newman theater.
WDAE, Philadelphia, Pa. (Eastern, 395), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 4:30, Lola Harley Weber, soprano; Martha Harley Krips, soprano; Marcella North, accompanist; 7:30, Dream Daddy; 7:50, play review, Arnold Abbott.
WEAF, New York, N. Y. (Eastern, 492), 6-7 p. m., dinner music, Waldorf-Astoria hotel; 7:30-7:45, talk, Bank of America; 8:30-9, Gold Dust Twins; 9-10, "Eveready Hour," 10-11, Silvertown Cord orchestra under Joseph Knecht.
WEAR, Cleveland, Ohio (Eastern, 364.3), 7:30 p. m., E. C. Bacon, bedtime story; Radio cartoon talk, Don Palmer; 8, Welsh male chorus, W. A. Hughes, director; 10, Joe Smith-Martha Lee club dance program from Martha Lee club rooms.
WEBH, Chicago, Ill. (Central, 370), 7-8 p. m., Oriole concert orchestra; Pat Barnes, tenor and reader; Riviera theater; 9-10, Radio Arc program, Dennis Sisters, Cougle, accompanist; Oriole dance orchestra; 11-12, Loos Brothers, Riviera revue, Oriole orchestra.
WEBJ, New York, N. Y. (Eastern, 273), 7-8 p. m., Nat Martin and his I'll Say She Is orchestra; 8-8:15, Minna Wessel, soprano; 8:15-9, May Singhi Breen and her Syncoaters.
WEEI, Boston, Mass. (Eastern, 303), 2 p. m., Paul Davier and his orchestra; 6:30, Boston Edison Big Brother club; 7, Dok-Blsenburg and his Sinfonians; 8, program, New York studio; 9, Eveready hour; 10, Goodrich Silvertown Cord orchestra.
WFAA, Dallas, Texas (Central, 472.9), 12:30-1 p. m., address, Charles E. Osborne; 6:30-7:30, western musical, Tomm's Texans; 8:30-9:30, Tom D. Collins and the mandolin and guitar club; 11-12, Dwight Brown, organist.
WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3:05, Caroline Hoffman, pianist; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim; 9, Eveready hour; 10, Goodrich Silvertown Cord orchestra.
WGN, Chicago, Ill. (Central, 370), 1:40 p. m., luncheon concert, Drake concert ensemble, Blackstone string quintet; 2:30, artist series, Lyon & Healy; 3, rocking chair time; 5:30, Skeezix time for the children; 6, organ recital, Lyon & Healy; 6:30-7, dinner concert, Drake concert ensemble, Blackstone string quintet; 8-11, De Wolf Hopper at Great Northern theater.
WGR, Buffalo, N. Y. (Eastern, 319), 11:30 a. m., Mrs. Katherine Norton Britt, home economics talks of the season; 12:30-1 p. m., Hotel Statler concert ensemble; 2:30-4:30, Radio Dealer's program; 6-7:30, dinner



Barry Hopkins (left), leading man in comedy Thursday at KGO. The Houghstad Sisters String quartet (above) play this Sunday at KYW.

music, Hailpryd string quartet; 9-10, Eveready hour; 10-11, Goodrich Silvertown Cord orchestra.
WGY, Schenectady, N. Y. (Eastern, 320), 2 p. m., music and talk; 6:30, dinner music, Hotel Ten Eyck trio; 7:45, "Income Tax," J. F. Zoller; WGY orchestra; "Romance," Giovanni Trombini, cellist; 8:15, "Mrs. Wiggs of the Cabbage Patch," WGY players; 10, Brunswick Hour of Music, first national musical memory contest, WJZ, WRC, KDKA, KYW, KFQX; 11:30, Stephen E. Boisclair, organist.
WHA, Madison, Wis. (Central, 535.4), 8 p. m., "Being Friends with Animals," Dr. A. S. Aloxander.
WHA, Louisville, Ky. (Central, 400), 4-5 p. m., selections, Alamo theater organ; 7:30-9, concert, Carl Zoeller's Melodists; a chapter of the "Billy and Jane" stories.
WHB, Kansas City, Mo. (Central, 411), 2-3 p. m., ladies' hour of classical and operatic music; 8-9, program, University church, direction, Harding Wingett.
WHK, Cleveland, Ohio (Eastern, 273), 6 p. m., Radiograms, music.
WHN, New York, N. Y. (Eastern, 360.4), 12:30-1 p. m., Charles Strickland and his Palais D'Or orchestra; 2:15-3:15, overture and vaudeville, Loew's State theater, New York city; 6:30-7, Straud Roof orchestra; 10-10:30, Loew's vaudeville headliners; 10:30-11, New Rockwell Terrace revue; 11-11:30, Club Rose revue; 11:30-12, Sam Wooding and his Club Alabam orchestra; 12-12:30 a. m., Ted Lewis and his orchestra with Revue Intime from Parody club.
WIP, Philadelphia, Pa. (Eastern, 509.9), 1 p. m., Karl Dwanitz, organist; 4-5, "Market Hints for Housewives," auspices Penna. Bureau of Markets; 6:05, songs by Mark Fisher and Joe Burke; 6:15, Harvey Marburger and his vaudeville dance orchestra; 7, Uncle Wip's bedtime stories; 8, "Timely Talks for the Motorist," Gene Hoyle; 8:15, Philadelphia Police band; 10:05, "Emo's Weekly Movie Broadcast," Eli M. Orowitz; 10:30, Harvey Marburger and his vaudeville dance orchestra.
WJJD, Mooseheart, Ill. (Central, 302.8), 3:30-4:30 p. m., music, Mooseheart children, assembly; 6:45-7:15, Albert Brown, organist; 7:15-8:15, concert band, "Child Care," M. P. Adams.
WJY, New York, N. Y. (Eastern, 405), 8:15-10:15 p. m., "Mrs. Wiggs of the Cabbage Patch," comedy drama, WGY players; 10:15-11, Hotel St. George trio, Francisco P. Cortez, director.
WJZ, New York, N. Y. (Eastern, 455), 10:20-10:30 a. m., "Etiquette," Vogue magazine; 10:40-10:50, "Tribune Institute," Bertha Baldwin; 11:2 p. m., Nathan Abas' Hotel Pennsylvania orchestra; 4-4:30, Gwendolyn Leach, soprano; 4:30-5:30, Bernhard Levittov's Hotel Commodore tea orchestra; 5:30-6:30, agricultural, home, finance, etc., reports, Evening Post News; 7-7:15, "Dogs," Frank Dole; 7:15-8, Joseph Strissov's Hotel Vanderbilt orchestra; 8-8:10, Wall Street Journal review; 8:10-8:25, "Business Economics," N. Y. U. Air college, Reid L. McClung; 8:25-9, Mme. Maria Gabrielle Leschetivsky, pianist.
WKAQ, San Juan, P. R. (Intercolonial, 360), 9-10 p. m., Euterpe Jazz band.
WLBL, Stevens Point, Wis. (Central, 278), 8 p. m., neighborhood talent.
WLS, Chicago, Ill. (Central, 345), 12-1 p. m., R. E. D. program, "Chas. Lamony singers"; "Farm Question Box," E. B. Heaton; 3:45-4:45, homemakers' hour; "What Are You Doing For Your Ex-Service Men?" H. W. Hardy; "Feeding the Family," Mrs. Wilbur E. Fribley; music; 6:30, Ralph Emerson, organist; 6:50, Senate studio; 7, lullaby time, Glenn Rowell and Ford Rush; 7:15, Edouard Hesselberg, pianist; James D. Westbrook, tenor; 7:45, WLS theater presents a Saddler feature; 8-9, R. E. D. program; 9, Florence K. White, soprano; 9:10, WLS theater; 9:30, Kenneth Clark, Hawaiian guitarist; 9:40, Art Kahn, Senate theater; 10, Bratton concert; 10:30, Isham Jones orchestra; 10:40, Ford and Glenn time; 11, vaudeville; 12, WLS revue.
WLW, Cincinnati, Ohio (Central, 423), 8 a. m., physical exercises, Y. M. C. A., Wm. Stittman, instructor; 12:15 p. m., program, Delta Omicron sorority; 4, pupils of William Kyle in recital; stories, Samuel Maas; 6, dinner hour concert, Selinsky instrumental quintet; 10, concert, Radio division, Ohio Rubber and Textile company, Ohio Rubber Male Quartet and Instrumental trio; Keefer Kocker orchestra, popular program.
WMAQ, Chicago, Ill. (Central, 447.5), 12 m., weekly program, auspices Illinois Manufacturers' association; 4 p. m., American Red Cross talk, Estelle Weltman; 4:30, Hathaway Concert company; 5, lullaby lady, Mrs. Gene Daventort; 6, Chicago theater organ; 6:30, Hotel LaSalle orchestra; 8, book review, Harry Hansen; 8:20, travel talk, Clara E. Laughlin; 8:40, weekly talk, Association of commerce; 8:50, University of Chicago, lecture; 9:15, musical program, Church Athletic association.
WMC, Memphis, Tenn. (Central, 503.9), 12 m., musical program, O. K. Houck Piano company; 8 p. m., bedtime story, Uncle Joe; 8:30, musical program, Enoch Walton; 11, midnight frolic.
WNJ, Newark, N. J. (Eastern, 233), 10:30-11 p. m., Frank Daily and his Meadowbrook orchestra; 11-11:30, Jimmy Clark and his Broadway Entertainers; 11:30-12, Original Dixieland jazz band; 12-12:30 a. m., Frank Daily and his Meadowbrook orchestra.
WNYC, New York, N. Y. (Eastern, 528.8), 7:35-7:45 p. m., sports analysis, Thornton Fisher; 8:30-9:30, Paragon orchestra; 9:30-10:10, vocal and instrumental recitals; 10:10-10:30, New York public lecture.
WOAI, San Antonio, Tex. (Central, 394.5), 8:30 p. m., WOAI entertainers, Beethoven program; WOAI trio; 9:30, Jimmie Joy's Hotel St. Anthony orchestra.

Wednesday, February 4

Wednesday, silent night for: CHNC, CKAC, CKY, KFDM, KFQX, KGO, KJS, WBAV, WCAL, WCB, WEBJ, WFAA, WFI, WGY, WIP, WJY, WLBL, WMC, WOAW, WOI, WREO, WSAI.
CKAC, Montreal, Can. (Eastern, 425), 1:45 p. m., Windsor hotel luncheon concert.
KDKA, E. Pittsburgh, Pa. (Eastern, 309.1), 7 a. m., morning exercises; 8, morning exercises; 12:20 p. m., Institute, Trinity church; 6:15, dinner concert, Pittsburgh Athletic association; 7:30, children's period; 8:15, address, University of Pittsburgh studio; 8:30, concert.
KFAE, Pullman, Wash. (Eastern, 330), 7:30 p. m., Margery Segessenmann, pianist; basketball game, W. S. C. vs. Pacific university; Gladys Fraser, violinist; "Shielding," Dean H. V. Carpenter; "Pointers on Dairy Farming," Prof. E. V. Ellington; "Overcoming Farm Ploek Obstacles," C. M. Hubbard.
KFI, Los Angeles, Calif. (Pacific, 469), 5-5:30 p. m., Evening Herald, table talk and news; 5:30-6, Examiner, musical half hour; 6:45-7:30, Nick Harris, detective stories; 7:30-8, program, Goodwind, Klingner and MacKay company; 8-9, Evening Herald, Fisher's Melo-Jazz orchestra, Sophie Cooper, vocalist; 9-10, Examiner, "Wampus" club program presenting many of the screen's famous players; 10-11, Patrick and Marsh's dance orchestra.
KFNF, Shenandoah, Iowa (Central, 266), 6:30 p. m., program, Henry Field Seed company.

INAUGURAL PROGRAM SATURDAY



Bess Rudisill and Rhue Gill (left), the Packard Melody Girls, heard Tuesdays at KFI, Los Angeles. Helen Ackroyd Clare, contralto, will sing at WFI, Philadelphia, this week.



Where to Hear Talks

Central Standard Time

TALKS, instructive, serious, humorous and even frivolous, are Radiocast daily and below are listed the stations.

Saturday, January 31: 6, WDAF, WMAQ, WOAW; 6:15, WBZ; 6:45, WCAE; 7, WBCN, WFAE, WJZ, WRC; 7:15, WBBR; 7:45, WJZ; 8, WCCO; 8:30, KHJ, WMAQ; 8:15, WJZ; 9:05, KYW; 9:15, KJS; 9:30, KFSG; 9:45, KFI.

Sunday, February 1: 8:20, KSAC; 8:30, WBBR; 8:45, KFI; 8:55, WEMC; 9, WJY.

Monday, February 2: 6, WCCO, WDAF; 6:10, WHN; 6:15, WBZ; 6:35, WNYC; 6:45, WCAE, WGY; 6:55, WJAR; 7, KDKA, WHN, WJZ; 7:15, KDKA; 7:20, WOC; 7:30, KSAC, WHB; 8, WCCO; 8:30, KOE, WOR; 9:35, WNYC; 10, KFAE, KGO.

Tuesday, February 3: 6, WCAU, WDAF, WJZ; 6:15, WBZ; 6:30, CKY, WBZ, WFAE, WJY; 6:45, WCAE, WGY; 6:50, WJAR, WJZ; 7:15, CFCA; 7:30, KSAC, WCCO; 8, WHA, WLS, WMAQ; 8:20, KYW, WMAQ; 9:30, KHJ; 8:45, KFI; 8:50, WMAQ; 9:05, WIP; 9:10, WNYC; 10, KGW; 11:05, KYW.

Wednesday, February 4: 6, WCCO, WDAF, WFAE; 6:15, WBZ; 6:30, WBZ, WHN; 7, WAHG, WGR, WJZ, 7:15, KDKA, WBZ, WJAR; 7:20, WBBR; 7:30, WJZ, WNYC; 8, WHA, WLS, WMAQ; 8:30, KHJ, KOE, KYW; 8:45, KFI; 9:05, KYW; 10, KHJ; 12, WBAP.

Thursday, February 5: 6, WDAF, WFAE; 6:30, CKY; 6:45, WGY; 6:55, WJZ; 7, WFAE, WIP, WJZ; 7:15, WJY; 7:30, KSAC, WCCO; 7:45, WCCO, WHA; 8, KYW, WHA, WMAQ; 8:15, WMAQ; 8:30, KHJ; 8:40, WBBR; 9:15, KYW; 9:20, KFI; 9:30, KHJ; 9:45, KHJ.

Friday, February 6: 6, WCAU, WCCO, WDAF; 6:30, CKY, WCAU; 6:45, WGY; 7, WJAR, WGY; 7:10, WJZ; 7:15, KDKA, WJAR; 7:20, WGY, WOC; 7:30, KGO, KSAC, WCCO; 8, KNX, KYW, WLS; 8:30, KHJ, KOE, WCAE; 8:55, WEMC; 9, WHN; 9:25, WHN; 9:30, KHJ; 10, KGW.

guitar; melodians, Harmony singers, Fred Jacobson, monologues.
WSB, Atlanta, Ga. (Central, 429), 12 m., entertainment; 5-6 p. m., Bonnie Barnhardt; 10:45, Georgia Tech. Marionette orchestra.
WTAM, Cleveland, Ohio (Eastern, 364), 6 p. m., Philip Spitalny's Music Box orchestra; 10:30, Philip Spitalny's Music Box orchestra.
WTAY, Oak Park, Ill. (Central, 250), 6:30-7:30 p. m., Oak Park night; 9-9:15, organ, Parthenon theater; 9:15-10, Spencer, Laverne, Shayne, Xylophone Harmony Kings; the Melody Girls; Dr. W. P. Zimmer, tenor; Lester Kelscy, tenor; 12-1, organ.
WJY, Detroit, Mich. (Eastern, 516), 8 a. m., setting-up exercises, R. J. Horton; 9:30, tonight's dinner; 12 m., Jules Klein's orchestra; 3 p. m., the Detroit News orchestra; 6, Jules Klein's orchestra; 7, the Detroit News orchestra; Charles Coates, baritone; E. B. Curtis, tenor.

Thursday, February 5

Thursday, silent night for: CHNC, KFAE, KFDM, KFOA, KFQX, KGW, WOA, KOB, KSD, FWT, WAHG, WBAP, WBBG, WBZ, WCAU, WEAQ, WJY, WEMC, WGR, WHO, WJJD, WLBL, WJNJ, WOO.
AT9, Fort Bragg, N. C. (Eastern, 435), 8 p. m., Mabelle New Williams, soprano; Margaret Cotton, contralto; Rev. Sam K. Phillips, tenor; Mr. Sheets, bass; Francis Green, accompanist; Mrs. Henry Spears, pianist; Mrs. McIvreen, violinist.
CKAK, Montreal, Can. (Eastern, 425), 4:45 p. m., musical tea; 8:30, Canadian National Railways using call letters CNRM.
CKY, Winnipeg, Can. (Central, 450), 7:30 p. m., lesson in French diction, A. C. DeLalande; 8, Canadian National Railway's program, Fort Garry hotel.
KDKA, E. Pittsburgh, Pa. (Eastern, 309.1), 12:20 p. m., Institute, Trinity church; 6:15, dinner concert, KDKA Little Symphony orchestra; 7:30, children's period; 8, program, National Stockman and Farmer studio; 8:30, concert; 11, concert, Pittsburgh Post studio.
KFI, Los Angeles, Calif. (Pacific, 469), 5-5:30 p. m., Evening Herald, table talk, news; 5:30-6, Examiner, musical half hour; 6:45-7:20, Bon Ton orchestra; 7:20-7:30, Y. M. C. A. speaker; 7:30-8, vocal recital; 8-9, program, Standard Oil Company of California presenting play with music; 9-10, Examiner, pupils of Louis Ferrazzano; 10-11, vocal and instrumental.
KFKU, Lawrence, Kans. (Central, 275), 6:50 p. m., piano tuning in number; 7, music; 7:15, "The Child Labor Law and Its Relation to Industry," Prof. F. W. Blackmar; 7:30, "Science, Old and New," Dr. H. M. Elsey; 7:45, educational psychology, lesson V, Dean R. Schweigler.
KFKX, Hastings, Nebr. (Central, 288.3), 9:30-11 p. m., program, Immaculate Conception academy.
KFNF, Shenandoah, Iowa (Central, 266), 6:30 p. m., concert from Randolph, Iowa, Mrs. I. G. Bliss, director.
KFOA, Seattle, Wash. (Pacific, 455), 4-5:15 p. m., Olympic Hotel concert orchestra; today's recipe.
KFSG, Los Angeles, Calif. (Pacific, 278), 10:30-11:30 a. m., sunshine hour; 3:30-4:30 p. m., afternoon organ recital, Roy Reld Brignall; 7:30-9:15, auditorium service and baptismal service, Aimee Semple McPherson, pastor; 9:15-10, concert by Silver band, G. N. Nichols, director; 10-11, organ recital, Esther Fricke Green, organist.
KGO, Oakland, Calif. (Pacific, 312), 10:40 a. m., classroom instruction, Oakland Public schools; 4-5:30 p. m., concert orchestra, Hotel St. Francis; 8, farce, "Mrs. Temple's Telegram"; Arlon trio; 10-1 a. m., Henry Halstead's orchestra.
KGW, Portland, Ore. (Pacific, 485.1), 12:30 p. m., concert, Civic Music club; 5, children's program.
KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:30 p. m., Martin Music company program, arranged by J. Howard Johnson; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, Little stories American history, Dickie Brandon and Jane Hughes, screen juveniles, bedtime story, Uncle John; 7:30, Harold Swartz of Otis Art institute, talk on "Art"; 7:45, Care of Body," Dr. Phillip M. Lovell; 8-9:30, program, West Coast theaters; 9-10:15, Hatch Graham, banjoist and singer; 10-11, Earl Burnett's Biltmore hotel dance orchestra.
KJS, Los Angeles, Calif. (Pacific, 252), 8-9:30 p. m., vocal recital with piano and organ numbers of classical nature.
KNX, Hollywood, Calif. (Pacific, 337), 8 a. m., morning prayer; 9, Hired Hand, news; 10, Hired Hand's morning message; 10:30, Mrs. Kate Brew Vaughn, home economics; 5:30, Town Crier and Village Urchins; 6, sports talk; 6:30-7:30, dinner hour music; 8-9, program, Gordon and Harrison; 9-10, feature program; 10-12, Hollywood dance orchestra.
KOA, Denver, Colo. (Mountain, 322.4), 8 p. m., "Herd Girl's Dream," KOA orchestra; "Nani," "Ua Like no a Like," Edwin Akina, guitarist; "Hawaii, the Paradise of the Pacific," Eben G. Fine; "Wallana Walla," Aloah Oe, Edwin Akina, guitarist; "Pre-lude," "Yalck," Fern Johnson; "Mulligen Musketeers," "Mary had a William Goat," Olinger quartet; "Invictus," "Friend O'Mine," James R. Youngs; "Sextet from Lucia," "Kiss Me Goodnight," Nick Pallizzi, accordion soloist; "To the Rising Sun," "Waltz in C Sharp Minor," Fern Johnson, pianist; "I Got a Robe," "Massa's in the Cold, Cold Ground," "Carry Me Back to Old Virginia," Olinger quartet; "Charity," "Gao to Sleep," Hazle Engle Youngs; "Jealous," "Lady of My Cigarette," "Bringin' Home the Bacon," "Virginia Lullaby," "Nick Pallizzi, accordionist; "Duna," "Three for Jack," James R. Youngs, bass; "John, Get Up and Shut the Door," "Dried Apple Pie," "The End of a Perfect Day," "Olinger quartet; "Dream Tryst," "Curly Headed Baby," Hazle Engle Youngs; "March Alla Turca," orchestra.
KOB, Santa College, N. M. (Mountain, 348.6), 7:30-8:30 p. m., international code course, lesson 5, Dean R. W. Goddard.
KPO, San Francisco, Calif. (Pacific, 423), 7 a. m., daily dozen; 10, town crier; 10:15, "What Is Playing at the Various Theaters"; 1-2 p. m., Rudy Selger's Fairmont hotel orchestra; 2:30-3:30, matinee program, Johnnie Butick's Amphians; 4:30-5:30, Rudy Selger's Fairmont hotel orchestra; 5:30-6:30, children's hour stories; Marianne De Smet, pianist; "What Is Playing at the Various Theaters"; 7-7:30, Rudy Selger's Fairmont hotel orchestra; 8-11, E. Max Bradfield's Versatilia band; Gertrude Morlin, pianist.
KSAC, Manhattan, Kans. (Central, 340.7), 9 a. m., march; 9:30, music lesson; 9:40, music for singing exercises; 9:15, inspirational talk; 9:20, callsthenics; 10, backyard gossip; 10:05, all around the house; 10:10, questions and answers; 10:20, "Suggestions for Today's Meals," Amy Kelly; 12:30 p. m., readings, Osceola Hall Burr; "Farrowing Houses for the Spring Litters," Walter G. Ward; "How to Make a Germinal-nation Test," H. R. Sumner; 7:20, college hell and music; 7:30, "Financing State Road Work," L. E. Conrad; 7:40, vocal solos, Harold Plamm; 7:50, farm home, W. G. Ward; 8-9, classical musical program, Dept. of Music.

(Continued on page 14)

KFOA, Seattle, Wash. (Pacific, 455), 4-5:15 p. m., Olympic Hotel concert orchestra; today's recipe; 6:45-8:15, Hopper-Kelly Company studio program; 8:30-10, Seattle Times dance program.
KFQX, Seattle, Wash. (Pacific, 238), 6:30-7:15 p. m., news; 7:15-8, bedtime story, Aunt Vivien; 8-9, Earl Gray and his Hotel Butler orchestra; 9-10, concert hour; 10-11, Earl Gray and his orchestra.
KFSG, Los Angeles, Calif. (Pacific, 278), 10:30-11:30 a. m., sunshine hour program for sick and afflicted; 2:30-4:30 p. m., auditorium service with sermon on Divine Healing, Aimee Semple McPherson, pastor; 6:30-7:30, children's hour presenting Helen Edwina and Mary Elizabeth Hughes, Mrs. Rose, pianist.
KGO, Oakland, Calif. (Pacific, 312), 11:30-1 p. m., luncheon concert, Pacific States Electric company; 3, musical program, Cora L. Williams institute speaker; 4-5:30, concert orchestra, Hotel St. Francis.
KGW, Portland, Ore. (Pacific, 485.1), 12:30 p. m., concert, Novak's Vaudettes; 5, children's program, story, Aunt Nell; 8, concert; 10, Multnomah hotel strollers.
KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:30 p. m., Martin Music company program, arranged by J. Howard Johnson; 2:30, Claire and Mel, an illustrated musical review on Bethoven; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, little stories American history, Prof. Walter Sylvester Hertzog; Dick Winslow, juvenile reporter; Baby Muriel MacCormac, screen starlet; Uncle John; 8-8:30, Dr. Mars Bumgardt, scientific lecturer; 8:30-10, program, Gordon and Harrison; 10-11, Earl Burnett's Biltmore hotel dance orchestra.
KNX, Hollywood, Calif. (Pacific, 337), 8 a. m., morning prayer; 9, Hired Hand, news; 10, Hired Hand's morning message; 10:30, Mrs. Kate Brew Vaughn, home economics; 5:30, Town Crier and Village Urchins; 6, sports talk; 6:30-7:30, dinner hour music; 8-9, program, Gordon and Harrison; 9-10, feature program; 10-12, Hollywood dance orchestra.
KOA, Denver, Colo. (Mountain, 322.4), 8 p. m., "Herd Girl's Dream," KOA orchestra; "Nani," "Ua Like no a Like," Edwin Akina, guitarist; "Hawaii, the Paradise of the Pacific," Eben G. Fine; "Wallana Walla," Aloah Oe, Edwin Akina, guitarist; "Pre-lude," "Yalck," Fern Johnson; "Mulligen Musketeers," "Mary had a William Goat," Olinger quartet; "Invictus," "Friend O'Mine," James R. Youngs; "Sextet from Lucia," "Kiss Me Goodnight," Nick Pallizzi, accordion soloist; "To the Rising Sun," "Waltz in C Sharp Minor," Fern Johnson, pianist; "I Got a Robe," "Massa's in the Cold, Cold Ground," "Carry Me Back to Old Virginia," Olinger quartet; "Charity," "Gao to Sleep," Hazle Engle Youngs; "Jealous," "Lady of My Cigarette," "Bringin' Home the Bacon," "Virginia Lullaby," "Nick Pallizzi, accordionist; "Duna," "Three for Jack," James R. Youngs, bass; "John, Get Up and Shut the Door," "Dried Apple Pie," "The End of a Perfect Day," "Olinger quartet; "Dream Tryst," "Curly Headed Baby," Hazle Engle Youngs; "March Alla Turca," orchestra.
KOB, Santa College, N. M. (Mountain, 348.6), 7:30-8:30 p. m., international code course, lesson 5, Dean R. W. Goddard.
KPO, San Francisco, Calif. (Pacific, 423), 7 a. m., daily dozen; 10, town crier; 10:15, "What Is Playing at the Various Theaters"; 1-2 p. m., Rudy Selger's Fairmont hotel orchestra; 2:30-3:30, matinee program, Johnnie Butick's Amphians; 4:30-5:30, Rudy Selger's Fairmont hotel orchestra; 5:30-6:30, children's hour stories; Marianne De Smet, pianist; "What Is Playing at the Various Theaters"; 7-7:30, Rudy Selger's Fairmont hotel orchestra; 8-11, E. Max Bradfield's Versatilia band; Gertrude Morlin, pianist.
KSAC, Manhattan, Kans. (Central, 340.7), 9 a. m., march; 9:30, music lesson; 9:40, music for singing exercises; 9:15, inspirational talk; 9:20, callsthenics; 10, backyard gossip; 10:05, all around the house; 10:10, questions and answers; 10:20, "Suggestions for Today's Meals," Amy Kelly; 12:30 p. m., readings, Osceola Hall Burr; "Farrowing Houses for the Spring Litters," Walter G. Ward; "How to Make a Germinal-nation Test," H. R. Sumner; 7:20, college hell and music; 7:30, "Financing State Road Work," L. E. Conrad; 7:40, vocal solos, Harold Plamm; 7:50, farm home, W. G. Ward; 8-9, classical musical program, Dept. of Music.

KTHS, Hot Springs National Park, Ark. (Central, 375), 8:30-10 p. m., concert, Mrs. Ethel Cline Jones; 10-11, dance program, Fisher Eastman hotel orchestra.
KSO, St. Louis, Mo. (Central, 549.1), 6:45 p. m., Aberg's concert ensemble; 11, dance program, Varsity club orchestra.
KYW, Chicago, Ill. (Central, 535.4), 6:30 a. m., morning exercises; 11:35, table talk, Mrs. Anna J. Peterson; 6:35-7, children's bedtime story, Uncle Bob; 7-7:35, dinner concert, Congress hotel; 8-8:30, program, Sherwood School of music; 8:30-8:45, around the town with KYW in Chicago; 8:45-9, musical program; 9:05, talk, Vivette Gorman; 9:15, talk, James E. Pooler; 9:45-2:30 a. m., midnight revue.
WAHG, Richmond Hill, L. I. (Eastern, 316), 12-1 p. m., talk, etiquette and cooking, the Veteran Reporter; 8-8:30, topics of the day, H. V. Kaltenhorn.
WBAF, Fort Worth, Texas (Central, 472.9), 12:05-12:30 p. m., musical program; 7:30-8:30, program, Victor B. Acker; 9:30-10:45, dance music, Jim Riley's Texas hotel orchestra; 12, Negro Holy Ghost camp meeting.
WBBR, New York, N. Y. (Eastern, 273), 8 p. m., Watchtower orchestra; 8:20, Bible lecture, Norman Woodworth; 8:40, Watchtower orchestra.
WBCN, Chicago, Ill. (Central, 266), 6-6:30 p. m., Juvenile period; 7-8, Mrs. Katharine Bly Utesch; 8-9, Amber Furniture company, F. Parker, tenor; Midway Dancing Gardens orchestra, Florence Tenney, soprano; Bernard Switzer, tenor; 9-10, popular, Englewood Overland company; South Town Harmonizers, Englewood quintet; 9-10, Les Cameron, tenor; automobile talk, Merle Yagle, pianologist; 10-10:15, Midway Dancing Gardens orchestra.
WCAE, Pittsburgh, Pa. (Eastern, 462), 6:30 p. m., dinner concert, William Penn hotel; 7:30, Uncle Kay-bee; 7:45, special feature, 8:30, artists and orchestra, Nixon restaurant.
WCAI, Northfield, Minn. (Central, 337), 9:45 a. m., St. Olaf college chapel services.
WCAU, Philadelphia, Pa. (Eastern, 278), 6 p. m., Meyer Davis Hotel Pennsylvania dinner dance orchestra; 7:30, recital, N. Snellenburg and company; 8, Breyer Ice Cream company concert; 8:30, recital.
WCCO, Minneapolis-St. Paul, Minn. (Central, 417), 10:45 a. m., "How to Entertain Easily," Betty Crocker; 2, woman's hour, "The Romance of Rings," George F. Kunz; 2:30, matinee musical; 4, MacPhail's Little Theater company, John Seaman Garns, director; 5:30, children's hour, Alpha Stalson; 7, mid-week church service; 9, Twin City Auto Show and Market week; style talk, Lucile Babcock; 10:30, dance program.
WCX, Detroit, Mich. (Eastern, 516), 4:15 p. m., musical program; 8:30, musical program.
WOAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., Star's Radio trio; 6-7, School of the Air, address, story lady, Trianon ensemble, Hotel Muehlebach; 8-9:15, program, pupils of Ola Hon of I. O. O. F. school.
WOAR, Philadelphia, Pa. (Eastern, 395), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ recital, Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 7:30, Dream Daddy; 8:15, reading travel talk; 10:03, Arcadia cafe dance orchestra.
WFAE, New York, N. Y. (Eastern, 492), 6-7 p. m., dinner music, Waldorf-Astoria hotel; 7-7:30, services, United Synagogue of America; 11-12, Club Lido-Venice orchestra.
WEAO, Columbus, Ohio (Eastern, 294), 8 p. m., chimes concert, Prof. A. P. McManigal; 8:15 p. m., Radio talk, A. M. Rose; musical program, Ohio State university alumni artists.
WEAR, Cleveland, Ohio (Eastern, 364.3), 7 p. m., Hotel Cleveland orchestra, Ivan Francis, director.
WEBC, Chicago, Ill. (Central, 370), 7-8 p. m., Oriola concert orchestra; Riviera theater, Dean Romick, pianist; 9-10, Langdon Brothers, Hawaiian guitarists; Maria Kelly, readings; Frederick Agard, tenor; Bob Cougle, accompanist; Oriole dance orchestra; 11-12, Langdon Brothers, Hawaiian guitarists; Maria Kelly, readings; Edna Solomon, contralto; Oriola dance orchestra.
WEEL, Boston, Mass. (Eastern, 303), 6:30 p. m., Boston Edison Big Brother club; 7, Sid Rehnert and his orchestra; 8, Harry Elsteln, the bad boy from the good home; 8:15, musicale; 9, Gillette Safety Razor concert orchestra; 10, musicale; 11, Fenway theater organ recital, Lloyd G. Del Castillo.
WEMC, Berrien Springs, Mich. (Central, 286), 8:15-9:15 p. m., Radio Lighthouse Music Makers, "Our Favorite Regiment," "You Can't Drive My Dreams Away," "At Sunset," "Three Quotations," "I'm Forever Thinking of You," "Miss Liberty," "Spanish Waltz," "Stars and Stripes Forever."
WFAA, Dallas, Texas (Central, 472.9), 12:30-1 p. m., musical features, Dallas theater performers.
WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3:05, reading, Walter Gray; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim.
WGN, Chicago, Ill. (Central, 370), 1:40 p. m., luncheon concert, Draka concert ensemble, Blackstone string quintet; 2:30, artist series, Lyon & Healy; 3, rocking chair time; 5:30, Skeezix time for the children; 6, organ recital, Lyon & Healy; 6:30-7, dinner concert, Draka concert ensemble, Blackstone string quintet; 6-9, classical concert, Lyon & Healy artists.
WGR, Buffalo, N. Y. (Eastern, 319), 10:45 a. m., Gold Medal home service talk by Betty Crocker; 12:30-1 p. m., Hotel Statler concert ensemble; 2:30-4:30, Radio Dealers' program; 4:30, lecture, "What the Honey Bee Does for Agriculture," E. E. Phillips; 6:30-7:30, dinner music, Vincent Lopez Hotel Statler dance or-

WCAU,
WCAU;
GY; 7:10;
AR; 7:20;
KSAC,
VLS; 8:30;
WEMC; 9;
KHJ; 10;

s, Fred Jacobson,
m., entertainment;
45, Georgia Tech.
), 6 p. m., Philip
Cleveland Plain
Spitalny's Music
), 6:30-7:30 p. m.,
Parthenon theater;
Xylophone Har-
r. W. P. Zimmer,
gan.
8 a. m., setting-up
it's dinner; 12 m.,
a Detroit News or
the Detroit News
; E. B. Curtis,

ary 5

KFAE, KFDM,
DB, KSD, PWX,
WCAU, WEAQ,
ID, WLBL, WNJ,

35), 8 p. m., Ma-
garet Cotton, con-
Mr. Sheets, bass;
enry Spears, pian-
25), 4:45 p. m.,
al Railways using
7:30 p. m., lesson
(; 8, Canadian Na-
y hotel.
09.1), 12:20 p. m.,
er concert, KDKA
ldren's period; 8,
rmer studio; 8:30,
studio.
9), 5-5:30 p. m.,
5:30-6, Examiner,
on orchestra; 7:20-
vocal recital; 8-9,
California present-
r, pupils of Louis
lental.
75), 6:50 p. m.,
7:15, "The Child
stry," Prof. F. W.
New," Dr. H. M.
lesson V. Dean
3), 9:30-11 p. m.,
ademy.
266), 6:30 p. m.,
G. Bliss, director.
), 4-5:15 p. m.,
ay's recipe.
278), 10:30-11:30
a., afternoon organ
5, auditorium scrv-
Semple McPherson,
nd, G. N. Nichols,
her Fricke Green,
10:40 a. m., class-
ools; 4-5:30 p. m.,
; 8, farce, "Mrs.
)-1 a. m., Henry

12:30 p. m., con-
program.
12:30-1:30 p. m.,
nged by J. Howard
more hotel concert
or; 6:30-7:30, Little
Brandon and Jane
edtime story, Uncle John;
Otis Art institute, talk on
Body," Dr. Phillip M. Lovell;
8-9:30, program, West Coast theaters; 9:30-10, Hatch
Graham, banjoist and singer; 10-11, Early Burnett's
Biltmore hotel dance orchestra.
KJS, Los Angeles, Calif. (Pacific, 252), 8-9:30 p. m.,
vocal recital with piano and organ numbers of classical
nature.
KNX, Hollywood, Calif. (Pacific, 337), 8 a. m., morning
prayer; 9, Hired Hand, news; 10, Hired Hand's morn-
ing message; 10:30, Mrs. Kato Brew Vaughn, homo
economics; 5:30, Town Crier and Village Urchins; 6,
sports talk; 6:30-7:30, dinner hour music; 8-9, pro-
gram, Globo Ice Cream company; 9-10, program,
Carson-Baruch company; 10-11, Abe Lyman's Coconut
Grove dance orchestra from Ambassador hotel.
KOA, Denver, Colo. (Mountain, 322.4), 3 p. m., matinee
for housewives, "Danny Boy," "Friend O' Mine,"
"Beloved, It Is Born," Mrs. Irving Green; "Essen-
tials of the Group Mind," Mrs. Kuskulis; "Widms,"
"Phutos Revols," "Etudo Bilgnonne," Mable Garvin
Baber.
KPO, San Francisco, Calif. (Pacific, 423), 7 a. m., daily
dozen; 10, town crier; 10:15, "What Is Playing at the
Various Theaters;" 1-2 p. m., Rudy Selger's Fairmont
hotel orchestra; 4:30-5:30, Rudy Selger's Fairmont
hotel orchestra; 5:30-6:30, children's stories; 6:30-

(Continued on page 14)

8:15,
8:45,
Woc,
Wnye,
Woco,
Wip,
Wnn,
11:45,
Khj,
6: 8,
8:30,
9:03,
Wahg,
Wnj,
9:45,
Kyw,
10:30,
Wls,
Wmc,
12,
Kfoa;
ix.

KOB, State College, N. M. (Mountain, 348.6), 7:30-8:30
p. m., international code course, lesson 5, Dean R. W.
Goddard.
KPO, San Francisco, Calif. (Pacific, 423), 7 a. m., daily
dozen; 10, town crier; 10:15, "What Is Playing at the
Various Theaters;" 1-2 p. m., Rudy Selger's
Fairmont hotel orchestra; 2:30-3:30, matinee program,
Johnnie Buick's Amphians; 4:30-5:30, Rudy Selger's
Fairmont hotel orchestra; 5:30-6:30, children's hour stor-
ies; Marianne De Smet, pianist; 6:30, "What Is Playing
at the Various Theaters;" 7-7:30, Rudy Selger's Fair-
mont hotel orchestra; 8-11, E. Max Bradfield's Versatile
band; Gertrude Martin, pianist.
KSAC, Manhattan, Kans. (Central, 340.7), 9 a. m.,
march; 9:02, music lesson; 9:07, music for singing
exercises; 9:15, inspirational talk; 9:20, callsthenics;
10, backyard gossip; 10:05, all around the house;
10:10, questions and answers; 10:20, "Suggestions for
Today's Meals," Amy Kelly; 12:30 p. m., readings,
Osceola Hall Burr; "Farrowing Houses for the Spring
Litters," Walter G. Ward; "How to Make a Germin-
ation Test," H. R. Sumner; 7:20, college bell and
music; 7:30, "Financing State Road Work," L. E.
Conrad; 7:40, vocal solos, Harold Flamm; 7:50, farm
homo, W. G. Ward; 8-9, classical musical program,
Dept. of Music.

concert orchestra; 10, musicale; 11, Benway theater
organ recital, Lloyd G. Del Castillo.
WEMC, Berrien Springs, Mich. (Central, 286), 8:15-
9:15 p. m., Radio Lighthouse Music Makers, "Our
Favorite Regiment," "You Can't Drive My Dreams
Away," "At Sunset," "Three Quotations," "I'm For-
ever Thinking of You," "Miss Liberty," "Spanish
Waltz," "Stars and Stripes Forever."
WFAA, Dallas, Texas (Central, 472.9), 12:30-1 p. m.,
musical features, Dallas theater performers.
WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer
Davis Bellevue Stratford concert orchestra; 3:05, read-
ing, Walter Gray; 6:30, Meyer Davis Bellevue Strat-
ford concert orchestra; 7, Sunny Jim.
WGN, Chicago, Ill. (Central, 370), 1:40 p. m., luncheon
concert, Drake concert ensemble, Blackstone string
quintet; 2:30, artist series, Lyon & Healy; 3, rocking
chair time; 5:30, Skee-zix time for the children; 6,
organ recital, Lyon & Healy; 6:30-7, dinner concert,
Drake concert ensemble, Blackstone string quintet; 6-9,
classical concert, Lyon & Healy artists.
WGR, Buffalo, N. Y. (Eastern, 319), 10:45 a. m.,
Gold Medal home service talk by Betty Crocker; 12:30-1
p. m., Hotel Statler concert ensemble; 2:30-4:30, Radio
Dealers' program; 4:30, lecture, "What the Honey Bee
Does for Agriculture," E. F. Phillips; 6:30-7:30,
dinner music, Vincent Lopez Hotel Statler dance or-

chestra; 8-9:30, program, West Coast theaters; 9:30-10, Hatch
Graham, banjoist and singer; 10-11, Early Burnett's
Biltmore hotel dance orchestra.
KJS, Los Angeles, Calif. (Pacific, 252), 8-9:30 p. m.,
vocal recital with piano and organ numbers of classical
nature.
KNX, Hollywood, Calif. (Pacific, 337), 8 a. m., morning
prayer; 9, Hired Hand, news; 10, Hired Hand's morn-
ing message; 10:30, Mrs. Kato Brew Vaughn, homo
economics; 5:30, Town Crier and Village Urchins; 6,
sports talk; 6:30-7:30, dinner hour music; 8-9, pro-
gram, Globo Ice Cream company; 9-10, program,
Carson-Baruch company; 10-11, Abe Lyman's Coconut
Grove dance orchestra from Ambassador hotel.
KOA, Denver, Colo. (Mountain, 322.4), 3 p. m., matinee
for housewives, "Danny Boy," "Friend O' Mine,"
"Beloved, It Is Born," Mrs. Irving Green; "Essen-
tials of the Group Mind," Mrs. Kuskulis; "Widms,"
"Phutos Revols," "Etudo Bilgnonne," Mable Garvin
Baber.
KPO, San Francisco, Calif. (Pacific, 423), 7 a. m., daily
dozen; 10, town crier; 10:15, "What Is Playing at the
Various Theaters;" 1-2 p. m., Rudy Selger's Fairmont
hotel orchestra; 4:30-5:30, Rudy Selger's Fairmont
hotel orchestra; 5:30-6:30, children's stories; 6:30-

8-9:30, program, West Coast theaters; 9:30-10, Hatch
Graham, banjoist and singer; 10-11, Early Burnett's
Biltmore hotel dance orchestra.
KJS, Los Angeles, Calif. (Pacific, 252), 8-9:30 p. m.,
vocal recital with piano and organ numbers of classical
nature.
KNX, Hollywood, Calif. (Pacific, 337), 8 a. m., morning
prayer; 9, Hired Hand, news; 10, Hired Hand's morn-
ing message; 10:30, Mrs. Kato Brew Vaughn, homo
economics; 5:30, Town Crier and Village Urchins; 6,
sports talk; 6:30-7:30, dinner hour music; 8-9, pro-
gram, Globo Ice Cream company; 9-10, program,
Carson-Baruch company; 10-11, Abe Lyman's Coconut
Grove dance orchestra from Ambassador hotel.
KOA, Denver, Colo. (Mountain, 322.4), 3 p. m., matinee
for housewives, "Danny Boy," "Friend O' Mine,"
"Beloved, It Is Born," Mrs. Irving Green; "Essen-
tials of the Group Mind," Mrs. Kuskulis; "Widms,"
"Phutos Revols," "Etudo Bilgnonne," Mable Garvin
Baber.
KPO, San Francisco, Calif. (Pacific, 423), 7 a. m., daily
dozen; 10, town crier; 10:15, "What Is Playing at the
Various Theaters;" 1-2 p. m., Rudy Selger's Fairmont
hotel orchestra; 4:30-5:30, Rudy Selger's Fairmont
hotel orchestra; 5:30-6:30, children's stories; 6:30-

Thursday, February 5

(Continued from page 13)

"What Is Playing at the Various Theaters," 7-7:30, Rudy Selger's Fairmont hotel orchestra; 7:30-8, Home Town Synco-Symphonists; 8-9, Theodore J. Irwin, organist; 9-10, program, Santa Clara branch, American Pen Women; 10-11, E. Max Bradfield's Versatile band. KSAC, Manhattan, Kans. (Central, 340.7), 9 a. m., church; 9:02, music lesson; 9:07, music for singing exercises; 9:15, inspirational talk; 9:20, callstudies; 10, backward gossip; 10:05, all around the house; 10:10, questions and answers; 10:20, "Suggestions for Today's Meals," Amy Kelly; 12:30 p. m., readings, Osceola Hall Burr; "Farm Management," I. N. Chapman; "Making the Boy a Partner," M. H. Coe; 7:20, college bell and music; 7:30, "Adjusting Equipment to the Individual," Harriet W. Allard; 7:30, music, Mrs. G. W. Sillsbury, director; 7:50, "The Milk Way, the Health Way," Emily Bennett; 8-9, "Sacred Songs and Stories," music, direction of Prof. P. Bratnard; stories, Dr. H. T. Hill. KSO, St. Louis, Mo. (Central, 549.1), 4 p. m., home hour. KTHS, Hot Springs National Park, Ark. (Central, 375), 8:30-10 p. m., concert, Mrs. J. M. Frisbee, director. KYW, Chicago, Ill. (Central, 535.4), 6:30 a. m., morning exercises; 11:35, table talk, Mrs. Anna J. Peterson; 2:35-4 p. m., studio frolic; 6:35-7, children's bedtime story; 7-7:30, dinner concert, Congress hotel; 8-8:20, "Twenty Minutes of Good Readings," Rev. C. J. Perlin; 8:20-9:05, musical program; 9:15, "Safety First" talk, Bert Vandervark; 10-11:30, evening at home. WBAP, Fort Worth, Texas (Central, 472.9), 12:05-12:30 p. m., musical program; 7:30-8:30, musical program, artists, Texas Christian University, Prof. H. D. Guelick, director; 9:30-10:15, Wybert Brown's violin ensemble. WBER, New York, N. Y. (Eastern, 273), 9-10 a. m., Malcolm Carment, clarinetist; 9:20, Genevieve Ford, pianist; 9:30, Prof. Pietro Marzun, tenor; 9:40, International Sunday school lesson, S. M. Van Sipma; 10, tenor-solos; 10:10, Robert Young, pianist; 10:20, Malcolm Carment, clarinetist. WBCN, Chicago, Ill. (Central, 266), 7-8 p. m., Walthor league; 8-8:30, Chicago trio, Ethel Merriam, reader; Midway Dancing Gardens orchestra; 8:30-9, Walthor School of Commerce; 9-12, popular concert, Elmer Jordan & company, Midway Dancing orchestra, Leona Fay, violinist; Harry Loser, tenor; Lindsey McPhail, John Williams, baritone; Al Phillips, tenor; Mort Green, composer; Ralph Norris, pianist. WCAE, Pittsburgh, Pa. (Eastern, 462), 6:30 p. m., dinner concert, William Penn hotel; 7:30, Uncle Kay-bee; 7:45, special feature; 8:30, concert, artists from Moore's cafeteria, F. T. Moores, manager. WCAL, Northfield, Minn. (Central, 337), 9:45 a. m., chapel services; 9 p. m., college quartet. WBD, Zion, Ill. (Central, 345), 8 p. m., string quartet; celesta bells; Fred Raassen, organist; J. D. Thomas, baritone; M. P. Barton, tenor; Mrs. Athol Heath, pianist; Mrs. H. E. Mayfield, soprano; Arthur Rendall, clarinetist. WCCO, Minneapolis-St. Paul, Minn. (Central, 417), 10:15 a. m., "More About Meat," Betty Crocker; 2 p. m., "The Popular Concert," Mrs. Agnes Fryberger; 4, magazine hour, "Marriage Insurance," 5:30, children's hour, Gold Medal Lady; 6:30, dinner concert; 7:30, "Farm Planning for 1925," Andrew Boss; 7:45, health talk; 8, municipal organ concert, Hugo Goodwin; 11, dance program. WCX, Detroit, Mich. (Eastern, 516), 4:15 p. m., musical program; 8:30, musical program. WDAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., Star's Radio trio; 6-7, School of the Air, reading, Cecile Burton; address, Louis Mecker; story lady; Trianon ensemble, Hotel Muehlebaeh; 11:45-1 a. m., Nighthawk frolic, the Merry Old Chief and Plantation players. WDAR, Philadelphia, Pa. (Eastern, 395), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ recital, Arcadia cafe concert orchestra; "Care of Children," Mrs. Louis Love; 4:30, Helen Bates organ, conductor; 7:30, Dream Daddy. WEA, New York, N. Y. (Eastern, 492), 6-7 p. m., dinner music, Waldorf-Astoria hotel; 7-7:30, services, Greater New York Federation of churches; 8-8:30, "Touring with a Packard Eight," George Elliott Cooley; 9-10, Victor hour; 10-11, Silverdown Cord orchestra; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra. WEAR, Cleveland, Ohio (Eastern, 364.3), 7 p. m., Midway club musical program; 8, concert. WEBH, Chicago, Ill. (Central, 370), 7-8 p. m., Oriole orchestra, Dean Remick, pianist; John Stamford, tenor; 9-10, golf lesson, Amber Andrews; Belle E. Cutler, soprano; John Stamford, tenor; Oriole orchestra; 11-12, Harry Davis, baritone; Loos Brothers, songs; Banks Kennedy, pianologue; John Stamford, tenor; late revue. WEEL, Boston, Mass. (Eastern, 303), 1 p. m., assembly luncheon, Boston Chamber of Commerce; 6:30, Boston Edison Big Brother club; 7, Sadrian trio; 8, program, New York studio. WFAA, Dallas, Texas (Central, 472.9), 12:30-1 p. m., Edmund F. Boettcher, tenor; William H. McRaven, pianist; DeWitt McMurray; 6:30-7:30, Paul Cretien and his banjo quintet; 8:30-9:30, Second Avenue Baptist church entertainers; 11-12, Jefferson theater artists. WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3:05, Housewives Radio exchange; Mabel Swint Ever, talks, Delaware County Federation of clubs; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim; 9, Atwater Kent program from WEA. WGN, Chicago, Ill. (Central, 370), 1:40 p. m., luncheon concert, Drake concert ensemble, Blackstone string quintet; 2:30, artist series, Lyon & Healy; 3, rocking chair time; 5:30, Skeezix time; 6, organ recital, Lyon & Healy; 6:30-7, dinner concert, Drake concert ensemble, Blackstone string quintet; 8-9, classical concert, Herman F. Bear, baritone; 10-11, Don Bestor Drake dance orchestra; Ned and Ches. WGR, Buffalo, N. Y. (Eastern, 319), 12:30-1 p. m., Hotel Statler concert ensemble; 2:30-4:30, Radio Dealers' program; 6-7:30, dinner music, Hallpyrd string quartet. WGY, Schenectady, N. Y. (Eastern, 380), 2 p. m., "Shall Our Young People Go to College," Prof. George M. York; 6:30, dinner concert, Hotel Ten Eyck; book chat, William F. Jacob; 8, grand opera, "Il Trovatore," WGY opera company. WHA, Madison, Wis. (Central, 275), 7:45 p. m., honorary recognition exercises, "Developing a Rural Community," George W. Marvel. WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., selections, Alamo theater organ; 7:30-9, concert, auspices Mrs. Robert K. Van Pelt. WHB, Kansas City, Mo. (Central, 411), 2-3 p. m., ladies' program; 8-9, varied vocal music, Scott Shawgo, director; Walt Wood and his orchestra. WHK, Cleveland, Ohio (Eastern, 273), 6 p. m., Radiograms, music; 8, the Cleveland Press, concert program. WHN, New York, N. Y. (Eastern, 530.4), 12:30-1 p. m., Charles Strickland and his Palais D'Or orchestra; 6:30-7:10, Vincent Canane and his Hotel Alamae orchestra; 9:30-10, O'Meara Gardena ballroom; 10-10:30, Loew's vaudeville headliners; 11-11:30, Connie's Inn revue featuring Leroy Smith's orchestra; 12-12:30 a. m., Ted Lewis and his orchestra from Parody club. WIP, Philadelphia, Pa. (Eastern, 509), 1 p. m., Glimel tea room orchestra; 6:05, Art Coogan and his Club Madrid orchestra; 7, Uncle Wip's bedtime stories; 8, talk, George G. Calhoun; 11:05, Harvey Marburger and his vaudeville orchestra. WJZ, New York, N. Y. (Eastern, 455), 10-10:20 a. m., housewives league menu, Mrs. Julian Heath; 10:20-10:30, Review of Reviews; 10:30-10:45, household equipment, Ethel R. Feysler; 10:55-11, fashion talk, Eleanor Gunn; 1-2 p. m., Nathan Abas' Hotel Pennsylvania orchestra; 4:30-5:30, Bernhard Levitow's Hotel Commodore tea orchestra; 7-7:55, Bernhard Levitow's Hotel Commodore orchestra; 7:55-8, "Curse of Courtesy," John B. Kennedy of Collier's; 8-8:10, Wall Street Journal review; 8:10-8:30, N. Y. U. Air college; 8:30-8:15, night with Thomas Moore; 10:30-11:30, Waldorf-Astoria dance orchestra. WKAA, San Juan, P. R. (Intercolonial, 360), 8:30-10 WLS, Chicago, Ill. (Central, 345), 12-1 p. m., farm program; Kenneth Clark, Hawaiian guitarist; "Farm Question Box," E. B. Beaton; 3:45-4:45, homemakers' hour, talks, music; 6:30, Ralph Emerson, organist; 6:50, Senate theater studio; 7, Ford and Glenn's Woodshed theater players; 7:20, WLS theater presenta operetta. WLW, Cincinnati, Ohio (Central, 423), 8 a. m., physical exercises, Y. M. C. A., n. 8, instructor; 12-15, n. 1, Monday concert; French lesson, Madame Ida Trempland; piano recital, Adelaide Anfel; 6, dinner hour concert, Solinsky instrumental quintet; 8:30, ban-

quod of stationary engineers at Hotel Grand; 9:15, Orpheus club concert, Prover Symond, director; soloist, Cecelia Hansen, violinist; 10, three minute message, United States Civil Service department; 10:03, concert program, Cooper corporation; quartet, orelastra, Dorothy Melody Boys. WMAQ, Chicago, Ill. (Central, 447.5), 4 p. m., house-lunch hour, Mrs. Elizabeth O. Hiller, director; 4:30, Illinois Federation of Women's clubs; 5, Chicago theater organ recital; 6:30, Hot Air orchestra; 8, talk, auspices Western Railways committee; 8:15, Boy Scout talk; 8:30, program, Junior Association of Commerce. WMC, Memphis, Tenn. (Central, 503.9), 12 m., musical program, O. K. Houck Piano company; 8 p. m., bedtime story, Uncle Percy; 8:30, organ recital, Scottish Rite cathedral, Harry O. Nichols. WNYC, New York, N. Y. (Eastern, 528.8), 7:35-7:45 p. m., sports analysis, Thornton Folger; 8:30-9:30, Borough Night program; 9:30-9:40, "Timely Topics," Francis P. Bent. WOAI, San Antonio, Tex. (Central, 394.5), 9:30 p. m., Jimmie Joy's Hotel St. Anthony orchestra. WOAW, Omaha, Nebr. (Central, 522.3), 6 p. m., every child's story hour conducted by Graco Sorenson; 6:45, Randall's Royal Fontanelle orchestra; 9:30, program transmitted from NYSC's remote control studio in the May Seed & Norwary company building, Shenandoah, Iowa. WOC, Oavenport, Iowa (Central, 498), 9 p. m., program, Schuster Sisters California orchestra; 11, Louis Connor and his LeClair hotel orchestra; song and novelty numbers, Peter MacArthur. WOI, Ames, Iowa (Central, 270), 12:30 p. m., college chimes; 8:15, musical program. WOO, Philadelphia, Pa. (Eastern, 509.9), 11 a. m., organ recital, Mary E. Vogt; 12:02 p. m., Wanamaker crystal tea room orchestra, Robert E. Golden, director; 4:45, organ recital, Mary E. Vogt. WOR, Newark, N. J. (Eastern, 405), 2:30-2:45 p. m., Anna Rose, coloratura soprano; 2:45-3, Harold Suter, violinist; 3:15-3:30, Anna Rose; 3:45-4, Harold Suter; 6:15-7:15, "Musie While You Dine," Harry Cox hotel Robert Treat orchestra; 8-8:30, Gene Ingraham's Notch inn orchestra; 8:30-8:45, "Topics of the Day," Literary Digest; 8:45-9:15, Helen O'Shea, coloratura soprano; 9:15-9:30, Helen O'Shea; 10:45-12, popular jazz program. WQJ, Chicago, Ill. (Central, 448), 11-12 m., home economics, Helen H. Downing; "Valentine Party Refreshments," Erna Betraus; "Dressmakers' Hints," Eleanor Chalmers; "Spring Flowers," C. P. Binner; 3-4 p. m., "What Is So Rare as a Perfect Pie," Josephino Naylor; talks; 7-8, concert, Ralph Williams and his Rainbo Garden orchestra; Manuel Rodriguez, Spanish tenor; Lydia Lochner, contralto; Edith Buckmaster, accompanist; 10-2 a. m., Ralph Williams and his Rainbo Skylarks; June Lee comedienne; Axel Christensen, pianologue; Edna Solomon, contralto; Three Musketeers, Rosemary Hughes, organist. WREO, Lansing, Mich. (Central, 288.5), 8:15-9:45 p. m., Reo orchestra; quartet, local talent. WSAI, Cincinnati, Ohio (Central, 325.9), 10 p. m., Uberto Neely, violinist; Richard Fluke, baritone; Frederick J. Hoffman, pianist; Russell Dunham, tenor; popular songs, Malle and Seipt. WSB, Atlanta, Ga. (Central, 429), 12 m., entertainment; 5-6 p. m., songs and bedtime story, Bonnie Barnhardt; 8-9, Mrs. Reynolds Clark's girls' orchestra; 10:45, Dr. Charles A. Sheldon, organist. WTAM, Cleveland, Ohio (Eastern, 364), 6 p. m., Maurice Spliatny's Hotel Statler orchestra. WTAY, Oak Park, Ill. (Central, 250), 6:15-6:30 p. m., organ, Parthenon theater; 6:30-7:30, Hugh Anderson, bass; Bella Marta, violinist; Howard Hanks, pianist. WWJ, Detroit, Mich. (Eastern, 516), 8 a. m., setting-up exercises, R. J. Horton; 9:30, tonight's dinner; 12 m., Jules Klein's Statler orchestra; 3 p. m., the Detroit News orchestra; 6, Jules Klein's Statler orchestra; 7, the Detroit News orchestra; 8, Leonard Cowperthwaite, soprano; H. T. Rlee, tenor; 10, dance music, Jean Goldkette's Victor recording orchestra.

Friday, February 6

Friday, silent night for: CHNC, CKAC, KFKX, KGO, KIS, PKO, PWX, WBBR, WCBO, WEO, WFI, WIP, WKAQ, WLBL, WLW, WOI, WREO. CKAC, Montreal, Can. (Eastern, 425), 1:45 p. m., Windsor hotel trio; 5:30, 10 lessons. CKY, Winnipeg, Can. (Central, 730), 7:30 p. m., university lecture; 9, concert, choir, St. Matthews Anglican church. CNRT, Toronto, Can. (Eastern, 400), 6:30-8 p. m., Luigi Romanelli and his King Edward hotel concert orchestra; 8:30-10, studio program, "Come Where the Lilies Bloom," "Annie Laurie," "Le Olde Tyme Village quartet;" "A Deceitful Man," "A Flapper's Sunday Morning Breakfast," "Pearl Carter; The Standard on the Braces O'Mar," W. H. Norris, bass; "Drink to Me Only with Thine Eyes," "Cousin Jeddiah," "Ye Olde Tyme Village quartet;" "Comin' Thro' the Rye," "Daisy Larush McAdam;" "Venice and Naples," Edward Magee, pianist; duet, "Whispering Hope," Daisy Larush McAdam, Ruth Hamilton; "Swanee River," quartet; "Little Moeasin," "The Proposal," Pearl Carter, reader; "The Kerry Dance," Ruth Hamilton; Edward Magee, pianist; "Will Ye No Come Back Again," A. C. Chapman, tenor; 10:12, Luigi Romanelli and his King Edward hotel dance orchestra. KOKA, E. Pittsburgh, Pa. (Eastern, 309.1), 7 a. m., morning exercises; 8, morning exercises; 12:20 p. m., Sunday school lesson for February 8, James C. Mace; 6:15, Charlie Gaylord's orchestra; 7:30, children's period; 8:15, address, University of Pittsburgh; 8:30, concert. KFAE, Pullman, Wash. (Pacific, 330), 7:30 p. m., Paul Christen, baritone; Mary Wyman, pianist; "Art in the Northwest," W. T. McDermid; "Essentials of Successful Farm Management," Prof. George Severance; "Results of Extension Work," W. W. Underwood; talk on new books, Alice L. Webb. KFOM, Beaumont, Tex. (Central, 315.6), 8 p. m., band concert. KFI, Los Angeles, Calif. (Pacific, 469), 5-5:30 p. m., Evening Herald, table talk, news; 5:30-6, Examining musical recital; 6:45-8, Aeolian residence pipe organ recital; Dan McFarland, organist; 8-9, Evening Herald, Owen Fallon's Californians, Clarabelle Beck, vocalist; 9-10, Examining program; 10-11, Alma K. Moss, contralto; Mrs. Arthur Bliss Carpenter, pianist; Oswald Knilling, vio-cello and Billie Moss, haritone. KFNf, Shenandoah, Iowa (Central, 266), 6:30 p. m., program, Boy Scouts, Red Oak, Iowa, M. A. Pratt, director. KFOA, Seattle, Wash. (Pacific, 455), 4:5-5:15 p. m., Olympic hotel concert orchestra; today's recipe; 6:45-8:15, Sherman Clay & company program; 8:30-10, Seattle Times studio program; 10:05-11, Olympic hotel dance music. KFKX, Seattle, Wash. (Central, 238), 6:30-7:15 p. m., news; 7:15-8, bedtime story, Aunt Vivien; 8-9, Earl Gray and his Hotel Butler orchestra; 9-10, concert hour; 10-11, Earl Gray and his orchestra. KFSG, Los Angeles, Calif. (Pacific, 278), 10:30-11:30 a. m., sunshine hour personally conducted by Mrs. McPherson; 3:30-4:30 p. m., organ recital, Roy Reid Brignall; 7:30-9:15, auditorium service, young people's service, testimonials, sermon by evangelist-pastor, Aimee Semple McPherson; 9:15-10, concert by silver band, G. N. Nichols, director; talk on technical radio subject, N. E. Brown; 10-11, organ recital, Roy Reid Brignall, assisted by G. N. Nichols. KGO, Oakland, Calif. (Pacific, 312), 11:30-1 p. m., luncheon concert, Pacific States Electric company; 4-5:30, concert orchestra, Hotel St. Francis; 5:30-6, girl's half hour, Esther Wood Schneider. KGW, Portland, Ore. (Pacific, 351.1), 12:30 p. m., concert, 5 children's program, Aunt Nell; 8, lecture, University of Oregon extension division; "Permanent Court of International Justice," Dean William G. Hale; 10:30, Hoot Owls. KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:30 p. m., Perry's orchestra; 6-6:30, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, little stories American history, Prof. Walter Sylvester Herten; Catherine Cotter, reader; Richard Headrick, screen juvenile; Illeie David Durand with Uncle John; 7:30, Romeo and Juliet of the Santa Fe Trail," Gladys De Witt; 8-9, Marlan Ralston, composer-pianist; 9-10, Piggy Wigly girls trio; 10-11, Earl Burnett's Biltmore hotel dance orchestra. KNX, Hollywood, Calif. (Pacific, 337), 8 a. m., morning prayer; 9, Hired Hand, news; 10, Hired Hand's morning message; 10:30, talk for women, Estelle Lawton Lindsey; 5 p. m., closing programs; 6, travelogue, Rinch-Beld Co. company; 6:45-8:30, program, Nichols Organ and Milling company; 8-9, Eastern Outfitting company; 9-10, program, Columbia Outfitting company; 10-11, June Purcell, the KNX girl, popular song re-

cital; 11-12, Abo Lyman's Coconut Grove dance orchestra from Ambassador hotel. KDA, Denver, Colo. (Mountain, 322.4), 3 p. m., "Thirteenth Hungarian Rhansody," "Rondo Brillante," Margaret Stubbs, pianist; "Electrical Illumination in the Home," S. W. Bishop; "The Princess," "Odaliske," "Thanks for Thy Hand," Ralph Reese, tenor; 8, KOA orchestra; "Gala to the Dawn," Denver concert quartet; "Aloha in Quest," Ora from La Forza del Destino," Cornelius DeLey, J. Allen Grubb; Lullaby from "Jocelyn," "Friend of Mine," Bernice W. Doughty, soprano; "Wake, Miss Lindsey," "Wood, Thou Sweet Music," Denver concert quartet; "A Pleasant Half Hour at the Beach," Elsie Webb, reader; "Arla, Celeste Alida," "Drink to Me Only with Thine Eyes," J. Allen Grubb, tenor; "Etude en Forme de Vaise," "Polonaise," Margaret Day Grubb, pianist; "Road Troubles with the Auto," H. L. Johnson; "Carry Me Back, Old Virginia," "Sweet and Low," "Sweet Genevieve," quartet; Romance from "Allison," "Dawn in the Desert," "Birth of Morn," Laura Kemp Anderson; "Teddy, a Christian Soldier," Elsie Webb, reader; vocal duet, "The Voyagers," Bernice W. Doughty, J. Allen Grubb; "Non e Ver," "Calm as the Night," Cornelius DeBey, baritone; "The Sextette from Lucia," quartet; "Habanera," KOA orchestra. KOB, State College, N. M. (Mountain, 348.6), 7:30-8:30 p. m., popular science course, lesson 3, member of the engineering faculty. KPO, San Francisco, Calif. (Pacific, 423), 7 a. m., daily dozen; 10, town crier; 10:15, "What Is Playing at the Various Theaters," 12:45 p. m., talk, Commonwealth club luncheon; 1-2, Rudy Selger's Fairmont hotel orchestra; 4:30-5:30, Rudy Selger's Fairmont hotel orchestra; 8-9, dance music, Cleveland Six orchestra; 9-10, one act play, Theater Arts club, Talma Zetta Wilbur, director. KSAC, Manhattan, Kans. (Central, 340.7), 9 a. m., march; 9:02, music lesson; 9:07, music for singing exercises; 9:15, inspiration talk; 9:20, callstudies; 10, backward gossip; 10:05, all around the house; 10:10, questions and answers; 10:20, "Suggestions for Today's Meals," Amy Kelly; 12:30 p. m., Osceola Hall Burr, reader; "Sweet Clover for Dairy Pasture," James W. Linn; "Give the Pig a Chance," C. G. Elling; 7:20, college bell and quartet; 7:30, "Relation of Insects to Kansas Agriculture," J. W. McColloch; 7:40, Radio college quartet; 7:50, "Relation of Botany to Agriculture," L. E. Melchers. KSP, St. Louis, Mo. (Central, 549.1), 8 p. m., Illinois college glee club, Garnet Hedge, director. KTHS, Hot Springs National Park, Ark. (Central, 375), 8:30-9 p. m., piano selections, Phil Wall; 9-10, Meyer Davis New Arlington hotel ensemble. KYW, Chicago, Ill. (Central, 535.4), 6:30 a. m., morning exercises; 11:35, table talk, Mrs. Anna J. Peterson; 2:35-4 p. m., children's bedtime story, Uncle Bob; 7-7:30, dinner concert, Congress hotel; 8, speeches, auspices American Farm Bureau federation; 9-10, midnight revue; 11-2:30 a. m., midnight revue. WABC, Buffalo, N. Y. (Central, 316), 12-1 p. m., Brooklyn Federation of churches; 8-8:15, Charles Vollmer, Jr., pianist; 8:15-8:25, James M. Sevell, baritone; 8:25-8:45, Morning-side string quartet; 8:45-9, Aron Farberman, violinist; 9-9:10, St. Valentine of WAHG; 9:10-9:25, Arnold T. Koch, cellist; 9:25-9:45, Morning-side quintet; 9:45-9:55, James M. Sevell; 9:55-10:05, Charles Vollmer; 10:05-10:30, Ascuttito brothers dance orchestra; 10:30-10:45, original Peggy O'Neill character singer; 10:45-11:15, Ascuttito brothers dance orchestra. WBAP, Fort Worth, Texas (Central, 472.9), 12:05-12:30 p. m., popular music, Jack and company's "Corn Planting and Production," C. C. French; 7:30-8:30, dinner music, Jim Riley's Texas hotel orchestra; 9:30-10:45, Ralph's Red Hot ramblers. WBAV, Columbus, Ohio (Eastern, 294), 8 p. m., Dispatch program, talent from Capital university, Columbus, Frederick L. Lewis, director. WBCN, Chicago, Ill. (Central, 266), 7-9 p. m., Becker Ryan concert, Lolita Koch, reader; Julius Fisher, one string, fiddle; Zander and Robinson; Lee Darnell, banjoist; Roy Miller and George Dlek, Edna McGussillo, pianist; Merle Yagle, pianist; Will Rossiter; 9-10, W. W. Tegtmeyer and company; 10-10:15, Midway Dancing Gardens orchestra. WCAE, Pittsburgh, Pa. (Eastern, 462), 6:30 p. m., dinner concert, William Penn hotel; 7:30, Uncle Kay-bee; 8:30, concert, Oxford entertainers. WCAL, Northfield, Minn. (Central, 337), 9:45 a. m., chapel services; 9:30, book talk, "Son of Italy," "A Twentieth Century Childhood," Dr. George Weida Spahr, university lecturer. WCAU, Philadelphia, Pa. (Eastern, 278), 6 p. m., Meyer Davis Bellevue Stratford concert orchestra; 7, series of health, household and fashion talks; 7:30, fashion talk, Mlle. Madeline; 8, concert. WCCO, Minneapolis-St. Paul, Minn. (Central, 417), 10:45 a. m., "Meal Planning," Betty Crocker; 2 p. m., "Happy Times at Sheltering Arms," Mrs. W. S. Swinnell; 2:30, matinee musical; 4, magazine hour, "The Fame Club," Josephine Dodge Doskam; 4:30, children's hour; 6:30, dinner concert; 7:30, lecture, "Taxpayers' Association"; 7:45, lecture; 8, Beethoven ladies' string quartet; 9, "F and R Family." WCX, Detroit, Mich. (Eastern, 516), 4:15 p. m., musical program; 8:30, musical program; 10, dance music for 2 hours. WOAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., Star's Radio orchestra; 6-7, school of the air; piano; message, Roger W. Babson; story lady; Trianon ensemble, Hotel Muehlebaeh. WOAI, Philadelphia, Pa. (Eastern, 395), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 7:30, Dream Daddy's bedtime stories; 8, book review, Arnold Abbott; 8:15, "Fifteen Minutes of Humor," Sam Winfield; 8:30, play, WDAR players; 9:30, Stanley theater symphony concert; 10:03, Arcadia cafe dance orchestra; Morning Glory club concert. WEA, New York, N. Y. (Eastern, 492), 6-7 p. m., dinner music, Waldorf-Astoria hotel; 7-7:30, children's stories, Elizabeth Wade of G. R. Kinney Shoe company; 8-9, Happiness boys; 9-9:30, Honner Harmony hour; 11-12, Meyer Davis Lido Venice orchestra. WED, New York, N. Y. (Eastern, 364.3), 7 p. m., Edwin Arthur Kraft, organ recital from Cleveland Public auditorium. WEBH, Chicago, Ill. (Central, 370), 7-8 p. m., Hazel O'Neil, soprano; Oriole orchestra, Riviera theater; 9-10, dance orchestra; Frederick Agard, tenor; Rita McFawn, soprano; 11-12, Oriole dance orchestra, Three Musketeers, songs; Sandy Meck, tenor. WEBJ, New York, N. Y. (Eastern, 273), 7-8 p. m., Bert Roborns' Blue Bird trio, featuring Jack Wheaton, saxophonist; 8-8:15, Judith Ruth and Peter DeRose; 8:30-9, Leon H. Fox, violinist, accompanied by Norman Hennefeld. WEEL, Boston, Mass. (Eastern, 303), 6:30 p. m., Boston Edison Big Brother club; 7:30, program, Whiting Milk company; 8, program, Neapolitan Ice Cream company; 8:30, Gleeist quartet; 9, Green Dragon orchestra; 10, Hains and Scott, evangelists. WEMC, Berrien Springs, Mich. (Central, 286), 8:15-8:35 p. m., Radio Lighthouse choir; 8:35-8:45, Ernest Hurd, tenor; 8:45-8:55, Ardice Detamore, pianist; 8:55-9:15, Bible chat. WFAA, Dallas, Texas (Central, 472.9), 12:30-1 p. m., address, Dr. Robert Stewart Hyer; 4:30-5, woman's hour; 6:30-7:30, orchestra recital, Blue Bonnet aeranders; 8:30-9:30, Mrs. William Beholds and Prof. Julius Wanek. WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3:05, Caryl Hine Hoffman, pianist; 6:30, Sunny Davis Bellevue Stratford concert orchestra; 7, Mummy Jim. WGN, Chicago, Ill. (Central, 370), 1:40 p. m., luncheon concert, Drake concert ensemble, Blackstone string quintet; 2:30, artist series, Lyon & Healy; 3, rocking chair time; 5:30, Skeezix time for the children; 6, organ recital, Lyon & Healy; 6:30-7, dinner concert, Drake concert ensemble, Blackstone string quintet; 8-9, classical concert; 10-11, Don Bestor Drake dance orchestra. WGR, Buffalo, N. Y. (Eastern, 319), 10:45 a. m., Gold Medal home service talk by Betty Crocker; 12:30-1 p. m., Hotel Statler concert ensemble; 2:30-4:30, Radio Dealers' program; 6:30-7:30, dinner music, Vineet Lopez Hotel Statler dance orchestra, Harold Giesler, director; 8:15-8:30, W. L. Manning, baritone; 9-10, banquet of the Buffalo Trust company; 10-11, Larkin string orchestra, director, John Lund; 11:30, supper dance music, Vineet Lopez Hotel Statler dance orchestra, Harold Giesler, director. WGY, Schenectady, N. Y. (Eastern, 380), 2 p. m., "A Guide to Better Homes," Mildred G. Eowen; 7:45, "Berseuce," WGY orchestra; 8, "Dog Psychology," Dr. John March; "Song," orchestra; "A Slamese Wedding," orchestra; 8:20, "From Burma to Java," Dr. Sigel Ronsh; 10:30, WGY orchestra; Harlette Crannell Brookmen, pianist. WHA, Madison, Wis. (Central, 535.4), 7:45 p. m., address, Mrs. Aimee Semple McPherson. WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., selections, Alamo theater organ; 7:30-9, one-hour concert,

auspices Baptist Seminary and Training school, Rev. E. A. Burnette, director; WHAS stock company. WHB, Kansas City, Mo. (Central, 411), 2-3 p. m., request program; 7-8, musical program, Peking cafe; "Personal Magnetism," Zenola Randall. WHK, Cleveland, Ohio (Eastern, 273), 6 p. m., music, Radiograms; 7, bedtime story, Ethel O. Hawes; 8, musical program and educational forum. WHN, New York, N. Y. (Eastern, 530.4), 6:30-7 p. m., Vincent Canane and his Hotel Alamae orchestra; 7-7:30, Harry Richman and his entertainers with Eddie Elkins and his orchestra; 9:30-10, Dan Gregory and his Crystal Palace orchestra; 10-10:10, fashion chats, Mmo. Belle; 10:10-10:25, Bob Miller, popular songs; 10:25-10:35, "Storage Batteries," H. B. Shontz; 10:35-11, Roseland dance orchestra; 11-11:30, Vanity club revue; 11:30-12, Sam Woodling and his Club Alabam orchestra; 12-12:30 a. m., Ted Lewis and his Parody club orchestra. WHO, Des Moines, Iowa (Central, 522.3), 7:30-9 p. m., Williamson brothers; J. W. Fletcher, tenor; Emille Ritchie orchestra. WIP, Philadelphia, Pa. (Eastern, 509), 1 p. m., Glimel tea room orchestra; food talk, Anna B. Scott; 6:05, songs by Mark Fisher and Joe Burke; 6:15, Harvey Marburger and his vaudeville orchestra; 7, Uncle Wip's bedtime stories. WIJ, Moseheart, Ill. (Central, 302.8), 3:30-4:30 p. m., musical; Moseheart children, assembly, talks; 6:45-7:15, Albert Brown, organist; 7:15-8:15, solos, orchestra; talk; 11:30-12:30, request organ music, Albert Brown. WIJ, New York, N. Y. (Eastern, 405), 8:15-10 p. m., "Travelogue from Burma to Java," Dr. Sigel Ronsh with musical accompaniment; 10-10:30, "How Motlon Pictures Are Made," Dr. A. B. Hitchens. WIJ, New York, N. Y. (Eastern, 455), 10:20-10:40 a. m., "Books," Grace Isabel Colburn; 10:40-10:50, Arts and decorations, Mrs. Mary Roberts; 1-2 p. m., Henry Vander Zanden's Hotel Ambassador trio; 2-4:30, City Federation of Women's clubs; 7-8, Savarin ensemble; 8-8:10, Wall Street Journal review; 8:10-8:20, "Public Speaking," N. Y. U. Alr college, R. C. Borden; 8:40-9:25, sea songs, Chief Stewart Ballyn of "Berengaria"; 9:25-10, Michael Markels orchestra; 10-10:30, Old Guard Ball direct; 10:30-11:30, Duke Yellman and his Irene Castle orchestra direct from Knickerbocker grill. WLS, Chicago, Ill. (Central, 345), 12-1 p. m., R. F. D. program; 1:45-4:45, homemakers' hour, club concert; 6:30, Ralph Emerson, organist; 6:50, Senate theater studio; 7, lullaby time Glenn Rowell and Ford Rush; 7:15, Chicago Association of Credit Men, quartet, trio and doubles; 8, R. F. D. program, Ford and Glenn, Hawaiian guitarists; "John Turnipseed," series; 9, Henrietta Greenfield, violinist; 9-10, Saddler feature; 9:30, Janet Simons, pianist; 9:40, Art Kahn, Senate theater; 10, Senate Symphony orchestra; 10:30, Ishaw Jones orchestra; 10:40, Ford and Glenn time. WLW, Cincinnati, Ohio (Central, 423), 8 a. m., physical exercises, Y. M. C. A., n. 8, instructor; 12-15, n. 1, program Delta Omicron sorority; 4, lesson in French, Madame Teimpidis; pupils of Leo Stoffregen in recital. WMAQ, Chicago, Ill. (Central, 447.5), 4 p. m., talk on English, Mrs. J. Elliott Jenkins; 4:30, pupils, Bush conservatory; 5, lullaby lady, Mrs. Gene Davenport; 6, organ recital, Chicago theater; 6:30, Hotel LaSalle orchestra; 8, weekly Wide-Awake elini program, Mrs. Frances M. Ford; 8:30, musical geography, Mr. and Mrs. M. E. Oberdorfer; 9:15, Chicago Heights Women's club hour. WMC, Memphis, Tenn. (Central, 503.9), 12 m., musical program, O. K. Houck Piano company; 8 p. m., bedtime story; 8:30, concert, Britlings' Novelty orchestra; 11, midnight frolic, Bob Miller. WNI, Newark, N. J. (Eastern, 233), 10:30-11 p. m., Frank Dally and his Meadowbrook orchestra; 11-11:30, Wolfe Gilbert and company; 11:30-12, Original Dixieland jazz band; 12-12:30 a. m., Frank Dally and his Meadowbrook orchestra. WNYC, New York, N. Y. (Eastern, 528.8), 7:30-7:35 p. m., police alarms; 7:35-8, resume of meeting of board of estimate; 8:30-10:30, concert program from studio. WOAW, Omaha, Nebr. (Central, 522.3), 6 p. m., story hour, conducted by Doris Claire Secord, daughter of "Uncle Ross" of the World-Herald; 6:30, Harry Brader, violinist-conductor, and Frank Strawn, pianist, of the Rialto symphony orchestra; 7:15, current sport events, by M. C. Gaddis, sports editor of the Omaha Daily News; 8:30, program, arranged by Thelma Skeen Swauger, harpist and pianist. WOC, Oavenport, Iowa (Central, 498), 7:20 p. m., "Alfalfa," Charles W. Lau; 8, "Tri-City Night Hawks" orchestra. WOI, Ames, Iowa (Central, 270), 12:30 p. m., college chimes. WOD, Philadelphia, Pa. (Eastern, 509.9), 11 a. m., organ recital, Mary E. Vogt; 12:02 p. m., Wanamaker crystal tea room orchestra, Robert E. Golden, director; 4:45, organ recital, Mary E. Vogt; 7:30, A. Candeloro's ensemble, Hotel Adelphia; 8:25, Erno Ranea's intimate concert from Fox theater; 9:30, WOO orchestra; 10:03, William Bove's dance orchestra, Hotel Adelphia; 10:30, Vincent Rizzo's dance orchestra. WOR, Newark, N. J. (Eastern, 405), 2:30-2:45 p. m., Anne M. Fisher, soprano; Paul M. Yeaton, cornetist; 3-3:15, "Nietzsche," John Romiser; 3:30-4, Joe Brown and his orchestra; 6:15-7:30, "Musie While You Dine," Ernie Krakoff's orchestra; 8-8:30, Schubert string quartet; 8:30-9, program, Mahelanna Corby; 10-10:30, Mahelanna Corby. WQJ, Chicago, Ill. (Central, 448), 11-12 m., Sunday dinner menu; 3-4 p. m., "A Valentine Party," Dorothy Dickens; 7-8 p. m., concert, Ralph Williams and his Rainbo Garden orchestra; Lois Mackey, accompanist; Miriam Burns, soprano; S. Levine, tenor; Effie Overson, accompanist; 10-2 a. m., Ralph Williams and his Rainbo Skylarks; Rogers boys, West Brothers, steel guitarists; Lauretta Giles, soprano; Monogram trio, Nate Caldwell, pianologues. WSB, Atlanta, Ga. (Central, 429), 12 m., entertainment; 5-6 p. m., songs and bedtime story, Bonnie Barnhardt; garden talk, William B. Decker; 8-9, Tech High school band; 10:45, program, students of Hoke Smith school. WTAM, Cleveland, Ohio (Eastern, 364), 6 p. m., Guy Lombardo's Royal Canadians orchestra. WTAY, Oak Park, Ill. (Central, 250), 6:15-6:30 p. m., organ, Parthenon theater; 6:30-7:30, Atlas night; Black Cat orchestra. WWI, Detroit, Mich. (Eastern, 516), 8 a. m., setting-up exercises, R. J. Horton; 9:30, tonight's dinner; 12 m., Jules Klein's Statler orchestra; 3 p. m., the Detroit News orchestra; 6, Jules Klein's Statler orchestra; 7, the Detroit News orchestra; 8, Leonard Cowperthwaite, soprano; H. T. Rlee, tenor; 10, dance music, Jean Goldkette's Victor recording orchestra.

STATION KFSG PLANS CHURCH FOR INVALIDS

Engraved Membership Cards to Be Issued Members

LOS ANGELES.—Aimee Semple McPherson, evangelist and pastor of Angelus Temple, known to Radiophans through her

Winding Low Loss Tuned R. F. Inductances

Radiophan Can Make Own Transformers

By Jacques Fournier

IN THE Radio Digest of November 22, the writer described a low loss inductance of the basket weave type for use in a three circuit regenerative receiver. There have been many requests from readers since then for a low loss inductance of this type that might be used in tuned Radio frequency receivers. In this article the writer will therefore give the complete data for the construction of such a unit.

The Winding Form

The form for winding this transformer is shown clearly in figures 1 and 2. As

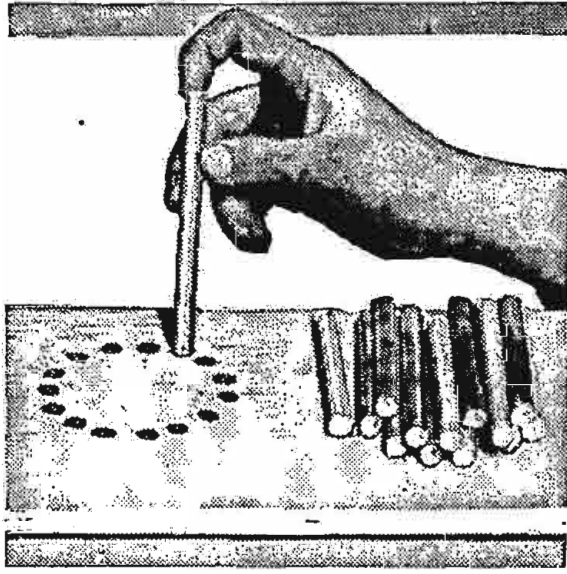


Figure 2

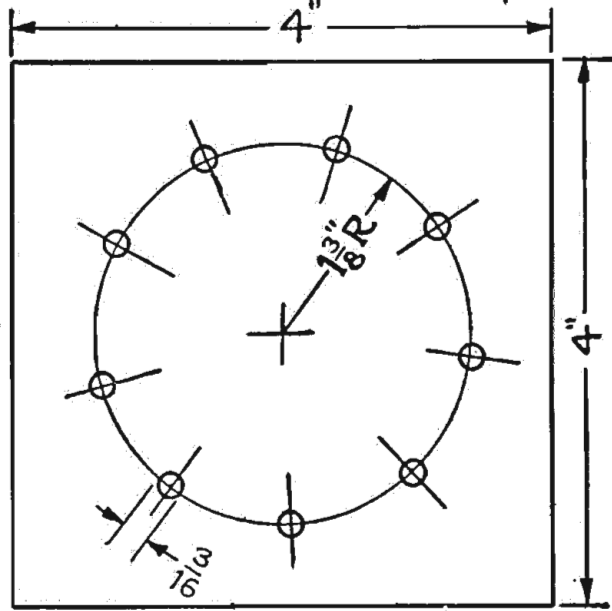


Figure 1

used. The rods on which the wire is wound may be either large nails or wood dowel pins as shown, and should be $\frac{1}{8}$ inch in diameter and $4\frac{1}{2}$ inches long. If metal pins are used they can be soldered to the metal block which forms the base; if wood pins are used they can be glued to the wooden base; or, if metal pins are used with a bakelite or hard rubber base, they can be put in by making the holes a little smaller and driving the pins through.

One-Over, One-Under

The method of winding is shown in figures 3 and 4, although figure 4 shows the two-over, two-under system. As will be seen in figure 3, the wire goes under pin 1, over 2, under 3 and over 4. Since there are an odd number of pins, the second turn will go over the pins that the first turn went under. Twelve turns are wound in this way and these form the primary of our transformer. At the twelfth turn make a large loop in the wire about 6 inches long and twist this loop so it will not loosen. Resume winding

and add 68 more turns, which will be correct for use with a .0005 mfd. (500 mmfd.) condenser.

The wire used is to be number 20 double cotton covered, hard drawn, as the soft copper has not enough resiliency to it to hold its shape well after the coil is completed. Using this number 20 wire wound as shown, the length of the coil will be 3 inches and you will have a coil such as is shown in figure 5. This coil is to be held together with heavy thread, preferably waxed, and the method of holding the wires in place with one continuous piece of thread is shown in figure 6.

Securing with Thread

The alternate turns cross each other diagonally at 9 points around the coils and it is at these 9 points that the thread holds the turns together. Following the thread in figure 6, it will be noted that it goes across to the left under the odd turns, around the end of the wires, and then under the even turns and over the odd turns to the opposite end of the coil where it goes around the last turn and

comes back under the odd turns and over the even turns. Thus the thread forms one complete loop and is carried across, as denoted by arrows 7 and 8, to the next intersection, where a loop is wound in the opposite direction as shown by arrows 9, 10, 11, 12 and 13. When the thread has been carried clear around the coil in this way and the ends tied together the coil can be slipped from the form either by removing the pins one at a time or slightly squeezing them together at the free ends and slowly sliding the coils from the pins. A strip of bakelite or hard rubber is

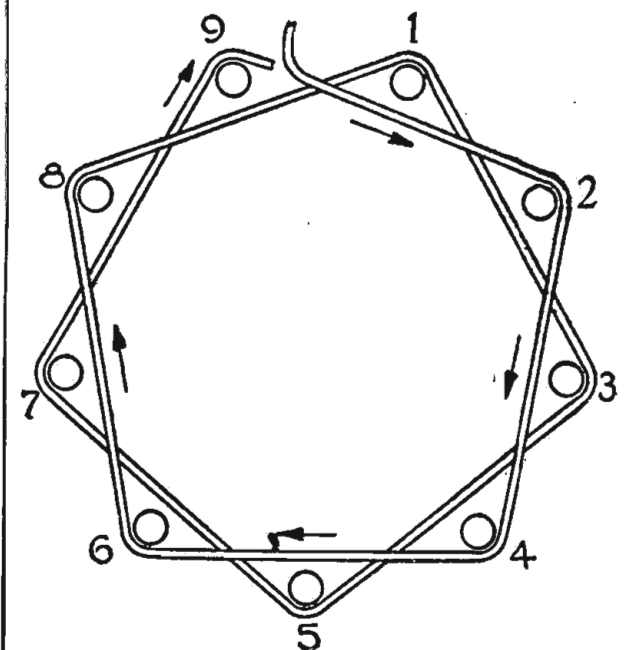


Figure 3

now cut as shown in figure 6 and measures 4 inches long, $\frac{1}{2}$ inch wide and $\frac{1}{8}$ inch thick. Holes are drilled $\frac{1}{4}$ inch from each end large enough so that the coil can be mounted on the rear end plate of variable condensers. Before slipping this piece of bakelite through one of the points of our 9 pointed star coil, it would be well to smooth off the corners with a file so

(Continued on page 18)

Satisfies every demand

Type 6-D meets the most exacting requirements. Here you will find generous volume, an uncommon absence of distortion, unlimited range, ease of tuning and the highest degree of selectivity. And the handsome appearance of this receiver gratifies the desire for good taste in the home.

Price \$125.00
without accessories

EISEMANN MAGNETO CORPORATION

165 Broadway, New York

DETROIT

SAN FRANCISCO

CHICAGO

Authorized Distributors

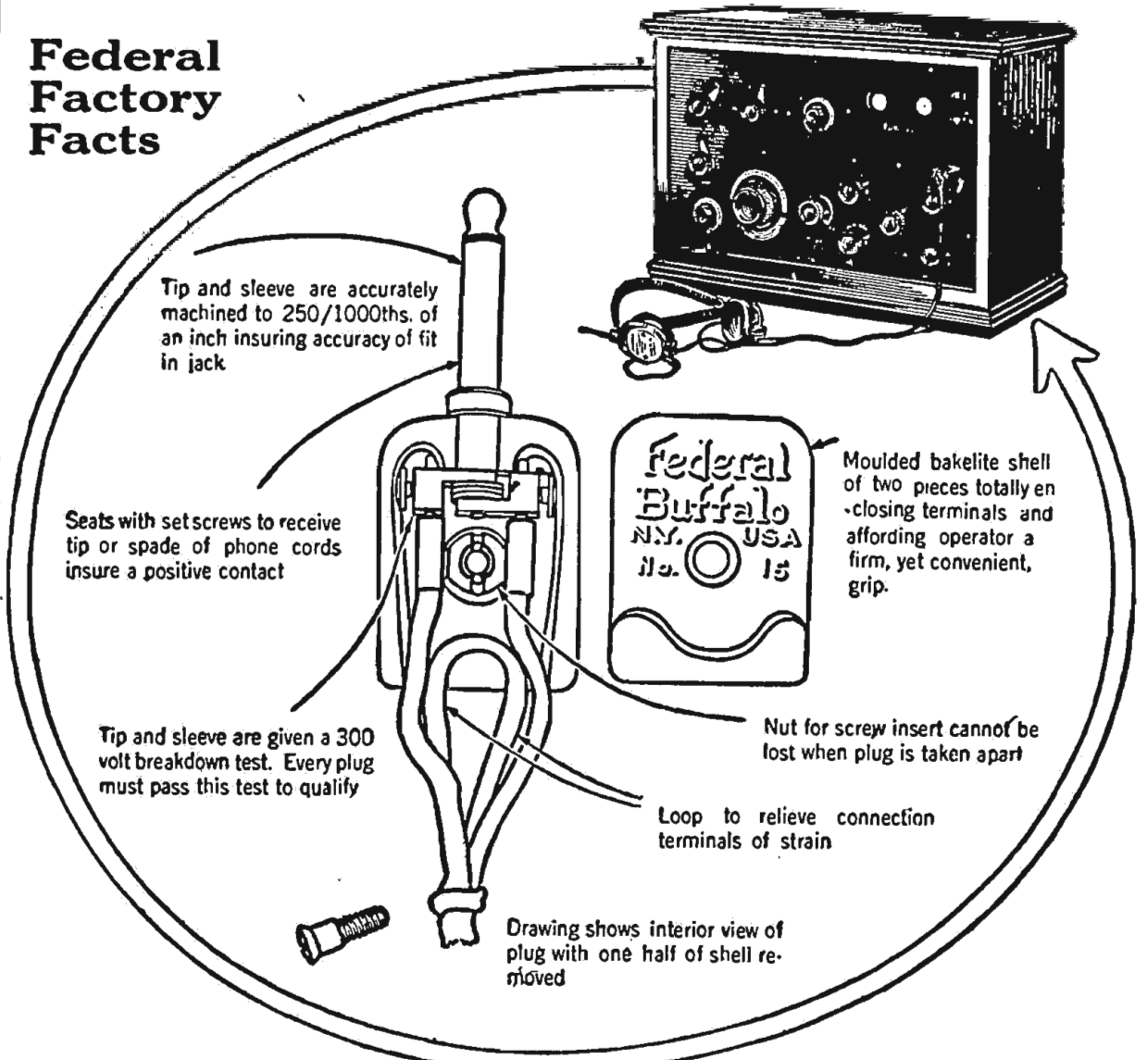


in Principal Cities



EISEMANN
ELECTRICAL EQUIPMENT

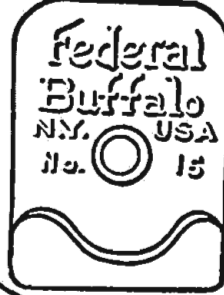
Federal Factory Facts



Tip and sleeve are accurately machined to 250/1000ths. of an inch insuring accuracy of fit in jack

Seats with set screws to receive tip or spade of phone cords insure a positive contact

Tip and sleeve are given a 300 volt breakdown test. Every plug must pass this test to qualify



Moulded bakelite shell of two pieces totally enclosing terminals and affording operator a firm, yet convenient, grip.

Nut for screw insert cannot be lost when plug is taken apart

Loop to relieve connection terminals of strain

Drawing shows interior view of plug with one half of shell removed

The plug is the KEY that unlocks the full possibilities of your receiver. No matter what you are getting off the air, you HEAR only what the plug lets through.

Buy a No. 15 Federal Plug for your radio phones or loud speaker if you want to know what your radio set can give you.

Buy a Federal Plug today—also take advantage of the other 130 standard radio parts sold under the same Federal iron-clad performance guarantee.

FEDERAL TELEPHONE MANUFACTURING CORP.
Buffalo, N. Y.



Federal
Standard RADIO Products

BOSTON
PITTSBURGH

NEW YORK
SAN FRANCISCO

PHILADELPHIA
BRIDGEBURG, CANADA

CHICAGO

Radio Digest

PROGRAMS
Illustrated

Published by the Radio Digest Publishing Company, Inc.
510 North Dearborn Street
Telephone: State 4372, 4373, 4374, 4375
Chicago, Illinois

E. C. RAYNER, Publisher

Eastern Office, 611-12 Times Bldg., Times Sq., New York;
Telephone Bryant 4909, 10462

Member of the Audit Bureau of Circulations

241
PUBLISHED WEEKLY

SUBSCRIPTION RATES

Yearly in U. S. and Possessions and Canada, \$5.00
Foreign postage, \$1.00 additional Single copies, 10 cents.

Vol. XII Chicago, Saturday, January 31, 1925 No. 4

Private Property

The Thing We Own We Call the Best

PERHAPS the world would be a better place to live in if there was no such a thing as private property. It might be better but it would be flatter. Anyhow, there would be no novelists in it.

A large part of our interest in life comes from making distinctions. You are not much interested in books, for instance, so long as all books look alike to you, nor in dogs, nor in automobiles, nor in Radio sets, until you begin to perceive individual differences. And there is nothing that heightens this power of perception like a sense of ownership—a feeling that this thing belongs to you and to nobody else.

It's odd, too—no doubt it would amuse a man from Mars—the way we carry on over this sense of the uniqueness of our possessions to inanimate things, manufactured things, utterly standardized things.

No boy ever built a Radio set, although its materials were merely the crystal, the cat's whisker, the oatmeal box, a little wire and some nails, that was not endowed with qualities inherent in itself alone; this particular set, he knows, whatever the experts may say, will do things that no other set, supposedly like it, can do. He got PDX or SPQR on it one night and his conviction that he did is unshakable.

And in this field, so new and strange and mysterious, cause and effect are such distant cousins anyway that the banker who by the day looks with a skeptical eye at collateral, or the lawyer whose cross-examination is the terror of disingenuous witnesses, becomes, when he puts on the head phones at night, as much of a boy as his twelve year old son.

Even when he boasts, it is not the big fish that he boasts about. The great opera singer and the famous political orator, roaring by from a two-kilowatt station on a five hundred meter wave, he disregards—or attempts to disregard—while he chivalrously tunes his applause ear to the cheepings of some little five watt station down in the corn belt. When his friend Jones boasts "We heard Galli Curci last night as if we had been right in the auditorium," he answers proudly, "I got the Presbyterian church choir at Altoona, Pennsylvania."

There is a new wrinkle in the game now. If you can prove you heard SPQR last night you send the proof, along with ten-cents, to that station, and they send back an imposing stamp with the mystic letters surcharged upon it. You stick that stamp in an album and invite Jones in. "I wrote them," you tell him, "that I heard the announcer say, 'stand by a moment, please. Jackie has just broken a string on his banjo but he will be ready for you in another minute.' He had said that, so I got the stamp." Poor Jones! There is no come back to that.

It seems rather cruel, at first, this putting bright romance to the touch of cold reality, but our confident belief is that it will take more than a postage stamp to deprive Jones of a conviction that there is something about a possession of his that makes it different from, and better than, his neighbor's. After all, if you really want a thing, you get it—even a proof of reception.

Profanity on the Air

Now the Air Is Polluted with a Different Dirt

RECENTLY a noteworthy judge in our courts allowed himself to become so angry that he swore at the state's attorney. This somewhat lowered the dignity of the judicial bench, not only for those concerned in the trial but in the general public mind when they read about it in the morning paper.

Not so very long ago in the excitement of a football game profanity spilled forth in the regular street lingo, and into the microphone, which was done purposely to lay stress on the plays, but this coming forth from a receiving set at the fireside was abominable. It is anything but gratifying to hear men of obvious culture and education lowering themselves to admit incompetency of expression by resorting to profanity as a means of forceful delivery, and it is awfully embarrassing to have a burst of profanity pour out of a loud speaker into the midst of a family circle. Whether it comes from a college bred man or not it makes it none the more acceptable.

RADIO INDI-GEST

Expedition Leaves Next Week to Open Indi's Station BLAH

The broadcasting station owned by Indi-Hissself, and located on the beautiful island of Walla Walla, in the South Seas, will open again in the near future. This station has been closed for some time owing to alterations and repairs being made to the equipment. With all the new features added, this will be the most powerful station in existence—and we haven't paid a license fee. (A. T. & T. please note.)

Don't forget to watch for the experiences of the hardy adventurers who are making the trip, as the story will read more like fiction, but, it will be the whole truth and nothing but the truth.

Followers of Indi-Gest desiring to secure reservations for the trip should write direct to Indi-Hissself as soon as possible, because the number of passengers will be limited.

The expedition will sail for the gem—"Walla Walla"—of the South Seas next week. Photographs will be taken to show those who stay at home all the beauties of this little island. Watch for them!

My Radio

By Rev. Marcus L. Gray

My Radio's the stuff,
Though static may be rough;
For it I've paid my dough,
And it is sure a go.

It climbs out in the sky,
And keeps a weather eye
On sermons, tunes and songs,
And forks them on its prongs.

It calls to lands afar,
Entices music's bar,
And thrills my very soul,
My heart it doth console.

My lonely hours are gone,
I fish around till dawn,
Sometimes the strain's sublime,
Sometimes not worth a dime.

This time it's all a jinx,
Acts like it had the drinks,
And then it soars on wings,
Like angels then it sings.

Anon it sounds a wheeze,
It isn't worth a cheese,
And then it sings so fine,
It's worth a whole gold mine.

Eckersley Being the Cheese

Dear Indi: Captain Eckersley, chief engineer of the British Broadcasting company, hopes that some day it will be possible for Radiophans to receive programs by following these instructions:—

"Take a clothes' line, damp it slightly. Stick a knife into one end and the other end into a piece of cheese. Put a pair of 'phones across it. Finis."

LONDON BOBBY.

The "DX" Bug

The clock on the wall goes tick-tick-tock,
The Radio-bug stung me.
The broadcasters send them thick and hot,
The Radio-bug got me.

The night speeds on on wings of time—
The Radio's fine you see.
The programs are better after nine,
I'm a Radio fan; get me?

The announcer just said, "until" 2 a. m.
A program fine you'll hear;
So tune her in to WTAM (Cleveland),
And your bed you'll not get near.
J. B. JAMES.

He Went to Stop the Little Rain Drops

Indi, u ole seamp: Wendall Hall, dry weather specialist, has just returned from CUBA! Answer me: Did he go to CUBA to BROADCAST? DID HE? Or didn't he? I know a lotta friends who've gone to Cuba in the past five years, BUT—they did not go to broadcast.
SPIDER WEBB.

Broadcasting for You Tonight

I'm broadcasting my thoughts for you tonight,
Across the miles and miles;
I'm trying to say, how glad I would be,
For just one of your smiles.

I'm sending a message across the waves,
That's full of love and cheer;
And though you are many a mile away,
I'm sure that you will hear.

I'm crowding the air full of thoughts of you,
Thoughts that are rich and free;
For I know if my message reaches you,
That you will think of me.

WILLIAM O. WINKLER.

He May Not Have Selectivity, But He Isn't Missing a Thing

Dear Indi: I know a fella who has a set so good that it'll receive three stations at once.

SECOND FIDDLE.

That "Chi-CAW-go" Will Wear 'em Out

Dear Indi: How many cans of Calumet Baking Powder would it take to raze the towers of WQJ, if it took me thirty-five minutes to figure out this question?

DUKE X.

Up to the Minute News

Recent Events in Radio



Condensed

By DIELECTRIC

Los Angeles fans were given a pleasant surprise when KFI's new super station came on the air early in January. Prior to the time the new set began operation it was predicted widely that the use of increased power by a station situated as KFI is, in the central business district, would result in blanketing for a radius of several miles. Some went so far as to state that crystal sets would be unable to tune out the new giant. The contrary turned out to be true. The new super set actually tunes sharper locally than the old 500-watt transmitter and is gaining thousands of listeners at distant points.

Another Radiocast station to put on some French concerts is WOC. The piano accompaniment to these songs was just about what it should be. Many times a voice or instrument is at great disadvantage because of the volume of the accompaniment. Very agreeable indeed was the singing of the great aria of Salome in the opera of Herodiade.

I don't know that many listeners could classify orchestras rendering dance music into bad, good and best—I admit my inability. It is not so difficult to judge of the ensemble work or quality of the tones produced, but if it's dance music why—that's what it is. Still I could find no fault with the dance program put on at WHB recently. The numbers followed with no waiting and the musicians were capable.

I listened to a program from WSAI, which had the marks of careful arrangement. Both instrumental and vocal solos were interspersed in a way to break any possible monotony. One of the vocal numbers is a melodious song and was very well rendered, so well indeed, that had I been able to applaud, a repetition would have been demanded for "Old Irish Mother O' Mine." It got down behind one's vest!

Sporting events have no appeal to some of the Radio public, yet to others it is the spice of all Radiocasting. Most sports are represented in the list of features sent through the ether, although at times it is necessary to be content with a second-hand description. One of the latter type was the marvelous race of Nurmi whose style of running and progress in the races was depicted through WGBS.

The Pacific coast has been entertaining by Radiocast for a long time, I mean pleasure resorts, but only recently has the foremost eastern resorts come on the air so as to be heard at a distance. "The World's Playground," WPG, the municipal Radiocast station at Atlantic City, has been fortunate to have the Traymore hotel orchestra to open their programs. The quality of transmission is good.

At the request of one of our readers I am calling the attention of WCX to what seems to be an error in program arrangement, or is it to afford respite for the announcer? In other words, why is it necessary to interpose five-minute waiting periods between numbers during the dinner concerts and afternoon programs? There are others to tune to.

For those who find great enjoyment in listening to jazz numbers, especially if they like them to follow one another with as little intermission as possible, the station to tune in is WCX. Out there in Detroit they seem to have every jazz selection at their finger tips and the musicians go from one to another without pause—except for the station announcement.

Demonstrating Radio Principles at Home

Chapter VIII—Experimenting with Push Pull Amplifiers

By J. E. Owen

RADIO has suffered because of a lack of satisfactory audio frequency amplification. Until recently, the public has been obliged to content itself with either of two forms of amplifiers, namely, transformer or resistance coupled. These were both straight cascade. The advent of the push pull amplifier was heralded with much joy and the general standing of audio frequency amplification was raised considerably, it being possible to obtain greater volumes with less distortion. Sadly

success to a marked degree, yet transformers still distort at the upper and lower limits of sound frequencies. Within these limits, however, distortion is negligible unless more than two stages of amplification are used. When a push pull amplifier is added to a two stage amplifier of the straight type, distortion of the first two stages is not lessened, but is amplified in the same proportion that the desired signal is. This is evidently, then, a poor practice.

isfactory results than it is possible to obtain from one using the same number of tubes including two stages of straight amplification and one of push pull. No loud speaker the writer has ever tried can handle all this amplifier can put into it when only moderately strong signals are in the input circuit. Most loud speakers will rattle on strong signals. Others may only buzz. Strong signals, regardless of their purity, may make any loud speaker distort.

from storage cell tubes stage for stage and is proportionately less when more than one stage is employed. Dry cell tubes cannot handle plate currents so large as those commonly used in storage battery tubes. Figure 2 is a modification of the circuit of figure 1 in which dry cell tubes of the 299 and 399 type are paralleled in the second stage. This requires the use of six tubes in a two stage amplifier. At first, it might appear that this is a rather extravagant method of handling the audio fre-

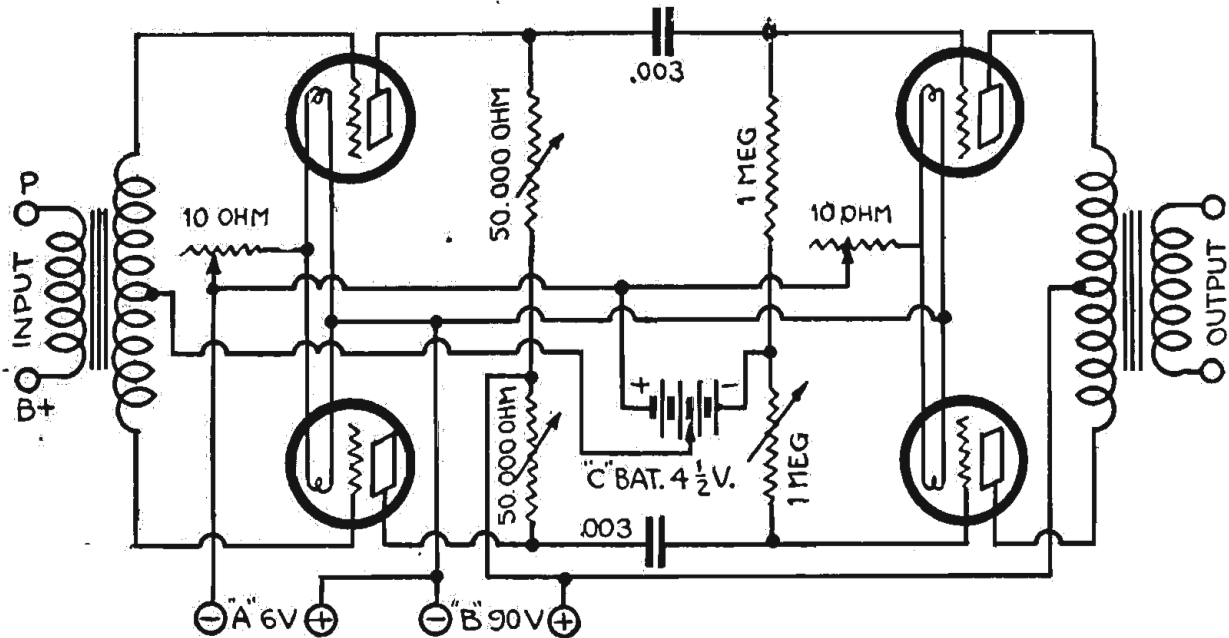


Figure 1

enough, though, the standard two stage amplifier was retained and the push pull amplifier was added only to obtain more volume.

Transformers inherently distort. Resistance coupled amplifiers are lower in efficiency. Push pull amplifiers use two tubes per stage. This reads like a pessimist's account of a shipwreck, but these are the facts that the experimenter must face when he enters the field of audio frequencies. The larger manufacturing concerns have spent enormous sums in an effort to improve audio frequency transformers. While their efforts have been crowned with

Two Stage Amplifier
An arrangement that will give excellent volume with a minimum of distortion is shown in figure 1. This is a two stage amplifier of the push pull type using transformer coupling between the input and the tubes, and also between the tubes and the output. Between the stages a push pull resistance coupling is used. Any standard brand transformers may be used. The writer suggests that variable resistance be used in this circuit and there are several good makes of variable resistances on the market.

This amplifier will give much more sat-

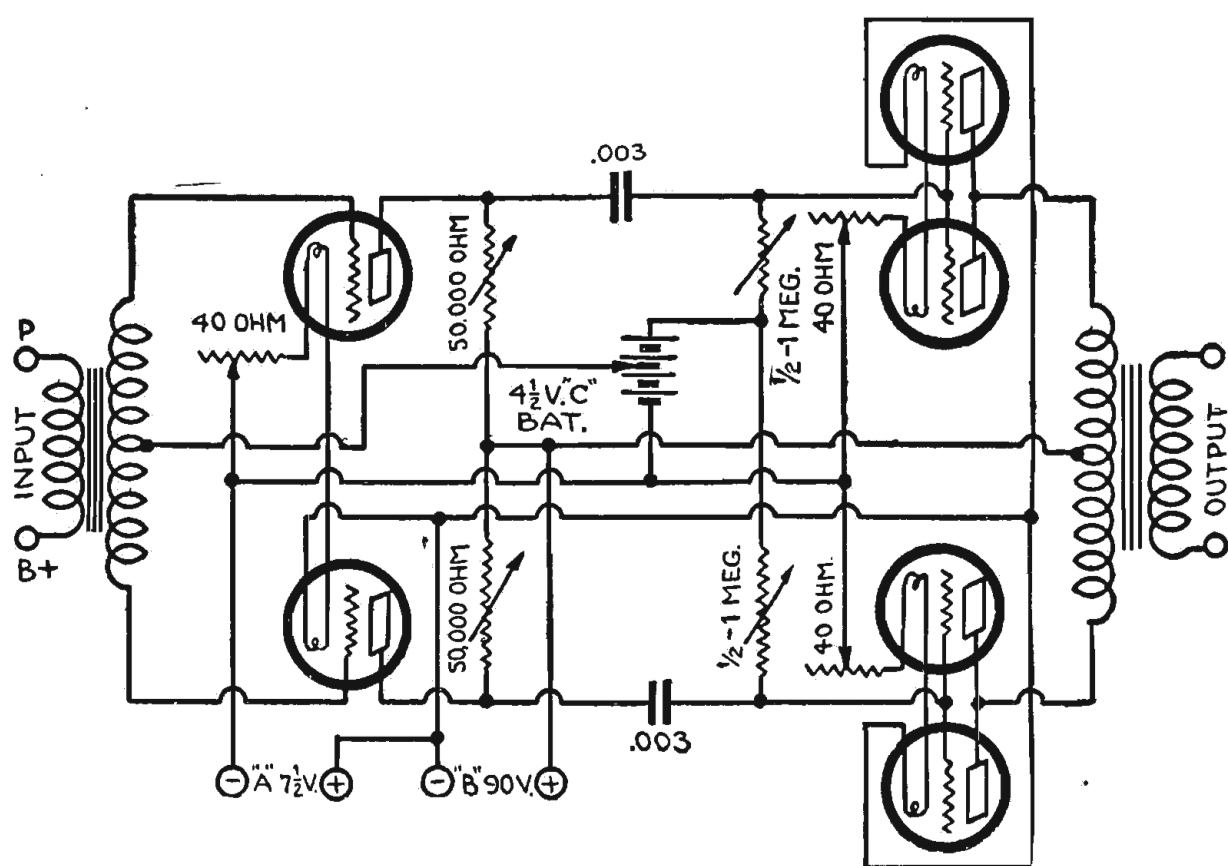


Figure 2

Storage Battery Tubes

The circuit of figure 1 is intended primarily for tubes of the storage battery type. However, dry cell tubes may be used. The amplification resulting from dry cell tube arrangements is not equal to that

frequency amplifier, but it is not unusual to see a nine tube set, five tubes of which are used directly or indirectly as Radio frequency amplifiers. The British almost ridicule the attitude of American Radio- (Continued on page 20)

Hansen "BIRD-CAGE" Radios



4-Tube Receiver
NIGHTINGALE\$32.50

A wonderful little set.

4-Tube Cabinet Receiver.
BLUEBIRD\$57.50

Easy to tune—long distance—selective.

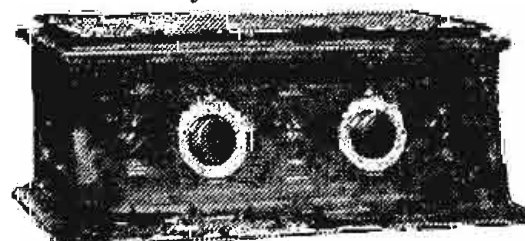
4-Tube Receiver.
WARBLER\$90.00

A very high grade receiver — very selective.

AMERICAN CREST.....\$150.00

This we believe to be the best 6-Tube loop set on the market.

We Announce the
5 TUBE RECEIVER
GOLDFINCH\$75.00



Bronze panel and Gold dials—Beautiful Mahogany Cabinet with space for B Batteries. This set looks and performs like a Million Dollars. We cannot offer anything better.

For further descriptions Write for New Catalogue

Dealers and Jobbers—Our line is interesting and profitable.



3 Tubes DO THE WORK OF 6



In the
CROSLY Trirdyn

Since the inception of radio, the results obtained with Armstrong Regenerative Receivers have been the goal of comparison for all others. Trick circuits have been designed to get around the Armstrong Patent, hoping to obtain results "just as good." This has resulted in the use of more tubes, necessary without, but unnecessary with regeneration.

The Crosley Trirdyn, because it employs Armstrong Regeneration and tuned radio frequency amplification, needs only three tubes. The results obtained in selectivity, volume, ease of tuning and logging cannot be excelled.

Before You Buy—Compare Your Choice Will Be a Crosley For Sale by Good Dealers Everywhere

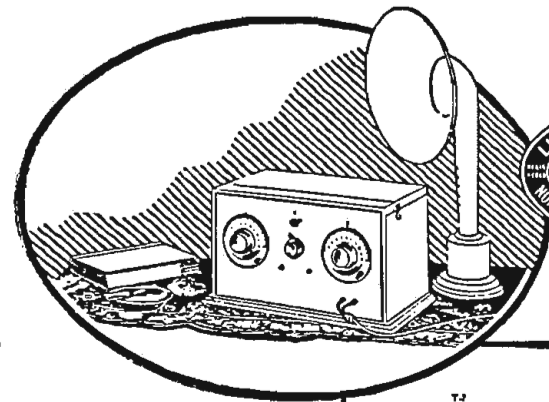
Crosley Regenerative Receivers Are Licensed Under Armstrong U. S. Patent 1,113,149.

Write for Complete Catalog

The CROSLY RADIO CORPORATION
Powel Crosley, Jr., President
1495 Sassafras St. Cincinnati, Ohio
Crosley Owns and Operates Broadcasting Station WLW



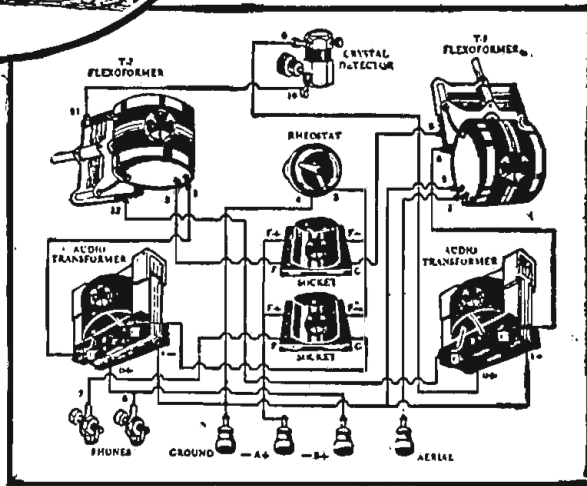
Combines best features of leading circuits



Licensed under U. S. Patent Office Serial No. 719,264 for Radio Receiver Systems.

PRICE
\$35

Unequaled Distance and Volume
—+—
Reflex Clarity!



That's the Shamrock-Harkness Two Tube Reflex which has created such a sensation among experimenters and amateurs by its amazing performance. It combines the best features of the most powerful circuits in use today.

Operates a loud speaker. Two tubes do the work of five. Cuts battery costs 60 per cent. Does not squeal or radiate. Starions can be logged. Amazing clarity and volume.

SHAMROCK MANUFACTURING CO.
Dept. 23-C, Market St., Newark, N. J.



The Shamrock Kit contains all parts necessary to make the marvelous Shamrock-Harkness Two Tube Reflex. Avoid all imitations—insist on the genuine Shamrock parts, specially designed to give you maximum results. Build your own set and know your radio!

SHAMROCK MFG. CO.
Dept. 23-C, Market St., Newark, N. J.

Please send me a copy of "Shamrock Radio Builder's Guide Book" containing diagrams and complete instructions for building 10 sets at prices ranging from \$15 to \$50. I enclose 10 cents (U. S. stamps or coin.)

Name.....
Address.....
Dealer's Name.....

THE ANTENNA BROTHERS

Spir L. and Lew P.

We Agree with Mr. Hoover



LOW LOSS INDUCTANCES

(Continued from page 15)

that the insulation on the coil will not be injured. After slipping this piece of bakelite into the coil the loop made at the twelfth turn can be untwisted and cut at its middle point. We will then have two separate windings, one of 12 turns and one of 68 turns.

The method of mounting this coil on condensers cannot be shown, as this will vary with every type of condenser used. It is suggested, however, that small right

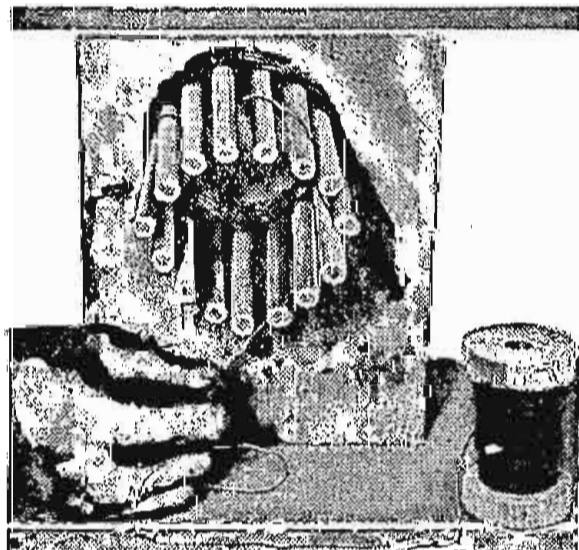


Figure 4 © K. & H.

angle brackets be made of heavy brass or aluminum, to be attached to the bakelite or hard rubber strip at the ends and to the rear end plate of the condenser. The condenser will then have to be mounted on the panel in such a way that the coil just described will be at an angle of 57.4 degrees with the baseboard. In the near future the writer hopes to give full details for the construction of a receiver utilizing these inductances. Tuning with these inductances, and a good low loss

condenser in shunt to the secondary, is a real pleasure, as the selectivity is remark-

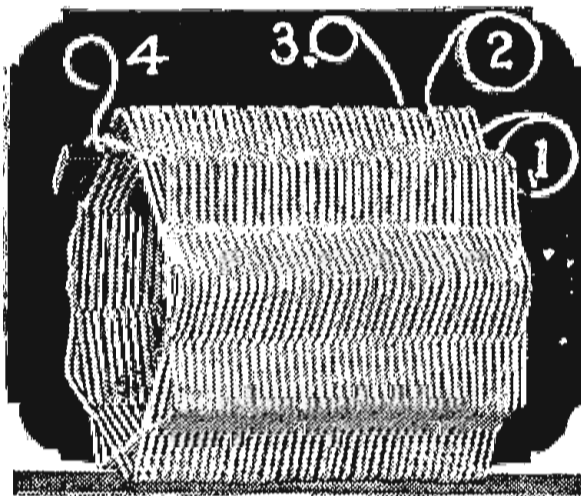


Figure 5

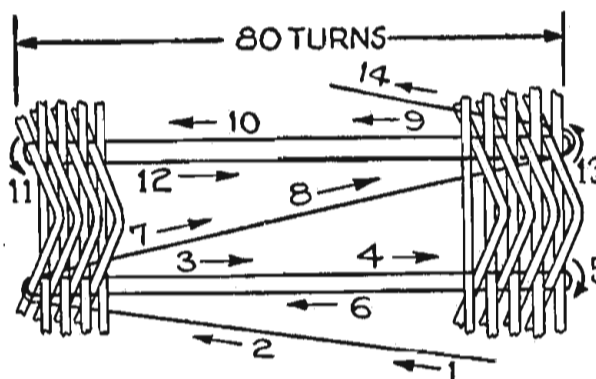


Figure 6

ably good and stations that were formerly found over 10 or 15 degrees on the dial will then be found on only 2 or 3 degrees

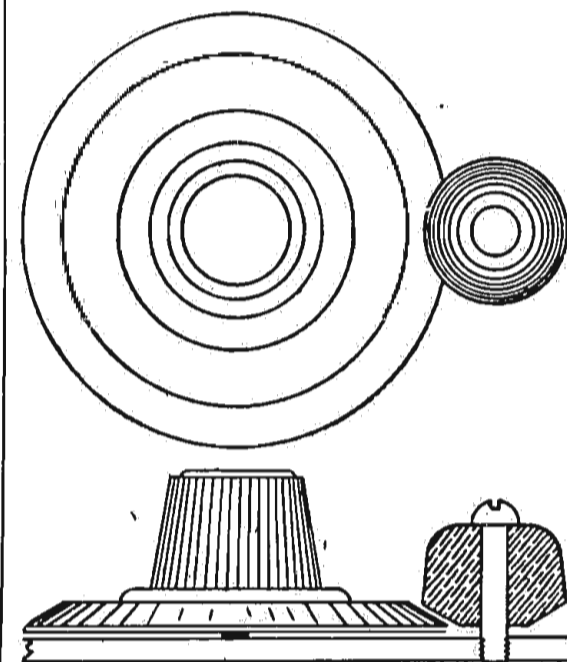
of the dial and a vernier adjustment is necessary to get on the very sharp resonance peak.

This unit, as described above, can be used as the antenna coupler and the air core transformer in a receiver comprising one stage of tuned Radio frequency detector and audio frequency. If more than one stage of tuned Radio frequency is utilized, and three of these units must be built into the set, care should be taken to see that they are well spaced and all at exactly the same angle to the baseboard. It may prove necessary also to remove from one to four turns of the primary of the second or third unit to prevent oscillation on low wave lengths. Another method of preventing oscillation might be that shown by the writer in the issue of December 20, utilizing three neutrons.

Vernier Attachment

A plumber's fitting called the Fuller ball when mounted on a screw with some play to touch the edge of the dial makes a very desirable vernier attachment. When used for a vernier it is pushed toward the panel front so that it will come in contact with the edge of the

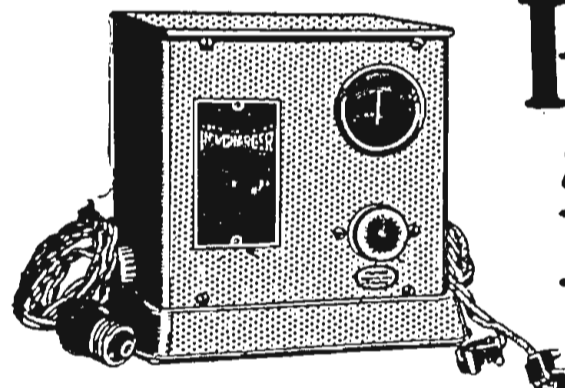
dial. This device is inexpensive, easy to apply and it gives a delicate touch



without cramping the fingers.—H. W. Brown, Cleveland, Ohio.

Handsome - Safe - Fast

GOLD SEAL HOMCHARGER



Radio's most popular Battery! Charger!

OVER 250,000 Radio fans have found the big capacity 5 ampere GOLD SEAL HOMCHARGER ideal for keeping their Radio batteries fully charged and operating at top efficiency. Connects to any lamp socket and charges all Radio "A" and "B" and Auto Storage Batteries over night for a nickel.

Simple, reliable, fool-proof. Can be operated by any one. Contains no bulbs, acids or fast wearing carbon

contacts. Only one moving part, replaceable for \$1.00 after thousands of hours' use.

Absolutely safe—no danger of shock or fire. Approved by Insurance Underwriters everywhere. Beautifully finished in mahogany and gold. May be used right in the finest living room. Price, \$18.50 complete for all currents.

Sold by all good Radio dealers, or shipped charges prepaid upon receipt of purchase price.

THE AUTOMATIC ELECTRICAL DEVICES CO.

215 W. Third, St. Cincinnati, Ohio

Free

Largest Manufacturers' vibrating rectifiers in the world. Write for booklet, "The Secret of Distance and Volume in Radio," containing information on this subject and fully describing the GOLD SEAL HOMCHARGER.

Free

DIETZEN Adjustable LOUD SPEAKER

At the Price of an Ordinary Pair of Head Phones

DEALERS: write for details

SEND NO MONEY!

ORDER BY MAIL
If your dealer cannot supply you we will ship you a complete DIETZEN JR-65 speaker ready for use. Written money back guarantee with each loud speaker.

COMPLETE with specially built DIETZEN adjustable loud speaker unit and plug.

TYPE JR-65 \$6

PLUS A FEW CENT POSTAGE
NOT a Head Set Unit

FREE!
DIETZEN RADIO LOG BOOK
WRITE FOR YOURS!

DIETZEN INC.
71 Cortlandt St.
Dept. D. New York

MAKERS OF PRECISION INSTRUMENTS SINCE 1889

SPECIAL FEATURES

- Absolute non-metallic sound.
- Permanent Crystallized finish.
- No batteries necessary.
- Specially constructed adjustable unit with gold plated diaphragm.
- Unconditionally guaranteed for one year from date of purchase against mechanical defects of any kind.

SPECIFICATIONS:
Diameter of Horn - 9 INCHES
Height 17 INCHES

GUARANTEE:
1 one-money back at any time within 10 days after purchase if not as represented.

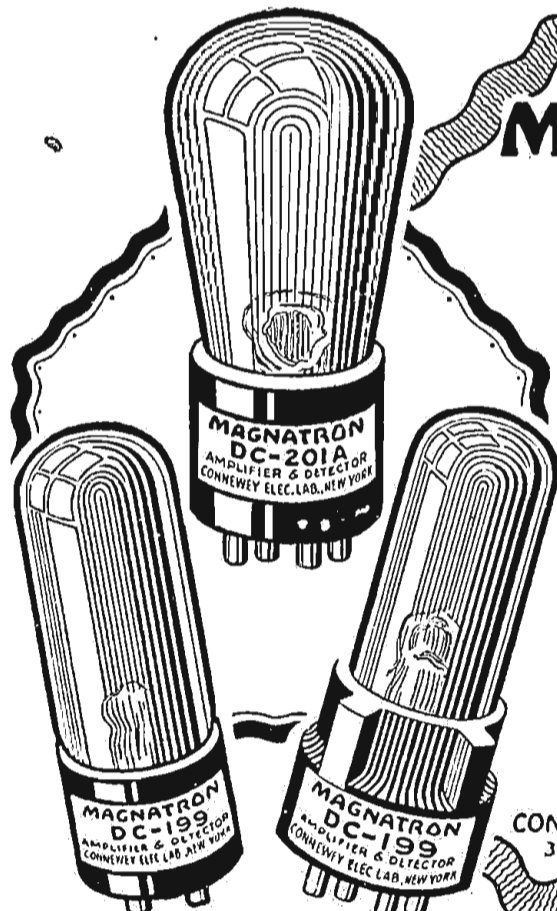
MAGNATRON

A GOOD set deserves Magnatrons. If you want clearer reproduction and greater volume, then use Magnatrons exclusively.

MAGNATRONS know no superior today. They have been improved to the point where their continued leadership is assured.

Your dealer will be glad to show you the MAGNATRON DC-199, the MAGNATRON DC-201A, and the MAGNATRON DC-199 (large base).

Each of these types lists at only..... \$4



CONNWEY ELECTRIC LABORATORIES
309 Fifth Avenue NEW YORK CITY

Construction of the Six Tube Hetduogen

Part VI—Adjusting and Operating

By C. E. Brush

ON looking over the preceding article of this series the writer notes that a very important item was omitted both from the list of parts and figures 10 and 11, the wiring layouts. This is unfortunate for those in rural districts who have some difficulty in obtaining parts locally as it takes several days to secure parts by mail.

The item in question is a .5 mfd. fixed condenser indicated in figure 2, and connected across the oscillator B+ lead and A+ lead. We are indebted to Mr. Michael Diller of Buffalo, N. Y., for calling this to our attention in his letter of January 15, in time to be included in this concluding article.

As to placing it, refer to figure 11. Just to the right of holes 4 and 5, and above binding post Z, is a space on the underside of the baseboard. The condenser can be secured there with its terminals to the left. One terminal connects to post Z, the other to the +A bus where it goes up through hole 8.

We can all feel indebted to M. Joseph Murry, of Titusville, Pa., for a first-class suggestion on soldering tinfoil. To quote his letter of January 12, "I find the operation is simplified by having the foil pressed against a cold metal surface, when, after a little practice, a drop of solder may be applied from the point of the iron without melting the tinfoil." The writer tried this today and it facilitates the operation greatly. Try it first on some foil scraps and then on the foil segment of your filter condenser.

We have left to this chapter two points which some might say more rightly belong to the wiring explanation. These are the use of two extra binding posts shown, and the high resistance unit at the right of the sub-panel.

The two binding posts are shown so that the builder may use C battery grid bias on the audio amplifier tubes, if it should be found to be of benefit. As to whether the C battery is a necessity or not depends a great deal upon the particular transformers used and, while it is considered good practice to use the C battery, the writer has found that, when using certain transformers, the third stage of audio amplification has been more easily controlled without it. The use of three stages of audio has usually been the occasion for the insertion of some method of doing away with the howl which is almost invariably produced in the third stage bulb. Several methods of connecting-in condensers and high resistance leaks are prescribed for this condition, any one of which may produce the desired result.

Controlling Three Stages

The method we will recommend in this instance is to connect the variable high resistance directly across the grid and plate of the third audio tube. One side of the unit is to be connected to the grid post of the socket, and the other side of the unit should go to the plate post of the socket.

Referring back to the use of the C battery, it has been found that with some transformers, this method will not produce as good a result as if the C battery is not used. Therefore, we advise leaving out the C battery for the initial try-out, and if it can be found to be of advantage during later trials you may make, the C battery can be connected in.

Now assuming that the set is completely wired, and ready for the first try-out, the first thing to be done is to connect

up the batteries, aerial and ground. Reading from left to right, the binding posts at the rear edge of the sub-panel are as follows: Aerial, ground, A battery negative, A battery positive and B battery negative, B positive 45 volts, B positive 90 volts, last two for C battery.

The aerial recommended for this set is a single wire 50 to 75 feet long, exclusive of lead-in. The ground should be the usual water pipes, radiator pipe, or rod driven into moist earth.

Hook up aerial, ground and batteries as above and with the loud speaker plugged in at the second stage jack, and the filter coil primary as close to the secondary as possible, we are ready to pull the filament switch and get into operation. It is assumed that no errors have been made in wiring, and that from the mechanical point of view we are actually ready to adjust and tune the set.

Pull the battery switch, and turn the rheostats full on. The dials are assumed to have been placed in position such that when the condenser plates are entirely out, the dials are at zero.

First Regeneration

Starting with the center dial, we find that as we rotate this dial there is no noticeable result until it is turned in to about 15 to 20, when a change is noted in the sound coming from the horn. If followed closely, this change will be noted to take place with a distinct thud, produced when the dial reaches a certain position. This thud denotes the fact that the first detector has been thrown into the oscillating condition, by result of over-sufficient feedback or regeneration. This is as it should be, and shows that we will be able to control the amount of regeneration (and volume) with this 3-plate condenser.

Now with the 3-plate condenser turned in far enough to produce the oscillating condition in the first detector, if we turn either of the other two dials we will note a series of distinct clicks as the dial is rotated, which in slow motion are noted to be individual whistles. These whistles are the result of the oscillations from the oscillator tube mixing with those present in either or both of the detectors, by reason of over sufficient feedback, or regeneration, in either of the detectors. These are not carrier wave whistles and cannot be tuned in, and before any station can be tuned in, it will be necessary to adjust at least the second detector feedback to a point just below the oscillating condition.

The special condenser built into the filter coil is for controlling the feedback or regeneration in the second detector, and the adjustment of this condenser is the next thing to be explained. By setting the center dial on the panel at zero, we know that we are not producing oscillations in the first detector, and in this position we can make the adjustment on the regeneration in the second detector.

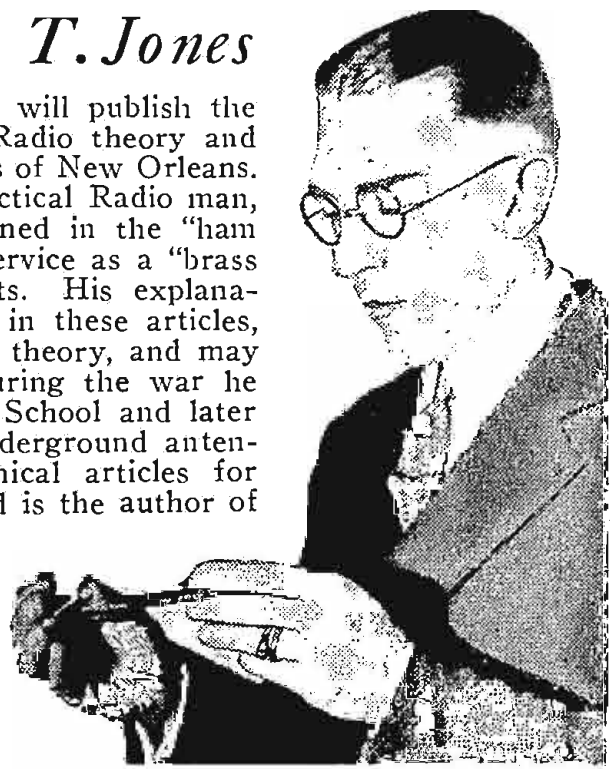
Adjusting Second Regeneration

Move the copper plate section of the special condenser until the copper plate is covering the tinfoil plate completely. This is the maximum capacity position, and the amount of regeneration produced by this setting of the condenser has brought the second detector to the oscillating point, which is evidenced by the series of whistles noted when the right hand dial on the panel is rotated. We must reduce the feedback in the second detector until we get the tube just out of the oscillating position. By adjusting the special condenser a little at a time towards the mini-

Introducing Mr. E. T. Jones

IN THE next issue, Radio Digest will publish the first of a series of articles on Radio theory and practice, written by Edward T. Jones of New Orleans.

The author of this series is a practical Radio man, much of whose knowledge was gained in the "ham amateur" days before 1912 and in service as a "brass pounder" on the United Fruit boats. His explanations and suggestions, as contained in these articles, can therefore be taken as facts, not theory, and may be followed without hesitation. During the war he was in charge of the Naval Radio School and later transferred to research work on underground antennas. Mr. Jones has written technical articles for nearly all the Radio publications and is the author of several books on Radio. Like other old timers, his favorite sport is experimental work. Among the many attributes attached to Mr. Jones we might mention that Leatrice Joy, well-known motion picture star, is a cousin, and has set a high goal for Mr. Jones to live up to.



mum capacity position, we gradually reduce the regeneration, until at a certain point the tube will cease oscillating, which condition can be known by the loss of the whistles which were found when turning the oscillator condenser dial, and which are now absent.

Having adjusted the feedback in the second detector to the point where the tube stops oscillating (a few trials will show the point of best operation for this setting), we can forget this particular part of the apparatus and the rest of the tuning will be done with the dials on the panel.

Dials Tune Together

As is the case with other regenerative sets, the feedback control should always

be kept at a position just below the point where the oscillating condition is produced. We are now referring to the center dial on the panel. With this dial set at a point near to the oscillating point of the tube, we begin our hunt for stations on the other two dials. These two dials run approximately even (or together) for a particular wave length (or station), and should be rotated slowly in unison until a station is heard. If you are within a few miles of a broadcasting station, you will have no trouble in tuning it in, but even on the nearby stations you will note immediately the sharpness of the tuning,

(Continued on page 20)

RADIO STAMP ALBUM

Includes list of broadcasting stations in United States, Canada and Europe, also handy Radio Log. Spaces for stamps issued by broadcasting stations for each state.

Finished on high grade paper and handsomely bound with cloth cover.

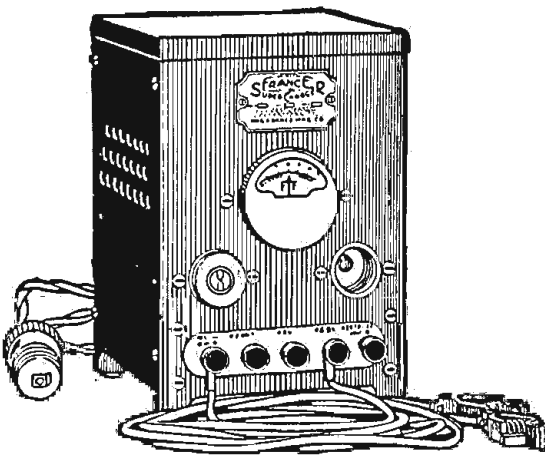
A future, lasting record for your radio.

If your nearest dealer is unable to supply you we will ship C. O. D. subject to satisfactory inspection. Price \$1.60.

Start Your Album Today

DES MOINES PUBLISHING COMPANY
Hubbell Building, Des Moines, Iowa

THE SILENT FRANCE MULTI-DUTY SUPER-CHARGER



Up to 120 Volts of "B" Battery Can Be Charged Without the Usual Wire Changing!

No fuss or trouble—just connect charger clips to battery terminals and turn on the current. The France Super-Charger charges up to 120 volts of "B" battery IN SERIES, economically and quickly. It also charges 2, 4, 6 or 8 volt "A" or Auto batteries at a 5 to 7 ampere rate, tapering as the battery is charged.

The France Super-Charger is noiseless, and non-critical in adjustment. Sparking and sticking contacts have been eliminated by the use of special alloy contacts and a new application of the push-pull principle. No bulbs to burn out, no acids to replenish—an ideal charger for home use.

Price of Super-Charger, \$22.00
West of the Rockies, \$23.00
Canadian Prices on Request

DEALERS and JOBBERS: Write us today for prices and full information on our sales and advertising plans.

The FRANCE MFG. CO.
10321 Berea Rd. Cleveland, O.

ZENITH
KENNEDY
Radiodyne
Pathé
ULTRADYNE
MURDOCK
MICHIGAN
Howard
QZARKA
THERMODYNE
Pfanstiehl
PHENIX
DERESNADYNE
MALONE LEMON
AUDIOLA
GATES
GLOBE
HARMONY
ODELL FERRY
PEERLESS
MASTER RADIO
MUSIO
SAAL AND OTHERS
MANY OTHERS

Super-Het Builders!

"Radio" and other leading publications recommend in highest terms the Thordarson 2:1 ratio transformers for the Best Super-Heterodyne—Take no others!

34 fine set builders!
Use
THORDARSON
Super TRANSFORMERS
Proof they're Best!

Chosen—after stiffest tests—by the majority of quality set builders. Not surprising, however, when you remember they're made and unconditionally guaranteed by the world's oldest and largest exclusive transformer manufacturer. Follow the lead of the leaders—build or replace with Thordarsons. Recommended by best dealers. Audio frequency: 2-1, \$5; 3½-1, \$4; 6-1, \$4.50. Power Amplifying pair, \$13. Interstage Power Amplifying Transformer, \$8. Write for latest bulletins.
THORDARSON ELECTRIC MFG. CO. CHICAGO

DEMONSTRATING RADIO

(Continued from page 17)

phans towards sensitivity and quality. Their claim is that the tendency is too much towards sets of sensitivity and not towards sets that give outputs of really good tonal quality.

reduce the voltage across the terminals of the output transformer so that the feedback will not be so strong. This resistance is variable, consequently, the amplifier may be adjusted for best reception. The theory of this amplifier is that the signals are first fed through push pull and then fed back, the tubes operating in parallel.

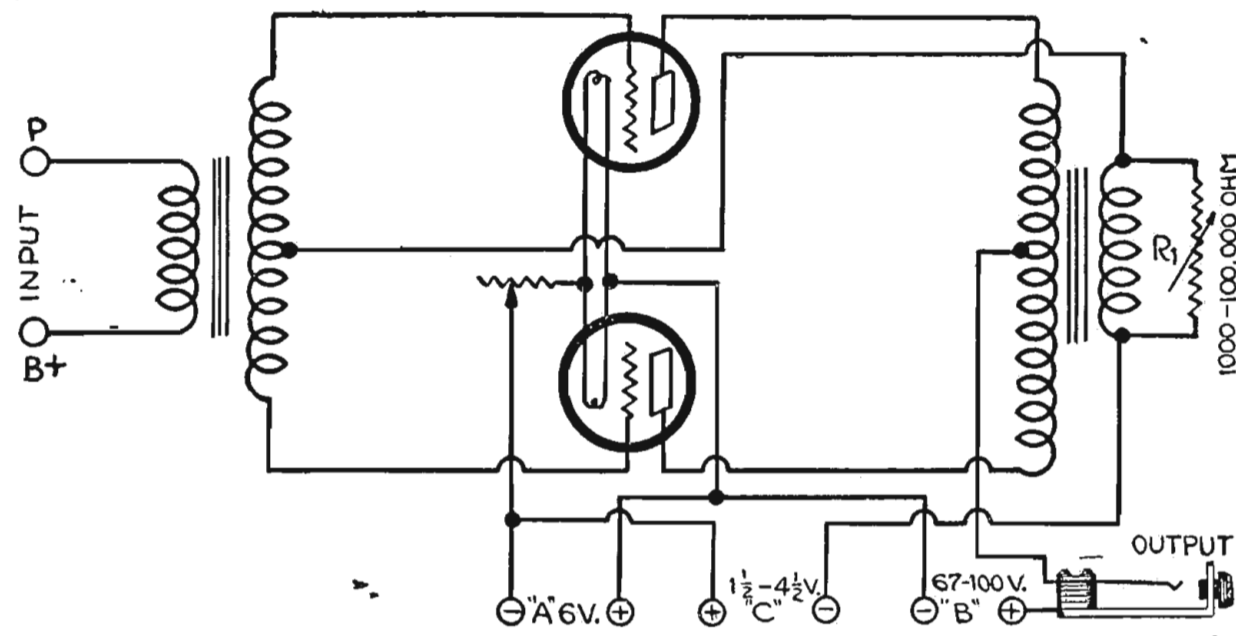


Figure 3

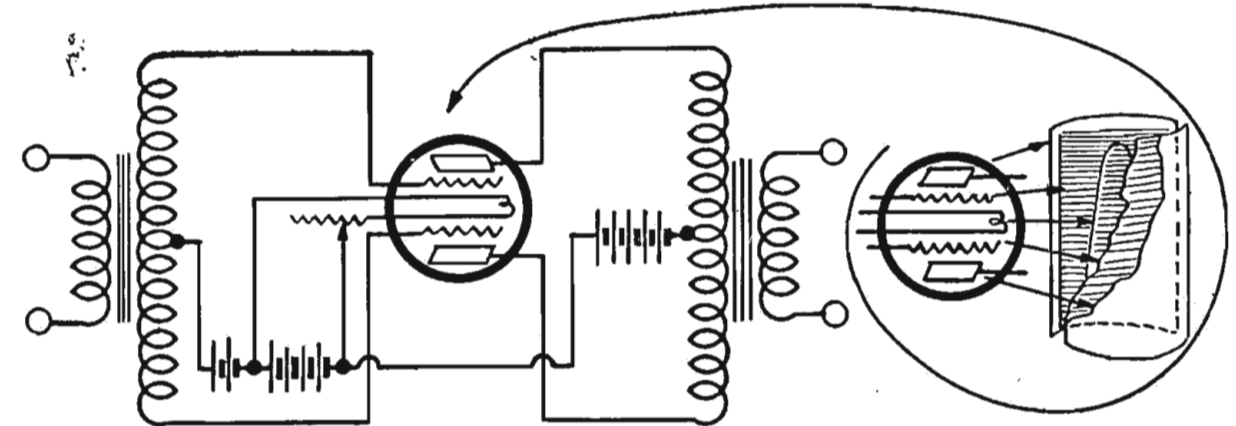


Figure 4

The filament arrangement, it will be noticed, is out of the ordinary. In the filament circuits, the tubes are connected in series in groups of two. This gives the same amperage through them, but requires a higher voltage across the A battery line. The total current draw for these six tubes is .18 amperes. Each tube requires across its filament terminals a drop of only 3 volts, but 3 volts of battery is not sufficient since the voltage of a cell diminishes with use. With tubes in series, and allowing 1 1/2 volts for drop in the cells themselves, due to internal resistance and deterioration, the line voltage should be only 7 1/2 and only five cells will be required. With the usual arrangement, to obtain the same battery life operating the same number of tubes, six dry cells are necessary. The series arrangement, then, results in a considerable gain in A battery economy.

Storage Battery Pressure

Another advantage of this filament arrangement is that a 6-volt storage battery may be used. When the battery is nearly discharged, the output may not have the desired volume, but 6 volts is permissible for a storage battery since there is not an appreciable dropping off in the terminal voltage due to internal resistance and deterioration of the battery. Storage batteries, as previously mentioned in this series, when fresh from the charger often test over 7 volts.

There has been developed within the past few months an audio frequency amplifier from which good results may be obtained experimentally. It is shown in figure 3, except in this figure there is added a resistance R1. Its function is to

As usually operated, this amplifier is rather unstable.

Vacuum tubes that are now on the market were originally designed for straight amplification only. There are a few Radio men in the country who have the apparatus for experimenting with vacuum tubes. In figure 4 is a hint. It is a push pull

TRY US! RADIO DEALERS!

We are exclusive Radio Jobbers and DO NOT RETAIL.

Howard—Crosley Liberty—Day-Fan Receiving Sets

Complete line of parts. We Sell to Dealers Only.

Write for Catalog! TAY SALES CO. 6 N. Franklin St., Chicago

tube. There are two plates and two grids, a pair on each side of the filament. The action during operation is merely to make the electronic flow shift from side to side. Connections to this tube are shown. Its double grid construction is not to be confused with that of the Solodyne tubes which were recently offered to the American public for the first time.

(CONCLUSION)

SIX TUBE HET-DUO-GEN

(Continued from page 19)

and on further stations, the points at which the stations will be found will be quite critical, and a vernier arrangement of some sort will be found to be an absolute necessity.

As with other sets it will be a matter of patience and careful tuning to get your first list of stations logged, after which the others will be more easily located. The center dial is to be used as a volume control, turning the condenser towards the maximum position for more sensitivity and volume.

The position of the primary coil of the filter, in its relation to the secondary coil, will have the following effects on the operation of the circuit: When placed as close to the secondary as possible, the tuning on the dials will be somewhat less critical than when moved further away along the rod. In other words, the selectivity can be adjusted to your particular requirement, according to your distance from local stations. You will find that at each position in which you may try the primary coil, the setting of the special regeneration control condenser will have to be changed for best results in each position. When the primary winding is closely coupled to the secondary, more capacity is required to produce feedback to the oscillating point; while, when loosely coupled, or moved further away (with resulting sharper tuning), less capacity is needed. The sensitivity of the second detector is controlled by the amount of regeneration produced and, while not critical in adjustment, best re-

sults will be obtained when working both detectors as near the oscillating point as possible. When adjusting to this condition a distinct thud will be noted when the two tuning dials are rotated to a resonant point for a particular wave length. To use the third stage, move plug to last jack. No doubt you will immediately be greeted by a tremendous howl which is the result of overloading the third tube by reason of the three audio stages used. If so, to eliminate this howl, it is only necessary to adjust the high resistance unit at the right hand end of the sub-panel to the point where the howl disappears.

(CONCLUSION)

Antenna Circuit

If your primary circuit does not tune sharply do not become discouraged, for this is due to the high resistance of the antenna circuit, and beyond making sure that you have a good ground connection, there is little that can be done about it.

Wire for Various Uses

Wire for winding inductances comes in many sizes and different insulations. There are single and double cotton-covered wires, usually listed as s.c.c. and d.c.c. respectively. And single and double silk-covered wires—s.s.c. and d.s.c. There is also a wire with an enamel covering. All of these wires may be used for coils, but with slightly different results. The size of the wire depends upon its use. In the wire gauge that is used for copper wire, the higher the number the smaller the wire. For coils that are to be inserted in the aerial circuit, the size should be preferably between 18 and 22. In the secondary and other circuits, the size may range from 20 to 26. Smaller wire than this would reduce the efficiency.

ROICE Radio Tubes



Economical and Powerful CUT your tube expenses in HALF. Here's "Roice," an efficient and durable tube that gives longer service and greater satisfaction. Powerful! Increases range and volume with maximum clearness. We sell direct only. You save by this plan; that enables us to sell "Roice" at this low price. Type 00—5 Volts, 1 Ampere Detector Tube. Type 01A—5 Volts, .25 Ampere Amplifier and Detector. Type 99—3-4 Volts, .06 Ampere Amplifier and Detector. Type 99A—3-4 Volts, .06 Ampere with Standard Base Amplifier and Detector. Type 12—1 1/2 Volts, .25 Ampere Platinum Filament Amplifier and Detector.

ALL Shipped Parcel Post C. O. D. STANDARD \$2.50 TYPES

Type 02 5-watt Transmitters, \$3.00

All Tubes Guaranteed

to give best results in Radio Frequency. Also for high-powered circuits such as Neutrodyne, Reflex and Super-heterodyne sets.

When Ordering Mention Types

ROICE TUBE CO.

21 Norwood St. Newark, N. J.

The Crystalstat

PRICE \$2.50



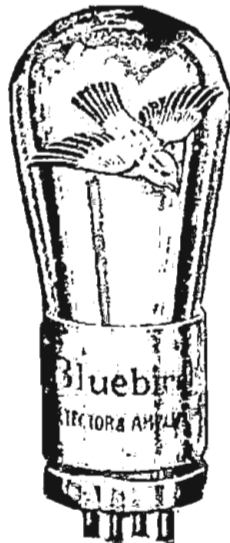
The Ideal Reflex Detector but equally suitable for crystal sets

The Crystalstat embodies the following features: A super-sensitive crystal in an air tight enclosure. A brush cut whisker of gold tinsel strands. A micrometer adjustment by means of which the most delicate adjustment may be had. The multiple contacts of fine gold filaments prevent howling and gives light but sure contact. The crystal is our wonderful Star-ite, the pick of the Earth's best crystal. The Crystalstat attaches through one 5/16" hole in the panel so that only the control knob shows on the face of the panel.

Packed in one dozen lots for dealers Ask your dealer to supply you or you may send for one C. O. D. with your money back if not completely satisfied. DEALERS and JOBBERS please get our catalog of crystals and detectors and our liberal distributing proposition.



BLUEBIRD Radio Tubes



Distinctly New AND EFFICIENT, satisfying every radio fan's wish in performance and price. Our direct sales plan enables us to sell at this low figure. "Bluebird" assures increased range and undistorted volume.

- Type 400—5 Volts, 1 Ampere Detector Tube
Type 401A—5 Volts, .25 Ampere Amplifier and Detector
Type 499—3-4 Volts, .06 Ampere Amplifier and Detector
Type 499A—3-4 Volts, .06 Ampere with Standard Base Amplifier and Detector
Type 412—1 1/2 Volts, .25 Ampere Platinum Filament Amplifier and Detector.

All Standard Types . . . \$2.50

TYPE 402 5 WATT TRANSMITTERS.....\$3.00

EVERY TUBE GUARANTEED to work in Radio Frequency. Especially adapted for Neutrodyne, Reflex and Super-Heterodyne Sets.

Shipped Parcel Post C. D. D. When Ordering Mention Type

BLUEBIRD TUBE CO.

200 Broadway NEW YORK CITY

Index Your Set with

RADIO IN DEX

NOTHING else like it. By writing in your dial readings, RADEX is automatically cross-indexed five ways. Lists every broadcasting station in the United States, Canada, Cuba and Mexico. Gives stations by cities, dial readings, wave length, frequency and call letters. Any station can be instantly referred to. Your set automatically calibrated by dial readings. Looks like a big dollar's worth—but sells for a half. New 1925 edition now on sale at dealers or direct from us.

Dealers and salesmen write for proposition

THE RADEX PRESS

213 Euclid Arcade Annex CLEVELAND, O.



12 Cells 24 Volts Solid Rubber Case \$3.50 COD SPECIAL

INTRODUCTORY PRICE

For a limited time only, and to introduce this new and superior Storage "B" Radio Battery to the Public, we are selling it for \$3.50. Regular Retail Price is \$5.50. You save \$2.00 by ordering NOW. A finer battery cannot be built than the

World Storage "B" Battery (12 CELLS—24 VOLTS)

To ten million homes with Radio Sets—and to countless millions of prospective buyers—the WORLD Storage "B" Battery brings a new conception of battery economy and performance. Here is a battery that pays for itself in a few weeks—will last for years and can be recharged at a negligible cost. And you save \$2.00 by ordering now.

A Superior Battery Equipped With Solid Rubber Case Has heavy duty 2 1/8 in. x 1 in. x 1.4 in. plates and plenty of acid circulation. Extra heavy glass jars allow ready observation of charge and prevent leakage and seepage of current. It holds its charge while idle, at constant voltage. You will find this battery a boon to long distance reception. It does away with a great many noises so often blamed on "static." Mail your order today.

SEND NO MONEY

Just state number of batteries wanted and we will ship day order is received. EXTRA OFFER: 4 batteries in series (56 volts), \$13.00. Pay Expressman after examining batteries. 5 per cent discount for cash in full with order. Send your order NOW and save \$2.00.

WORLD BATTERY COMPANY Makers of the famous World Radio "A" Storage Battery 1219 S. Wabash Ave., Dept. 76 Chicago, Ill.

SAVE \$2.00 BY ORDERING NOW!

Make BIG MONEY! IN RADIO

We Need Men—Can You Qualify?

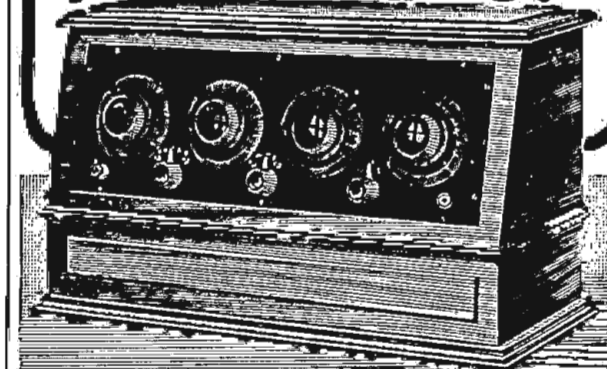
Ozarka representatives make real money because they give real values and deliver a real service. For instance, there is a 4-tube Ozarka Instrument for loud speaker operation, giving wide range of reception at \$39.50. Our men demonstrate Ozarka Instruments and Install. The Instrument makes the sale easy by its performance. We train you to know radio and our methods make you worthy to wear the Ozarka button as our accredited representative. Previous experience is not necessary. In fact we prefer to do our own educating. If you have a clean record, are industrious, and have saved up a little cash, here's a real opportunity, if you can qualify for an exclusive territory. We already have 2247 representatives. Territory going fast.

FREE, LARGE Illustrated BOOK

WRITE Today for illustrated book No. 101 that gives the entire Ozarka Plan. Don't fail to give the name of your county.

OZARKA, Inc. 841 Washington Blvd. CHICAGO

4 Tube Sets As Low \$39.50



Improvements on De Forest Circuit

Old Faithful Sure Fire Hook-up Gives Results

While there are numerous circuits and methods of improving same are being placed on the market every day they nearly all hinge on the old De Forest

WORKSHOP KINKS EARN A DOLLAR—

THERE are many little kinks worked out at home that would aid your fellow Radio worker if only he knew about them. There are new hook-ups, new ways of making parts and various unique ways of operating sets that are discovered every day. Radio Digest is very much interested in obtaining such material. Send them in with full details, including stamped envelope, so rejected copy may be returned. The work must be entirely original, not copied.

RADIO KINKS DEPARTMENT
Radio Digest,
510 North Dearborn St., Chicago

regenerative (Armstrong) and most of them use speech improvements with which cost prevents the mere novice from experimenting. This hook-up can be made by any one familiar with the common regenerative hook-up and can use a few tools.

For quiet operation, clarity of music and speech, ease in construction, small first cost and up-keep, the pinkeddyne cannot be exceeded for distances on loud speaker reception up to 1,500 miles.

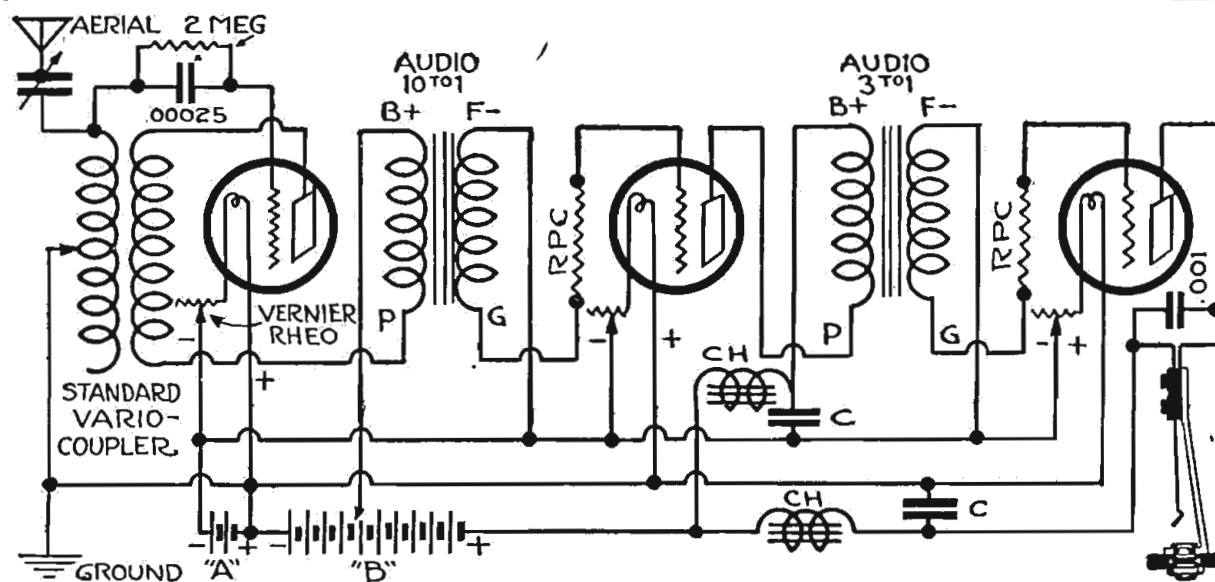
After the feed back that may be encountered by too close placing of transformers, tubes, sockets, etc., in a set, the next most troublesome source is the B battery. When it is considered that the plate circuits meet at the B battery it is indeed not very difficult to understand that inter-action between stages is a frequent occurrence. If it were not for the cost it would be indeed better to use separate B batteries for each stage and tube.

The arrangement of chokes and condensers, as shown in the pinkeddyne, will to a great extent solve this problem and is well worth trying by both the novice and DX hound. The chokes may be the ordinary primaries of the bell-ringing transformers. The condensers should be two mfd. capacity.

The main function of the chokes CH is to prevent the audio-frequency currents from flowing into the B batteries, while they allow the direct current from the B battery to flow to the plate.

The condensers C, by-pass the audio

PINKEDDYNE FEED BACK HOOK-UP



frequencies that are choked by the chokes CH and allow them to reach the filament but without having to pass through the B battery to do so.

The very small coils RFC are merely very small radio-frequency chokes placed in the grid circuits of the two amplifying tubes to block stray radio frequency currents that may reach the amplifier. These chokes are constructed by winding eighteen turns of number 26 wire on a lead pencil and attaching to a piece of cardboard or bakelite for mounting on base-board or in center of lead concerned.

A standard variocoupler has been used with wonderful results. Also a standard low loss 23-plate condenser is used in the aerial circuit. A .00025 grid condenser is used with about a 2 meg. leak. It is worth the using of a vernier rheostat for the detector tube, while one rheostat may be used for the two amplifier tubes if desired with about as good results. One 10 to 1 audio transformer is used in the first stage and a 3 to 1 in the second. Any standard wet battery tube may be used which will detect in detector circuit and amplify in the amplifying circuits. From 18 to 22½ volts B battery for detector and 45 to 67½ in amplifying circuit is used, according of course to the kind of tubes used. This can be easily arrived at by trial. Six-volt wet battery is always preferred in this kind of a hook-up.—M. C. Williams, Rantoul, Illinois.

Remove Moisture in Coils

Broad tuning and weak signals are often the result of moisture collecting in the insulation of the tuning coils. They may

not feel moist to the hands, but the dampness is there just the same. You will be surprised at the improvement that follows a good drying out in the sunlight or by placing the apparatus near the stove.

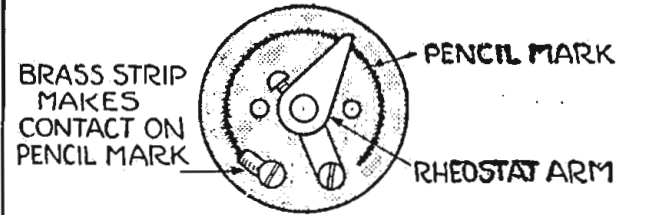
Geared 80 to 1

Easy to tune—
New principle prevents all back lash, gives infinite tuning precision. Fits all standard condenser shafts.
At your dealers **\$3.50**
MYDAR RADIO CO. NEWARK, N. J.
9 N. Campbell St.

ACCURATUNE
REGISTERED TRADE MARK U.S. PAT. OFF.
MICROMETER CONTROLS

Adjustable Grid Leak Is Made from Rheostat

A very efficient grid leak can be made from a discarded rheostat by removing the resistance wire and putting a heavy



pencil mark in place of it. The arm will make a contact on the pencil mark as it rotates, thus varying the resistance.—G. Ross, Houston, Texas.

No More B Batteries

Make Your Own B Current

Supply unit and run your set from regular A. C. house current. Easy to hook-up as a crystal set. Operating cost is negligible. Furnishes up to 125 volts B current.

No A. C. hum! The Molliformer filters it out. Does not use tubes.

Complete essential parts and instructions to make unit.....\$18.50

Individual Parts Sold Separately

Write for Literature

C. E. JACOBS

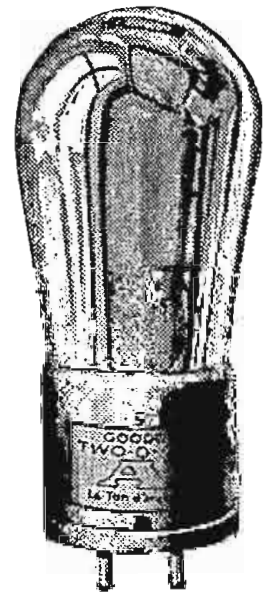
2802 N. Kedzie Ave. Chicago

The "Goode" Two-o-One

A

Le Ton d'argent

Guaranteed



BY MAIL ONLY
\$2.39

Postpaid

QUARTER AMPERE AMPLIFIER-DETECTOR RADIO TUBE

GUARANTEED SATISFACTORY

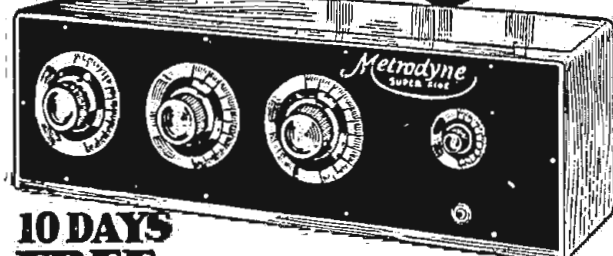
All "GOODE" Tubes Sold Direct to the Consumer—No Dealer Profits

ONE—"Goode" Detector-Amplifier.....	\$2.39
THREE—"Goode" Detector-Amplifiers.....	6.42
(All postage prepaid)	

The "Goode" Two-o-One A Tube amplifies or detects. It is a quarter ampere, five volts, standard base silvered tube. Send express or postal money order or New York draft to—

The Goode Tube Corporation
Incorporated
Owensboro (Dept. A) Kentucky

5 TUBE RADIO SET \$38.50 COMPLETELY ASSEMBLED



10 DAYS FREE TRIAL

Coast to Coast

Direct from Factory to you at Less Than Dealer's Cost

Marvelous 5 tube radio set. Latest and most efficient TUNED RADIO FREQUENCY circuit. Approved by America's Leading Radio Engineers and the Institute of Standards. Easy to operate. Dials can be logged. Tune in your favorite stations instantly, on the same dial numbers every time. No guessing. Mr. Howard, of Chicago, said, "While 5 Chicago Broadcasting Stations were on the air, I tuned in 17 out-of-town stations from 40 to 1,000 miles away, on my loud speaker, very loud and clear, as though they were all in Chicago."

Description: 5 tube set. Comes completely assembled in beautiful mahogany cabinet, size 25x7x7½. Has 2 stages Tuned Radio Frequency, Detector and 2 stages Audio Frequency. Equipped with the highest quality, approved standard low-loss parts. Genuine Bakelite Panel. Bakelite dials. Use any standard tubes and batteries.

10 DAYS' FREE TRIAL

Don't miss this chance to buy this high grade 5 tube set direct from factory. Regular value \$100.00. Our factory price only \$38.50. Send no money. Sign and mail coupon. Pay only \$38.50 when delivered. (plus small transportation charge). Try it 10 days. If you are not delighted with results—if you do not consider it equal or better than any \$100.00 set, send it back and we will cheerfully refund your money.

METRO ELECTRIC CO.
400 N. Michigan Ave., Dept. 79 Chicago, Ill.
Gentlemen: Ship me on approval your 5 tube long distance radio set. I will pay \$38.50 on arrival (plus transportation charges) with the understanding that if I am not fully satisfied after 10 days' free trial, I may return it and you will refund my money.

Name.....
Address.....
City.....

Effarsee The "Easy-to-put-up" Aerial

Effarsee Portable Antennae—curtain shaped—can be put up anywhere, indoors or out, in a jiffy, and they will work on all types of sets from super-hetrodynes to crystals. Give loud speaker volume on distance with sensitive sets.

They improve reception by reducing static and noise. Give you real music. They avoid the trouble of erecting an outdoor aerial. Greatly increased volume is possible when Effarsee is connected in the circuit with outdoor antennae. Dealers use them for demonstrations. Much better than a loop or indoor wire aerial.

Three Sizes
\$1.00, \$1.50 and \$2.50

If your dealer can't supply you send us the price and we will ship at once. Money back if not satisfied.

The Fishwick Radio Company
512 Edwards Building
Cincinnati, O.

Effarsee PORTABLE ANTENNAE

on the dot

It's as easy as placing your pencil point on a town on the map—this tuning in with Apex Vernier Dials.

They make logging a simple matter and "getting a station" positive. The ratio is 12 to 1. Sells in Royal Brass Finish for \$2.00—Satin Silver Finish \$2.50—DeLuxe Gold Plated (24k) \$3.50. Applied to any shaft—quickly.

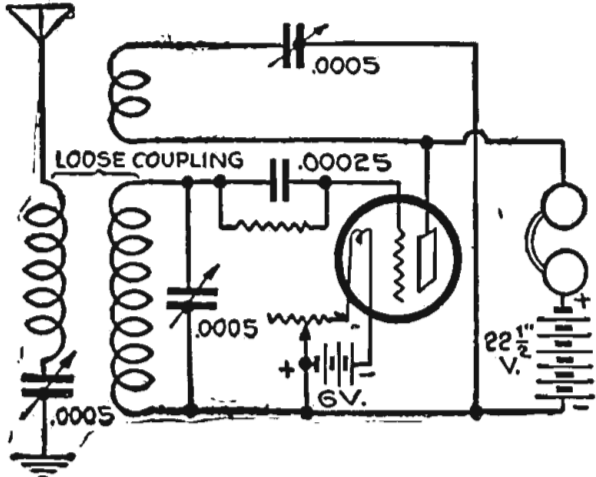
Apex 7-Tube Microdyne—Super-Heterodyne knock-down sets sell for \$97.50. The Apex Super Five in a Walnut Cabinet is \$95.00. See your better Radio Dealers.

Apex Electric Mfg. Co.
1414 W. 59th St.
CHICAGO
Dep 105

Questions and Answers

Weagant Circuit

(10200) REM, East Stroudsburg, Pa.
 A neighbor of mine has a 3-tube, one detector and 2 amplifier circuit. He does not get good results from New York city and New Jersey stations. I am going to build one of these sets and would like to know where I can get a hook-up or blueprint of this circuit, also what is the best tube to use? Will a shorter aerial help any in getting better results? Would



more turns of wire on the primary coil help?

A.—Herewith is shown the Weagant modification of the Armstrong circuit. Audio frequency can be added in the standard method, the output of the detector to the input of the amplifier.

Books! Radio Log! Auto Expenses! Family Budget. 25c each postpaid. Roy Stacy, Rockford, Ill.

Prove your reception of those distant stations with Proof of Reception Cards. Send 25c for sample package of 12. Olay Radio Co., 30 North Michigan Ave., Chicago.

PATENTS

Write for my free Guide Books "How to Obtain a Patent" and "Invention and Industry" and "Record of Invention" blank before disclosing inventions. Send model or sketch of your invention for instructions. Promptness assured. No charge for above information. Clarence A. O'Brien, Registered Patent Lawyer, 2006 Security Bank Building, directly across street from Patent Office, Washington, D. C.

For Sure Results, Solder Up Your Set with SOLOX

The scientific soldering solution that makes sound metallic joints a certainty, with freedom from acid, messy grease or resin. Easy and clean in use and cannot corrode. Most effective and economical of all preparations. Of your dealer or mailed for 50c by the inventors and manufacturers, The D. X. Radio Research Laboratories, Crugers-on-Hudson, N. Y. Money back guarantee. Dealers: Write for attractive proposition to our national distributors. THE CHARLES RADIO CO., 154 Nassau St., N. Y. C.

FOR RELIABLE RADIO LIGHTNING PROTECTION Buy a LOW LOSS KEYSTONE Approved ARRESTER \$1.50

A REAL FIXED DETECTOR

For Crystal and Reflex Sets or Can Be Operated
RADETEC
 As a crystal set in itself. Stands battery current, lasts indefinitely and does away with bothersome catwhisker and hunting for Hot Spot. You can depend on it being always "Hot." Can be mounted in any position or connected without mounting. Save A and B battery and Tube life, get better detection than Vacuum Tubes. Get a RADETEC and know the joy of real reception. Packed in box with Brackets and instructions for \$1.00.
TOWNER RADIO MFG. CO.
 2620 Victor St. Kansas City, Mo.

ALL SHOT

That's the common expression of dry cell "B" batteries. Purchase the economy way and enjoy freedom from hissing and frying, clearer reception, and greater volume. Put together an everlasting "HAWLEY" rechargeable "B" storage battery. Nickel-iron alkaline type. No former experience or soldering necessary. Put up in both assembled and knock-down types. The knock-down units contain all actual material for building battery and are put up in 90 volts @ \$8.95; 100 volts, \$9.95; 120 volts, \$11.60; 135 volts, \$12.75; 150 volts, \$13.90; 200 volts, \$17.50. Guaranteed for 2 years with a 30 day trial offer of complete satisfaction or return of your money without any ifs nor ands. Complete sample cell 35c prepaid. 8-page illustrated folder of instructions showing simple putting together, making charger and charging free with all orders. Complete manufactured "B" battery charger \$2.75. Order direct or write for my literature, guarantee, and testimonials. Same day shipments.
B. D. SMITH
 31 Washington Ave. Danbury, Conn.

USE OF DETECTOR TUBES IN REFLEX CIRCUITS

Regarding the use of a tube detector in the reflex circuit a little information will clear up the difficulty. Builders of reflex sets discourage the use of the tube in place of the crystal. This is not done to sell crystals, but because of the fact that the circuits are designed for proper functioning when a crystal detector is used and cannot be expected to function properly unless used. The function of a crystal in the reflex circuit is much more important than that of the ordinary rectifier, inasmuch as it acts also as a stabilizer of the reflex stage. The constant or value

necessary for the achievement of this stabilization is fairly critical, and the substitution of a tube with entirely different constants will obviously destroy the inherent stability which characterizes these circuits. It is not claimed to be impossible to substitute a tube for a crystal, for this can be done, but the change necessary is much greater than that of simply wiring a vacuum tube into the circuit where the crystal is now located. (This is a communication from a manufacturer of reflex sets and apparatus for reflex circuits.—Editor's Note.

A short antenna has the advantage of increasing selectivity, although at the sacrifice of range. Generally, it is advisable to use a single wire antenna accomplishing one hundred and fifty feet in length, including lead-in.

The UV-201A tubes are recommended both as detector and amplifiers. The limitations encountered in reception from certain points may be due to intervening obstructions or possibly to the fact that the present seasonal manifestations, peculiar to a short period of the summer, are not favorable.

Send me your burned-out or broken Power tubes—50 watts or over. Will pay liberally. W. Baker, 36 West 20th Street, New York City.

PATENT ATTORNEYS

PATENTS. Booklet free. Highest references. Best results. WATSON E. COLEMAN, Patent Lawyer, 644 G Street, Washington, D. C.

RADIO CLUB PINS

Pins shown designed especially for RADIO CLUBS. Words "Radio Club" cannot be changed. Other lettering can, only names must not exceed 8 letters. Silver plate, 25¢ ea., \$2.50 doz. Sterling silver, 40¢ ea., \$4.00 doz.
SEND FOR FREE CATALOG
BASTIAN BROS. CO. 603 Bastian Bldg., Rochester, N. Y.

DX "mushy"?

FREE BOOKLET
 On "Tube Control" tells how to bring in distant stations clear and loud. Just drop a post card to **UNITY MFG. CO.** 232 North Halsted Street CHICAGO, U. S. A.

CARTER

New Vernier Control Rheostats

3 ohms	\$1.75
6 ohms	
10 ohms	
20 ohms	
25 ohms	
30 ohms	

Any dealer can supply you
 In Canada—Carter Radio Co., Limited, Toronto, Can.
Carter Radio Co.
 205 S. STATE STREET CHICAGO

SOLVED!

—The "B" Battery Problem

Throw away your "B" Batteries and install a Kellogg Trans-B-former. It gives you "B" Battery current direct from your electric light socket at the trifling cost of one-fifth of a cent per hour. Gives better reception—no interferences. Write for details.

KELLOGG
 SWITCHBOARD & SUPPLY CO.
Trans-B-Former
 1066 W. Adams St., Chicago, Ill.

Antenna for Neutrodyne
 (11315) AJD, Breaux Bridge, La.
 Will a neutrodyne receiver tune sharper on a short antenna composed of several

Men to build radio sets in spare time. Leon Lambert, 501-H Kaufman Bldg., Wichita, Kansas.

MOGG'S AERIALS

Mogg's special radio aerials, inside or outside type; designed and perfected by our Radio Engineer. Send 25c for blue print of complete plan and details.

INDIANAPOLIS REFLEX RADIO CO.
 1502 Fletcher Trust Bldg. Indianapolis, Ind.

Send for this Money-Saving Radio and Electrical Catalog today.
Wholesale Only
GERSHON ELECTRIC COMPANY
 1816 Walnut St., Kansas City, Mo.

Large Radio Wall Map

FREE The very latest up-to-date radio wall map 28 by 34 inches. Shows call letters, locations, wave lengths, and kilocycles of all radio broadcasting stations, U. S., Canada, and Mexico, relay divisions and radio districts. Also a scale for measuring distance. This wonderful map postage paid, ABSOLUTELY FREE. Merely send us a list of stores in your city which handle radio apparatus. Be sure and give the street address, and if you know the manager's name, give it also. DO IT TODAY before this offer is withdrawn.

OZARKA INCORPORATED
 808 Washington Blvd. Chicago

Radio Dealers' HEADQUARTERS

Dealers—if you want the finest products, fastest shipments and best discounts write on your letterhead for catalog AC1003.

WAKEM & McLAUGHLIN
 225 E. ILLINOIS ST. CHICAGO

It isn't a genuine WD-11 unless it's a Radiotron



wires than a long single wire, say 125 feet? Will reception be as good?

A.—We wish to advise that a neutrodyne receiver will tune sharper on a short antenna of several wires than on an antenna composed of one single wire 125 feet long.

There would probably be slightly more volume on the longer wire, but there might be more difficulty in separating stations.

It's your money and you can spend it for tubes or batteries if you want to; but I can show you how to bring distant stations in on a simple crystal set. Same plans increase range of tube sets also. Copyrighted plans \$1.00. Complete parts for long distant crystal sets \$5.00. Leon Lambert, 501 Kaufman Bldg., Wichita, Kansas.

Send No Money LOG for YOUR Radio

Holds 400 Stations
 Record for all stations YOUR set gets. Spaces for call, city, location on each dial on YOUR set, and remarks. List alphabetical by wave lengths of 500-watt stations or over. Log cards in neat, durable rippled binding. Only \$1.00. PREPAID if you prefer to pay with order.
Send Order today—NOW. A postal will do.
RAIO PRINTERS, Dept. 9911 MENOOTA, ILL.

Mailing Lists

Will help you increase sales. Send for FREE catalog giving counts and prices on thousands of classified names of your best prospective customers—National, State and Local—Individuals, Professions, Business Concerns.
99% Guaranteed 5¢ each
 513 N. 6th St. MENOOTA, ILL.

PERFECTION ELECTRIC CO.

Send for this little marvel today. Works on either A. C. or D. C. current, 100 to 120 volts. Element genuine nichrome. Size 11 inches long, fitted with removable copper tip; comes complete with 6-ft. cord and plug. Sent post paid anywhere in U. S. A. Send check or money order.
PERFECTION ELECTRIC CO.
 1742 W. Madison St. Chicago, Ill.

Send NO Money Hear What YOU Like

Stations gladly put on numbers at your request. We print cards that get ATTENTION.
SAMPLE CARD FREE

Thank your favorite stations and talent. They appreciate applause as musicians on the stage do. Be up-to-date. Get more pleasure out of your radio. Save letter postage and stationery. So convenient. Use Postal applause cards. **FREE** with 1st order; log for YOUR set. Spaces for stations, dial positions, etc. Heavy rippled cover.
YOUR OWN NAME AND ADDRESS PRINTED FREE
 on each card. Be Individual. Good grade cards. Quality printing. Attention Getting Thank You Cards: 100 only \$1.35; 200—\$1.95; 300—\$2.45; 500—\$3.45; 1000—\$5.45 (about 1/2c each). PREPAID if you prefer to pay with order. Money Refunded If Not DELIGHTED. Don't send one cent. Pay postman after cards arrive. Order Today—NOW. A postal will do.
RAIO PRINTERS, 5411 Main Street, MENOOTA, ILL.

Buy Tubes by Name



WD-11 Radiotron



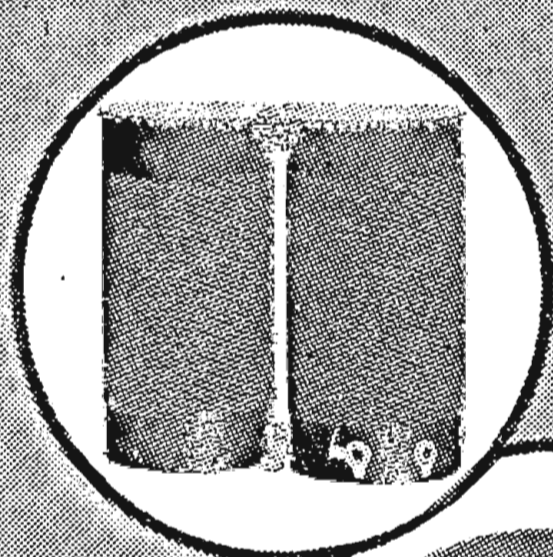
It is written:

"If there be no faith in our words, of what use are they?"

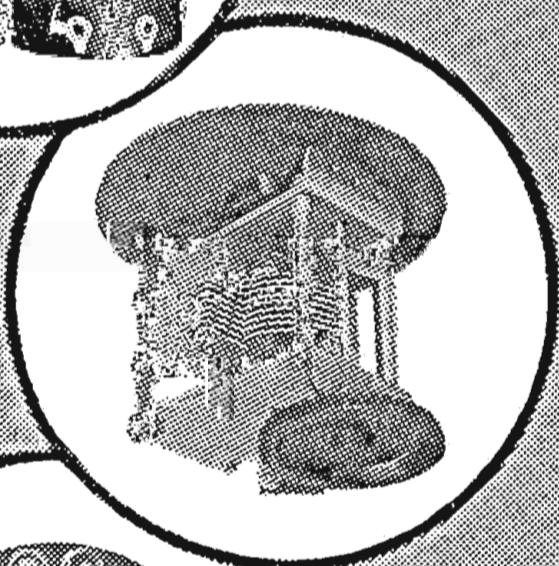
It is easy to prove the claims made for the Synchronphase.

Doctor Hux

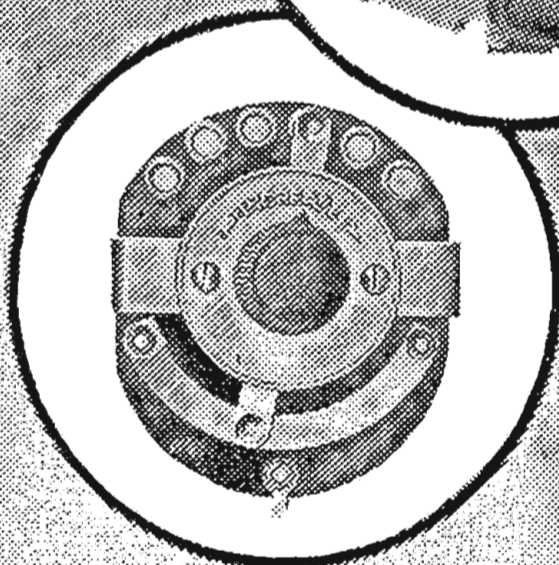
No other receiver has these features:



Binocular Coils



S-L-F Condensers



Volume Control

IF you have once operated a Synchronphase you will not be satisfied with any other type of receiver, because Grebe exclusive and fundamental features provide reception that is unsurpassed.

Binocular Coils, which keep the set balanced against local interference, provide greater selectivity and sensitivity.

S-L-F (straight line frequency) *Condensers* make tuning-in quick, easy and positive. All stations are spaced at equal intervals around the dials; short-wave stations are not crowded onto the lower numbers.

Grebe Volume Control gives six gradations of sound without detuning or reducing tube current; thus maintaining the true character and shading of every note.

In sets made up of assembled parts, the assembler has no control over their design and quality. Therefore, every detail of the Synchronphase is designed and built in the Grebe factory. Thus, all parts coordinate perfectly. This makes possible the perfect performance of the Synchronphase.

This perfection extends also to the Synchronphase cabinet. It is beautifully designed and built of solid mahogany, highly polished and with delicately embossed gold escutcheons.

Compare all sets before you buy, but be sure to have the Synchronphase demonstrated by your dealer.

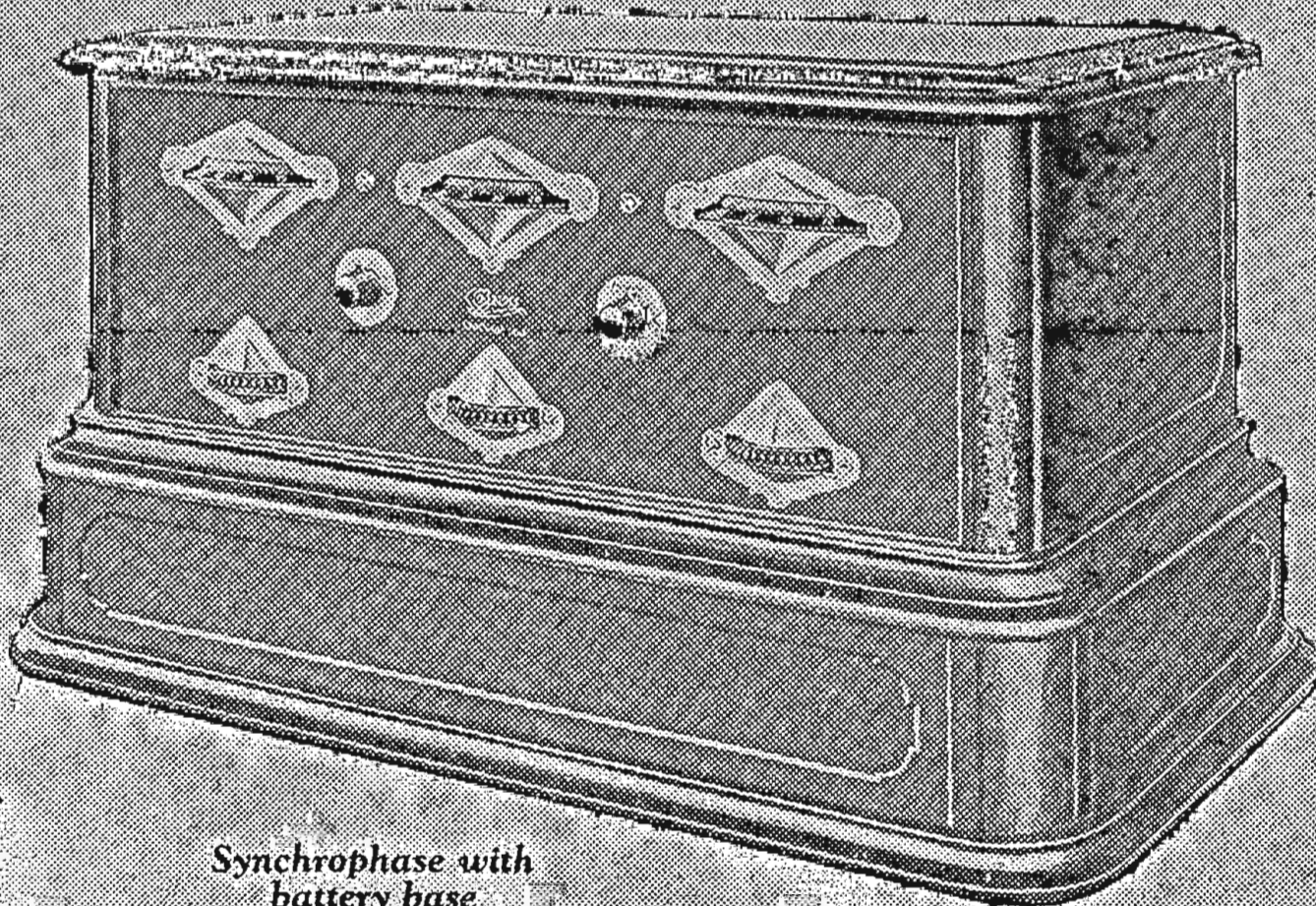
Ask your dealer or write us for full information

A. H. Grebe & Co., Inc.

Van Wyck Blvd., Richmond Hill, N. Y.

Western Branch: 443 So. San Pedro St., Los Angeles, Cal.

This company owns and operates station WAHG



Synchronphase with battery base

All Grebe apparatus is covered by patents granted and pending.

