## SEES RADIO AS KEEPER OF PEACE

## **NEWS BRIEFS FROM** THE BROADCASTERS

DICKENS' YULETIDE CAROL TO COME OVER KGO

Navy Band Will Give Homecoming Con-cert—Toledo Night Is New Feature at Jewett WJR

Charles Dickens' immortal "Christmas Carol," especially adapted to Radio, will be the feature production from KGO, Oakland, Thursday evening, December 24. Special music has been written for the purpose of creating atmosphere, accentuating characters, identifying voices before the microphone, and to break the strain of listening too long to the voice

A homecoming concert by the United States Navy band will be broadcast December 19 by WRC, Washington, D. C. The tour completed by the Navy band this year included concerts in nearly all of the leading southern cities of the leading southern cities.

WJR, the Jewet Radio and Phonograph company 5,000-watt station, has decided to adopt Toledo one night each week, putting on the air a program by Toledo musicians and entertainers. The city has a large number of talented musicians and the addition of their art to the supply of Radio entertainment will be quite worth while.

To give additional Christmas flavor to the KGO broadcasts this week, the KGO Little Symphony orchestra will play the Haydn "Toy" symphony Sunday afternoon, December 20, at 3:30 p. m., pacific time. Arthur S. Garbett, writer and musical analyst, will give a brief word sketch of Haydn and his "Toy" symphony, and the orchestra will play small parts from the work illustrating his remarks.

Negro spirituals, which have been handed down by word of mouth through generations, many of which have never been written, were presented recently at WSM, Nashville, by the Fisk Jubilee singers who have made several world tours and have sung before kings.

Talented children of the capital are to Talented children of the capital are to be given an opportunity to become full-fledged broadcasters by WRC, Washington, D. C. Through the inauguration of weekly periods devoted entirely to performances by child artists, WRC hopes to encourage the development of musical art among the youth of the city.

Uncle Bob, the big brother of WEEI, Boston, has 26,000 active correspondents who write to him every week: Although swamped with this tremendous mail which shows his popularity with Big Brother club members, Uncle Bob manages to give his young listeners interesting programs by leading men of the day, to direct the uke and harmonica bands, glee club and debating team of the organization, and to arrange Friday concerts of orchestras and bands from various schools. ous schools.

Radio churchgoers around the country who have tuned in Central church on Sunday mornings over KYW, Chicago, since this feature's return to the ether a few weeks ago, have heard Dr. Frederick F. Shannon's sermons and the chorus of one hundred voices under the direction of Daniel Protheroe, as well as prominent soluties.

Radio engineers of WGY have solved the difficulties of organ pickup and the organ programs from the Schenectady station are now among its finest transstation are now among its finest transmissions. Lovers of organ music will be interested to learn that Elmer A. Tidmarsh, organist and choirmaster of All Saints Cathedral, Albany, and director of the Albany community chorus of one thousand voices, is giving a series of recitals on Tuesday nights.

Long hair and other revivals of wom-an's past glories will be worn by the heroines of this year's offering of the Princeton University Triangle club. The play, "Fortuno," which will be given in Pittsburgh December 23, will be broadcast by KDKA. The invisible audience may have some difficulty in distinguishing the ladies from the gentlemen.

The Copley Plaza orchestra, directed by W. Edward Bayle, is the new Sunday attraction at WBZ, Boston and Springfield, Mass. Its programs consist entirely of classical selections.

## HOOVER TO HANDLE RADIO SEPARATELY

ASHINGTON, D. C.—Secretary Hoover will send a communicacation to congress early in the session in which he will transmit the resolutions of the fourth Radio conference together with any suggestions which he has to make. This is the reason that the secretary did not even mention in his annual report to the president the subject of Radio, but he will give a history of the past year's accomplishments or make recommenda-tions for legislation. This is the first time, since Mr. Hoover has been sec-retary of commerce, that he has not mentioned the subject of Radio.

## FANS GUESS COLOR OF SINGER'S HAIR

PARIS.—A very original competition has been opened by the editor of a French Radio journal. List teners in are to say what is the color of the hair of various singers being broadcast. To a correspondent who objected that this was a mere guessing contest, the organizer replied that this was not the case; science has estable to the case science has estable to the case of the case. this was not the case; science has established that blind persons can often tell the color of a speaker's or singer's hair by the sound of the voice, and the purpose of the competition is to determine whether ordinary persons, when deprived of sight of the speaker, can exercise a similar gift.

## FAIR PORTIA IS NOW RADIO STAR



The soprano voice of beautiful Maria Kurenko, graduate of the law school of the University of Moscow and the Moscow Conservatory of Music, was recently broadcast in America when the celebrated Siberian singer appeared on an Atwater Kent program over the WEAF chain.

## Classical Music Only on WHAP

w 500-Watter Will Also Give Opinions on Current and Social Questions

NEW YORK.—And still another station! The metropolitan district added another station to its number when WHAP recently went on the air, broadcasting under a 500-watt license on 240 meters.

meters. Among those who appeared on the opening program were Percy Grainger, famous Australian pianist and composer; Mina Hager, distinguished contralto who is engaged to appear later this season with the New York symphony and other orchestras; Kitty Cheatham, well-known interpretative artist, who gave a number of recitations and songs, and the Stellar Male quartet Stellar Male quartet.
This station is said to be solely for the

service of the public, and is not identified with manufacturing or advertising letter sent to Gold Medal interests. Believing that those who favor Minneapolis-Saint Paul.

jazz and comedy songs are receiving ample from other stations, WHAP will not broadcast music of this type.

In matters of civic and social questions,

broadcasters in this territory.

Radio Comes to Main Street

MINNEAPOLIS.—Sauk Center, former home of Sinclair Lewis and reputed to be the original "Gopher Prairie" of "Main Street," is now educating its school children in better music by means of Radio. The principal is having all the children in the grades report what they heard, the name of the songs and what heard, the name of the songs, and what they learned about them, according to a letter sent to Gold Medal Station WCCO,

## WOULD CLEAR **ALL DISPUTES OF COUNTRIES**

Claims Radio Would Do More to Prevent War Than Dozen Leagues

## Fans Could Hear Parley

Leaders Talking Over Differences Would Fulfill Wilson's Hope of "Open Diplomacy"

OTTAWA, Canada.—The prediction that Radio will be a great factor in preventing future wars, was made by C. W. Horn, superintendent in charge of the Westinghouse broadcasting station, in a

recent address delivered here.

'I feel that Radio will accomplish more in the prevention of wars than a dozen Leagues of Nations could do," said Mr. Horn. "Radio seems to be the means that is destined to bring into the very homes of the people of this world the thought and character of the people of the different nations.

"I can conceive of no greater event than the settlement of a dispute between two nations by a discussion of the prob-lem and the presentation of facts by the leaders of these two nations, with the general public listening to it. It will be the fulfillment of the hope of our former President Wilson, expressed when he referred to 'open diplomacy.'"

## WEAF CHAIN ADDS CHICAGO STATIONS

WGN and WLIB Put Great Programs of New York Broadcaster on Air

CHICAGO.—The Chicago Tribune station, WGN, and WLIB, the Liberty magazine broadcaster, are now linked in the WEAF chain and on a recent Sunday program gave Chicago listeners their first local broadcast of the chain program which featured an Atwater Kent hour.

For more than a year, listeners here have tuned to WOC, Palmer school, at Davenport, Iowa, to hear the great artists

Davenport, Iowa, to hear the great artists and even the advertising programs originating at WEAF.

W. G. "Bill" Hay, recently announcer of WOK and prior to that time announcer at KFKX, is now a member of the WGN staff and is heard over their mike every Sunday from 4 to 11 o'clock and on Wednesday, Thursday and Saturday evenings between 7 and 11 o'clock.

## Station WLW to Give Big Christmas Frolic

Third Annual Festival Promises to Be Greatest of All

CINCINNATI .- The third annual CINCINNATI.—The third annual Christmas festival for children will be given by Powel Crosley, Jr., in Music hall, Cincinnati, Tuesday evening, December 22, at 7 o'clock. Children in Greater Cincinnati are invited to be present and enjoy the antics of clowns, hear the funny minstrels and see the performing dogs, including the famous "Pup"; magic and music will be offered by theatrical stars. There will be candy for all. In matters of civic and social questions, as well as of current opinion, WHAP will not be neutral in these matters as other broadcasting stations. It has definite convictions which will be expressed on the air, in the same sense that a newspaper's opinions are expressed on its editorial page. WHAP will foster and support those public policies and movements that it believes to be of benefit to the United States.

Leslie Joy, chosen as studio director of WHAP, is well fitted for the position by virtue of his long connection with broadcasters in this territory.

CINCINNATI.—The third annual Christmas festival for children will be given by Powel Crosley, Jr., in Music hall, Cincinnati, Tuesday evening, December 22, at 7 o'clock, Children in Greater Cincinnati are invited to be present and enjoy the antics of clowns, hear the funny minstrels and see the performing dogs, including the famous "Pup"; magic and music will be candy for all.

The Radio audience will hear the festivatives broadcast through the Crosley WLW station; special attention being

WLW station; special attention being given to this part of the show because it is impossible for more than 4,000 people to get into Music ball and the past two years' shows have filled the place to cancelts. capacity.

London Hears Canada

LONDON, Eng.—Listening posts at the office of the Canadian National Railways in London, Manchester, and Southhampton have reported the reception of items of the published program broadcast from the company's station, CNRA at Moncton,

## Two Bills at KLX Sound Like KI-YI, China



## Christmas Comes for the Little Americano



"Oh-O-hear the herrul' an-gels sing—" came the bird-like warble of the little Americano while bandit horsemen listened by the garden gate.

(Specialty Posed)

As she transferred him to the little balcony window he thought of what he would sing.

"I will sing you about the little babe in the manger that my daddy told me about last night and the three men who followed the big star over the desert all night long to bring lots of nice presents to that little baby. And the herrul angels sang halla-loo-ya to the shepherds on the hill—all just because of that little baby in the manger. Want me to sing you about it? I will"

To put down the words that he sang would mean nothing. They were inspired for the time and the occasion. Music it was—who cares what the words are

CENORA Gomez untangled two tiny hands from the meshes of her black lace mantilla and tenderly lifted the little Americano down from her fat shoulder. For a moment she held him close to her ample bosom; then, with a playful shake, she balanced him on the rail of the veranda outside his father's rancho.

"Bravo Don Gallos!" she exclaimed as she stepped back to survey him on his narrow perch. "You are my little rooster. Let me hear you crow. And you must flap your wings to scare the bad, bad wolves away."

"I am not a rooster—you are a rooster," answered the little Americano with a pout and

"Crow just once like the big rooster and I will put you safely into the little window," pleaded the plump and jolly Mexican woman. Still the boy refused and began edging his

way along the rail, reaching out to a rose lat-tice and steadying himself by the swinging water jar, a big red jar the inside of which he always had longed to see—hanging there just above his head. Here he stopped and eyed his tormentor as she stood with arms akimbo and black eyes twinkling merrily. Her hand stole beneath her mantilla. A paper rattled suspiciously.

"I will not crow," the boy bargained, "but if you will give me a praline I will sing for you."

"All right," agreed the woman, "a praline you shall have and I will put you in the window."

Leaving the scene of their depredation the renegades galloped away and out of the smoking ruins of Topolobampo came a man leading a little boy by the hand. With other of the remaining refugees he sailed away to San Francisco. And the little boy grew up a great singer — Wilfred Glenn (right and below) of WEAF, New York.



his voice a bit quavery but clear and true. "Oh hear the herrul an-gels sing," was much repeated and per-haps the "herrul angels" themselves were listening to the voice of the little one lifted up in the full glory of the joy of song. It was the song of the mocking bird and the thrush and the wren that sang in the little garden all woven in with the spirit of the wild flowers and the sunbeams and moonbeams down Topolobampo-a small American colony in Lower California during the early nineties.

And as the little Americano sang his own Christmas carol to the dark skinned woman her jesting manner slipped away. Something fine and sweet came into her face and she felt humbled in the presence of a being that seemed almost divine. She turned her face to the red ball of fire that was sinking from sight over a distant sand dune. Tropical twilight soon faded into night.

Four idling horsemen came to a halt before the garden gate. Clanking spurs were stilled and through the deepening night came subdued murmurs of masculine voices in tones of admiration. A rabbit darted through the hedge. Swallows

skimmed gracefully high in the evening sky.
Suddenly the four horsemen spurred their steeds and galloped away. In the distance from the direction whence they had come could be heard the steady loping of a horse nearing home after a long journey. But the boy did not cease his caroling to the enraptured woman until the horse had stopped and a tall shadowy form stood in the archway of the veranda. Then the little Americano recovered from his trance. Two chubby arms were held out to the tail form before him. The Mexican woman drew the mantilla over her head.

(Continued on page 10)

## "Kum to the World's Winter Garden," KWWG



## "Radio Lighthouse," a Jazz Storm Refuge



## PANATROPE IS NEW SOUND REPRODUCER

INVENTION IS BASED UPON ELECTRICAL WAVES

Device Uses Power of Batteries Rather Than Voice of Singer to Make Record

NEW YORK.—To break through the wonder-filled minds of the people of today and cause more than a common interest, to excite even a ripple of amazement, requires more than a mere strain ment, requires more than a mere strain upon credulity. But, nevertheless, a new and strange force has people wondering. Wondering what a "Panatrope" is. And the oddest thing of all is that that force is the panatrope itself.

Before a distinguished audience of scientists, musicians, and men and wonver prominent in society the pana-

women prominent in society, the pana-trope recently made its formal entry into the field of electrical reproduction of sound. It has been perfected by into the field of electrical reproduction of sound. It has been perfected by scientists of the Radio Corporation of America, the General Electric company, the Westinghouse Electric Manufacturing company and the Brunswick-Balke-Collender company and started upon its career at the Aeolian hall recently.

Incorporates New Principle

Through the panatrope it is possible to take an original sound, cause it to be changed to light waves and electrical waves and finally reproduce it again with a loss and distortion which is infinitesmal. It is not a new or improved phonograph but a musical instrument involving graph but a musical instrument involving new inventions and new principles.

The name panatrope is composed of the Greek words "pan," meaning all, and "trope" which as applied to music, means octaves. The word in its entirety means "all octaves in music."

How It Works

The mechanical method of phonograph The mechanical method of phonograph recording has been superseded in the panatrope by electric recording. The singer stands in front of a device which is analogous to the finest broadcasting microphones. This extremely accurate telephone transmitter produces electric currents which are amplified by vacuum tubes like those in a Radio receiving set, and the final output of these vacuum tubes operates a most precise cutting tool

## LIKE CALLING FOR THE BUTLER



All one has to do to get a station is to press a button with that station's call letters upon it, and the machine pictured above automatically tunes in. The pressing of the button actuates electromagnets, which in turn cut in portions of the tuning coil.

The set was displayed at several of the more recent Radio expositions.

which makes the master record. Note the absence of the sound-distorting horn and the fact that the energy for cutting the record no longer comes from the voice of the singer, but on the contrary, from the electric generators or batteries

feeding the vacuum tubes.
In electric reproduction, as used in the panatrope, there is no sound box, and there is no horn. Instead the needle there is no horn. Instead the needle resting in the record groove actuates a tiny strip of metal in what is known as the electrical pickup, a small device enclosing the needle holder. The vibrations of a metal strip produces electrical currents which then pass through a powerful vacuum tube amplifier using the modern radiotrons. In most of these instruments the entire amplifier is operated from alternating current from the ated from alternating current from the house lighting supply. The amplified output of the vacuum tubes is fed into a remarkable cone type loud speaker.

The panatrope in reproduction of sound therefore, does not depend upon the record to supply the energy to produce the sound but also leaves that to the power plant, the batteries.

## Station Changes

Last month the following broadcasters left the air! WCAZ, Carthage, III.; KOP, Detroit, Mich.; KFNV, Santa Rosa, Calif.; KFRZ, Hartington, Neb.; WEBA, Highland Park, N. J.; WNAR, Butler, Mo.; KFGX, Orange, Texas; WKAP, Cranston, R. I.; WQAC, Amarillo, Texas; KFFV, Lamoni, Iowa; WBBU, Monmouth, III.; KFQC, Taft, Calif.; KFRX, Pullman, Wash.; WDBQ, Salem, N. J.; KFIO, Spokane, Wash.; WBBA, Newark, Ohio; KFAW, Santa Ana, Calif.; KFVX, Bentonville, Ark.; WIBQ, Farina, III.; KFQT, Denison, Texas; WAAC, New Orleans, La.; KFDH, Tucson, Ariz.; WGBW, Spring Valley, III.; WBBG, Mattapoisett, Mass.; WRHF, Washington, D. C.; KFKQ, Conway, Ark. No new stations were licensed during the past week. during the past week.

## **VOICE OF THE FAN IS NEED TO HELP RADIO**

MANUFACTURER SAYS LIS-TENERS SHOULD RULE

Stations Aim to Please But They Need Views of the Public for Guidance

WASHINGTON.—A national clearing house through which Radio fans of the country may express themselves on Radio problems has been proposed by A. Atwater Kent, prominent Radio manufacturer of Philadelphia.

"I think the man on the other end of the air ought to have a stronger voice in Radio affairs," said Mr. Kent. "He is silent because he has no effective way to make known his grievances, troubles or desires. He is at the mercy of Radio because he cannot talk back to it.

"After all, the whole point of Radio is to please those who listen. I am sure it is the desire of broadcasting stations generally to please their respective audiences. It would be of immeasureable assistance to them if there were some medium through which listeners might hall dium through which listeners might help them solve the many problems that per-plex the Radio industry.

### Listeners Could Tell Much

"There are all kinds of questions to be answered. Are there too many stations broadcasting? Is there too much jazz, or too much classical music? Can an-

nouncing be improved?
To cooperate with To cooperate with the department of commerce in advancing Radio, there should be a committee, board or group of men and women, either official or unofficial, to whom listeners might make complaints and suggestions.

"This group should act as a clearing house and see that suggestions received are properly assigned for consideration, followed up and acted on. The listener should feel that he or she has a voice in governing Radio affairs and a feeling that he or she is contributing to the improvement of the industry. After all, Radio is of, by and for the people."

## Q R S RED TOP Radio Tubes Are Better

**EVERY TUBE GUARANTEED** 

Different From Other Tubes

Double Grid-Double Filament Double Plate Anchored Top and Bottom Most Durable—Best Tone Volume Without Noises

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Replace Your Tubes With Q R S Red Top and Note The Wonderful Improvement

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## ORS MUSIC COMPANY

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For 25 Years Makers of Quality QRS Music Rolls USED IN OVER A MILLION HOMES

# Unconditionally Guaranteed TRANSFORMERS

Standard on majority of quality sets -AND CHOICE OF MacMILLAN ARCTIC EXPEDITION!



NE REASON that leading builders of the finest sets use more Thordarsons than all competitive transformers combined is because Thordarsons run ABSOLUTELY UNIFORM — always "match up" perfectly, always amplify evenly. Follow their lead -build or replace with Thordarsons. Unconditionally guaranteed. Recommended by best dealers. Audio frequency: 2-1, \$5; 3½-1, \$4; 6-1, \$4.50. Power Amplifying, pair \$13. Interstage Power Amp., \$8. Autoformers, \$5.

Write for Latest Bulletins.

Thermiodyne OZARKA Deresnadyne ADLER-ROYAL MURDOCK MU-RAD LEICH' Silver-Marshall GLØBE. Newport BUCKINGHAM NUNN-LANDON KUSTOMBILT and many others

THORDARSON ELECTRIC MANUFACTURING CO. WORLD'S OLDEST AND LARGEST EXCLUSIVE TRANSFORMER MAKERS Chicago, U.S.A.

## MAKE-UP ENFOLDS BROADCASTS IN REALISM TO ATTRACT JADED EARS



foreground.)

Even the wheezy bellows suggested the glowing flame of the forge. There was a drawling conversation between the village smarty and the old blacksmith that brought many a chuckle in town and country homes that were listening in. The entertainers had enough material in this program, with singing and guitars, to make up an intensely interesting evening program. They had a real blacksmith

Cow's "Moo" Broadcast

The California movie studios lend themselves admirably to the creation of atmosphere for broadcasting programs that must breathe of a special kind of setting. Bill Hart, Bear Valley Charley and Charley Jones are well-known microphone contributors at Station KNX. Bear Valley Charley and Charley Jones are real contributors at Station KNA. Bear variety chartey and Chartey Jones are rear cowboy fiddlers and they stir the listeners by bringing them right into a cowboy's camp. Others of their pals intersperce the fiddling numbers with Will Rogers' repartee and occasionally a cow is heard mooing in the distance. For one of these programs a real cow, separated from her calf, was introduced to produce the realistic effect by her mournful lowing

istic effect by her mourntul lowing.

Bill Hart, of course, is just Bill Hart—"Two Gun" Bill. But he doesn't sound so hard over the microphone. Do you suppose they could get their "stuff" over without the sombreros and the rest of the typical western makeup? Write and

Listeners for hundreds of miles around the station, formerly known as KFRU, Bristow, Okla., knew what it was to go fishing every Tuesday night with Wilson's Catfish band. It was the real thing. The band actually took along a microphone with fishing parapharnalia and caught fish—all the sounds of an expedition of this sort being faithfully reproduced and conveyed to the listener.

Live Fish Flop in Mike.

The sound of the fish being swished through the water, the splashing of oars, the rattle of the anchor chain, and thump of the stone in the bottom of the boat, were heard half way across the continent. Fortunately the uncaught fish did not hear the applifed accordance to the continent. hear the amplified sounds reproduced by the receiving sets.

Some of the leading studios have announced plans for developing this phase of broadcasting entertainment on a broader scale this season. The football games and the motor races have been heard. Now will come the winter sports; the ring of steel on ice, crack of the hockey sticks, rushing skurry of racing skaters will prob-

One of the North Shore Chicago stations has been making plans to place a microcawing, twittering, screeching and jabbering of every variety of the creatures of the air. It may not be beautiful but it will be realistic and may, perhaps, be set off by some real canary warbling. The microphone might even be carried to the off by some real canary warbling. The microphone might even be carried to the lion house at feeding time where a roaring may be heard that never can be imitated by any man-made instrument.

A case in point is the care which the studio staff of WEAF takes in keeping their four pianos tuned and in correct pitch. The pianos of WEAF are tuned turing company

### WHAZ Enlarges Studio to Accommodate Symphony

TROY, N. Y.—Rensselaer Polytechnic institute WHAZ studio on the top floor of the Sage Electrical laboratory at the crest of the campus has been enlarged to double its former size and greatly improved. The enlargement was necessary to accommodate the students' symphony orchestra, one of the important student musical organizations of the country, numbering 44 members. country, numbering 44 members.

### Toronto U. Quartet Aids in Encouraging Better Music

TORONTO.—For the purpose of en-couraging good music, and also to develop superior Radio programs, an agreement has been entered into by the Syndics of Hart House, University of Toronto, and the Radio department of the Canadian National Railways, as a result of which the Hart House string quartet will visit studios of the company, and from them broadcast special programs.

## No New Licenses Given Stations in Two Weeks

Department of Commerce Evidently Has Clamped Down Lid

WASHINGTON .- With the passage of WASHINGTON.—With the passage of two weeks without the licensing of a new broadcasting station, strength has been added to indications that the department of commerce has clamped down the lid for the time being at least.

The policy of the department seems to be that a mighty good reason for its existence will have to be provided by a proposed new station before a license will be granted.

be granted.

Notwithstanding this policy and the recommendations of the fourth national Radio conference, applicants continue to pour in for licenses for new stations.

## **WEAF'S PIANOS GIVEN** CONSTANT ATTENTION

### Four Instruments of Station Get Weekly Going Over

NEW YORK .- There are many aspects of Radio broadcasting which rarely, if ever, come to the attention of the listenbut which are important factors in the enjoyment and reception of the programs being broadcast.

regularly each saturday, their tone is regulated once a month and constant vigilance exercised as to pitch. After a year's service, they are returned to the factory for complete and thorough overhauling of the hammers and action.

## Minstrel Shows Are Popular

DENVER.—KOA officials express the belief that they have found the champion program for broadcasting—nineteenth century minstrel shows. This deduction is made following three minstrel performances given as a test feature.

## PROGRESS IN PROBE OF ALLEGED TRUST

QUIZ STOCK OWNERSHIP OF RADIO CORPORATION

Federal Trade Commission Uncovers Stockholders in Testimony of Of-ficials of Leading Companies

WASHINGTON. D. C.—During the course of hearings upon which to build a groundwork for its case against the Radio Corporation and others united in an alleged Radio monopoly, the federal trade commission, through its chief counsel, Edward L. Smith, brought out recently that the General Electric company owns 273,032 shares or 24 per cent of the common stock and 9 per cent of the preferred stock of the Radio Corporathe preferred stock of the Radio Corpora-

The officials of the American Telephone and Telegraph company, the Westing-house Electric and Manufacturing com-pany and the United Fruit company were also examined.

### Uncovers Stockholders of R. C. A.

It was testified at the hearings that the International General Electric company, which is the foreign selling organization of the General Electric company, owns 12,416 shares of preferred Radio Corporation stock and 75,074 shares of

The Westing turing company now owns, according to the testimony, 57,760 shares of common stock and 50,000 shares of preferred stock in the Radio Corporation. These shares were formerly owned by the International Radio Telegraph company which has since been dissolved.

A witness of the United Fruit company testified that that concern originally purchased 200,000 shares of common stock and the same amount of preferred stock of the Radio Corporation for which it paid \$1,000,000 cash. The common stock has been sold, it was stated, but the company now holds 18,000 shares of preferred stock of the Radio Corporation.

Continued from page 5)

"My daddy." All thoughts of candy and other reward were forgotten.

The woman dissolved into the darkness

and the tall man gathering the lad into his arms entered the house.

An hour passed. All lights were out in the doctor's hactenda. The tousle-headed singer was tucked into his little bed and far away in dreamland astride the toy exhausted from a tiring trip into the foot-hills to attend the ailing parent of a Yaqui

barked in quick succession down at the end of the narrow street of adobe huts. end of the narrow street of adobe huts. Quickly followed a shrilling screech of savage yells. Horses galloped by. More rifle shots. Cries of pain and anguish. A smell of smoke. Flames!

Topolobampo had suffered for the last ime from Jose Garcia's murderous band. Aroused by the noise and the acrid smell of the straight of the straigh

that he was being held down in his chair by four shadowy forms with clanking spurs. He was helpless. Thongs held him so that he could scarcely move. The

Morning came with the skies still streaked with smoke from the smouldering embers. Out of 350 souls who had come from San Francisco two years before but 150 remained alive. Four days

Roses bloomed again in San Joaquin valley where Doctor Glenn had taken up a ranch. The boy had grown to promising youth. Another Christmas tide. A brother from San Francisco was coming home. Wilfred was happy. He went into the orange grove where he had a secret trysting place with the little wild things of nature hidden away in the crotch of

At last the great day came. neighbors assembled in the community church to hear "that oldest Glenn boy" sing. And they were not disappointed. Never before had they heard "Hark! the Herald Angels Sing" as they did on that

In the afternoon the family gathered around the piano and everybody sang. Wilfred was almost afraid to let his voice go full strength for fear it would drown out that of his wonderful brother.

AorB Batteries

**3** Times as Fast

Charges

THE LITTLE AMERICANO But the brother purposely diminished his own voice. He was being treated to a KLX DUCKS CHINA BOYS

happy surprise.
"Wilfred, old man, you have a voice. You are a singer. You must have it cultivated at once. You are going back with me and enter the conservatory.

Wilfred could not believe his ears. His BROTHER had said that. Nothing on earth could have made Christmas happier for him that year.

And after all that is the "happy ever after" of this story. It isn't just a make believe story. It really happened, you know. Wilfred did go to the San Francisco conservatory and of course he came out a great success.

It was about the time of the earthquake and shortly thereafter he went to the in-evitable East where his great bass voice made the vaulted chambers of the Cathedral of St. John the Divine ring with song so vibrant it rivaled the deep notes

song so vibrant it rivaled the deep notes of the mighty organ itself.

People crowded to get in. Not half those who clamored to hear him were able to come near enough. So the phonograph companies sent his voice all over the world on their records. He traveled the country over in grand opera. His voice opened the famous Capitol theater in New York in New York.

And now he is on the Radio. at WEAF during the Eveready hour (read the Radio Digest program pages for the exact time) and you will hear Wilfred Glenn, the boy singer of Topolobampo, the youth of the San Joaquin orange blossoms, the opera star and the Radio star.

Tune in WEAF or one of the links of Tune in WEAF or one of the links of its great chain for a million people may hear him sing now and they will hear a Christmas message as it was taught by the mocking birds and the thrushes. Certainly! And they are very happy in their home on Long Island. Yes, there are two little ones and dad says they have

(Continued from page 4)

"Hongkong, China, or I'm a son-of-a cockeyed crockodile!" You exclaim.

Just as you are trying to get long distance to notify Secretary Hoover at Wash ington of your marvelous achievement you get another shock. Smashing through get another shock. Smashing through the obvious discord of a slant-eyed laun-drymen's convention a clear, stentorian voice in unimpeachable English, says something like this:

"Just KLX putting on its frolic for all good Lake Merritt Ducks."

No wonder! So it's ducks broadcasting, huh!

You keep on listening and soon discover that the Tribune in Oakland, California, is headquarters for a wide-awake Radio club Merritt Ducks. That its purpose is "Iun, sport and amusement." And down under the applesauce and persiflage there is a real object, good natured and perfectly acceptable propaganda to join hands through the air to protect the wild fowl from ruthless and useless slaughter.

They call themselves the Lake Merritt Ducks because Oakland has a little haven where wild ducks come for refuge during the open season. The ducks have learned this sanctuary and come back year after year to paddle around until the game laws sheath the gun again. Then they fly away

fly away to come again another day.
All ducks have bills. All of the duck vocal expressions are heard through their bills. Thus it is with the Protective Order of Lake Merritt Ducks. They have two bills—Bill Seroy and Bill Royle who make most of the noise for the Lake Merritt Ducks. ritt Ducks.

That's what you heard when thought you had tuned in Station KI-YI, broadcasting from Hongkong, China. Their programs always start with that sort of static dialogue.

"So far, so good, but," you ask, "how

come all this China boy jabber?"
You tell 'em—mebbee hatch-um quick
from hard shell China egg; all-ee same much fowl talk by pidgin Engleesh.

There you are, there you are—you never can tell. The Oakland Tribune never has can tell. The Oakland Tribune never has explained. It may be a complex brought on during adolescent childhood. Bill Seroy, according to well founded tradition, was born into a family that had two Chinese cooks at Bakersfield. He was brought up on chow mein and egg foo yong with chop suey between meals. Lem croaked at him in one ear and Lo gargled at him in the other. What could one expect? Is it any wonder Bill Seroy turned out the most loquacious pidgin English expert in the country?

As for Bill Royle—that was another case of early enviornment. While still an impressionable youth he was a member of the Portland, Ore., police force and assigned to Chinatown. Perforce he was thrown into continuous contact with a stream of visiting tourists who know the Chinaman best through the comic sections and for that reason had their pidgin English polished to the n-th degree. From

(Continued on page 12)



## For EVERY Radio Set

A stunning piece of furniture that restores order in the room where you have your Radio! No more cluttered table-tops, nor litter of equipment under-foot.

No unsightly horn in evidence, either! This console has its own loudspeaker, built. It's out of sight, but with very apparent tonal superiorities. For it has the highest-developed type of unit. With horn built of special non-vibrating, extra-hard material. Produces Made of special comclear non-vibrant position which defeats vibration.



Non-Vibrant Horn

There's ample room for everything; space for A and B wet batteries—or battery eliminator—and for a big charging outfit, too.

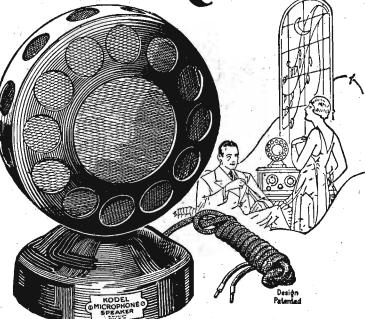
Pinished in mahogany, or walnut color. Dainty design of parqueterie on two front panels. Top, 38 in. x 18 in. Additional pattern No. 128 (Special for Radiola No. 125) in two-tone finish. Top, 21 in. x 31 in. Fitted with doors for access to control switches of combination eliminator-charger.

The price, forty dollars, is for the complete console and includes the loud-speaker horn and unit. Thousands of dealers are showing this artistic addition to home radio equipment.

Rear View-Set Hooked Up



Loud Speaker Sensation!



## The KODEL MICROPHONE Loud Speaker

HE Loud Speaker that has the whole country talk-ing. An exact replica of the microphone used in broadcasting stations.

The super-sensative tone unit with the unique construction of the new snail-shell horn inside the microphone case, produces a veritable deluge of volume - - loud - clear - - every note, every sound as pure and rich as when it enters the broadcasting microphone in the studio.

See the new Kodel Microphone Loud Speaker —hear it—at any radio dealer's. Two Models for your selection—one contains the highly efficient Kodel Junior unit, the other, the super-sensative Kodel Giant unit.

Write for descriptive literature

THE KODEL RADIO CORPORATION
Owners of Broadcasting Station W K R C
509 E. PEARL STREET CINCINNATI, OHIO

DEALERS: Watch for the KODEL double-page advertisements appearing every other week in LIBERTY MAGAZINE.

horse that he hugged to his breast, he was cantering, perhaps, with the wise men over the desert sands. The doctor,

chieftan had fallen asleep in his chair. Crack! Bang! Bang! Three rifle shots

of burning timber, Dr. Glenn struggled into full consciousness and a realization leader told him to remain quiet and his home would remain unmolested.

later a steamer floating the beloved Stars and Stripes appeared in the bay. And last to leave Topolobampo was the faith-ful doctor and the little singer of that terrible Christmas eve 30 years ago.

The New 5 Ampere
GOLD SEAL
HOMCHARGER NOW you don't have to wait for days while your batteries charge. The new 5-ampere GOLD SEAL HOM-CHARGER charges A or B batteries three times as fast as old-fashioned 2-ampere chargers - - It fully charges the average radio battery OVERNIGHT! There are no bulbs to break, no acids to spill, no extras to buy --- It is trouble-proof, shock-proof, fire-proof. Any radio dealer can show you the new 5-ampere GOLD SEAL HOMCHARGER. Write for FREE booklet
"The Secret of Distance
and Volume in Radio"—
16 pages of helpful radio
information.

The Kodel Radio Corporation Owners of Broadcasting Station W.K.R.C. 509 BAST PEARL ST. CINCINNATI, O.

## YULETIDE REQUIRES GALA HOME ATTIRE

BETTY CROCKER TELLS OF CHRISTMAS TABLE IDEAS

Toothpicks, Nuts and Raisins Are Basis for Edible Tree Decorations and Dinner Favors

By Betty Crocker

WONDER if you all feel as I do, sort of excited and happy when the first decorations for Christmas appear in the store windows. And then a little later on when the twinkling lights of the Christmas trees and the huge wreaths and garlands of green adorn all the public huildings and streets—the whole world gartands of green agorn an the public buildings and streets—the whole world seems festive and gay.

The decorations in your homes will vary so much that it is almost impossible

for me to make suggestions. A few well-placed wreaths with branches or gar-lands of green are much more effective than a house full of many things. We do not want our home to look like a dedo not want our home to look like a department store or a bazaar even at holiday time. If you are tempermental or for any reason tire of so much red and green, an all-white frosty Christmas is very effective. You can use white candles, white snow balls suspended from the chandelier, frosty white wreaths with perhaps a single bow or candle, and the Christmas tree for the only hit of green. Christmas tree for the only bit of green.

An Edible Christmas Tree The Christmas tree is the most important item in our scheme of decoration. In addition to the long strings of cranberries and popoorn, gingerbread men and animal cookies may take the place of the more expensive Christmas tree decoramore expensive Christmas tree decorations, and will be much more acceptable to the children because they will like to eat them afterwards. Animal cookies always delight the children, and it is fun to write the names of the different members of the family on the cookies, using a toothpick and colored cake icing. Post card cookies make unusual place cards for the Christmas table.

Cut the cookies the size and shape of a post card and ice with plain icing. With

## RADIO FRIENDS DROP IN FOR A VISIT



Mrs. Helen Downing, home economics specialist of the Calumet Baking Powder company, is shown above personally conducting a class in the Model Kitchen of the company. Mrs. Downing broadcasts regularly from the Calumet Baking Powder-Rainbo Garden station, WQJ.

a chocolate or colored icing, draw a line dividing the card into two parts. Place the name of the guest on the address side and a word of greeting on the other.

Decorating the Table

For the table decorations there is nothing prettier than a bowl or platter of assorted fruits for a centerpiece, with perhaps smaller bowls of nuts and can-dies. Nut cups may be made into funny snow men by using a ball of crepe paper for the body and a nut cup for the head. Each little man may wear a red cap and scarf. If covered with red petals, the nut cups make a gorgeous flower.

A tiny Christmas tree may make the A tiny Christmas tree may make the center decoration for the table, and in the pile of cotton snow at its base may be hidden clever and funny little gifts attached to streamers extending from each plate. Or a gorgeous red Jack Horner pie may be made of a big red bell. Or a large round ball frosted with artificial snow may be the hiding place for the funny favors.

Children Can Make Funny Favors The children will love to make funny

little favors out of fruits and nuts. A turtle is very easily made, using a date for the body, with head and legs of raisins attached with pieces of toothpicks. A funny giraffe may be made with a prune for the body, the long neck and legs being made of toothpicks. A nut may be used for the head of a funny lady, whose body is made of two prunes, one above the other, the nut and prunes being fastened together with toothpicks. Her

## Michigan Woman Has Charge of Farm Series

### Mrs. Dora Stockman Is Director of Rural Programs

EAST LANSING, Mich.—The legion of women now engaged in the Radio field received a notable addition recently when Mrs. Dora Stockman of the Michigan state board of agriculture inaugurated "Farmerkins" bedtime stories as part of a farm program broadcast each Monday evening from 7 to 7:15 p. m., central time, over Station WKAR at the Michigan State college here. Following this feature the WKAR Radio school lectures, covering subjects of interest to farmers, will be put on the air.

arms and legs are of toothpicks covered with raisins. If the legs are placed at right angles to the body, this funny lady will sit up.

If you have individual cakes, you may like to place a single tiny candle on each one. College boys and girls have a custom which I think we might adopt occasionally at home. While the tables are being cleared and dessert served, they sing their college songs. Why not light all the candles on the little cakes and sing one or two of your favorite carols before dessert is served, or, perhaps, tune the Radio set to some station which is broadcasting a program of carols? The latter will be combining the modern with If you have individual cakes, you may latter will be combining the modern with the ancient; that, we think, you will find

## Index to Women's Programs

Saturday, December 19 Eastern Central Mountain 9:30 a. m. 8:30 a. m. 7:30 a. m. WWJ (352.7) Tonight's dinner. 11 10 9
WEAR (389.4) Home service talk.
WHT (399.8) Women's club.
12:35 p. m. 11:35 10:35
KYW (536) Table talk. KJR (384.4) Tonight's dinner. Monday, December 21 Central Mountain 8:30 a.m. 7:30 a.m. Pacific 6:30 a. m. WWJ (352.7) Tonight's dinner.

WIP (508.2) Market hints for housewires.
WOC (483.6) Home Management schedule, Aunt Jane. WQJ (447.5) Winter Squash Dishes. The Care of the Hair. 5 KJR (384.4) Home helps. | No. Tuesday, December 22 Eastern Central Mountain 9:30 a.m. 8:30 a.m. 7:30 a.m. WWJ (352.7) Tonight's dinner. WWJ (352.7) Tonight's dinner.

10 9 8 7

KDKA (309.1) The art of sewing.

WIP (508.2) Menu.

WJZ (454.3) Women's hour.

11 10 9

WEAR (389.4) Homo service talk.

WHT (399.8) Women's club.

WMCA (340.7) Homemaking hour.

WTIC (475.9) Housewives' forum.

12 n. 11 10

WQJ (447.5) Hats for the Winter Sports. Your Home.

12.35 n. m. 11.25

12:35 p. m. 11:35 KYW (536) Table talk. 9:35 5.30 4.30 3:3 KOA (322.4) Home helps. 3:3 KOA (322.4) Housewives math 2:30 6 5 KOA (322.4) Culinary hints. 6:15 KOA (322.4) Fashion review. 4:15 3:15 7 6 5 KFOA (454.3) Today's recipe. 8:30 7:30 6:30 KGO (361) As a Woman Thinketh.

Wednesday, December 23 Eastern Central Mountain 9:30 a. m. 8:30 a. m. 7:30 a. m WWJ (352.7) Tonight's dinner. 10 9 8 WIP (508.2) Menu. WJZ (454.3) Women's hour. WRC (468.5) Women's hour. 8

Eastern Central Mountain.

10:45 a.m. 9:45 a.m. 8:45 a.m. 7:45 a.m.

WCAE (461.8) Gold Medal talk.

WEAF (491.5) Home service talk, Betty Crocker.

WF1 (395) Gold Medal Service talk, Betty Crocker.

WTAG (268) Talk to Housewives.

10 9 8 WTAG (268) Talk to Housewives. 11 10 9 8 8 WHT (399.8) Women's elub. WNYC (526) Women's program. 12 n. 11 10 9 9 12.35 p. m. 11.35 19.35 9.35 KYW (536) Table talk. 1 12 noon 11 10 KPO (428.3) Sewing talk. 4 3 n. m. 2 n. m. 1 n. t. 4 3 p. m. 2 p. m. 1 p. m. WOC (483.6) Home Management schedule, Aunt Jane.
WQJ (447.5) Your Christmas Dinner.
4.30 3.30 2.30
WLW (422.3) Cooking school, hints. 7 6 5 4

KFOA (454.8) Today's recipes.

KLX (508.2) Women's hour.

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

KFDJ (282.5) Financial Preparedness for the New Year. 11 10 9 8 KFDJ (282.5) What Is Your Best Color?

Thursday, December 24 Eastern Central Mountain Pacific 9:30 a. m. 8:30 a. m. 7:30 a. m. 6:30 a. m. 9:30 a. m. 0:30 a. m. 7:30 WWJ (352.7) Tonight's dinner, 10 9 8 WJZ (454.3) Women's hour. WRC (468.5) Women's hour. WRC (468.5) Women's hour.

11 10

WEAR (389.4) Home service talk.
WHT (399.8) Women's club.
12 n. 16

WQJ (447.5) The Midnight Sup.
12.35 p. m. 11.35 10.35

KYW (536) Table talks.
1 12 noon 11

KPO (428.3) Domestic science.
2 v. m. 1 v. m. 12 n. 9:35 2 p. m. i p. m. 12 n. II a. m. WGY (379.5) Christmas Candies. 4 p. m. 3 p. m. 2 p. m. i p. m. WOC (483.6) Home Management schedule, Aunt Jane. WQJ (447.5) Christmas Night Supper. KFOA (454.3) Home helps. KSD (545.1) Women's Hour. 5:30 4:30 3:30 KOA (322.4) Housewives' matinee. 2:30 6 5 4
KOA (322.4) Culinary hints.
6:15 5:15 4:15
KOA (322.4) Fashion review.
7 6 5 KFOA (454.3) Today's recipe 8:45 7:45 6:45 KYW (536) Ideal Home Construction. 5:45 Friday, December 25

Central Mountain 8:30 a.m. 7:30 a.m.

Pacific 6:30 a.m.

WWJ (352.7) Tonight's dinner. 10 9 8 7 <u>KDKA</u> (809.1) Home Economics, cooking. WJZ (454.3) Women's hour. 10:45 9:45 8:45 WCAE (461.3) Gold Medal talk. WTAG (268) Food hints. 9:35 3 2 p. m. 1 p. m. WCCO (416.4) Women's hour. 4 3 2 1 p.m.
WOC (483.6) Home Management schedule, Aunt 5 4 KJR (384.4) Home helps. 5:30 4:30 3:30 KOA (322.4) Housewives matinee WFAA (475.9) Women's hour. 2:30 3 6 5 KOA (322.4) Culinary hints 6:15 5:15 4:15 KOA (322.4) Fashion review. 3:15 7 6 5
KFOA (454.3) Today's recipe.
KLX (508.2) Women's hour.



## 75 Stations a Night.

One owner of a Crosley "Pup" reported hearing seventyfive stations in a single night—a feat of reception probably never before achieved on any set costing less than

\$10. (Add 10 per cent west) THE CROSLEY RADIO CORPORATION, Cincinnati, Ohio

BETTER · COSTS



# WHAT could be more appropriate than an annual subscription to Radio Digest? The publication is built as a necessity to all Radio set owners. Your Radio friends will appreciate such a gift. Fifty-two reminders throughout the year! Fill out the coupon and we will advise the subscriber that it is a Christmas gift from you. This gift subscription includes the new book, "Radio Receivers." Pive Dollars enclosed Subscription goes to Mail to Radio Digest, 510 North Dearborn Street, Chicago, Illinois

## KWWG ATBROWNSVILLE

(Continued from page 6)

Miss Florine Pierce renders invaluable service as accompanist on the Baidwin grand piano, besides being assistant program director

gram director.

Now, KWWG does not live for Brownsville alone. KWWG broadcasts in the interests of the entire Lower Rio Grande valley—a veritable big town, with a population of 185,000, stretched out over an area 64 miles long by 30 miles in width. One concert each week is given by Brownsville talent; the other two programs from other valley communities. A feature of each program is an address by some public-spirited person, setting forth some public-spirited person, setting forth advantages of his particular section.

The following cities of the valley have given most enjoyable programs, representgiven most enjoyable programs, representing a mighty fountain of entertainment ready to be tapped at all times for the pleasure of untold millions: Mission, the home of the grapefruit; McAllen, Edinburg, Pharr, San Juan, Alamo, Donna, Weslaco, Mercedes, Stuart Place, Raymondville, Harlingen, San Benito, Richer Marker (1984) mondville, Harlingen, San Benito, Rio Hondo. Programs from Houston (Gulf Coast Lines) have also been given; talent from Matamoros, Mexico, has also been represented. From the Fort Brown Military Post at Brownsville, the Twelfth Cavalry band under Director George A. Horton, has been the recipient of well-carned applause; Sergeant J. R. Callahon being an especially popular trombone coloist

As noted above, KWWG is new. Many interesting innovations are planned; possibly the studio personnel will be augmented in the near future. A novel character, indigeneous to this section of the country will be brought out and developed, in an effort to further individualize KWWG:

Let us digress from the path usually followed in a magazine devoted strictly to Radio and answer the query most often asked of KWWG—"Just where is Brownsville?" Brownsville, a modern city of 18,000 is situated near the mouth of the Rio Grande, opposite the town of Matamoros, Mexico. Its geographical location may be further defined as being over 400 miles further south than San Diego, California, and on practically the same 400 miles further south than San Diego, California, and on practically the same parallel of latitude as Key West, Florida. The Lower Rio Grande valley is really the delta of the Rio Grande; the rich soil deposits of the river have built up the land, giving it great fertility and suited to almost an unlimited variety of crops unequalled anywhere in the world.

Due to the proximity of the Gulf, a constant sea breeze tempers the heat of the southern sun, so that it is very delightful in summer. The average temperature in winter is 65 degrees. Read uninous mail and directs the studio. Mr.

hang temptingly, orange trees, lemons and grapefruit dot the land. More vegetables are produced than in any like given area

over the desk of the obliging manager of the chamber of commerce, G. C. Richardson, hangs a motto which reads: "The ardson, nangs a motto which reads: The world is always looking for men to do things that have not been done." In our opinion, a generous number of those sort of men have already found their way to the valley—and there is room for more. The writer can only add, after a most enjoyable trip there: "Kum to the World's Winter Garden"—you'll want to stay!

### WEMC ACHIEVES FAME

(Continued from page 7)

E. Fetzer, chief engineer, was sent to Europe last summer to study the highpower stations of England, Germany, France and Italy. He came back ready to begin work in the construction of a new transmission house and a station that would incorporate the best factors of all that he had gleaned abroad. That sta-tion now is almost completed and those tion now is almost completed and those who have never had the luck to cross the Radio Lighthouse beams before will be able to do so this winter. There are new studios nearing completion and plans are being made for a broader and even more helpful arrangement of programs.

Probably the most outstanding feature of this noteworthy station is the Friday evening program of old-fashioned hymns, as the announcer states, "which our grandmothers used to sing." These are sung by the Lighthouse choir and later comes a ration of manna from the Bible, comes a ration of mainta from the Bible, "The Bible that our grandmothers used to read." And somehow heaven seems a little nearer when you spend an evening with this lighthouse crew. Sunday morning and Sunday evening comes the regular Radio chapel services. The Rev. W. R. French gives an earnest Bible talk in the morning and Rev. John Knox famous the morning and Rev. John Knox, famous evangelist, speaks at night. There is spe-cial singing by Miss Martha Hutchinson and Ernest Hurd.

But the programs at the Radio Light-house are not exclusively limited to the religious atmosphere. The Chameleon religious atmosphere. The Chameleon trio, the Hoot Owl quartet and the Colle-gian trio provide excellent features. Dr. Birt Summers, director of the school of music, provides a wide variety of talent for the week-day programs with the Music Makers on the air Mondays. Educational features are on the air with the

that again, you who shiver and shake. Pearce and John E. Fetzer constitute the Date palms, from which golden clusters announcing battery of the station. John is known to his listeners as "J. E. F., engrapefruit dot the land. More vegetables are produced than in any like given area off as "P. N. P., director-announcer." Miss boy talk, yes indeedy. Lilah A. Beamer is the secretary of the station. C. F. Clark and Charles Klinck,

station. C. F. Clark and Charles Klinck, are student operators.

Aniong the Birch Hall feminine entertainers are Miss Ruth Nelson with her violin and Miss Clotilde James, pianist. Miss Letha Wenke sometimes assists at the microphone as announcer. Professor T. H. Barritt of Washington, D. C., and former KDKA artist, is occasionally heard at WEMC with various instruments.

And everybody at the Emmanuel Mis-

And everybody at the Emmanuel Mis-sionary college puts his heart and soul into the Lighthouse. It is more than a medium of entertainment for them. It almost might be called a part of their creed of doing unto others, of carrying a message to those who are seeking just that kind of a message. The have struck on a name that could scarcely be more apt. Who can ever estimate the comfort that far-reaching beam of light may carry to storm-tossed, world-weary souls who long ago have forgotten their Bible and the air because it's going to be a merry long ago have forgotten their Bible and the songs their mothers used to sing? Wait and watch for the WEMC announcements when it will again go on the air because it's going to be a merry hour. Our picture shows Royle as a black duck and by the expression on his face it probably is fortunate for Bill Seroy the broom isn't a baseball bat . Anyway, the listener gets in on what a black duck will undoubtedly be well repaid with exceptional entertainment.

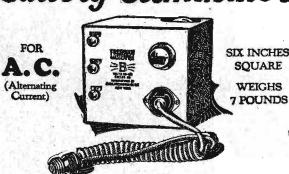
boy talk, yes indeedy.

And then, somehow through the strange vicissitudes of this life below, they both took a leaning toward the air. Royle got his start when the war broke out. his start when the war broke out. He became a pilot in the flying corps. Later he fought it out on the vaudeville stage—sometimes with chop sticks and sometimes with a cartridge belt loaded up with burnt cork. With kinky hair or a queue he was a scream. Seroy is a Radio manufacturer's agent in Oakland, and Royle, too, is now in the Radio business as a branch manager of the Gilfillan Brothers. Fate, disquised behind a long, vellow

Fate, disguised behind a long, yellow bill and in front of a short, stubby tail and standing on two flat, web feet led these two gentlemen into the studio of KLX which eventually became the nesting pond of the Protective Order of the Lake Mornitt Purks. They have made one Lake Merritt Ducks. They have made one of the most distinctive hits in Radlo.

Everybody tunes in when they are on the air because it's going to be a merry

# ontneed. B" Batteries if yourse the FRESHMAN MASTER B' Battery Eliminator FOR SIX INCHES SQUARE



## This marvelous device absolutely eliminates "B" batteries

With the Freshman Master "B" Eliminator your set will always be supplied with constant and uniform power. Noiseless in operation; your reception will not be marred by the snap and crackle due to chemical action in "B" batteries.

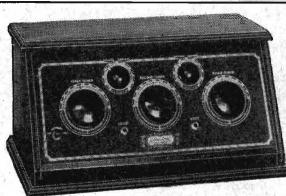
The list price of the A. C. Model Freshman Master "B" Eliminator is \$20.00. However, a tube is required to rectify the alternating current into the required direct current for radio operation. And, as we desire to furnish the best rectifying tube that is obtainable, in our opinion, Freshman Master "B" Eliminators for alternating current are now furnished with R. C. A. Rectron UX-216-B Tubes.



Sold by Authorized FRESHMAN Dealers Only

Write for 24-page illustrated booklet, full of useful information for all radio fans.

CHAS. FRESHMAN CO., INC. Freshman Building, New York
2626 W. Washington Blvd., Chicage



out of the Ordinary

## Cleartone Five Tube

NOT "how many can we make," but "how well can we make them," is the dominating thought where Cleartone sets are built. Each set is treated as an individual creation rather than one of the many.

What wonder then that Cleartone sets reproduce with unusual clarity of tone. That they possess remarkable selectivity, range and volume. That they are encased in cabinets of exquisite design.

Everybody prefers the individual, distinctive, handwrought gift. For this reason the Cleartone Five Tube Set will bring more pleasure on Christmas morning than could any ordinary set.

Last Minute Shoppers! If your dealer does not carry Cleartone, wire us for immediate delivery.

Price \$85.00 with Radiotron Tubes. Tubes include either five UX 201A, or four UX 199 and one UX 120 power tube. Use with either dry cell or storage batteries.

THE CLEARTONE RADIO COMPANY

## ADVANCE PROGRAMS FOR THE WEEK

## Saturday, December 19

Headliners Today

Eastern Central Mountain Pacific 8.25 p. m. 7.25 p. m. 6.25 p. m. WPG (295.5) ALLS (15.5 7:15 6: 93.15 8:15 7:15 6: W8AI (326) Christmas program. 7:30 6: KSD (545.1) St. Louis symphony. WLW (422.3) Christmas carol, reading, 8 7 

Saturday, silent night for: CFAC, CFCA, CNRA, CNRC, CNRE, CNRM, CNRR, CNRT, CNRV, CNRW, KFDM, KFEQ, KFMZ, KFDJ, KFD, KHAC, KSO, KWSC, KTAB, WBAL, WBAP, WBZ, WCAD, WCAP, WCAU, WCX, WDOD, WEAO, WBBJ, WEBW, WEEI, WGCP, WGR, WHAD, WHAZ, WHB, WHN, WHO, WJAR, WJAZ, WKAR, WOAI, WOS, WTAG, WTIC, WWJ.

Eastern Time Stations

WOAI. WOS. WTAG, WTIC, WWJ.

Eastern Time Stations

CFCA. Teronto. Can. (356), 6:05 p. m., bedtime story for children, Mrs. Bertin E. Green.

CKNC. Joronto. Can. (356.), 4 p. m., CKNC String cultiet, Cornel, Can. (366.9), 4 p. m., CKNC String cultiet, Cornel, Can. (366.9), 4 p. m., CKNC String cultiet, Cornel, Can. (366.9), 4 p. m., CKNC String cultiet, Cornel, Can. (366.9), 4 p. m., CKNC String cultiet, Cornel, Can. (366.9), 4 p. m., CKNC String cultiet, Cornel, Can. (366.9), 4 p. m., CKNC String cultiet, Cornel, 20 p. m., CKNC String cultiet, Cornel, 20 p. m., CKNC String cultiet, Cornel, 20 p. m., CKNC, Christopher, Cornel, 20 p. m., Uncle Dick's cornel, 20 p. m., Cknc, Christopher, Cornel, 20 p. m., Cknc, Christopher, C

Lopez.

WEAR, Cleveland, O. (389.4), 11 a. m., home service talk; 7 p. m., Hotel Statler concert orchestra. Maurice Spitalmy; 12, Warmack's singing syncopators.

WEEI, Boston, Mass. (348.6), 6:45 a. m., Tower health exercises; 7:45, Morning Watch, organ.

WFI, Philadelphia, Pa. (385), 1 p. m., Srawbridge and Clothler tea room cnsemble; 3, Four Leaf Shamrock orchestra; Kathryn Smith, soprano; 6:30-8. Bellevic Stratford hotel concert orchestra; Relevice Stratford hotel concert orchestra; Relevice Stratford hotel dance orchestra; features of the annual dinner dance given by the Granite Hosiery mills for their employes.

hotel dance orchestra; features of the annual dinner dance given by the Granite Hosiery mills for their employes.

WGBH. Clearwater, Florida (266), 8:30 p. m., Harold Tucker, Howard J. Bechtolt, saxophone team; Mrs. J. B. Becker, pianist; Bill Ewin, tenor.

WGBS, New York, N. Y. (313.6), 10-10:10 a. m., timely talk, Teresc, music, Jack Cohen; 10:10-10:40, Cousin Eleanor, Kiddie Klub program; 10:40-10:50, Lilly Weinstein, planist; 10:50-11, fashion talk, Mme. Hall Dean; 1:30-135 p. m., Scripture reading; 1:35-2, Chauncey Northern, tenor; 2-3, Montelair Senators; 3-3:20, "Children of Many Nations," Mrs. Edward Thomas; 3:20-3:30, talk, "How Folifes Girls Keep Beautiful," Mme. Mary Polly; 3:30-3:40, Dec Kahn, tenor; 3:40-3:50, Jennie Couell Brigham, "Talk on the Speaking Voice"; 3:50-4, loc Kahn, tenor; 6-6:30, Uncle Geebee; 6:30-7, Vincent Sorcy concert trio; 7:10, Arthur Murray, ballroom dance instructions, 1:30-8:30, County Fair club orchestra; 8:30-9:20, recital, Alice Frances Happer, dramatic soprano; Ray Lev. concert planist; Philip Frank, violinist; 9:20-10:30, Warner's theater; 10:30-11:30, Arrowhead Innance orchestra; 11:30-12:30, Moseow Art Musical studie party, Mikall Mordkin's International School of the Dance.

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

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

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

WGY. Seheneetady, N. Y. (379.5), 8:25 p. m., Fifth
New York Philharmonic Society Student symphony
series, WJZ; 10:20, "Wheat, the King of Cereals,"
address; 10:30, dance program.

WHAR, Atlantic City, N. J. (275), Z p. m., Seaside
hotel trio; 7:30, lecture period; S. Seaside hotel trio,
total program, secting to the processes; 10:30, special reducing exercises; 1 p. m., organ recitat; S, Fleetwood trio; 6:05,
Benjamin Franklin concert orchestra, W. Irving Oppenhelm; 7, Dnelo Wip's beddime story; 8, sport's corner,
Dr. Francols D'Eliscu; 8:15, Popular Science lecture.

The Sign of the Skull and Cross Bones, 'Prof. Ivor
Griffith; 8:30, Massagni Opera company present, 'Luciae'; 10:35, 'Freiti of the Loom;' Christmas prizes. cia"; 10:05, "Fruit of the Loom;" Christmas prizes. WJAR, Previdence, R. I. (305.9), 1:05 p. m., studio

program.

WJZ, New York, N. Y. (454.3), 1 p. m., Irwin Abrams'
Kniekerbocker Grill orchestra; 1:50, Foreign Policy
association: 4:30, Hotel Lorraine Grill orchestra; 7,
U. S. Navy night, Col. Jamos Barnes, speaker; 8:10,
"Radio Novel," Cosme Hamilton; 8:25, Philharmonic
society, WEC, WGY; 10:30, Paul Specht's Moulin

Rouge orchestra. WKAR, East Lansing, Mich. (285.5), 12:80 a. m. dance

WKAK, ESS. LEBSING, MIGH. (255.0), 12:30 a, m., OBLICO PROGRAM.
WMAK. Lockport, N. Y. (268), 7:15 p, m., daily news items; 8-9, musical program by Isabelle Stranhan and friends; 9-10, musical program, Sunrise Point Development company.
WMCA, New York, N. Y. (340.7), 6-6:30 p. m., Olcott Vall and his Hotel McAlpin string ensemble; 6:30-7:30, Elite orchestra; 8-8:15, current erents; 8:30-8:45, Acollan Waldon, soprano; 8:15-9, Niha Frances Holmes, reader; 9-9:15, Ethel Henderson Newbold, pianist;



"Wealthiest girl" in Hollywood is the title given Ruth Roland. Wednesday night, December 23, and for several weeks after, she and G. Allison Phelps, "The Radio Philosopher," will present a very unique program from KNX, Hollywood. Unlike a number of screen stars, the fans can always depend upon Ruth Roland appearing. In spite of all her millions Ruth Roland feels the lure of the grease paint and kleigs and plans soon to return to film work.

9:30-10, Cinderolla dance orchestra; 10-10:15. Ruth Friedman, pianist; 11-12, Ernie Golden and his Hotel McAlpin orchestra.

WNYC, New York, N. Y. (526), 7-8 p. m., Jean Cireno's orchestra; 8-9, studio features; 9-11:30, Banquot of the Pennsylvania society, Waldorf-Astoria, Charles M. Schwab and other speakers.

Schwab and other speakers.

WOO Philadelphia, Pa. (508.2), 11 a. m., grand organ;
12 m., luncheen music, Golden's Crystal tea room
orchestra; 4:45, grand organ and trumpets; 7:30,
dinner music, Hotel Adelphia roof garden orchestra.

WOR, Newark, N. J. (405.2), 3:15-4:15 p. m., Zit's
Central Park Casino orchestra. 6:30-7:30, Hotel Shelton ensemble; 7:30-8, Van's Collegians; 11-12, Crystal
Palace orchestra.

WPG, Atlantic City (299.8), 1:30 p. m., Hotel Morton

music; 6:45-11 p. m., organ recital; Hotel Ambassador dinner music; studio program; Kiity Mitchell's Irish sunshine; Hotel Tyramore concert orchestra; Nick Nichols' dance orchestra; dance orchestra, Elks home.

WRC, Washington, D. C. (468.5), 12 noom, organ recital; 1 p. m., Hamilton hotel orchestra; 6:30, zoological talk; 7, concert, U. S. Navy band, Charles Benter, director, WJZ; 8:10. Bible talk; 8:25. Now York Philharmonic society, Willen Mengelberg, conductor, WJZ; 10:30, Crandall's Saturday Nighters; 12-1 a. m., Spanish Village orchestra.

WREO, Lansing, Mich. (285.5), 6-7 p. m., concert, Speed Wagon serenaders and Gold Standard ensem-ble; 10-12, dance program, by Speed Wagon sere-naders.

## High Lights of the Week

EVERYONE is invited to join in the Community Fireside sing Saturday, at WLW, which will be led by the chorus from the Cincinnati Conservatory of Music. Holiday music will be featured. After the sing, Dickens' well-loved "Christmas Carol" will be read by B. C. Van Wye.

Christmas music from many lands make the programs this week reminiscent of olden times. English carols, which will make the listener think of happy singers who sang their Christmas melodies under inviting windows, will be sung Sunday by the at WBAL. Another headliner Sunday night is the return appearance of the Mozart choral club at WFAA,

Fresh young voices will make the ether a pleasant place for listeners Monday night. Rensselaer high school students are giving their Christmas program at WHAZ. At WOS, Jef-ferson City, the Christian college for young women is broadcasting its Christmas program.

The Coast Guard Academy band will have R. L. Jackson, a full-blooded Indian, as special tuba soloist on the Tuesday program at WTIC, Hartford. He has played the tuba with many army bands. Male quartets are also competing for first place at WOC, Davenport, on Tuesday.

The fair ladies appearing in the play "Fortuno," Wednesday night at KDKA, E. Pittsburgh, will not seem as beautiful or feminine over the air as on the stage. All these charming leading ladies, vamps and ingenues leading ladies, vamps and ingenues are talented members of the Princeton University Triangle club. Tune in and see if you can distinguish the leading lady from the leading man. No Christmas season is complete without a cantata or two. Midwest fans by tuning in WDAF this same evening may hear the Junior College glee clubs sing their annual cantata.

Midnight mass will this year be broadcast over many stations. Two large churches, St. Patrick's church from WRC, Washington, D. C., and St. Peter's cathedral over WLW, Cincinnati, will make it possible for peo-ple unable to attend this beautiful beautiful service Christmas eve. to have the music brought to them. Earlier in the evening the Italian harp quintet, made up of five attractive young ladies (who are pictured on page 19), will attract the fan at WHB.

The children will again enjoy their annual Christmas day party at KHJ, Los Angeles, while also on Friday, the players are giving three oneact Christmas plays which will attract the grownups who like the invisible theater. WTAG. Werester, Mass. (268), 10:30 a. m., miseellaneous program; 12:05-2 p. m., ordiestra, Will-Hardy, director; Twinkle Twinkle Story Teller."
WTAM. Cleveland, Ohio (384-4), 12:15-1:15 p. m., lunch hour; 6-7, dinner hour, Hotel Hollenden orchestra, Carl Rupp, director; 8-9, miscellaneous program; 9-12, novelty program; Ev Jones and the Coo Coo club, selected artists.
WWJ. Detroit, Mich (352.7), 9:30 a. m., tonight's dinner; 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra.

Central Time Stations KFAB, Lincoln, Nebr. (340.7), 5.30-6.30 p. m., dinner concert, Belshaw's orchestra, Buick Little synphony; 8.30-10.30, Schmoller and Mueller musicale, KFEQ, Oak, Neb. (268), 2-3 p. m., King's entertain-

ers. KFKX, Hastings, Nebr. (288.3), 5:30 p. m., KDKA

KFKX, Hastings, Nebr. (288.3), 5:30 p. m., KDKA dinner concert.

KFNF, Shenandoah, lewa (266), 7 p. m., concert. Scotch trio. E. S. Dodds, director.

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

KLDS, Independence, Mo. (441), 8 p. m., request program; Edith Tritchett, organist; Margaret Beame, soprano; T. A. Howard, tenor; C. A. Schulz, soprano prano; T. A. Howard, tenor; C. A. Schulz, soprano Herbert Fraher, barttone; Rozanne Clinton, violinist; Elizabeth Clinton, soprano; Christine Green, planist.

KMA, Shenandoah, lowa (252), 11:50 a. m.-12:30 p. m. rural program, garden takt, E. E. May, music, 6-7. Pollyana stories, Mrs. Nickols; Retailers' program. James & Harday Candy Kitchen; 9-11, organ recital, William Howie.

KPRC, Houston, Texas (296.9), 12 m., Jack Willrich's orchestra; 12:30 p. m., public health talk, Dr. A. H. Flickwir, 5:30. Unico Judo's kiddies' hour; 7:30. Universal Bible class, Rev. M. M. Wolfe; 8, Frank Tilton, bind boy wonder pismist; 11, midnight entertainment.

orchestra; 12:30 p. m., public health talk, Dr. A. H. Filckwir; 5:30. Uniol Judd's kiddies' hour; 7:30. Universal Bible class, Rev. M. M. Wolfe; 8, Frank Tilton, blind boy wonder piemist; 11, midnight entertainment.
KSD, St. Levis, Me. (541.1), 7-8:30 p. m., orchestral program and stage specialties, Missouri theater; St. Louis Symphony orchestra: concert.
KTHS, Het Springs, Ark. (374.8), 9-9:30 p. m., dance concert, New Arlington orchestra; 0:30-9:35, bedsides story, representative Medical Intelligence burgar: 9:35-9:55, barltone solos, Louis Davis, artists from Little Rock; 9:55-10:30, Mrs. Natalle Brigham Arnour, violinist; 10:30-11, dance tunes with Clydo Foley and Tony Cochard, singers.
KYW, Chicago, III. (353-4), 9:30 a. m., morning error class; 7:30, family worship; 11:35, a table talk, Mrs. Petorson; 12:95 m., Edison stidio; 1, Congress het orchestra; 9, dinner music, KDRA; 7, bedtime story, Uncle Bob; 8:30-11, Congress classic; 11-1 a. m., Congress carnival.
WBAP, Uncle Bob; 8:30-11, Congress classic; 11-1 a. m., Congress carnival.
WBAP, Smith.
WBCN, Citeago, III. (266), 10-10:30 a. m., shopping talk, Penhy Wise; 8-5 p. m., tea time matbace; Clarence Jones, pianist and song writer: Cecelia and Johanna Arneds, violinist and plants; Marie Wright, soprano; 10-11:13, jazz jamborec, Midway Danoling Gardens orchestra; Cameron and Fett, "The Harmony Wiseards," harmony duo; Albert Blaba, concertinist: Johnny Special, the harmonica acrobat; Elizabeth Emmett Malone, soprano; Jack Parker, tenor; 11:13-12, King Static's court; Frank H. McDonald, "King Static" Mary Williams, "Queen Olive"; Harry A. Zook, Jr., "prime minister"; "Big Boy" Yagle, "court jester."
WCCO, Minneapolis-St. Paul, Minn. (416.4), 9:30 a. m., program for the day; 9:35, news bulletin; 12 m., concert, Golden Pheasant orchestra; 2:30 p. m. concert, 5:15, dinner concert, Wesley Barlow's orchestra; 8, fireside philosophies, Rev. Roy L. Smith; 8:15, musical program; 10:95, dance program; Mallie Erickson's Collseum orchestra; 1:30 p. m., 1:35 p. m., 1:

ist; II-1, Oriole orchestra; Frank Greif, tenor; Marla Kelly, reader; Rick and Shyder; Kay Ronayne, Wayne Myers.

WENR, Chicage, III. (266), 6-7 p. m., dally dinner concert, Rauland lyric trie, Frank Westphal, Santa Claus letters, Marie Tulley; 8-10, All-American Pioneers, Floyd Falch, Al Tweed, Walter Peterson, John Papa, concertina soloist; 12 m.-2 a. m., All-American Pioneers, Art Bilquist, Al Tweed and Waltor Peterson, Hawaiian guitar and harmonica players; Mary Bieber and Rita McFam, vocal duets.

WFAA, Dallas, Texas (475.9), 6:30-7:30 a. m., health exercises, R. H. Schulze; 12:30, Ernest Wayland, planist, Pat Wilds and Johnny Welsh, ukuleists and singers; 3:30-4. Western Electric Four; 6:30, Don Bestor's orchestra; 8:30, Mozard Choral club recital; 11, Adolphus hotel orchestra.

WGES, Oak Park, III. (250), 5-7 p. m., basso, organ, orchestra; 8-9 orchestra; organ selections; 11-1 a. m., violin, comedian, uke girl, organ, orchestra.

WGN, Chicago, III. (370.2), 12 m., household service program; 12:30 p. m., luncheon concert, Drake hotel concert ensemble and Blackstone string quinet; 3:30, rocking chalr time, music, excerpts from Chicago Tribune and Liberty magazine; 3:30, tea time music. Marshall Field's tea room orchestra; 4:30-5, twillight musical; 5:30, Skeezix time, nembers of National Kindergarten and Elementary college; 6:30-7, diner concert, Drake concert ensemble and weal artists; 10-11, dance program, Jack Chapman's and Blackstone hotel dance orchestras, assisted by popular artists; 10-11, dance program, Jack Chapman's and Blackstone hotel dance orchestras, assisted by popular artists; Unilly dance program, Jack Chapman's and Blackstone hotel dance orchestras, assisted by popular artists.

Blackstone hotel dance orchestras, assisted by populur artists.

WHAD. Milwaukee, Wis. (275), 11 a. m., pianologue. Andy Hertel; story for children. Faye McBeath; Margaret Cunningham, planist; Willard Kaloibe, tenor bunjo solojat.

WHAS, Louisville, Ky. (399.8), 4-5 p. m., concert, direction Susie Eivira Williams; readings: reading. Martha Pope Robinson; 5:30-9, concert, Town club. Joseph Henry, pianist.

WHBO, Chicago, 111. (226), 2-4 p. m., shut-in program; Jack Sprat and the Carl Sulzer ordestra; Ted Floritup plano; Victor Young and Dan Russo, violinists; Vernon Hayes, saxophonist; 6-8, Walter Preston, request hight. Eugene Wallenius, tenor; Frances Schieb, soprano; Ruth Buhl Flick, reader; old fashioned trio; male quartet.

Ruth Buhl Filek, reader; old lashioned Glo, male quartet.

WKAF. Milwaukee, Wis. (261), 8:30-10 p. m., program; 11:30-1 a. m., varled program.

WKRC. Cineinati, O. (422.3), 10-10:45 p. m., Marlon McKay and orchestra; studio features; Marlon McKay and orchestra; studio features; Marlon McKay and orchestra; studio features; Marlon McKay and program, Fred Hanm's Liberty orchestra, assisted by popular artists; 11-12, dance program, Jack Chapman and Blackstone hotel dance orchestras. WLS, Chicago, III. (335.4), 12-12:45 p. m., Junior R. F. D. Roundup program; trapping series, S. T. Keshen; 7, Iuliaby time, Ford and Glenn; 7:20-12.

Jack Chapman and Blackstone hotel dance orchestras. WLS, Chicago, III. (535.4), 12-12-15 p. m., Junior R. F. D. Roundup program: trapping series, S. T. Keshen; 7, Iuliaby time, Ford and Glenn; 7:20-12. WLS Cornhuskers revue; request, and dance program: Brock Sisters, Ford and Glenn; 7:20-12. Maurice Sherman orchestra. WLW, Cincinnati; 0-hio (422.3), 7 p. m., organ concert, Johanna Grosse; 7:40, Seckatary Hawkins; 8, Community Fireside sing, chorus from Cincinnati Conservatory of Music; 8:30, the Christmas Carol, reading, B. C. Van Wye; 9:30, the Christmas Carol, reading, Samuols; of the air. WMAQ, Chicago, III. (447.5), 6-6:30 p. m., Clicago theater organ; Hotel Le Salle orchestra; S. Russell Pratt and Frederick Dawy, 8:30, "Winter Sports Chicago," Ransom Kennicott; 9, Chicago theater revue. WMBB, Chicago, III. (250), 7-8 p. m., Triznon duo, Ranjo Elliott, Prestom Graves, semi-classical program; 9-11, Trianon orchestra, Dell Lampe, Woodlawtheater orchestra, Armin F. Hand, Lionel Carter and Esther Ward, M. P. Hughes M. Mad, Chicago, H. R. Hughes, Scotty Welsh and Madison Sisters. Cecil and Esther Ward, M. P. Hughes, M. M. Memphis, Tenn. (499.7) 7. 5 p. m., Sandman's visit; Val McLaughlin; 8:20, Riaito orchestra; 7, atter-dimer Val McLaughlin; 8:20, Riaito orchestra; 7, atter-dimer

## MOZART CHORAL CLUB SINGS AT WFAA

### Saturday, December 19

hour; 9. DeLuxe program; 10:30, Frank Hodek and his Nightingale orchestra; 11, Arthur Hays and his organ jubilee, Dr. Applesauce announcing. WOC, Davennort, 1a. (484), 5:45-6, chimes concert; 6:80-6:50, bedtime stories; 9-10, Jolly Knights quartet, Harold Puls, baritone, Harry Maher, tenor; 11-12, LeClaire hotel orchestra program, Peter MacArthur. baritone.

6:50, bedtime stories; 9-10, Jolly Knights quartet, Harold Puls, baritone, Harry Maher, tenor; 11-12, LeClaire hotel orchestra program, Peter MacArthur, baritone, Harry Maher, tenor; 11-12, LeClaire hotel orchestra program, Peter MacArthur, baritone, 12:35, "Problems Relating To Soils—Questions and Answers," Prof. W. H. Stevenson.

WOK, Chicago, Ill. (217.3), 5-7 p. m., Gus C. Edwards and his orchestra; Capitol theater organ; Howard Will, tenor; Bob Mokreis, planist; 10-1 a. m., Gus C. Edwards and his orchestra; Husk O'Hare's Cocanut Grove orchestra; Tileney's Town club orchestra; Capitol theater program; Fred Witmer, planist; Harold Morava, tenor; Herman Sinaiko, violinist; George Allen, tenor; Harriet Lee, contralto; Bill Hay, bass; Honolulu Sorenaders.

WQI, Chicago, Ill. (447.5), 11-12 noon, home economiles program; Special musical features; Jerry Sullvan; Roe Vanderbosch, soprano and planist; Ha Lansing and his use; 7-8, dinner concert, Raiph Williams, and his Rainbo Garden orchestra; Gertrude din Koim, planologist; Ames Keng, welstle features, Jerry Sullvan; Roe vanderbosch, planist and soprano; Eleanor Wasserstrass, welstle for the Keim, planologist; Ames Keng, masserstrass, terror sullvan; and his well and the such services of the survey of the sur

Robert Badgley; "Christmas Program," Bicyele Playing Card sextet; U. S. Playing Card weekly news review, Allison F. Stanley; Bicycle Playing Card sextet, soloist.

WSB, Atlanta, Ga. (428.3), 8 p. m., entertainment; 10:45, entertainment.

WSM, Nashville, Tenn. (282.8), 6:30 p. m., Francis Craig and his orchestra; 7, bedlime story interlude: 10, studio program, American Legion.

WSUI, Iowa City, Ia. (484), 7:30 p. m., musical program, Mrs. Mildred B. Paddock, vocalist, Mrs. Verness Fraser Ruch, planist.

Mountain Time Stations

KFWA, Ogden, Utah (261), 5:6 p. m., Radio dealers' program; 9-10:30 Olle Reeves and orchestra.

KOA, Denver, Colo. (322.4), 12:15 p. m., Rlalio theater musicale; 7:30, Fred Schmitt's Super-Syncopators; 9, Wurtzbach's orchestra.

FPacific Time Stations

KFOA, Seattle, Wash. (454.3), 8:30-9:30 p. m., program; 9-30-11:30, Eddie Harkness and his orchestra.

KFWB, Hollywood, Callf. (252), 7:45 p. m., Microphone brevities; 8-10, Radio Doings Revels; Bill Black, tenor; Hollywood string trlo; Emma Kimmel, soprano; 10-11, Warner Brothers' frolic, direction Charlte Wellman; 11-12, Hollywood Roof dance orchestra.

KGO, Oakland, Callf. (361.2), 7:15-7:30 a. m., health training exercises, Hugh Dobbs; 7:45, Pep class; 8:15-8:30, exercises; 11:30-1 p. m., luncheon concert; 4-5:30 p. m., concert orchestra, Hotel St. Francis; Vinton Lagrerera, conductor; 8:10, connert, San Francisco Real Estate Board glee club, Eugene Blanchard, director, J. L. Elmquist, accompanist; Barbara Blanchard, soprano; Richard J. Jose, contra-tenor; Edwin Imhaus, tenor; program, Sigmund Anker, violinist; Evelyn Biebesheimer, pianist; Anker string quartet; 10-12, dance music. Hotel St. Francis.

KGW, Portland, Ore. (491.5), 10:30 a. m., Town Crier; music, news items and shopping guide; 12:30-1:30 p. m., Rose City trio; 6-7, dinner concert; 9-12, dance music.

KGW. Portland, Ore. (491.5), 10:30 a. m., Town Crier: music, news Items and shopping guide; 12:30-1:30 p. m., Rose City trio; 6-7, dinner concert; 9-12. dance music.

KHJ. Los Angeles, Calif. (405.2), 6-6:30 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6:30-7:30, history story, Prof. Hertzog; Annie Hooker, readings: Henrietta Poland and Uncle John; 7:10-7:46 p. m., Christmas carols, pupils of Lida Helen Thompson; 8-10, program, Young's Market company; 10-11:30, Don Clark's Biltmore hotel dance orchestra; 11:30-2 a. m., Times Tom Cats' frolic first birthday party. KMTR, Hollywood, Calif. (336.9), 5-5:30 p. m., Sunny Jim's talk to children; 5:30-6:15, Wurlitzer pipe organ studio; Town Tattler; 6:15, travel talk, W. F. Alder: 6:30-7, Atwater Kent concert orchestra, Paul Finstein, clader; 7, talk on insect life, H. W. McSpadden; 7:15, church announcements; 8-10, program, Commercial Construction company; 10-11, Ray West's Cocoanut Grove dance orchestra; 11-2 a. m., Filmland frolickers, direction Che Boone.

KPO, San Francisco, Calif. (428.3), 7, 7:30, 8 a. m., dally dozen oxercises, direction Y. M. C. A.; 10:30, "Ye Towne Cryer," and amusement information service: 12 noon, reading of the Scriptures; 1-2, Rudy Seiger's Fairmont hotel orchestra; 2:30, special matine program; 3:30, Palace hotel concert orchestra; 6:30, "Ye Towne Cryer," and amusement information service: 6:35-7:30, Waldemar Lind and the States restaurant orchestras; 8-12, Cabiria cafe orchestra; Ben Berman, tenor.

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

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

Sunday, December 20

Headliners Today Eastern Central Mountain Pacific 4:15 p. m. 3:15 p. m. 2:15 p. m. 1:15 p. m. WHAD (275) Milwaukee Turnverein, symphony or-

KFWB (252) Movie frolic.

KNX (336.9) Calmon Luboviski, violinist.

A royal entertainer is young Celia Turrill who has often sung for the English king and queen. Before she came to America to become a member of the "Capitol Family," Miss Turrill's mezzo-soprano voice was often heard at the Royal Opera at Covent Garden. She is now singing every Sunday over WEAF and chain.

KDKA, Pittsburgh, Pa. (308.1), II a. m., church service; 4 p. m., organ recital, Charles Heinroth, director; 4.45, vesper service, Shadyside Presbyterian church, Rev. Hugh Thomson Kerr, pastor; 6.30, dinner concert; 7.45; church service. WAEO, Port Huron, Mich. (275), 10-11:30 a. m., church services; 7.30-8.30 p. m., musical program, Addison hotel.

WAEU, Fut Figure 1, 200 p. m., musical prostant, services; 7:30-8:30 p. m., musical prostant, betel.

WBAL, Baltimore, Md. (375), 6:30-7:30 p. m., twilight program, WBAL concert orchestra, Gustav Klemm, conductor; soloist; John Wilbourn, tenor; 8, program of old English carols, choir of Emmanuel P. E. church, Frederick L. Erickson, organist and choir director.

No. 10.30. No. 20. 10.30.

director.

WBBR, New York, N. Y. (272.6), 10 a. m., Watchtower orchestra; 10:20, Fred Twaroschk, tenor; 10:30,
Bible lecture, Judge Rutherford; 11, Fred Twaroschk,

tenor; 11:10. Watchtower orchestra; 9 p. m., I. B. S. A. choral singers; 9:10, violin duets, Prof. Charles Rohmer, Carl Park; 9:20, I. B. S. A. choral singers; 9:30. Bible lecture, Judge Rutherford; 10, I. B. S. A. choral singers; 10:10, violin duets; 10:20, I. B. S. A. choral singers; 10:10, violin duets; 10:20, I. B. S. A. choral singers; WBZ, Springfield, Mass. (333.1), 10:50 a. m., servlecs, South Congregational church; Rev. James Gordon Kilkey, pastor; Prof. Wilson P. Moog, organist; 24 voice choir; quartet; 7 p. m., dinner connect, Copley Plaza orchestra. W. Edward Boyle, director; Marjorle Warren Leadbetter, soprano; 8, "Some Phases of the Prison Problem," Rev. M. J. Murphy, 8:30, "The Other Wise Man," Gladys Ruth Bridgham; organ accompaniment, Herbert Boardman; 9, organ, selections, Herbert J. Irvine. WCAE, Pittsburgh, Pa. (461.3), 3:45 p. m., Dr. S. P.

## Atwater Kent Program, December 20, over WEAF and Chain

Artists will be Jeannette Vreeland, soprano; Elsie Baker, contralto; Lambert Murphy, tenor; William Simmons, baritone. Charles Albert Baker at the piano.

"Sing O Heavens"..... II .....Charles Gounod "Jesus of Nazareth"..... "The Angels' Song"..... William Simmons III 'Ave Maria". "Rejoice Greatly Messiah" ... Jeannette Vreeland IVa. "No Candle Was There and No Fire" .. .....Liza Lehmann The Birthday of a King"..... Elsie Baker V "The Star of Bethlehem"..... "There Is No Death"..... .....Geoffrey O'Hara VI .....Adolphe Adam .....Homer Bartlett

\*The WEAF chain for the Atwater Kent hour (9:15 p. m., eastern, 8:15 p. m., central time) includes WEAF (491.5), WGR (319), WCAE (461.3), WCAP (468.5), WJAR (305.9), WTAG (268), WLIB (302.8), KSD (545), WCCO (416.4), WOC (483.6), WOO (508.2), WSAI (326), WEEI (348.6). Cadman, WEAF; 6:30, dinner concert, William Penn hotel; 7:20, Capitol theater gang, WEAF; 9:15, At-

Cadman, WEAF; 6:30, dinner concert, William Penn hotel; 7:20, Capitol theater gang, WEAF; 9:15, Atwater Kent.

WCAU, Philadelphia, Pa. (277.6), 5:20 p. m., Robert Fraser, blind Gospel singer; undenominational Radio church service, Rev. John W. Stockwell; 6:45, "Book of the Schepherd," Rev. John W. Stockwell; 6:45, "Book of the Schepherd," Rev. John W. Stockwell; recital; 6:05, "The Best Christmas Anyone Can Hare," Rev. John W. Stockwell; recital; 6:05, "The Best Christmas Anyone Can Hare," Rev. John W. Stockwell; 6:45, Clarence Scannan and orchestra; 7:45, Cathay concert orchestra; 8:30, Boowit Teller light opera company: 9, Potash & Perlmutter.

WCA, Detroit, Mich. (5:17), 10:30 a. m., services, Central Methodist Episcopal church.

WEAF, New York, N. Y. (491.5), 2:45-3:45 p. m., Radio services, auspices of Greater New York Federation of Churches, Dr. William B. Millar, presiding; 3:45-5:30, Men's conference in the Bedford Branch, Y. M. C. A., Brooklyn, N. Y., Mr. H. Walter Riland, presiding, also through WEAF, WEEI, WTAG, WCAE, WSAI; 7:20-9:15, musical program, WEAF, WEEI, WCAP, WJAR, WTAG, WVJ, WCAE, KSD; 9:15-10:15, Atwater Kent Radio hour, Jeanette Vreetand, soprano; Elsie Baker, contralto; Lambert Murphy, tenor; William Simmons, baritone—WEAF, WEEI, WCAP, WJAR, WCAE, WSAI, WWJ, WOC, WCCO, WTAG, KSD, WEAR.

WEAR, Cleveland, Ohio (389,4), 3:30 p. m., Goodyear concert orchestra; 7, 45, Fireside hour; 8:30, Vincent Percy, organist; 9:15, Atwater Kent hadio hour, Service, Old South church; 2:30 p. m., organ recital; 3:45, Dr. S. Parkes Cadman; 7:20, Major Bowes and his Capitol theater family; 9:15, Atwater Kent Radio hour, were streamed and his Capitol theater family; 9:15, Atwater Kent Radio hour, were streamed and his Capitol theater family; 9:15, Atwater Kent Radio hour, were streamed and his Capitol theater family; 9:15, Atwater Kent Radio hour.

WGBS, New York, N. Y. (315.6), 3:30-4:30 p. m., War-

hour.

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

WGR, Buffalo, N. Y. (319), 3 p. m., vesper service; 7:35, Central Presbyterian church service; 9:15, jointly with WEAF, Atwater Kent program.

WGY, Schenectady, N. Y. (379.5), 10:45 a. m., services, First Baptist church, Rev. Clarence Hill Frank, pastor; 5 p. m., organ recital, Dr. Frank Sill Rogers; 7, carillon program, Park Avenne Baptist church, WIZ; 7:30, services, First Baptist church; 9, WIZ studio program; 10, Godfrey Ludlow, violinist, WIZ.

WHAR, Atlantle City, N. J. (275), 10:45 a. m., morning service, Chelsea Baptist church; 2:15 p. m., sacred recital, Seaside hotel tric; 2:13, sermon, Louis E. Wein; 7:50, Chelsea Baptist church; 9, "An Hour with the Classies," Seaside hotel quartet; 11:15, Strand theater organ recital

WHN, New York, N. Y. (361.2), 5:30 p. m., Roseland dance orchestra; 10:45-11:15 p. m., Janssen's Hofbrau orchestra; 12-12:30 a. m., Harry Bichman and his Club Richman entertainers.

WIP, Philadelphia, Pa. (503.2), 4 p. m., "Is Prohibition Worth Enforcing?" Gifford Gordon; 7:15, service, Holy Trinity church, Rev. Floyd W. Tomkins, rectar; 10. "The Barber of Seville," opera, Germantown theater; Ben Stad and his Little symptomy orchestra. Bowes and the Capitol family; 9:15, Atwater Kenhour.

hour.

MCA, New York, N. Y. (340.7), 11 a. m.-12 m., services, Fourth Church of Christ Scientist; 6-7 p. m., Roemer's Homers; 7-7:39, Ernie Golden and his Hotel McAlpin orchestra; 7:35-8, Olcett Vail and his Hotel McAlpin string ensemble; 10:30-11, Daven Radio artists.

McAlpin ottring ensemble; 10:30-11, Daven Radio artists.

WOO. Philadelphia, Pa. (508.2), 10:45 a. m., services, Bethany Presbyterian church; Rev. A. Gordon MacLenna, pastor; 2:30 p. m., musical exercises, Bethany Sunday school; grand organ recital.

WREO. Lansing, Mich. (285.5), 10 a. m., chimes from belfry, Plymouth Congregational church; 10:30, services, First Baptist church, Rev. Ralph W. Hobbs, pastor: 7 p. m., services, Central M. E. church, Rev. Frank Kingdon, pastor.

WTAG, Worcester, Mass. (268), 3:45-5:30 p. m., men's conference, Bedford branch, Y. M. C. A., Brooklyn, N. Y., address by Dr. S. Parkes Cadman, answers to questions by Dr Cadman; music by Gloria trumpeters; George Betts, chime sololst; 7:20-9:15, musical program by Major Edward Bowes and "Capitol Family" from Capitol theater, WEAF; 9:15-10:15, Atwater Kent Radio hour.

WTIC, Hartford, Conn. (475.9), 8:15 p. m., First of a series of Sunday concerts, Metropolitan artists, ensemble.

series of Sunday concerts, Metropolical semble, wWJ, Detroit, Mich. (352.7), 11 a. m., services at St. Paul's Episcopal cathedral; 2 p. m., Detroit News orchestra; 7:20, Capitol theater gang, WEAF.

### Central Time Stations

KFAB, Lincoln, Nebr. (340.7), 4-5 p. m., vesper service, sermon, musicale.
KFDM, Beaumont, Texas (315.6), 11-12 a. m., church services; 8-9 p. m., church services.
KFEQ, Oak, Nebr. (268), 4-30-6 p. m., Steele City band; 9-10-30, King's entertainers.
KFKX, Hastings, Nebr. (2883.3), 7-30 p. m., Christmas musicale, choir First Methodist church, Edith Mays director.

mas musicale, choir Bust Browner Mays director.

KFMX, Northfield, Minn. (337), 7-8 p. m., college vesper service. KFNF, Shenandoah, Iowa (266), 10:45 a. m., morning worship, First M. E. church; 2:30 p. m., Golden Ruic song service; 3, Men's Gospel team; 6:30, regular services, Golden Rule Circle; 7:30, Christian church

services, Golden Rule Circle; 7:30, Christian church services.

KFUO, St. Louis, Mo. (545.1), 4 p. m., "I Am Come Down from Heaven," Prof. M., Sommer; muste and songs; 9:15, "The Messtah Will Come," Prof. W. Armdt; music and songs.

KLDS, Independence, Me. (441), 11 a. m., Stone church services, Robert Miller, organist; Christmas solo, Lilly Bell Allen; chorus, choir; Albert Brackenbury, baritone; sermon, Elbert A. Smith; 3 p. n., sacred program; 6:30, vesper services; Christmas carols, quartet; I. A. Smith, soprane; S. A. Burgess, contralto; George Anway, tenor; Frank Russell, bass; sermon, Ralph W. Bartell; 9, Christmas program, Pauline Becker Etzenhauser, organist; Lillian Green, violinist; George Anway, tenor, organ, riolin, and plano accompaniment; Bertha and Alice Burgess, duettists; sermon, Dr. Frederick M. Smith.

KMA, Shenandoah, Iowa (252), 4-6 p. m., vesper services, music; talk, G. H. Van Houten. KSD, St. Louis, Mo. (545.i), 6:15 p. m., WEAF "Good Will" program.

KTHS, Hot Springs, Ark. (374.8), 11-12:15 a. m., services, First Presbyterian church, Rev. Chauncey Hickok, pastor, 9-10 p. m., classic hour de luxe program, Meyer Davis New Arlington grand ensemble; 10-11, "Arkansas Traveler" frolic by Benny Ford and orchestra.

sas traveler from op Benny Ford and orenestra. KYW, Chicago, III. (536), 11 a.m., Central church service, Orchestra hall, Rev. Frederick F. Shannon, pastor: 2.30 p. m., chapel service, Chicago Church Federation; 4:30, concert, direction Edwin Harver: 7. Sunday Evening club, Orchestra hall; 9:30, classical concert, direction Commonwealth Edison company.

WBAP, Fort Worth, Tex. (475.9), 11 a.m., complete service, First M. E. church, Rev. E. B. Hawk, pastor: 12:30 p. m., "Kiddies Hour," Uncle Billy; 11-12, popular concert.

popular concert.

WBBM,Chicago, III. (226), 12:30-2 p. m., classical program, Edna Wheeler Ballard, harpist; Harry Sosnik and Sandy Meek; Moulin Rouge quartet; 4-6, Ziegier sisters; Jack Garcia, Hawailan guttarist: Harold Anderson, accordionist; orchestra; Lew Russell; xylophone trio; Tip trio: S-10, Phillip Nilles, tenor; Sunset quartet; Maulin Rouge orchestra; 12-2 a. m., Nutty club; Moulin Rouge orchestra.

citut; Moulin Rouge orchestra.

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

WCBD, Zion, III. (344.6), S. p. m., musical program by a quartet on celestial bells and mixed quartet; Mrs. John B. Thomas, soprano; Mrs. P. M. LaRose, contralto; D. P. Barton and J. D. Thomas, duest; Mrs. Hester Robinson, reading; Mrs. Athol Heath, planist.

## Sunday, silent night for: CFAC, CHIC, CKNC, CNRA, CNRC, GNRE, CNRM, CNRO, CNRR, CNRT, CNRV, CNRW, KFAB, KFAU, KFDJ, KFMQ, KFOA, KFVE, KFWA, KMA, KMTR, KOB, KSAC, KSO, KWSC, PWX, WAHG, WEBW, WGAD, WGCY, WGHB, WHAD, WHAS, WHAZ, WJAZ, WJJD, WKAR, WLIT, WMAR, WMC, WNC, WSAI, WTAM, WTIC. Eastern Time Stations CFCA, Toronto, Can. (356), 11 a. u., service, St. Paul's Angelican church, Canon H. J. (°ody; 7 p. m. service, Walmer Road Baptist church, Dr. John Mac. Nell).

only and the part of the

## KDKA BROADCASTS PRINCETON PLAY

### Sunday, December 20

WCCO, Minneapolis-St. Paul, Minn. (416.4), 10:50 a.m.; Plymouth Congregational church, Rev. H. P. Dewey, pastor; 1:45 p. m., Christian Endeavor program, WEAE, Rev. Daniel Poling, speaker; 4:10, House of Hope Presbyterian church, St. Paul, Rev. H. C. Sweathgen, pastor; 6:20, Second Church of Christ Scientist, Minneapolis; 8:15, Atwater Kent program, WEAF.

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

service.

WEBH, Chicago, III. (370), 10:45 a. m., Seventh Church of Christ Scientist; 5-6, twilight musicale, 7-9, artists program.

WEBW, Beloit, Wis. (263), 4:30 p. m., regular College vesper service.

WENR, Chicago, III. (266), Rauland lyric trio, soprano solos, sacred selections; 0:30-11:30 p. m., All-American Pioneers, Hal Laige, saxophone, Frank Westphal, planist, vocalists.

ist, vocalists.

WFAA, Dallas, Tex. (475.9), 2.30-4 p. m., Sunday hour for farmers; 6:30-11, Radio Bible class, Dr. William M. Anderson; service of First Methodist Episcopal church, Dr. Carl C. Gregory, pastor; male quartet and chorus from Chiff Temple Baptist church; Tom D. Collins and orchestra.

WGES, Oak Park, III. (250), 10:15 a. m.-12 noon, services, Austin M. E. church, choir, pipe organ; 5-7:40 p. m., Moody Bible school program, features; 11-12, mixed features.

11-12, mixed features.

WGN, Chicago, III. (370.2), 12 m., Uncle Walt reads
the comics to the children; 12:45 p. m., program from
Chicago theater; 2:30-3:30, Lyon and Healy organ
rectal; 3:30-5, Chicago Musteal college concert from
Central theater; 9-10, hour of music, Blake H. Wilson.

baritone.

WHAD, Milwaukee, Wis. (275), 3:15 p. m., Turnverein symphony orchestra.

Blackman, chairman.

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

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

"Ernie, the Man with the Carborundum Voice" is really E. J. Clare, below. Every Friday he directs "The Village Black-smith Shop" and "Thirty Minutes of Some-thing Different" at WGR, Buffalo.

Swindell, conductor; Erwin Holbrook, May Chambers, and Elsie Haak-Schroeder, operatic soloists.

WOK, Chicagó, Ill. (217.3), 1-2 a. m., Tlerney's Town club orchestra; Husk O'Hare's Cocoanut Grove orchestra; Harriet Lee, contraito; Herman Sinaiko, violinist; George Allen, tenor; Bob Mokrejs, planist; 6 p. m., 1.30 a. m., Gus C. Edwards and his orchestra; Husk O'Hare's Cocoanut Grove orchestra; Tieney's Town club orchestra; Capitol theater musical program; WOK mixed quartet; Herman Sinaiko, violinist; Harriet Lee, contraito; George Allen, tenor; Bob Mokrejs, planist; Bill Hay, bass.

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

WORD, Batavia, III. (275), 10 a. m., hymns and sacred songs; 10:15, Bible lecture, C. W. Apgar; 9 p. m., hymns and sacred songs, I. B. S. A. choral singers; 9:15, Bible lecture, E. G. Wylan; 9:40, Betty Butz, planist.

WOS, Jefferson City, Mo. (440.9), 9:30 a. m., services, First Christian church, Rev. Haushalter, pastor; 7:30 p. m., services, First Christian church, Rev. R. M. Talbert, pastor.

Wal, Chicago, III. (447.5), 9:30-11:30 a, m. services, People's church; address, Dr. Preston Bradley; Clarence Eddy, organist; 3-4 p. m., concert hour, Jerry Sullivan, director; Leonard F. Keller, violinist; Elsa Blasgen, lyric soprano; John Zwick, pianist; Grace

Presbyterian church; 7:20-9 p. m., First Fresbyterian church.

KHJ, Los Angeles, Calif. (405.2), 4-5 p. m., musicale, Western Auto Supply company; 6:30-7, Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 7-7:30, First Methodist Episcopal church; 8-10, program; Martin Music company, John Martin, concert planist; Ruth Pitts, soprano, KNX, Hollywood, Calif. (336.9), 2-4 p. m., broadcast to nine city parks, Los Angeles Park board; 7-8, First Presbyterian church of Hollywood; 8-9, Ambassador, hotel concert orchestra, Josef Rosenfeld, director; 9-10:30, program; Beverly Hills Nurseries; Calmon Luboviski, master violinist; Raquel Nieto, coloratura soprano.

mon Luboviski, master violinist; Raquel Nieto, coloratura soprano.

KPO, San Francisco, Calif. (428.3), 9:45-10:45 a. m..

"The Challenge of Bethlehem," Dr. H. H. Belli; contraito solos, Verna Lorraine Day; Uda Waldrop, organist; 5-6 p. m., organ rectial, Marshall W. Giselman; 6-6:30, Waldemar Lind and the States Restaurant orchestra; 6:35-7:30, Palace hotel concert orchestra, Cyrus Trobbe, director; 8-8:30, Palace hotel concert orchestra. Cyrus Trobbe, director; 8:30-10, Rudy Seiger's Fairmont hotel orchestra.

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

Jacquillard, soprano; 8:30, Rialto club orchestra; 9-9:05, Radio Santa Claus; 9:05-9:15, Charles Brass, tenor; 9:15-9:45, Synchrophase tric; 10-10:15, Jevva Blix, Norwegian contralito; 10:15-10:45, Joe Zimmerman's orchestra; 12-1 a. m., dance orchestra, Baltimere, Md. (375), 6:45-7:45 p. m., dinner program, WBAL dinner orchestra, Robert P. Iula, conductor; 8-9, musical program, Eugenia Earp Arnold, contralto; Conner Turner, barltone; Catherine Costello, planist; 9-9:10, Gen. Lawrason Riggs, president Peabody Institute; 9:10-10, musical program, Douglas McComas, tenor; Elizabeth Duncan McComas, soprano; Robert Lee, violinist.

WBBR, New York, N. Y. (27.6), 8 p. m., Irone Kleinpeter, soprano; Sido, Wold News digest; 8:20, George Twaroschk, violinist; 8:30, Bible instruction; 8:40, George Twaroschk, violinist; 8:30, Frene Kleinpeter, soprano.

George Twaroschk, violinist; 8:50, iteme Edempeter, soprano.

WBZ, Springfield, Mass. (333.1), 6:10 p. m., Santa Claus; 6:30, announced; 7:30, Capitol theater orchestra; 8, concert, Copley Plaza orchestra, W. Edward Boyle, director; 8:30, organ recital, Rene Dagenals, 9, Aleppo drum corps, Shriners' Band concert; 9:30, Leslie Stearns, tenor; Alwyn E. W. Bach, bartione; Katherline Gravelin, pianist; 10:05, Leo Reisman's Hotel Brumswick orchestra, WCAE, Pittsburgh, Pa. (461.3), 10:45 a. m., Gold Medal talk; 3 p. m., program, Loew's Aldine theater.



WKAF, Milwaukee, Wis. (261), 4-6 p. m., tea time program de luxe.

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

wLIB. Chicago, III. (308.2), 4-5 p. m., Chicago Philharmonic orchestra; 5-6, program, Fred Hamm and Liberty orchestra; 6-6:30, Edward Benedlet, organist: 8:15-9:15, program, WEAF.

Silb-9:15, program, WEAF.

WLS, Chicago, III. (344.6), 6-7:55 p. m., The Little Brown church in the Vale Sunday evening service.

WLW, Cincinnati, Ohio (422.3), 9:30 a. m., school, editorial staff of Sunday School Publications, Methodists Book concern; 11, morning worship, Seventh Presbyterian church, Jesse Halsey, minister; S.p. m., special organ recital series, Adolph H. Staderman; 4, concert of carols, girls' glee club of Woodward high school, direction of E. Jane Wisenall; 7:30, services, Emmaus Lutheran church, Rev. P. L. Dannenfeldt, pastor; 8:30, the H. & S. Pogue company concert, Walter Esberger, director.

WMBB, Chicago, III. (250), 3-5 p. m., Trianon orchestra, Dell Lampe, Woodlawn theater orchestra, Armin F. Hand, Walter Duffy, Billie Allen Hoff, A. Cavanaugh; 7:40-9, services, Fifth Church of Christ Scientist; 9-11, Trianon orchestra, Dell Lampe, Woodlawn theater orchestra, Armin F. Hand, David Boyd, Scotty Weish and Madison Sisters, Walter Duffy, Billie Allen Hoff.

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

WOAW, Omaha, Nebr. (526), 9 a. m., services, Omaha Gospel Tabernacle of Christian and Missionary Alliance, Rev. R. R. Brown; 2 p. m., Christmas cantata, 'From Prophecy to Manger'; 6, Bible study period, Mrs. Carl Gray, director; 9, a cappella choir, Walter B. Nielson, director.

B. Nielson, director.

WOC, Davenport, Iowa (483.6), 1-2 p. m., orchestra concert, Palmer Little symphony; Erwin Swindell, conductor; Paul J. Vipperman, tenor; 6:30-7, services, Luitheran church; "God's Gift to the World," Rev. Alfonso A. Marohn; 8:15-9:15, Atwater Kent artists, WEAF; 9:45-11:45, Palmer Little symphony; Erwin

Wallace, soprano; 8-10, Ralph Williams and his Rainbo Garden orchestra; Frederick Mueller, German tenor; Kathryn Diepenbrock, pianist and accompanist; Otts Jester, soprano; Mary Thrash House, planist; Saida A. Balantine, 'artists; Ballantine operatic quartet; solos, ensemble; Norma Newton, mezzo-soprano; Milton Bromley, actor; Girls' quartet; string trio; Fanny Fuerst, dramatic reader.

WSA1. Cincinnati, Ohio (325.9), 2:45-4:30 p. m., address, Dr. S. Parkes Cadman, WEAF; Gloris Trumpeters; George Betts, chimor; 7:45, chime concert, Robert Badgley; 8, sermon; 8:15-9:15, Atwater Kent hour; Jeanetto Vreeland, soprano; William Simmons, baritone; 9:15, Union Central Life Insurance company orchestra, Sigmund Culp, director.

WSB, Atlanta, Ga. (428.3), 5 p. m., concert, Margaret Battle, director.

WSM, Nashville, Tenn. (282.8), 7:30 p. m., services, First Presbyterian church; sermon, Dr. James I. Vance.

WSU1, lowa City, lowa (484), 9:15, familiar hymns

WSUI, lowa City, lowa (484), 9:15, familiar hymns, William G. Edmondson, Jr., tenor.

Mountain Time Stations

FAC, Caigary, Can. (435.8), 11 a. ehurch, Rev. Dr. H. H. Bingham. KFXF, Colorado Springs, Colo. (250), 7:30-9 p. m. services, First Methodist church.

M. E. church. Dr. Loren M. Edwards, pastor; 8 p. m., Clarence Reynolds, organist; 7:45, service, Trinity M. E. church.

Pacific Time Stations

KFWB. Hollywood, Calif. (252), 9-11 p. m., late news Warner Brothers movie frolle, California serenaders California Blue Boys; Jack Kurtz, whistling planist Albert Keglovich, violinist; surprise visitors from the movie studios.

movie studios.

KGO, Oakland, Calif. (361.2), 11 a. m., services, First Congregational church, Rev. James L. Gordon, pastor; 3:30 p. m., concert, KGO Little symphony orchestra, Carl Rhodehamel, conductor: Arth S. Garbett, writer; Helen d'Asalena, soprano; 7:45, services, First Congregational church, Rev. Gordon, pastor.

### Monday, December 21

### Headliners Today

Eastern 8:30 p. m. WOR (405.2) Central Central Mountain 7:30 p. m. 6:30 p. m. Al Beld's hour. 8 Pacific 5:30 p. m. 9 8 7 WHAZ (379.5) Christmas program. WOS (440.9) Christmas program. 9:30 8:30 7:30 WHO (528) Male chorus. WHO (528) Male chorus.

10 9 8 7

WEAF (491.5), WGR (319), WCAE (461.3), WCAP (468.5), WJAB (305.9), WTAG (268), WOO (508.2), "Tales of Hoffman," Grand opera.

WOAW (526) Skeen trio. 9 8

WSAI (326) Community night.

Monday, silent night for: CHIC, CNRA, CNRC, CNRE, CRNM, CNRO, CNRT, CNRT, CNRY, CNRW, KFDM, KFEQ, KFMX, KHJ, KLDS, KYW, PWX, WBBM, WCAD, WCBD, WEAO, WCBH, WCBJ, WCAD, WCBH, WGBS, WGR, WHAZ, WHJ, WJZ, WJJ, WJZ, WJJ, WJZ, WJK, WOAI, WOC, WOK, WORD, WQJ, WRC, WREO.

Eastern Time Stations

CKNC, Teronto, Can. (356.9), 8-11 p. m., Little symphony orchestra, Charles E. Bodley, director; Aeolian yocal quartet; Schuch concert singers.

KDKA, Pittsbugh, Pa. (309.1), 7-15 and 8 a. m., exercises; 5:45 p. m., children's/period; 6:30, dinner concert; 9, Spear's Happy Home hour.

Congregational church, Rev. James L. Gordon, pastor; 3:30 p. m. concert, KGO Little symphony orchestra, Carl Rhodehamel, conductor; Arth S. Garbett, writer; Helen d'Asalena, soprano; 7:45, services, First Congregational church, Rev. Gordon, pastor.

KGW, Portland, Ore. (491.5), 10:25 a. m.-12 m., First 1st; 7:45-8:15, Synchrophase trio; 8:15-8:30, Augustine

One Christmas gift from KGO, Oakland, will be the broadcasting of the beautiful voice of Edna Lister, lyric-soprano, (above). Between 3 and 4 p. m., pacific time on Christmas day she will provide music for new and old fans to tune in. Ina Rains, left, is a Denver prima donna who sings often during the housewives' matinee Fridays at KOA. She is shown here as Leonora in the prison scene from "Il Trovatore."

matinee Fridays at KOA. She is shown here as Leonora in the prison scene from "II Trovatore."

6:30, dinner concert, William Penn hotel; 7:30, Santa Claus; 8, Nixon orchestra; 9, studio concert; Jessle Santmyer, soprano; 10, grand opera; 11, Loew's Aldine theater program: 10, 8 and opera; 11, Loew's Aldine theater program: 8:45, Barry O'Moore and the American Radio tric; 9:10, Royal P. Macclellan, tenor; 9:30, Delaware County serenaders; 10, Tom Houston, Jimmy Loughrey, Don Traveline; 10:30, Parodians.

WCX, Detroit, Mich. (517), 6 p. m., dinner concert. Book-Cadillae hotel; 8, musical program: 8:45, Rev. York, N. Y. (491.5), 6:45-7:20 a. m., Tarvellae; 10:45-164. Gold Medal Flour home strained and the strained of the strain

WHAZ, Troy. N. Y. (379.5), 9 p. m., Christmas program. Rensselaer high school students, Prof. W. S.

## SPECIAL CHRISTMAS FEATURES PROMI

Index to Popular Concerts

Saturday, December 19 Eastern Central Mountain Paolite 7:30 p. m. 6:30 p. m. 5:30 p. m. 4:30 p. m. WFAA. 9 8 7 WBBM, WEAF, WENB, WGBS, WLS, WMAQ, WNYC. 10 9 KFAB, KPRC, WBBM, WENR, WGN, WLS, WMBB, WREO. KFVE KFWB, KNX, KTHS, WBBM, WMBB, WOK, WQJ, WBC. 12 11 8 NX ROLL, KPO, KPRC, WBEM, WLS, WOAW, WOK, WQJ. 1a.m. 12 m. 11 m. 18 KEWB, WDAF, WBBM, WEBH, WENR, WOK, WQJ, WSAI. 2 a. m. 12 m. KNX, WBBM, WENR, WQJ.

Sunday, December 20 9 p. m, WBBM. WBBM, **WMBB**. WMBB. WMBB.
12 11 10
KNX, KTHS.
1 a. m. 12 m.
14 m.
2 1 a. m. 12 m.
12 m.
12 m.

Monday, December 21 Eastern Central Mountain Pacific
7 p. m. 6 p. m. 5 p. m. 4 p. m.
WBBM, WFAA, WOAW.
8 7 6 5 WCAU, WEAF, WGR, WKRC, WOK.

10
10
18
WSOE.
WSOE. WSOE. 10 9 8 8 KFAB, KFVE, WOK. 12 m. 10 9 8 KLX, KNX, KOLI, WHO, WOK. 12 m. 12 m. 12 m. 14 MOAF, WHT. WKRO, WOK. 1 a.m. 12 m.

Tuesday, December 22 Eastern Central Mountain Pacific 7 p. m. 6 p. m. 5 p. m. 4 p. m. WMCA, WOAW. WBBM, WEAR.

WBBM, WEAR,

WBBM, WEAR,

WBBM, WBB, WBB,

WBBM, WMBB, WOAW.

Monday, December 21

lecture.

WOO. Philadelphia, Pa. (598.2), 11 a. m., grand organ;
12 m., uncheon music, Golder's Crystal tea room
orchestra; 4:45 p. m. grand organ;
7:30, dinner music, Hotel Ritz, Curleon more transpets;
tra; 8, carol services, choir, Menorial Presbyterian
church, Brooklyn, direction S. Lewis Elmer organist;
9, music, A, and P. Gypsies; 10, grand opera. "Tales
of Hoffman," WEAF; 11, dance music, Hötel Sylvania

corchestra.

OR. Newark. N. J. (405.2), 8:45-4 p. m., Charm Magazine talk; 6:15-6:30, sport talk. Bill Wather; 6:30-7:15, Hotel Shelton ensemble; 7:30-8, Crystal Palace orchestra; 8:30-9:30. Al Reid's hour; 6:45-10, travel talk, Edward H. Bierstadt; 10:15-10:30, planot talk, Ballin and Bace; 10:45-11, planot talk, Ballin and Bace; 11-11:30 p. m. Archie Slater's orchestra; 11:30-12 p. m., New Hofbrau Haue orchestra. Creck Washington, D. C. (468.5), 10 a. m., women's hour, WJZ; 12 m., organ rectlat, Henri Schmid-Gregor; 1 p. m., Shoreham hotel orchestra, Sidney Seidenman, director; 4:30, musical program. TAG. Worcester. Mass. (268), 10:30 a. m., musical

WTAG. Woreester, Mass. (268), 10:30 a. m. musical selections; 10:45, address, Marjorie Woodman, Sherer staff nurse; 13:05-2 p. m., luncheon music, Will

selections; 10:45, address, Marioric Woodman, Sherer staff nurse; 12:95-2 p. m., luncheon music, Will Hardy's orchestra; 7, science talk, Fred D. Aldrich, 7:15, "Twinkle Twinkle Story Teller"; 7:45, official Scout news, Mr. Wadleigh; 8-10, Robin Hood's orchestra; 10-11, grand opera, "Tales of Hoffman," WEAF, WTAM, Cleveland, Ohlo (389.4), 12:15-1:15, p. m., lunch hour; 6-7, dinner hour; 8-10, concert, Willard Ladies' onsemble, Annabelle Hess, Harmonic male quartet, 10-11, organ recital; 11-1 a. m., dance music, Guy Lombardo and his Boyal Canadians.
WIIG, Hartford, Gonn. (475.3), 8:30, Emil Heinberger's Hotel Bond trilo; 7:45, "Hunan Machine and Aviation," Prof. Edward C. Schneider. WWI, Detroit, Mich. (352.7), 8:33 and 8 a. m., setting-up exercises, B. J. Horton, 9:30, "Tonight's Dinner" and special taik folds and settler orchestra; 1, n. Detroit News orchestra; 6, dinner concert; 8, News orchestra and soloists; A. and P. Gypsies, WEAF.

Central Time Stations

Eastern Central Mountain 11 p. m. 10 p. m. 9 p. m. 8 p. m. KPVE, KFWB, KNX, WBBM, WHT, WMBB, WOK, WQJ. 12 m. 11 10 9 WKRC, WMC, WOK, WQJ.

1 a. m. 12 m. 11 10 10 KFWB, KNX, WFAA, WHT, WOAW, WQJ. KFWB, WQJ.

Wednesday, December 23

Eastern Central Mountain Pacific

8 p. m. 7 p. m. 6 p. m. 5 p. m.

KFNF, WAHG, WEBJ, WEEI, WMCA. WBBM, WEBJ, WGCP, WNYC. KFAB, KPRC, WBBM, WGCP, WHO, WMBB. (1) 10 8 8 8 KFAB, KFVE, KGW, KPO, KWSC, KYW, WBBM, WHN, WMBB, WOK, WQJ. 12 m. 11 f0 9 RFWA, KFWB, KNX, KYW, WOK, WQJ, WSAI. 1 a. m. 12 m. 11 KNX, KYV, WBBM, WHT, WOK, WQJ. 2 KFWB, KNX, WBBM, WOK, WQJ.

Thursday, December 24 Eastern Central Mountain Pacific 8 p. m. 7 p. m. 6 p. m. 5 p. m. WCAE, WEAF, WJAB, WMC, WOC, WSAI. WBBM, WHAD. 10 9 8 7 KMA, WBBM, WEEI, WHAD, WHN, WMBB, WMC, WNYC, WOAW, WSOE. KHJ KMA, KYW, WBBM, WMBB, WOK, WQJ.

12 m. 41 KIAI, WBEM, WDAF, WEAA, WKRC, WOC, WOK, WQJ.

1 a. m. 12 m. 10 KFWB, KHJ, WHT, WOK, WQJ.

2 N. WOJ. 4 a. m. 12 m. 11 KNX. WQJ.

Friday, December 25

Eastern Central Mountain Pacific
8 p. m. 7 p. m. 6 p. m. 5 p. m.
WGCP, WJR. 2 WBBM, WGR, WLS.

WBBM, WGR, WLS.

WGAB, WBBM, WMC, WDAF, WHAD, WMBB, WOAW, WSOE. WOAW, WSOE.

11 10

RFVE, KFWA, KHJ, KLX, KYW, WMBB,
WOK, WQJ.

12 m. 11 10 9

KFWB, KHJ, KNX, KOIL, WMC, WOK, WQJ.
13 m. 12 m. 10

KFWB, KHJ, WDAF, WHT, WOK, WQJ.
2 kNX, WQJ.

Claus, Monte Munn, Belshaw's orchestra; 8:30-10:30. Frod Chrastil, accordionist; Belshaw's orchestra. Gloomy Gus's nonsense; Ed Ellingson, songbird; Cow Bell boys, violin and guitarist; Jack Marshall, pianist, Mart Grauenhorst, banjoist.
KFKX, Hastings, Nebr. (288.3), I p. m., "Mineral Mixtures That Pay." J M. Evvard; Dick Rutherford and the Ramblers orchestra; 5:20, KDKA dinner concert; S, Nebraska State hospital orchestra; George McPherson, pianist.
KFMQ, Fayetteville, Ark. (299.8), 7:30 p. m., Farmers' night; Farm Filosofy, Cy Adams; "Feeding Stock in Winter," E. B. Whitaker; "Preventing Winter Livestock Losses," S. J. Schilling; "Serving the Christmas Dinner," Minnie Allen.
KFNF, Shenandoah, Iowa (266), 7 p. m., concert, Henry Field Seed company.
KFUO, St. Louis, Mo. (545.1), 8 p. m., "The Young People Prepare Their Christmas Gifts"; "The Myrrh of Repentance," Rev. J. Oppliger.
KFVE, University City, Mo. (240), 9:15 p. m., "Amusement Review," Romaine Fielding; Orchestra Romaine, KRMA, Sheandoah, Iowa (252); 11:30 a. m.12:30 p. m., rural program; travelog, G. H. Van Houten; musical saw selections. J. A. Showers; 6-7, Pollyana stories, Mrs. Nichols; 9-11, Farnham trio; How De You De Boys, Grady and Doc.
KSD. St. Louis, Mo. (545.1), 7 p. m., "Fur Hour." Mmo. Graziella Pampari, harplet; 7:30, program, Pullman porters' quarter; 9, orchestra concert, Max Steindel, conductor.
KSO, Clariuda, Iowa (242), 7-9 p. m., old time musical state offerings, Ark. (374.8), 9-9:45 p. m., orchestral offerings, Meyer Davis ensemble; George G. Heyn, planist; Charles Garden, Saxophone; 10-11. "Rainbow Garden 555 Hour" from Little Rock, California serenaders.

Clark, director; 10, address, Dr. Robert A. Patterson; 10:15, Troy Salvation Army band.

WHN, New York, N. Y. (361.2), 6-6:30 p. m., Littmann's dinner music; 6:30-6:45, Daddy Dingle and his Jingle Machine; 6:45-7, Littmann's dinner music; 7-7:30, Marlboro state trio; 7:30-8, Joe Ward's Swanee entertainers; 8-8:30, "Storage Batteries" H. B. Sbontz; 3:05-8:30 p. m., Roseland dance orchestra; 8:30-9, Guardian entertainers; 10:30-11, Frivolity orchestra; 11-11:30, Cotton club orchestra; 11:30-12, Silver Slipper orchestra; 12-12:30 a. m. Ted Lewis and his Parody club orchestra. HP; Philadelphia, Pa. (508.2), 7 a. m., setting-up exercises; 1 p. m., Gimbel tea room orchestra; 3, artist recital; 4, market hints to housewires. W. R. Whittacre; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's bedtime story and roll call, dancing lesson.

WIAR, Providence, R. I. (305.9), 10 a. m., Housewires' Radio exchange, Mrs. Wood; 1:05 p. m., program; 3, Phillips Memorial Choral association; 9, A. and P. Gypsies; 10, WEAF grand opera, "The Tales of Hofman,"

WMCA, New York, N. Y. (340.7), 6-6:30 p. m., Olcott Vail and his Hotel McAlpin string ensemble; 6:30-7:30, Ernie Golden and his Hotel McAlpin ensemble; 6:30-7:30, Ernie Golden and his Hotel McAlpin orchestra, 7:30-7:35, Elvina Bock, reader; 8-8:30, Knickerbocker Familly Circle; 3:30-9, Kurtz Karnival Kings; 9-10, Christian Science lecture; 10:30-11:30, Barclay Radio program; 11:30-12, Jack Cohen, popular planist.

WNYC, New York, N. Y. (526), 6:30-7 p. m., German Citizens of Great Kills, Staten Island; 10:10-10:30, lecture.

enaders,
KYW. Chicago, III. (536), 6:30-7 a. m., morning oxercises, Paul A. Leonhardt; 7:30, family worship, Y. M.
C. A., cooperation Chicago Church Federation; 11:15,
"Breakfasting With Santa Claus," John C. Cuttling,
11:35, table talk, Mrs. Anna J. Peterson; 12:05 p. m.,
noonday concert, Commonwealth Edison studio; 1,
luncheon concert, Company Linguistic States, 10:10,
orchestra; Coon Sanders' Original Nighthawks; 6-7,
dinner music, KDKA; 7:05, bedtime story, Uncle
Bob.

orchestra; Coon Sanders' Original Nighthawks; 6-7. dinner music, KDKA; 7:05, bedtime story, Unclo Bob.

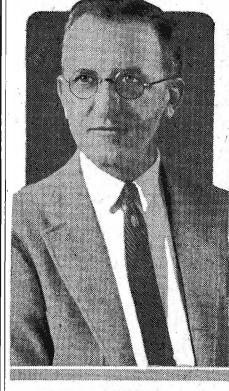
WBAP, Fort Worth, Tex. (475.9), 12:05-12:30 p. m., musical program; 6-6:30 p. m., dinner music, Texas hotel Tokto Royals; 7:30-8:30, program, Fine Arts department. Texas Woman's college, direction Prof. Carl Venth; 9:30-10:45, "Train Blazers," Montgomery Ward company orchestra, direction Frank Maco. 11. entertainment by stars of Majestic theater.

WBBM, Chicago, 111. (226), 4-6 p. m., Irene Beesly, Harry Sosnick; Sandy Meek; Valentino orchestra; Jack Penywell, wim ist guitar; Court Banks; Joe McManus; Edna Wheeler Ballard, harpist; 6-7 p. m., Harold Anderson, accordionist; Kristine Gallen, cellist; Phillip Nilles, tenor; Marie Margott, harpist; George Marbach, tenor; Ziegler sisters; Two Jass; Moulin Rouge orchestra; Seaburg and Mowers, planists.

WCOO, Minneapolis-St. Paul, Minn. (416.4), 9:30 a. m., program for the day; 9:35, news bulletin; 12 m., concert, Donaldson's orchestra; 2:00 p. m., woman's hour; 2:30, concert; 4:00, Readers club, Mrs. Walter Stevens; 3:30, children's hour; 6:30, dinner concert, Gordon Cooke ensemble; 7:45, Farm lecture, "Swine raising," 3:00, University of Minnesota program; 9:00, classical concert.

WDAF, Kansas City, Mo. (356.6), 10:45 a. m., Botty Crocker, home service talk: 6-7, school of the air, dialect readings, C. M. Ragon; the Tell-Me-a-Story lady; Trisono ensemble; 3-9 p. m., Topeks, Kansa, program, Earle Brown, director; 11:45-1 a. m., Nighthawk frolic, Carl Nordherg's Planiation players; Ted Meyn, organist; Eddie Kuhn's orchestra; Earl Coleman's orchestra.

WDOD, Chatfaneoga, Tenn. (246), 6:30-7:30 a. m., three 20-minute periods of health exercises, R. H. Schulze; 20-minute periods of health exercises, R.



WGES, Oak Park, Ili. (250), 5-7 p. m., plpe organ, orchestra; Moody Bible program.

WGN, Chicago, Ill. (370.2), 12 m., household service program; 12:40 p. m., luncheon concert. Druko concert ensemble and Blackstone string quintet; 2:30, Lyou and Healy artist series; 3, rocking chair time. featuring John Reed Tyson; 3:30, tea time music. Marshall Fiold's tea room orchestra: 4:40-5, twillight.musical; 5:30, Skeezix time, members of National Kindergarten and Elementary college; 8:30-7, dinner concert, Druke concert ensemble and Blackstone string quintet.

concert, Drake concert ensemble and Blackstone string quintet.

WHAD, Milwaukee, Wis. (275), 11 a. m., pianolog, Andy Hertel; 4 p. m., Trixy Ann Troy, ukuleie; 6:15-7. Bill Benning's Milwaukee Athletic club orchestra: 8-10, Marquette university studio program.

WHAS, Louisville, Ky. (399.8), 4-5 p. m., musteal selections, direction Harry S. Currit, assisted by Leroy Hebb, Music Box; readings, news bulletins, fashion talk, Peggy True.

WHB, Kansas City, Ma. (365.8), 2-3 p. m., laddes; bour program; music, Sweeney Radio orchestra, direction. Glen Durrell; Milo Finley trio.

WHO, Des Meines, lown (526), 7:30-8:30 p. m., Stewart Watson, baritone; Amelia Beinke, soprano; Ly Hamilton Buller, planist; C. E. Lee, basso: 8:30-9, male chorus; 11-12, Bankers Life Corn Sugar orchestra. WIBO, Chicago, III. (226), 2-4 p. m., shut-in program; Jack Sprat and the Carl Sulzer orchestra: Ted Fiorito, planist; Victor Young, Dan Russo, violinists; Vermon Hayes, saxophonist; "Home Economies," Grace Viall, Gray.

WKAF, Milwaukee, Wis. (261), 10-11 p. m. studio.

Gray. WKAF, Milwaukee, Wis. (261), 10-11 p. m., studio program, WKRC, Cincinnati, Ohio (422.3), 6 p. m., dinner dance, Alvin Rochr's orchestra; 8. Post-Wurlitzer program; 9, program, Robert E. Bentley Post; 12-12:30, theatrical stars; Wesley Helvey's troubadours.

gram; 9, program, Robert E. Bentley Post; 12:12:30. theatrical stars; Wesley Holvey's troubadours.

WLS, Chicago, III. (344.6), 12 m., WLS Studio trio; 6-7 p. m., WLS Blue Ribbon Artists' concert.

WLW. Cincinnati, Onio (422.3), 7:30 a. m., exercises, William Stradtman, Y. M. C. A.; 7:45, morning devotions, auspices of Parkway Y. M. C. A.; 12 m., service, Rev. George H. Kase; 4 p. m., children's musical hour, Conservatory of Music; 4:45, talk, "Mental Evolution," M. V. Whitaere, psychologist; 7. dinner hour concert, Hotel Gibson, Robert Visconti, director; 7:30, basketball talk, G. A. Richardson; 7:40, Hotel Gibson concert; 10, the Cincinnati Times-Star concert, William J. Kopp, director.

WMAQ, Chicago, III. (447.5), 12:45 p. m., farm school; 2, Shut-In program; 4, Mothers in Council; 4:30, Froibies of the Moment," Mrs. Graham Aldis; 4:40, Glenn Dillard Gunn School of Music; 5, children's games, Glenn Adams; 5:16, Topsy Turvy time; 6, Chleago theater organ rectal; 6:30, Hotel LaSalle orchestra; 6:40, Hamily Altar league.

WMC, Memphis, Tenn. (499.7), 7:15 p. m., bedtime stories, Pan and Tinker Bell; 7:30, farm talk, C. W. Watson; 8:30, dance program, Malcolm Burks' Original Seven.

WOAH, San Antonio, Tex. (394.5), 3 p. m., musical program.

WOAM, Omaha, Nebr. (526), 12:45 p. m., Randall's

mal Seven.

WOAM, San Antonie, Tex. (394.5), 3 p. m., musical program.

WOAW, Omaha, Nebr. (526), 12:45 p. m., Randall's Royal Fontenelle orchestra: 6, "Sandman's Visit." Val McLaughlin; 6:20, popular song period: 6:45, Randall's Royal Fontenelle orchestra; 9, Skeen trio: 9:46, classical.

WOC. Davenport, Iowa (483.6), 12:15-12:25 p. m., fann school; 'Hog Day—Mineral Mixtures That Pay," John M. Evvard; 3-3:30, Home Management schedule, Aunt Jane; 5:45-6, chime concert.

WOI, Ames, Iowa (270), 12:30 p. m., college chimes: 12:45, dairy production; Prof. Barl Weaver; 7:30, poultry short course, Prof. H. A. Bittenbender, "Hard Coal or Feathers"; 7:50, program.

WOS, lefferson City, Mo. (440.9), 8 p. m., "Forestry in Missouri," Frederick Dunlap; Christmas program, faculty of Christian college.

WQJ. Chicago, Ill. (447.5), 11-12 noon, bome economics program, Helen Harrington Downing; "Baking," Clevo Carney; "Unusual Touches for the Christmas Table," Jean Bich; 3-4 p. m., "Winter Squash Dishes," Helen Harrington Downing; "The Care of the Hair," Madame Huntingford.

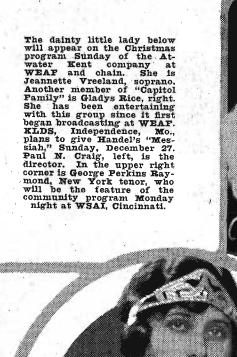
WSAI, Cincinnati, Ohio (325.9), 7-8 p. m., Christmas earols, Joseph Fehring, director: 3-9, A. & P. Gyssles, WEAF; 9-10, WEAF Grand Opera company, "Tales of Hoffman," Cesare Sodero, director; 10-12, Cincinnati community program; syuphony orchestra; George Perkins Raymond, tenor; trio; Roy Van Leeuwen, flutist; Karl Kirksmith, cellist; Joseph Vito, harpist.

WSM. Nashville, Tenn. (282.8), 6:30 p. m., eoncert, Beasley Smith and his orchestra; 7, beddime story; 7:30, community program. First Presbyterian church; 10, program, Vito Pellettieri and his orchestra. WSUI, lewa City, Jowa (4484), 12:30 p. m., Harry Thatcher, Jr., planist; "How Large Is Your Vocabulary, Tox, Community Program Frist Presbyterian church; 10, program, Vito Pellettieri and his orchestra. Prof. Stephen H. Bush; 7:30, correspondence cource lectures; 9, Am Pierce, vocalist; Mrs. C. L. Bobbins, planist.

CFAC, Calgary, Can. (435.8), 9 p. m., special sun-

Mountain Time Stations

CFAC, Calgary, Can. (435.8), 9 p. m., special sunshine program, Jack Rushton's serenaders.
KFWA, Dyden, Utah (261), 4-5 p. m., organ recital, Paramount theater; 5-6, Ogden Radio Desiers program.
KFXF, Colerado Springs, Cole. (250), 8:30 p. m., musical selections; 8:45-9, educational series of talks, Mrs.



A. Miller; 9-10:30, dance program, Warner Stone's

1. A. Miller; 9-10:30, dance program, Warner Stone's "Columbians."

(KOA, Denver, Colo. (322.4), 12:15 p. m., Rialto theater musicale; 6:30, dinner concert, Brown Palace string orchestra, Howard Tillotson, director; 7:30, Sandinan's hour; 8, Instruction in conversational Spanlsh, Prof. Amanda Lopez Kneelt; musical intertude, orchestra and soloists; 9, instruction in auction bridge; 9:30, dance program.

(KOB, State College, N. M. (348.6), 7:30-8:30 p. m., "Common Tests on Diseases of Poultry and Their Treatment," Anderson; "Pecan Growing," Director Garcia.

Garcia.

Pacific Time Stations

KFDJ, Cervallis, Ore. (282.5), 8 p. m., musical selections; 8:15. "Strawberry Yellows," S. M. Zeller, plant pathologist; 8:20. "Handling Orehard Soils in Non-Irrigated Districts," Clayton L. Long; 8:35, "Gregon's Agricultural Sinuation," R. S. Besse; 9:15-9:45. alumni Christmas program.

Non-trigated Districts," Clayton L. Long: 8:35. musical selections; 8:45, "Oregan's Agricultural Situation," R. S. Bosse; 9:15-9:45, alumni Christmas program.

KFOA, Seattle, Wash. (453.3), 6:45-8:15 p. m., Sherman, Clay and company program; 8:30-10, Times studio program.

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

KGO, Oakland, Calif. (361.2), 7:15-7:30 a. m., health training exercises, Hugh Dobbs; '7-45, Pep class: 8:15-8:30, health training exercises; 10:45, vacation, perfod, no classroom instruction: 11:30-1 p. m., luncheen concent; 3-4, musical program, Wilda Wilson Church; 5:30-6, Aunt Betty storics. KGO Kiddies Klub, Ruth Thompson, 6-7, dinner concert, Sherman, Clay and company studio; 8, educational program, health talk, "Physical Cutture for the Family," Hugh Barrett Dobbs; "Chats About New Books," Joseph Henry Jackson; "Better English," Wilda Wilson Church: "Different Kluds of Mental Trouble," Dr. Albertine Richards Nash; "What Is Success?" Harry Collins Spillman; "Festive Meats for the Holidars," Belle DoGraf; Arion trlo.

KGW. Portland, Ors. (491.5), 12:30-1:30 p. m., Rose City trlo; 6-7, dinner concert; 9-10, concert, Hudson and Essex Dealors of Oregon.

KMTR, Hollywood, Calif. (336.9), 5-5:30 p. m., Sunny Jim's talk to children: 3:30-6:15, Wurllizor pine organ studio, Town Tattler; 6:15, travel talk, W. F. 7:30. Mutual Motors mirth contest; 7:30-8, program, Low Columba; 0-11, Goodrich Silvertown Cord dance orchestra, Lilyan May Challeuger, contraito; 11-12, Ray West's Coccoanul Grove dance orchestra, Park Documbany; 10-11, Goodrich Silvertown Cord dance orchestra, 2:30, Program; Thelma S. Treett and Harry

sador hotel.

KPO. San Francisco, Calif. (428.3), 7,7:30 and 8 a. m., daily dozen; 1-2 p. m., Rudy Seiger's Fairmont hotel orchestra; 2:30, program; Thelma S. Truett and Harry H. George; 5:30-6:18, children's stories, Big Brother; 6:40-7, Waldemar Lind and the States restaurent orchestra; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 7-8:45, Uda Waldrop, organ recital; 9-10, studio program; Marguerite Raas Waldrop and Uda Waldrop; 10-11, Waldemar Lind and the States restaurant orchestra.

drop; 10-11, Waldemar Lind and the States of Christian orchestra. KTAB, Oakland, Galif, (240), 9-9:30 a. m., prayer service, Rev. E. L. Spaulding; 4-5 p. m., women's club notes; 8-10, program, Western States Line Algies

cuin notes, 5-10, page 121, and company.

KWSC, Pullman, Wash. (348.6), 7:30-9 p. in., Aloise Schroller, planist: Mrs. L. A. Kirtland, vocalist; "Clothing as a Christmas Gift," Mary Olive Howey; "The Psychology of Efficiency" No. 3, "Taking

Central Time

Krw. Khi. Rax. Kpo. Wdaf; 1, Wqi. Wednesday, Decomber 23: 9, Wcx. Webh. Wsbu, Wgen, Whn, Who, Wmbb. Wwer, Whas; 9:30, Wdap. Who, Wer, 10, Krw. Wold, 10:15, Wale; 9:30, Wce, 10:30, Whap, Whn; 11, Koil, Kpo, Webh. Wgbu, Wgen, Wgy, Whn; 11, Koil, Kpo, Webh. Wgbu, Wgen, Wgy, Whn; 11, Koil, Kpo, Wijd. Thursday, December, 24: 8, Wir; 9, Webh. Wei, Wgbu, Whn, Wir. Who, Wijd. Thursday, December, 24: 8, Wir; 9, Webh. Wei, Wgbu, Whn, Wir. Who, Wijd. Thursday, December, 24: 8, Wir; 9, Webh. Wei, Wijd. Thursday, December, 26: Wgbu, Whn; 9:35, Whre; 10:30, Kths, Whn, Webh. Wgbu, Whn, Wei, Wgbu, Whn, Webh. Wgbu, Who, Webh. Wgbu, Who, Wgbu, Whn; 10:30, Kths, Who, Webh. Wgbu, Whn; 10:30, Wca, Wabh. Wgcb, Wgbu, Whn; 10; Mgr, Who; 10:30, Wca, Who, Wgr, Whn; Mgr, Whn; Mgr, Who, Wgr, Whn; Mgr, Wgbu, Wgr, Whn; Mgr, Wgbu, Wgr, Whn; Mgr, Wgbu, Wgr, Whn; Mgr, Wgbu, Wgr, Whn; Mgr, Wgh, Kfoa, Kh; 12:30, Wdaf. 12:

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## PROMISE MERRY HOLIDAYS FOR FANS



DANCING

Central Time

Saturday, December 19:
8, Wir. Whys.
9, Wta : 8:35; Wey;
9, Web, Weel, Whyb,
Whys. Wroc; 9:10, Kths,
Whip; 9:30, Kths, Why
Wor, Wre; 10, Kths,
Wor, Wre; 10, Ktwa,
Kwa, Koa, Kpo, Weaf,
Wgm, Wjr, Wkre,
Wym, Wor, Wdd, Wree,
Wam; 10:05, Weec,
Usam; 10:05, Weec,
Wam; 10:05, Kfwa,
Kro, Wyd, Wrea,
Whys, Wor, Wdd, Wrea,
Whys, Wor, Wdd, Wrea,
Whys, Wor, Wdd, Wrea,
Kra, Kro, Klas,
Kros, 11:45, Wdaf; 12,
Kros, 11:45, Wdaf; 12,
Kros, Kros, Kros,
Kros, Kros, Kros,
Wghu, Wjid,

Kiwa, Kgo, Kgw, Knx, Wghu, Wjid.

Monday, December 21:

S, Wgob; 9; Weel; Wgbu, Wiar, Wor: 9:15; Wahg;

10; Kths, Wgbu, Wgcr, Wgr, Wnyc, Wgr, Koa, Wgcr, Whn; 11; Kgw, Koli, Wgbu, Wgcp, Wgr, Who; 11:45; Wdaf; 12; Knx, Kpo.

Tuosday, December 22:

9; Webh, Wgbt, Wnbb; 23:20

daf; 1, Wqs.
Wednesday, December
1: 9, Wex, Webb,
/gbu, Wgep, Whn, Who,
/gbu, Wgep, Whn, Wle:
115, Wahg; 9:30, Wban,
Who, Wor; 10, Kfve,
/bap, Weaf, Wgbu, Wgep,
Wqj; 10:35, Wee;
whap, Whn; 11,
whap, Wh What, What 11, Kpg, Webh, Wgbu, What 11,45, Wdaf; 12, Kiwa, Knx. Kpo, Wild.

BAR IN ALL

## Tuesday, December 22

Headliners Today Eastern Central Mountain Pacific Sp. m. VIIC (475.9) Coast Guard academy band. 8:15 7:15 6:15 S-15 S-15 WIP (508.2) New Century club chorus. 6:45 KTHS (374.8) Famous auctioneer-humorist. 10 9:30 8:30 7:30 WMCA (340.7) Southern American Troubadours. 11:15 9:15 9:15 8:15 WCC (483.6) Contest for male quartets. 10 9 10:15 WMCA (350.7) Southern American Troubadours. 11:15 9:15 9:15 8:15 WCC (483.6) Contest for male quartets. 10 WCC (483.6) 12 m. 11 10 KFWB (252) Elite trio. KPO (428.3) Christmas carols.

Tuesday, silent night for: CFCA, CHIC, CKNC, CNRC, CNRE, CNRM, CNRO, CNRW, CNRT, KFAU, KFDJ, KFEQ, KFUO, KFWA, KOA, KOB, KUOM, KWSC, PWX, WAHG, WAMD, WBBR, WCAD, WGCP, WHAD, WHAZ, WKAF, WLIT, WOI, WOR, WOS, WSM, WSUI, WTAM.

Eastern Time Stations

CNRA, Moncton, N. B. (291), 8. p. m., invenile program, direction Prof. C. M. Wright; 9, CNRA orchestro; Mrs. J. Clyde Stevens, soprano; Mrs. W. A. Fitch, contraito; Walter Neale, tenor; Tal Cummings, bass; Fred McNulty, saxophonist; 'Hutty' Hutchison, banjolst; R. F. Wade, cornetist; Ernest LeBlanc, saxophonist; Gordon Douglas, saxophonist; piano duet; mixed quartet.

saxoplonist; Gordon Douglas, saxophonist; plano duet; mixed quartet.

KDKA, Pittsburgh, Pa. (309.1), 7.15 and 8 a. m., exercises; 10, domestic science and arts; 5.45 p. m., Daddy Winkum; 6.30, dinner concert, KDKA Little Symphony, orchestra, Victor Sandek, conductor; 3.30, World Cruise; KDKA Little symphony musical settings, Victor Saudek, conductor; J. concert, Little Symphony orchestra, Victor Saudek, conductor; Old-Fashloned quartet; Irma Saudek, conductor; Old-Fashloned quartet; Irma Carcentor, soprano; Vold-Rysperson, contrallo; Rey Strayor, tonor; Raymond Griffin, bass; concert, Grand theater.

WAFD. Port Huron. Mich. (275), 8-10 p. m., Port Huron. Boy Scouls orrhestra.

Huron, Fort Huron, mien. (275), 8-10 p. m., Port Huron Boy Scouts orchestra.

WAHG, Richmond Hill, N. Y. (315.6), 12-12:30 p. m., Joe Zimmerman, planist.

WBAL, Baftimore, Md. (375), 7:30-8:30 p. m., musical program, Chaminade fomale quartet, Hannah Greenwood, Louise Schuckhardt, Mario Smith Duffy, sopranos; Ann Baugher Marks, contralto; Hendrik Exsers, violinist.

Greenwood, Louise Schuckhardt, Mario Smith Duffy, sopranos; Ann Baugher Marks, contralto; Hendrik Ussers, violinist.

WBZ, Springfeld, Mass. (333.1), 6:10 p. m., Santa Claus; 6:30, announced; 7:30, Hotel Kimball dance orchestra, Bob Patterson, director; 8, hockey game, Boston Bruins vs. New Yorks.

WAE, Pittsburgh, Pa. (461.3), 3 p. m., Loew's Aldine theater program; 4:30, Sunshine girl; 6:30, dinner concert, William Penn hotel; 7:30, Davis Saxophone octt, WEAF; 8, WEAF program; 8:30, Gold Dust twins, WEAF; 9, Evercady hour; 10, studio concert, 10:30, Vincent Lopez and his orchestra; 11, Ralph Harrison and his midnight sons.

WGAU, Philadelphia, Pa. (277-6), 7:30 p. m., N. Snellenburg choral society; Anne Simons, contralto; 8, building and loan talk, F. Bruch; 8:10, Three Brothers; 8:25, theater digest, Abe Lipschutz; 8:35, Natlonal players; 9, Arline R. Smith, soprano; Saxon Snyder, pianist; 9:30, Robert Fraser, bilind Gospel singer; Elizabeth Holtz, pianist; 10, Harry Link, popular song writer; 10:30, Billy Hayes and his Cathay tea garden orchestra.

WCX, Detroit, Mich. (517), 6 p. m., dluner concert, Book-Cadillae hotel; 10, the Red Apple club. WEAF, New York, N. Y. (491.5), 6:467-7:20 a. m., "Tower Health Exercises"; 11-12, Cameron Emslie, planist; motion picture forecast, Adele Woodard; 4-5 p. m., recital, Ethel Lyman Mackey, soprano; Mary Hopkins . Emerson, planist; "Women's Program," auspices of United Synagogue of America; 6-7, dinner music, Waldorf-Astoria hotel; 7-11, Margaret Olsen Hamllston, soprano, accompanied by Wintfred T. Barr; French course, Dr. Thatcher Clark, Columbia university; Davis saxophone cetet; The Gold Dust Twins; Eveready hour; Radio bridge games; 11-12, Vincent Lopez and his orchestra.

WEAO, Columbus, O. (293.9), 9 p. m., University chimes, Allen McManigal; "Systematic Soil Program," Prof. Firman E. Bear; 9:15, music; Gorge Crumley's dance orchestra.

WEAR, Cleveland, Ohio (339.4), 11 a. m., home service

WEAR, Cleveland, Ohio (389.4), 11 a. m., home service talk; 7 D. m., State theater vaudoville and music; 8, Ross Gorman's Earl Carroll Vanities orchestra, WEAF; 8:30, Gold Dust Twins, WEAF; 9, Everestra, WEAF; 10, auction bridge, WEAF; 10:30, Vincent Lopez orchestra, WEAF; 11, Wormack's singing syncopators.

WEBJ, New York, N. Y. (272.6), 7-7:30 p. m., Irwin Abrams' orchestra; 7:45-8, Jerry Alexander and Doyle sisters: 8-8:15, railroad talk, G. T. Geer; 8:15-9, International dance orchestra, directed by Ed Behringer.

WEE, Boston, Mass. (348.6), 2 p. m., Eugene's singing orchestra; George Joy, Nell Cautor; 6:45, Big Brother club; 7:40, Harvard Observatory talk, "Star Clusters and Nebulae," Prof. Solon I. Bailey; 8, Ross Gorman's Earl Carroll theater orchestra; 8:30, Gold Dust Twins; Eveready hour; 10, auction bridge instruction; 10:30, Vincent Lopez and his orchestra.

Ross Gorman's Earl Carroll Cheater orchestra; 8:30, Gold Dust Twins; Eveready hour; 10, auction bridge instruction; 10:30, Vincent Lopez and his orchestra.

WGBS, New York, N. Y. (315.5), 10:10:10 a. m., timely talk with Terese; 10:10-10:20, June Warren, planist; 10:20-10:30, household economy talk, Phoohe Cole; 10:30-10:40, June Warren, planist; 10:20-10:30, household economy talk, Phoohe Cole; 10:30-10:40, June Warren, planist; 10:20-10:50, Margaret Santry thrift talk; 1:35-22; p. m., Gertrade Well, sacred songs with Biblical readings; 2-3, Arthur Wechsler; plano recital; 3-3:10, Interview with Mary and Florence Nash, 3:10-3:20, Anita Alva, soprano; 3:20-3:40, talks on "Acres of Diamonds," Ray Scase; 3:30-3:40, Anita Alva, soprano; 3:49-3:50, Dr. Alired G. Robyn, plano lessons; 6-6:30, Uncle Geebee; 7-8, Arrowhead Inn concert orchestra; 8:30-3:30, 3-30, Vasilato's society orchestra; 9:30-10, plany, Lighthouse players; 10-10:30, Deborah Lipson, dramatic soprano; 10:30-11:30, Arrowhead Inn dance orchestra.

WGHB, Clearwater, Fla. (266), 6-7 p. m., Fenway hotel orchestra; 8:30-10, Carolino Lee, "The Virginia Girl," guitar accompaniment; Bill Ewin, tenor; novelty selections and banjo; Mrs. F. Buford, planist; Billy Cullen, planist; 11:45-1 a. m., orchestra.

WGR, Buffale, N. Y. (319), 2:30 p. m., WGR's afternoon program; 6:30, Vincent Lopez Hotel Statier dance orchestra, Harold Geser, director; 8-11, jointly with WEAF including Reser, director; 8-11, jointly with

cital.

WHN, New York, N. Y. (361.2), 6:30-7:40 p. m.,
Josephine Gillis, classical planist; 6:40-7. Sunshine
talk, Billy B. Van; 7-7:30, Iceland dance orchestra;
7:30-8. Will Oakland's Chateau Shanley; II-II:30,
Caravan club orchestra; II:30-12 p. m., Bob Murphy
orchestra; 12-12:45 a. m., Club Kentucky revue and

Caravan club orchestra; 11:30-12 p. m., Mod. Aurpmy sorchestra; 12-12:45 a. m., Club Kentucky revue and orchestra.
WIP, Philadelphia, Pa. (508.2), 7 a. m., setting-up exercises; 1 p. m., organ recttal, Germantown theater: 3, "Who Shall Live Happily Forever," H. L. Kilne: 8:15. Carolyn Schimminger, soprano; Elizabeth Gear, planist: Babette Gerhab, contrallo; Plora Ripka, planist; 6:05, Fagoda cafe orchestra; 7. Elliott Lester, dramatic critic of WIP; 3:15. New Century club chorus; 10:05. Emo's weekly movie broadcast. Ell M. Orowitz; 10:30, Rrunswick recording orchestra. WIAR, Frovidence, R. 1. (305.9), 1:05 p. m., Providence-Biltmore concert orchestra, Erwin White, director; 7:30, Ionic quartet; 8:20, speaker; 8:30, Gold Dust twins, WEAF; 9, Eveready hour.
WMCA, New York City, N. Y. (340.7), 11 a. m. -12 m., Ida Balley Allen's home-maker's hour; 6-6:30 p. m. Gleott Vail and his Hotel McAlpin string ensemble; 6:30-7, Cinderella dance orchestra; 7-8, Jack Wilbur's personalities; 8-8:45, Pace institute program; 9-9:15, Samuel Heller, reader; 9:30-9:45, Raymond G. Parker, tenor; 9:45-10, Dorothy Taylor, contrallo; 10-10:15. Mary Queen Trafford, soprano; 10:30-11, South Amer-

## Index to Farmers' Programs

Farmer Dinner Concerts Daily Except Sunday KFNF, 12:15-1:35 (central time). WLS, 12 (central time).

Talks

Saturday, December 19

Eastern Central Mountain Pacific
11:30 a. m. 10:30 a. m. 9:30 a. m. 8:30 a. m.

KYW (586) Farm and home service.
1:45 p. m. 12:45 p. m. 11:45
WOY (270) soils, questions and answers. 8 7 6 KDKA (309.1) Farm program.

Monday, December 21 Eastern Central Mountain Pacifie 1:15 p. m. 12:15 p. m. 11:15 a. m. 10:15 a. m. WEAO (293.9) Timely Economic Information for the Farmer.

WOC (483.6) Hog Day—Mineral Mixtures That
Pay. 7 6 5 p. m. WGY (379.5) Agricultural program. 7.45 6:45 5:45 WSOE (246) Hog Ralsing. 8:30 7:30 6:30 KFMQ (299.8) Farmers' night. WMC (499.7) Talk. Wolf (499.7) Tain.

8:45 7:45 6:45 5:45

WCCO (416.4) Swine Raising, lesson III.

9 8 7

WOS (440.9) Forestry in Missouri. 

Tuesday, December 22

Eastern Central Mountain Pacific

1:15 p. m. 12:15 p. m. 11:15 a. m. 10:15 a. m.

WOC (428:3) Poultry Day—Meat-Producing and
Other Breeds of Chickens.

7:15 6:15 6:15 5:15 p. m. 4:15 p. m.

WKAR (285.5) Agriculture, engineering, soils. 8 7 6 WOC (428.8) Educational talk. 9 8 7 WEAO (293.9) Systematic soil program.

Wednesday, December 23

Eastern Central Mountain Pacific 1:45 p. m. 12:45 p. m. 11:45 a. m. 10:45 a. m. WOI (270) Poultry husbandry.

11:30 10:30 9:30 p.m. 8:30 p.m.

KWSC (348.6) The Proper Housing of Poultry.

Thursday, December 24 Eastern Central Mountain Pacific i:15 p.m. 12:15 p.m. 11:15 a.m. 10:15 a.m. WOC (483.6) Legume Day. Soy Beans—Past, Present and Future. Present and Future. 1:45 12:45 11:45 10:45 WOI (270) Farm crops. 7:15 6:15 5:15 p. m. 4:15 p. m. WKAR (285.5) Agriculture, engineering and soils. 8:30 7:30 6:30 5:30 WOI (270) Dairyman's short course. 8:33 7:33 6:33 5: KYW (536) Analysis of Farm Markets. 9 WEAO (293.9) Soils. 9:30 8:30 7:30 KOA (322.4) Farm question box.

Markets and Weather Daily Except Sunday

disting ..... deligoned for the propagate to the

Eastern Central Mountain 9:30 a. m. 8:30 a. m. 7:30 a. m. 6:30 a. m. 7:30 a. Central Mountain 8:30 a.m. 7:30 a.m. 6:30 a. m. WEAR (389.4) markets, weather.

1/45 10:45 9.45 8.45

WAAW (384.4) Livestock, butter, eggs. 12 noon 14 m. 10 a. m.

ROKA (399.1) weather, livestock, grain.

WEAR (389.4) markets, weather,

WEAR (389.4) markets, weather,

WHAD (275) weather, narkets.

WHAD (275) weather, markets.

WHAS (394) poultry, dairy, hogs, sheep.

WOS (440.9) livestock, poultry, eggs, grain.

1230 p. m. 1/350 a. m. 10/30 a. m. 9/30 a. m.

KEFKX (288.3) livestock, fruit, vegetables, dairy.

WEAR (384.4) markets, weather.

WFAA (475.9) markets. KBKX (288.3) livestock, fruit, vegetables, dalry. WBAR (384.4) markets, weather. WPAA (475.9) markets.

i p. m. (2 noon 11 a. m. 10 a. m. WBAP (475.9) markets.

wWH (400) fruit, weather.

WOS (440.9) livestock, weather.

1 30 p. m. 12:30 p. m. 11:30 a. m. 10:30 a. m. KTHS (374.8) markets, weather.

WFAA (475.9) markets.

WOAW (526) markets.

WOAW (475.9) m. 11:35 a. m. 10:35 a. m. KPO (428.3) butter, eggs, cheese, poultry.

2 p. m. 10:45 p. m. 11:45 a. m. 10:45 a. m. K.FAU (278) markets, weather.
6:30 5:30 4:30
KSAC (340.7) markets.
6:45 5:45
WIP (508.2) livesteek, markets.
6:50 4:50
WHAD (275) markets.
7:30 6:30
KSAC (340.7) market review.
7:45 5:45
KSAC (340.7) market review.
6:50 5:45
KFKX (281.8) market sports.
8 FFKX (288.8) markets 3:50 4:30 4:45 5 KFKX (288.3) markets, KOA (322.4) sheep, markets, livestock, poultry. WAAW (384.4) Marketgrams and talks. WCCO (416.4) weather, grain.

ican Troubadours; 11-12, Ernie Golden and his Hotel McAlpin orchestra. N. Y. (526), 7-7:30 p. m., WNYC, New York N. Y. (526), 7-7:30 p. m., Tha Canadians; 7:35-8. The Canadians; 8-9, studio features; 10-10:30, Harry Ash's orchestra; 10:35-11, Harry Ash's orchestra.

WOO. Philadelphia, Pa. ((508.2), 11 a. m., grand organ; 12 m., luncheon music, Golden's Crystal tea room orchestra; 4:45 p. m., grand organ and trumpets; 7:30, Davis saxonhoue oetet.

WOR. Newark, N. 1. (405.2), 6:15-6:30 p. m., sport talk; 6:30-7:30, Hotel Shelton orchestra.

WRC, Washington, D. C. (468.5), 10 a. m., Woman's hour, WJZ; 12 m., organ recital, George F. Ross; 1 p. m., Hotel Washington orchestra, trving Boernstein, director: 6 p. m., Hotel Hamilton orchestra, 1 p. m., Hotel Hamilton orchestra, Leonard Hall; 7. Lee House trio, Sam Udrin, director; 7:15, Radio School of International Relations; 7:30, concert, United States Marine band, Captain Wm. H. Santelmann, leader, WJZ; 8:30, Edison hour, WJZ; 9:30, Ross Mountain, contraito, WGY; 10, "The Grand Tour," WJZ, W. Spencer Tupman and his Hotel Mayflower orchestra, WJZ; 11:30, WRC's Foolish entertainers, Ellsworth Tompkins and George F. Ross; 12, Meyer Davis' Le Paradis band.

WTAG, Worcester, Mass. (268), 10:30 a. m., musical selections; 12:05-2 p. m. huncheon muste. WJI

wTAG. Worester, Mass. (268) 10:30 a. m., musical selections; 12:05-2 p. m., luncheon music, Will Hardy's orchostra; 5:15, "Twinkle Twinkle Story Teller"; 8-8:30. M. Ross Gorman and his Earl Carroll Vanities orchostra, "EAF; 3:30-9, vocal selections, "Long and Broad"; 9-10. Evoready hour; 10:30-11, Vincent Lopez and orchestra, WEAF.

WTAM, Cleveland, Ohio (389.4), 12:15-1:15 p. m., lunch hour; 6-7, dinner hour music, Hotel Hollenden or-chestra, Carl Rupp, director.

chestra, Carl Rupp, director.

WTIC, Hartford, Conn. (475.9), 11 a. m., housewires' forum, Mrs. J. H. Dean; 12:05 p. m., music, Travelers' elub; 6:30, music, Hub restaurant trio; 8, concert, Coast Guard academy band of New London; 9, Ethel Michalek; 9:30, organ recital.

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

Central Time Stations

KFAB, Lincoln, Nebr. (340.7), 5:30-6:30 p. m., concert, Monte Munn, Buick Little symphony, Belshaw's; 8:05-10:30, musical, University of Nebraska. KFDM, Beaumont, Texas (315.6), 12:25-12:55 p. m., band concert; 7-7:30, children's program; 8-10, Hudger's Knight Hawks orchestra. KFEQ, Oak, Nebr. (268), 9-10:30 p. m., by remote control from the studie of Zona Berg & Son at Suparior. Neb. control from the studio of Zona Berg & Son at Su-perior, Neb. KFKX, Hastings, Nebr. (288.3), 1 p. m., Blue Valley Radlo Farm school paper, Poultry Day; "Meat-Producing and Other Breeds of Chickens," A. G. Philips; "The Hastings KFKX Radio Special"; Harry Hooks and Paramount orchestra; 5:30, KDKA dinner

Philips; "The Hastings KFKX Radio Special"; Harry Hooks and Paramount orchestra; 5:30. KDKA dinner concert.

KFMQ, Fayetteville, Ark. (299.8), 8 p. m., classical music, Harry Shultz, director.

KFMQ, Fayetteville, Ark. (298.8), 8 p. m., classical music, Harry Shultz, director.

KFMX, Northfield, Minn. (337), 9:30-10 p. m., "Hoat and Ventilation." Prof. Charles A. Culver.

KFNF, Shenandoah, ia. (266), 7 p. m., concert, Villisca, ia.; B. R. Mayhov, director.

KFVE, University City, Mo. (240), 9:15 p. m., "Amusement Review," Romaine Fleising; plane selections; studio entertainers.

KLDS, Independence, Mo. (441), 6:30 a. m., inspirational program, devolional service; 8 p. m., lecture course, "Gan We Do As We Please," F. M. McDowell; elassical program; devolional service; 8 p. m., lecture course, "Gan We Do As We Please," F. M. McDowell; elassical program; Hazel Cook, organist; Cammie Johnston, planist; Selma Ohmann, soprano; 11:59, midnight program; Hazel Cook, organist; Cammie Johnston, planist; Madge Nesbitt, soprano; Wealey Brocaw, saxophonist.

KMA, Shenandoah, lowa (252), 11:80 a. m.-12:30 p. m., rural program; garden talk, Earl E. May; 6-7, May Flower tric; May Flower lady, Lina Ferguson; 9-11, Mandolin musicians; talk, G. H. Van Houten.

KSD, Clarinda, lowa (242), 7-8 p. m., orchestra music.

KTHS, Hot Springs, Ark. (374.8), 9-9:45 p. m., "Jazz, Salad," Southerners Majestic hotel orchestra; 9-43-10:30, reproduction of genuine auction sale of rugs, featuring Demitry Saad; 10:30-11:45, dance concert, Now Aritington hotel orchestra; Clydo Foley, Tony Cochart

Cochard.

KYW. Chicago. III. (536). 6:30-7 a. m., morning exercises, Paul A. Leonhardt; 7:30, family worship, Y. M. C. A., cooperation Chicago Church federation; 10:30, farm and home service; 11:35, table talk, Mrs. Anna J. Peterson; 12:05 p. m., concert, Commonwealth Edison company; 1, luncheon concert, Comgress hotel; 2:35-4, afternoon frolic; 7, dinner music. KDKA; 7:05-7:30, beddime story, Uncle Bob; 7:33-7:53, "Latest Returns on the 1925 Census of Horses and Mules," Wayne Dinsmore; "Tight Belts in Wirder Time," Dave E. Derrah; 3-9, musical program, Congress hotel; 9, music, Commonwealth Edison company; 10, "Evening at Home," KYW studio, Hearst Square; 12, Coon Sanders Original Nighthawks: 1 a. m., Insomnia club, Coon Sanders Original Nighthawks:

hawks.

WBAP, Fort Worth, Tex. (475.9), 12:05-12:30 p. m.,

"Trail Blazers," Montgomery Ward & company orchestra; 6-6:30, dinner music, Texas Hotel ToktoRoyals; 7:30-8:30, program classical and semi-clasical numbers, Mrs. W. Bryan Usrey; 9:30-10:45, Concert, Mrs. M. J. Adams and assisting artists.

## MALE QUARTETS COMPETE AT WOC

### Tuesday, December 22

WBBM, Chicago, III. (226), 4-6 p. m., Harry Sosnik, Sandy Meek; Arnold Stephenson; Sidney Nierman, Harold Moravo; Valentipo orchestra; 8-9, Harry Sosnik, Sandy Meek; Moulin Rouge otchestra; Phil Flemming, Jean St. Ann; Christian A. Grimm; Bob York; 3-10, vocal ensemble; Utilities Craitsmen glee club; 10-12, Tip trio, Pete Kules, Zeigler sisters; Vorris Worthley tenor; Burmeister, Flascone, Hawaiian guitars; .orge Marbach; Maurice Silverman; Dave Handler, violinist; Moulin Rouge orchestra.

WBCN, Chicago, III. (266), 10-10:30 a. m., Penny Wise, the shopper's ready helper; 7-8, Ballatine Electric company classical hour; Robert Sansone, cellist; Gordon A. Nelson, tenor; Ann Kelley, soprano; Pearl Fairchild, planist; 10-12, jazz jamboree, Midway orchestra; Bordon Brothers, harmony duo; Ed Dempsey, tenor; Niese and Nehr, banjo bimbos; Drevel quartet, vocal group; Marle Wright, soprano; Finney Briggs, column conductor, "Crazy Quilt' column; Marquette banjo four, string quartet; Frank H. McDonald, Radio talk; 12-2 a. m., pirate ship, WCBD, Zion, III. (344.6), 8-p. m. cornet quartet, organ and mixed quartet; Mrs. H. E. Mayfield, soprano; Erwin and Arthur Reredell, flutist and charinelist; Mrs. Blanche Keeler, reading; Pearl Luddov, Junist.

WCCO, Minneapolis-St, Paul, Minn, (446.6), 7:30, program for the day: 9:35, news bulletin; 12 m., concert. Dick Long's Dayton trio; 2 p. m., problems of our government, league of women voters; 3:95, the world of books, H. A. Bellows; 4, Reader's club, Eleanor Poehler; 5:30, children's hour; 6:15, dinner concert. Wsley Barlow's Nicollet hotel orchestra; 7:30, program, WEAF, Gold Dust twins; 8-9, Eveready hour; 9-9:30, bridge lesson.

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

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

orchestra; Eddie Kuhn's orchestra; Johnnie Campbell's orchestra.

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

\*\*WEBH\*\*, Chicago, III. (370), 7-8 p. m., Oriole orchestra; Lydia Lochner, contrallot, Kathryn Forbes, soprano; 9-10. Uptown theater; 11-1 a. m., Oriole orchestra; Jack Penewell; Fred Palmiter; Kay Ronayne.

\*\*WEBW\*\*, Beleit\*\*, Wis. (283), 8 p. m., Fortnightly concert hour; special Christmas program; Christmas readings, stories; vocal, plano and whistling solos.

\*\*WENR\*\*, Chicago, III. (266), 6-7 p. m., daily dinner concert, Rauland lyric trio, Santa Claus letters, plano and vocal solos; 8-10, All-American Pioneers, Philip Milyille, barltone; Al Tweed, Walter Peterson; Loretta Giles, American Hawatian trio.

\*\*WFAA\*\*, Dallas, Tex. (475.9), 6:30-7:30 a. m., three 20-minute periods of health exercises, R. H. Schulze; 12:30-1 p. m., Beaumont band from KFDM; 5:30-6, story hour, Perry Cooper; 6:50-7:30, Don Bestor's Bests orchestra; 8:30-9:30, Evelyn Finty, soprano; Mrs. Fred B. Ingram, planist; 11-12, Tom D. Collins' string orchestra.

\*\*WGES\*\*, Oak Park, III. (250), 5-7 p. m., tenor, organ, features; 8-9, flufe duo, organ selections; 11-1 a. m., plipe organ, mixed program.

\*\*WGN\*\*, Chicago, III. (370.2), 12 m., household service program; 12:30 p. m., "Meat Disbes in Holiday Garb," Inez S. Willson; 12:40, luncheon cencert. Brake concert ensemble, Blackstone string quintet; 3-9, trough land, shahll Field's tea room orchestra; 4:30-5, twilight musical; 6:30-7, dinner concert, Drake concert ensemble and Blackstone string quintet; 8-9, program, WEAF; 10-11, dance program, Jack Chapman's and Blackstone hotel dance orchestrae, assisted by popular artists.

\*\*WADA\*\*, Milwaukee\*\*, Wis. (275), 11 a. m., planolog, Andy Hertel; "Getting the First Thousand," Carl Skinrood; 4 p. m., musical numbers; 6:15-7, Bill Henning's Milwaukee Athletic club orchestra.

\*\*WHAB\*\*, Louisville, Ky. (398.8), 4-5 p. m., musical selection, direction Harry S. Currie, assisted by Leroy concert. Eddie Rosson and orchest

gram, music, Sweeney Radio trio; 7-7:30, Morrell Moore, organist; 8-9:30, C. Arthur Rigg, baritone; Marvel de Voll Fell, violinist; Ann Meservey, planist; Gen Reed, tenor.

Wiso, Des Moines, C. (526), 7:30-8, Raleigh quintet;: 3-9, Bankers Life trio; 11-12, Bankers Life little symphonic orchestra.

Wiso, Chicago, Ill. (226), 2-4 p. m., shut-in program; Jack Sprat and the Carl Sulzer orchestra; Ted Florito, planist; Venon Hayes, saxophonist; "Home Economics," Grace Viall Gray; 6-8, Walter Preston, old-fashloned songs, Grester Newman, baritone; Ruth Buhl Flick, reader; iliquene Walenlus, tenor; Lillian Jacobson, planist; Florence Osterman, contraito; 12, midnight jamboree; Dan Russo, Ted Fiorito, Bob Northrop, John Segil, Flovd Revolr, Erwin Schmidt, Dixie Harris Bennet.

WKRC, Cinoinnati, Ohie (422.3), 10-11 p. m., dance program, Eight Dutch Masters; popular song half bour; Alvin Rochr's orchestra.

WLIB, Chicago, Ill. (308.2), 7-7:30, dinner concert; 7:30-8, program, WEAF; 9-10, program, Fred Hamm and Liberty orchestra: 11-2, dance program, Jack Chapman and Blackstone hotel dance orchestras.

WLS, Chicago, Ill. (344.6), 12 m., Ford and Glenn; 6:15 p. m., announcements; 6:30, Ralph Emerson, organis; 7, Ford and Glenn, luliaby time; 7:15-7:55, Dvorak program, WLS studio trio.

WLW. Cinoinnati, Ohie (422.3), 7:30 a. m., exercises, William Stradman, Y. M. C. A.; 7:45, morning devotions, auspices of Parkway Y. M. C. A.; 12, organocert, Petronella Trimbur; 12:30 m., concert, Robert Viscont's Hotel Gibson orchestra; 4, talk, Rev. Ralph Schmidt; 4:15, French lesson, Madame Ida Teimpidls; Shut-In program and State Waltange, the concert, Potronella Trimbur; 12:30 m., pm., farm school: Shut-In program; 4, Red Cross talk; 4:45, Columbia Shut-In program; 4, Red Cross talk; 4:45, Columbia Shut-In program; 4, Red Cross talk; 4:45, Columbia Shut-In program and short talk on finance; 9-11, Trianon duo, Genevieve Burnham, J. T. Carney, in semi-classical program and short talk on finance; 9-11, Trianon orchestra, Dull Lampe, Wood

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

organ; Clement Laskowski, tenor; Bob Mokreis, pianist; George Allen, tenor; 10-1:30 a. in., Bernie Cummins' Town club orchestra; Husk O'Hare's Cocoanut
Grove orchestra; Capitol theater program; Bill Hay,
bass; George Allen, tenor; Harriet Lee, controllo;
Herman Sinaiko, violinist; Bob Mokreis, pianist.
WORD, Batavia, Ill. (275), 8 p. m., Webster hotel concert trio; 8:15, Cosmopolitan School of Music recital;
9, Bible questions and answers, B. M. Rice.
WQJ. Chicago, Ill. (447.5), 1:12 noon, home economics program, Helen Harrington Downing; "Hats.
for the Winter Sports," Lillian Russell; "Your
Home," June Dunham; 3-4 p. m., "Christinas Dainties for Holiday Servilne," Helen Harrington Downing; "Belgium," Mrs. H. T. Sanger; 7-8, dinner
concert, Ralph Williams and his Rainbo Gardens

training exercises; 7:45, Pep class; 8:15-8:30, health training exercises; 11:30-1 p. m., kincheon concert; 4-5:30, concert orchestra, Hotel St. Francis, Vinton LaFerera, conductor; 5:30, "As a Woman Thinketh," Louise Landis; 6-7, dinner concert, Sherman, Clay and company; 8, first concert, thirty-second season, "The Oakland Orpheus," male voices; Edwin Dunbar Crandall, director; Bessie Roland, accompanist; 9:39, auction bridge feature; 10-11, dance music program, Hotel St. Francis.
KGW, Portland, Ore. (491.5), 12:30-1:30 p. m., Rose City tric; 6-7, dinner music; 7:45-8, talk, "Oregon Bankers association; 8-10, bridge lesson, "Style"; McElroy quartet; 10-12, dance music, Indian Grill.
KHJ. Los Angeles, Calif. (405.2), 6-6:30 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader;

## Index to Classical Concerts

Saturday, December 19 Eastern Central Mountain 6 p. m. 5 p. m. 4 p. m. WCX, WEAF, WMCA, WREO. 7 KGO, KYW, WEAR, WENR, WMAQ, WNYC, WOAW, WOK, WRC. KDKA, KFNF, KOLL, KSD, KYW, WBBR, WGN, WMBB, WNYC, WOAW, WQJ.

STORY WOAW, WGJ.

SFOA, KPRC, KHJ, KYW, WHAS, WIP, WLW, WORD, WSAI, WSOE 10 9 8 NNC, KYW, WEAF, WMAQ, WMC, WOAW, WOC, WORD, 11 10 9 8 11. Sunday, December 20 Central 5 p. m. Mountain 4 p. m.

Eastern Central Mountain Pacific 6 pp.m. 5 pp.m. 4 pp.m. 3 pp.m. 7:20 WCAU, 7:20 WCAE, WCAU, WEAF, WEAR, WEEI, WJAR, WTAG, WWJ. 8 WEAR, WEEI, WJAR, WLS, WORD, WCAE, WEAR, WGES, WGCP, WKAQ, WLS, WORD, WGES, WGCP, WCAU, WCAU WQJ. 8:15 7:15 6:15

WEEI, WJAR, WTAG. 8

KHJ, KNX, KTHS, KYW, WCCO, WFAA, WNYC, WOC, WQJ, WSOE. 8

KFVE, KHJ, KNX, KPO, KTHS, KYW, WHN, WKRC, WOC. 12m 11 10 11

Monday, December 21

Eastern Central Mountain Paolific
6 p. m. 5 p. m. 4 p. m. 3 p. m.

KGO, WCX, WEAF, WACA, WREO, WWJ.
7 6 7 KMA, WCCO, WEAF, WEAR, WHAD, WJR, WOAW, WOK. 8 7 7 8 5 KNIF, KSD, WBBR, WBZ, WCAU, WCX, WHAR, WHT, WJAR, WLW, WMBB, WTAG, WTIC. WTIC. 9 8 7 6 WCCO, WBZ, WCAE, WEEI, WHAD, WHO, WJAR, WLW, WORD, WOS. 10 9 8 KMA, KPO, KPRC, KSD, KTHS, WCCO, WEAF, WHAD, WJAR, WJAR WIAG. 10 9 8 8 KGW, KHJ, KMA, KSD, KTHS, KWSC, WHN, WSAI. 12 m 11 10 KGW, WBAP, WSAI. 1a, m. 12 m 11

Tuesday, December 22

Eastern Central Mountain Pacific 6 p. m. 5 p. m. 4 p. m. 3 p. m. WBZ, WCX, WEAF, WMCA, WREO, WWJ. 7 6 5 4 KGO. KMA. WEAB, WEBJ, WGBS, WHAD, WJR, WMAQ, WOAW, WOK, WOB, WTIC, WWJ. 8 7 WWJ.

8
7
KPNF, KSD, KYW, WBZ, WCAE, WCAU,
WCX, WEAR, WEEL, WGR, WHAR, WHT,
WLS, WMBB, WQJ, WRC, WTIC.

Eastern Central Mountain Pacific
9 p. m. 8 p. m. 7 p. m. 6 p. m.
KFDM, KFOA, RGO, KHJ, KLDS, KYW,
WCAE, WCBD, WCCO, WEAF, WEEI, WGR
WHAS, WJAR, WLW, WMAQ, WCC, WORD, 

Wednesday, December 23 Eastern Central Mountain Pacific 6 p. m. 5 p. m. 4 p. m. 3 p. m. WCX, WEAF, WMCA, WEEO, WWJ. 7 KGO, WEAR, WHAD, WJR, WMAQ, WOK, WTIC. 8 7 6 5 KFNF, KPRC, KSD, KYW, WBZ, WCX, WEAF, WEAI, WHT, WLW, WMBB, WMCA, WQI, WTAG, WWJ. 12 m 11 10 KGW, KPO, WHAD, WLW. 1a. m. 12 m 11 WLW.

Thursday, December 24

Eastern Central Mountain Pacific
6 p. m. 5 p. m. 4 p. m. 3 p. m.
WWJ. WCX, WEAF, WIP, WMCA, WREO,
WWJ. WWI.

7

KGO, KSD, WEAF, WEAR, WGBS, WHAD, WJR, WMAQ, WOAW, WOK, WWI.

8

KTW, WBBR, WBZ, WCAU, WCCO, WCX.
WEAR, WEEI, WGR, WGY, WHAR, WHT.
WLS, WLW, WMBB, WOAW, WQJ, WTAG, WTIC.

9 KHJ, KLDS, WBAP, WCAE, WCAU, WCBD, WCCO, WEAF, WEEI, WGR, WHAR, WHAS, WJAR, WNYC, WOC, WORD, WRC, WASI, WSB, WTAG.

10 S KHJ, WNYC, WOC, WORD, WRC, WASI, WSB, WTAG. WSB, WTAG,
10 9 8 7
KNX, KPRC, KTHS, KYW, WGR,
WHAD, WMC, WOAW, WOC, WSAI.
11 10 9 8
KGO, KPO, KTHS, WBAP, WKRC.
12 m 11 0 9
KGW, KPO, WHO, WKRC.

Friday, December 25
Eastern Central Mountain, Paoific 6.1 m. 5.p.m. 4.p.m. 3.p.m.
KGO, WCX, WMCA, WREO, WWJ.
KGO, WEBJ, WGY, WHAD, WJR, WMAQ, WOAW, WOK, WOR, WTIC.
KYW, WAHG, WBZ, WCAU, WCX, WEBJ, WELL, WHT, WLS, WQJ, WWJ.

8 KYW, WAHG, WBZ, WCAU, WDAF, WEEJ, WHAD, WJAP, WEZ, WCAU, WDAF, WEEL, WHAD, WJAR, WMAQ, WMCA, WSAI.

10 9
KFYM, WEAP, WEZ, WCAU, WDAF, WEEL, WHAD, WJAR, WMAQ, WMCA, WSAI.

10 9
KFYM, KFNK, KOA, WCCO, WHAD, WMAQ.

11 10 9
KFMX, KHJ, KNX, KPO.

12 m 11 10 9
KPO.

orchestra; Kenneth Sterling, baritone; Fontella trio; Madeline Ruff, pianist; 10-1 a. m., Ralph Williams and his Rainbo Skylarks; Jerry Sullivan; Rose Vanderbosch, soprano and pianist; Hal Lansing and his uke; Everett George Ople, dramatle reader; Bert Davls; Merrill Carder, baritone; Will Rossiter; Brundage and Kraemer, harmony sineers; Ila Shannabrook, soprano; Blues Destroyers trio; Romo Vincent, boy baritone; Hallingsworth and Altamore, gultarlist; 1-2, Ginger hour; Raiph Williams, the Gingerman, and little Skylarks.

WSAI, Cincinnati, Ohio (325-9), 5:30 p. m., twilight musicale; 6:30 Davis saxophone octet; 7, Mahley and Carew orchestra, Reuben Lawson, director; 8, Eveready hour, WEAF; 9-9:30, auction bridge, WEAF; 9:30, Austin brothers, Hawalian guitarists; music.

Mountain Time Stations

CFAC, Calgary, Can. (435.8), 8-9 p. m., Ladies' concert trlo, Gladys Weib Foster, director; Ethel Smalley, contralto.

contratto.

CNRR, Regina, Sask. (476), 8 p. m., Queen City
Mandolin, club, direction Dorothy Fletcher; Bobbie Mandolin club, direction Dorothy Fletcher; Bobbie Roberts, vocalist. R

wold, san Antonio, Tex. (394.5), 8:30-9:30 p. m., musical program, Gebhart Mexican players.

wold, omaha, Nebr. (526) 12:45 p. m., Brandeis tea room orchestra; 6. Sandman's visit, Val McLaughlin; 7:20, announced: 6:40, Ed Meyers and his Peony Park orchestra; 9. classical; 9:40, Francis Fotter's banio orchestra; 10:30, Herb Felerman and his Omadais orchestra; 12, Italio theater alarm, Pete and Repete announcing.

Wold, Davenport, Jowa (483.6), 12:15-12:25 p. m., farm school, Poultry Day; "Meat-Producing and Other Breeds of Chickens," Prof. A. G. Philips; 3-8:30, Home Management schedule, Aunt Jane; 5:5-6, chimes concert; 6:30-6:50, Sandman's bedtime stories; 7-7:10, educational farm talk, R. E. Patrick; 7:30-8, Gold Dust, Twins, WEAF; 8:9, Evreeady hour, WEAF; 9-9:30, auction bridge, WEAF; 9:30-10:15, "Around the World with B. J. Palmer in Eight Months in Eight Mights," B. J. Palmer; 10:15-11:15, musical program; contest of male quartets.

Woll, Ames, lowa (270), 12:39 p. m., college chimes; 13:45, animal husbandry, Prof. H. H. Kildee, WOK, Chicago, Ill. (217.3), 5-7 p. m., Capitol theater

6:30-7:30, history story, Professor Hertzog; weekly visit of Queen Titania and Sandman from Fairyland; Louis F. Klein, auto-harp and harmonica soloist; Charles Leslie Hill, reader; Lenora Killian, contralto; 7:30, talk on dogs, H. M. Robertson; 8-10, program, Cochran Brothers company; 10-11, Don Clark's Blitmore hotel dance orchestra.

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

Powell.

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

KTAB, Oakland, Calf. (240), 9-9:30 a. m., prayer service, Rev. G. W. Phillips; 8-10, Mutual stores.

### Wednesday, December 23

### Headliners Today

Wednesday, silent night for: CHIC, CKNC, CNRA, CNRC, CNRE, CNRM CNRR, CNRT, CNRV, KFAU, KFDM, KFEQ, KFMQ, KLDS, KOB, KTAB, WBAL, WBBR, WCAD, WCBD, WEBW, WFAA, WGBS, WHAR, WHAZ, WIP, WJAZ, WMC, WOAI, WOAW, WOI, WORD, WPG, WRC, WREO.

Eastern Time Stations

CECA Teorgia Con (256), 7 p. m. Fooleanut hard

Eastern 1 ime Stations

CFCA, Toronto, Can. (356), 7 p. m., Earlscourt band
of Salvation Army; 9, musical program, direction
Augustus Bridle; 11, Gilbert Watson's orchestra.
Pavilion restaurant.
CNRM, Montreal, Que. (411), 8:30 p. m., special Christmas program; orchestra; Margaret Lyons Moodie,
mezzo-soprano; G. R. Markowski, violinist; Markowski
trio.

CNRO, Ottawa, Ont. (435), 7 p. m., children's half hour, Aunt Bessie; 8, Chateau Laurier concert orchestra; 9, Christmas program, McLeod St. United church choir; Phyllis Osler, soprano; Mrs. H. J. Cloran, harpist; readings, Mrs. R. B. Selleck; Chas. E. Goodall, bass; Ernest R. Williams, saxophonist; Edna Church, controlic; Chateau Laurier dance orchestra. KDKA, Pittsburgh, Pa. (309.1), 7:18 and 8 a. m., exercises; 6:30 p. m., dinner concert; 8:15, University of Pittsburgh address, Oil and Gas, talk No. VI; "Resources," Professor Roswell H. Johnson; 8:30, musical comedy, "Fortuno," Princeton University Triangle club, Syria Mosque.

PWX, Havan, Cuba (400), 8:30 p. m., general staff band of the Cuban army, Captain Jose Molina Torres, leader.

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

7:36. Ernie Golden and his Hotel McAlpin orchestra; 7:30-7:45. Professor Cortina's Spanish lesson; S:15-9:15. Northminster church services; 9:30-10. Audubon theater program; 10-10:15. Fred Mensing, 2ther sololist; 11-11:30. Hofbrau Haus entertainers; 11:30-12. Jack Smith, whispering bartione.
WNYC. New York, N. V. (528), 6:30-7 p. m., Spanish lessons; 7:35-8, dance program; 8:30-9, Walter Scott, twelve-year old violinist; 9-10, studio features; 10:10-10:30, lecture.
WOO. Philadelphia, Pa. (508.2), 11 a. m., grand organ; 12 m., luncheon muslc. Golden's Crystal tea room orchestra; 4:45, grand organ and trumpets; 20:00. The room orchestra; 4:45, grand organ and trumpets; 20:00. Army band, direction Capt. Wm. J. Stannard, Washington, D. C.; 8:30, "Pooley Period"; 9. American male quartet, Fred J. Brown, tenor; Carl A. Lawless, tenor; Robert E. Kerwin, baritone; Felix J. Addis, bass; 9:25, address, Rev. Forest Dager; 10, 10:30, dance music, Hotel Ritz-Carlton orchestra; 10:30, dance music, Hotel Ritz-Carlton orchestra; 8-8:15, "Topics of the Day," Spencer Armstrong; 9-9:15,

## HARP MUSIC YULETIDE GIFT OF WHB

### Wednesday, December 23

Sam Siegel, mandolinist; 9:15-9:30, talks, Dr. Vizetelly; 9:45-10, Sam Siegel, mandolinist; 11-12. Vincent Lopez' Pennsylvania orchestra.

WRC, Washington, D. C. (468.5), 10 a. m., women's hour, WJZ; 12 m., organ recital, Gertrude Smallwood; 1 p. m., Lee House trio, Sam Udrin, director; 5, Meyer Davis' New Willard Hotel trio; 6, "Things Talked About," Nina Reed.

WTAG, Worcester, Mass. (268), 10:30 a. m., musical selecions; 10:45, talk to housewives, Mrs. Lydia Flanders; 12:05-2 p. m., luncheon music, Will Hardy's orchestra; 7, talk, Robert M. Shaw; 7:15, "Twinklet Twinkle Story Teller"; 7:30, "Crimes or Retail Salesmen," Hurold, Whitchead; 7:45, Spanish lesson, Mrs. De La Parra; 8-10, concert program; 10-11, "Roxy and His Gang." R. S. Rothafel, WEAF, WTAM, Cleveland, Ohio (389.4), 12:15-1:15 p. m., lunch hour; 6-7, dinner dance music, Guy Lombardo and his Royal Canadians; 8:10, concert program; 10-11, the Hollenden hour, Carl Rupp and his Hotel Hollenden orchestra; 11-1 a. m., dance music, Guy Lombardo and his Royal Canadians; 10, Enni Heimberger's Hotel Bond orchestra.

WTIC, Hartford, Conn. (475.9), 6:30 p. m., Hotel Bond orchestra.

WWJ. Detroit, Mich. (352.7), 7:30 and 8 a. m., set-

orchestra.

WVI, Detroit, Mich. (352.7), 7:30 and 8 a. m., setting-up expreises, R. J. Horton; 9:30, "Tonight's Dinner," and a special talk by the woman's editor; 12:05 p. m. Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra; 6, dinner concert; 8, News orchestra and carolers; 9, dance program.

Central Time Stations

Central Time Stations
CNRW, Winnjeg, Man. (384.4), 7:30 p. m., Aunt
Almee's beddime story and Santa Claus; 8, musical
program, Fort. Garry hotel orchestra; 8:40, program,
Canadian National Railways Transcom shops brass
band, direction J. T. Cocking; A. Leslie Garside,
barltone; 10, supper-dance program, Fort Garry hotel
orchestra; selections by Al Kilgous.
KFAB, Lincolin, Nebr. (340.7) 5:30-6:30 p. m., concert, Beishaw's orchestra, Butel, Little symphony;
8:30-10:30, Beishaw's orchestra; Raiph Hall, bando,
ukeleile and voice; Olive Fletcher and Ruby Teatro,
double piano; "Sileit" Merriam, pianist; Mareidine
Schmidt, blues singer.
KFKX, Hastings, Neb. (288.3), 1 p. m., "A Radio
Dairy Cow Selection," H. G. Van Pett; 5:30, KDKA
dinner concert; 9, University School of Music.
KFMX, Northfield, Minn. (337), 9-10 p. m., musical

program. KFNF, Shenandoah, Ia. (266), 7 p. m., concert, Pullman Porter quartet.
FUO, St. Louis, Mo. (545.1), 9:15 p. m., "Advent and Christmas Hymns," Prof. W. Polack, "The An-gels' Christmas Song," Rev. P. Koenig; songs and

music. KFVE, University City, Mo. (240), 9:15 p. m., "Amusement Review," Romaine Fielding; Paul and Jack

gels' Christmas Song," Rev. P. Koonig; songs and music.

KFVE, University City, Mo. (240), 9:15 p. m., "Amusement Review," Romaine Fielding; Paul and Jack Snyder.

KMA, Shenandoah, Iowa (252), 11:30 a. m.-12:30 p. m., rural program; bird talk, Blanche Alden; garden talk, Earl E. May; music; 5:30, talk, G. H. Van Houten; 6-7, Domestic Science talk, LeOna Teget; 9-11, familur songs, music; songs and clog dance, Bobbie and Bube Riddle; chimes, William Howie.

KSD, St. Louis, Mo. (545.1), 6:30 p. m., "Fur Hour"; program, Hotel Statler orchestra; 7:30, James Rohan, tenor; 8, WEAF "Good Will' program.

KSO, Clarinda, Iowa (242), 7-9 p. m., vocal and instrumental program, Mrs. Scroggs, director.

KTHS, Hot Springs, Afk. (374.8), 9-9:45 p. m., concert, New Arlington botel orchestra; 9:45-10, Lawson Reid, organist; 10-11, "Pooley Hour Players," from Rainbow Gardens, Little Rock.

KYW, Chicago, Ill. (536), 6:30-7 a. m., morning exercises, Paul A. Leonhardt; 7:30, family worship; 11:35, table talk, Mrs. Anna J. Peterson; 12:05 p. m., noonday concert, Commonwealth Edison company; 1, luncheon concert, Congress hotel; 6, dinner music, KDKA; 7:05, bedtlime story, Uncle Bob; 7:39-8, half hour of music; 8-9, musical program, Sherwood School of Music; 10-12:30, midnight revue; Paul Ash and orchestra will be heard at 10; Coon Sanders Original Nighthawks at 10:40 and 11:10; 1, Insounial cub. MBAP, Ft. Worth, Tex. (475.9), 12:05-12:30 p. m., musical program; 6-6:80, dinner music, Texas Hotel Tokio Royals; 7:30-8:30, Penther Hawalian trio; 9:30-10:45, dance music, Texas Hotel Tokio Royals; Tiso-8:30, Penther Hawalian trio; 9:30-10:45, dance music, Texas Hotel Tokio Royals; 10:40; And Tex

WBOD, Chattaneaga, Tenn. (256), 6:30-7 p. m., Tivoli theater organ; 7-8, Hotel Patton orchestra; 8:15, spe-

WEBH, Chicago, III. (370), 7-8 p. m., Oriole orchestra;



The lovely harp music which has been pleasing fans listening to WGY, Schenectady comes from the skillful fingers of Margaret DeGraff, above.

Florence Behrend, soprano; Frank Greif, tenor; 9-10, Oriole orebestra; Florence Behrend, soprano; Frank Bordner, barttone; 11-7, Orlole orchestra; Irene Beaseley, the girl from Dixie; Florence Behrend, soprano; Oriole orchestra.

WENR, Chicago, III. (266), 6-7 p. m., dally dinner concert, Rauland lyrie trio; R. Hendrickson, cellist; Santa Claus letters, soprano slos; 8-10, All-American Pioneers; Archie Rawls, tenor; J. E. Peterson, basso; Floyd Falsh, barltone; Art Bilquist, popular songs; 12-2, All-American Pioneers, Marie Tully, WFAA, Dallas, Tex. (475.9), 6:30-7:30 a. m., three 20-minute periods of health exercises, R. H. Schulze; 12:30-1 p. m., Sears-Roebuck Agricultural Foundation program.

12:30-1 p. m., Sears-Roebuck Agricultural Foundation program.

WGES, Oak Park, III. (250), 5-7 p. m., violin, pipe organ; 8-9, orchestra; Tiffin theater organ; 11-1 a. m., Coyne screnaders, organ, comedian, features.

WGN, Chicago, III. (370.2), 12 m., household service program; 12:40 p. m., lunchen concert, Drake concert ensemble and Blackstone string quintet; 2:30. Lyon and Healy artist series; 3, rocking chair time, featuring the bridge game; 3:30, tea time music, Marshall Fleld's tea room orchestra: 4:30-5, twilight musical: 6:30-7, dinner concert, Drake concert ensemble and Blackstone string quintet; 8-9, Drake concert ensemble and vocal artists; 10-11, dance program, Jack Chapman's and Blackstone hotel dance orchestras, assisted by popular artists.

and vocal artists; 10-11, dance program, Jack Cnapman's and Blackstone hotel dance orchestras, assisted by popular artists.

WHAD, Milwaukee, Wis. (275), 11 a. m., pianologue, Andy Hertel; the Housewife; 4 p. m., "With the Houmorists," John R. Wolf; Mrs. Marle Welss, planist; Linda Hering, saxophone; 6:15-7, Arthur Riehter, organist; 10:30-11:30, popular dance hits, Dexter's Wisconsin and Elger's Creole roof orchestras; 11:30-12:30 a. m., Edmund Fitch, organist.

WHAS, Louisville, Ky. (399.8), 4-5 p. m., musical selections, direction Harry S. Currie; from Music Box, assisted by Leroy Hobb; readings, editorials, news bulletins; 7:30-9, concert, K. & I. Terminai rallway orchestra; readings, Sudie Harris.

WHB, Kansas City, Mo. (365.6), 2-3 p. m., ladies' hour program; Morrell Moore, organist; 7-8, Milo Finley's tric; automotive extension lessons; John Burns, vocal numbers.

WHO, Des Moines, la. (526), 6:30-7:30 p. m., Reese-Hughes orchestra; 7:30-9, talent from Capitol theater; talk by "Santa Claus"; Greta B. McIntosh,

wbistler; Smith Slsters; Cole and Kirkwood; 9-11:30, dance program, Cotillion ballroom.

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

WKAF, Milwaukee, Wis. (261), 10-11 p. m., studio Program.

Johnson; Atma Adair, soprano; Dorothy Abrey, contraito; Fred Jacobsen; Dorothy Davie Dillow.

WKAF, Milwaukee, Wis. (261), 10-11 p. m., studio program.

WKRC, Cincinnati, Ohio (422.3), 8-9 p. m., weekly book review; Marlon McKay and ornestra; popular songs; J. Henry Koenig Little Symphony orchestra, Robert M. Visconti, tenor.

Wilb, Chicago, Ill. (308.2), 7-8, dinner concert; 9-10, program, WEAF; 11-12, dance program, Jack Chapman and Blacksforie hotel dance orchestra.

Wis, Chicago, Ill. (346.6), 12 m., Ford and Glenn; 6:15 p. m., announcements; 6:30, Raiph Emerson, organist; 7, Ford and Glenn, Iuliaby time; 7:15, WLS trio in popular concert; 7:45, WLS theater production; 8:15, Rhodeheaver program; 8:45, Chicago Defender band; 9:30, Nurses' Glee club, Wesley Memorial hospital; 10, the Thaviu Brass sextet; 10:30, The Arneson quartet; 11-2 a. m., WLS Circus with WLS Circus band-W. S. Ciown band, Ford and Glenn, Raiph Emerson.

WIII Surfathman, Y. M. C. A.; 7:45, morning devotions, auspices of Parkway Y. M. C. A.; 12 m. musical program, Irene Downing; 3:30 p. m. exercises. William Stradtman, Y. M. C. A.; 7:45, morning devotions, auspices of Parkway Y. M. C. A.; 12 m. musical program, Irene Downing; 3:30 p. m. exercises cooking school, Mrs. Raiph H. Auch; 4, sut-increases of Parkway Y. M. C. A.; 14 m. Trosley cooking school, Mrs. Raiph H. Auch; 4, sut-increases; 6:40, Art Gillham, the whispering plantat; 7, dinner hour concert, Hotel Gibson; Robert Visconti, director; 7:39, talk, representative of the National Farm Radio council; 7:40, Hotel Gibson concert; 10, plano memories, Mary Louise Woseczek; 10:20, Christmas on the plantation, Paul Lawrence Durbar; reading by Charles Meade; 10:30, Christmas recital, Raiph Thomas, tenor; Charles Ridgeway, pianist; 11, the Crosley male quartet; 11:15, Johanna Grosse, organist; 11:30, planologue, Carl Bamberger.

WMAQ. Chicago, III. (447.5), 12:45 p. m., farm school; 1. Chicago Association of Commerce luncheon; 2. Shut-in program: 4. recipes, E. O. Hiller; 4:30, pupils, Cosmopolitan School of Music; 6. Chicago the ater organ recital; 6:30. Georgene Faukher, story lady; 8, lecture, Northwestern university; 8:30, musical program; 9. WMAQ. players; 9:20. Indian program, Galiwahgowah.

WMBB, Chicago, III. (250), 7-8 p. m. Trianon duo. Helen Smith, in semi-classical program, and shortalk on finance; 9-11, Trianon orchestra, Dell Lampe, Woodlawn theater orchestra, Armin F. Hand, Ormsby und Davis, Walter Duffy, Ed. Hines.

WAA, San Antonie, Tex. (334.5), 3 p. m., musical program; 8:30-9:30, Army night, musical program; 8:30-9:30, Army night, musical program; Sido-9:30, Army night, musical program; Clayton Meyer, bartione; Fay Paarman, planist; Ann Bradfield, reader; 5:45-6, chime concert; 6:30-6:50, Sandman; 9-10, Erwin Swindell, organist; Marcus H. Cohen, tenor.

WOL, Ames, towa (270), 12:30 p. m., college chimes; 12:45, poultry husbandty, Prof. H. A. Bittenbender.

WOK, Chicago, III. (217.3), 5-7 p. m., Capitol theater organ; Ed Kemp, tenor; Bob Mokreis, planist; Bryce Tailbot, baritone; 10-1:30 a.m., Bernie Cummins Town club orchestra; Capitol theater program; Ned Miller, tenor; Harriet Lee, contralto; Herman Sinalko, violinist; George Allen, tenor; Bob Mokreis, planist. Bryce Tailbot, baritone; 10-1:30 a.m., Bernie Cummins Town club orchestra; Capitol theater program; Ned Miller, tenor; Harriet Lee, contralto; Herman Sinalko, violinist; George Allen, tenor; Bob Mokreis, planist. Byce Tailbot, baritone; 10-1:30 a.m., Bernie Cummins Town club orchestra; Capitol theater program; Ned Miller, tenor; Harriet Lee, contralto; Herman Sinalko, violinist; George Allen, tenor; Bob Mokreis, planist.

WORD, Batavia, III. (275, 8 p. m., Webšter hotel concert trio; 8:15, hymns and sacred songs. I. B. S. A. choral singers; 8:25, fourth lecture on Great Pyramid, The Well." C. H. Swingle.

ens; musical program; address, Hon. C.D. Thompson, Mol. Chicago, III. (447.5). 11-12 noon, Friday fish dinner menu, Frank Wendt; 3-4 p. m., Your Christmas Dinner, Helen Harrinston Downing; Lavinia Price, pianist, "Cheer," Mrs. Guy Cornwell; 7-8, dinner concert, Raiph Williams and his Rainbo Gardens ordestra; Hazel Ewald, soprano; Edith Phillips Heller, pianist; Herman J. Techentine, baritone; 10-1 a. m., Raiph Williams and his Rainbo Skylarks; Helen Holman, soprano; Melodians; Clarcnec Theders, tenor; J. Edwin Peterson, basso; Joey Stool, tenor; Eddie Vogel, barttone George Thurn, kazzo and uke solotst; Anite Chellis, comedian; Hairi Kenddil, guitarist and harmonica soloist; Thelma Jefferle, soprano; 1-2, Ginger hour, Raiph Williams and little Skylarks.

WSAI, Cincinnati, Ohio (325.9), 7:45 p. m., art talk, Mary Alexander; 8-9, Ipana Troubadours, WEAF; 9-10, program; 10, talk; 10:15, Congress Playing Cardstring quartet.

WSM, Nashville, Tenn. (282.8), 6:30 p. m., concert, Francis Craig and his orchestra; 7, bedtime story, 8, Roger William university quartet; soloists; 10, program, Daisy Hoffman, Mary Malone.

WSUI, lowa City, Ia. (484), 7:45 p. m., correspondence course lectures.

Course lectures.

Mountain Time Stations

CFAC, Calgary, Can. (435.8), 4 p. m., Red Cross address; 8-9, studio program.

KFWA, Ogden, Utah (261), 4-5 p. m., organ recital, Paramount theater; 5-6, Ogden Radio Dealers program; 9-10:30, dance music, Olie Reeves orchestra.

KOA, Denver, Colo. (322.4), 12:15 p. m., Rialto theater musicale; 6:27, National Farm Radio council talk; 6:30, dinner concert, Brown Falace string orchestra; 7:30' Book of Knowledge; 8, orchestra; readings, Theodore H. Bird; Carleton Bowman, barilone; The Christman Splrit, Rev. Elmer E. Freed: Christmas carols and hymns, Corona Presbyterian church quartet; 10, dance program, Harmony Peerless orchestra. Colburn hotel.

Pacific Time Stations

Christmas Spirit." Rev. Elmer E. Freed. Christmas carols and hymns, Corona-Presbyterian church quartet; 10. dance program, Harmony Peerless orchestra. Colburn hotel.

Pacific Time Stations

KFDJ, Corvallis, Ore. (282.5), 7:30 p. m., musical selections; 7:45, "Financial Preparedness for the New Year," Emma S. Weld; 3-8:15, "What is your Best Color?" Alma Frichoff.

KFWB, Hollywood, Calif. (252), 5-6 p. m., children's hour, Big Brother of KFWB; 7-7:30 p. m., children's hour, Big Brother of KFWB; 7-7:30 p. m., children's hour, Big Brother of KFWB; 7-7:30 p. m., children's 8-9, program, Cheek-Neal Coffee company, Maxwell House Coffee string quartet; Charles Beauchamp, tenor; Lee Kent and her terapache; 9-10, program, Hoot Owl Harbolt of Santa Monica, Bill Hatch's orchestra; Peggy Mathews, blues singer; Frank Stever, barltone; 10-11, Warmer Brothers frolic, direction Charlie Wellman; 11-12, Hollywood Roof ballroom orchestra. (Pellman; 11-13)—1 p. m., luncheon concert; 3-4, Mme. Charle Poultér, soprano; Edna Linkowski, pianist; speaker; 4-5-30, concert orchestra. Hotel St. Francis, Vinton Lafferrera, conductor; 5:30, Mr. Fix-it; 6-7, dinner concert; Sherman, Clay and company studio.

KGW, Portland, Ore. (491.5), 12:30-1:30 p. m., Rose City trio; 6-7, dinner concert; 8-9, concert; 10-11, Sherman, Clay and company studio.

KHJ, Los Angeles, Calif. (405.2), 6-6:30 p. m., Leighton's Areade cafeteria orchestra. Jack Cronshaw, leader; 6:30-7:30, history story. Frot. Hertzog; Dick Winslow, Juvenile reporter; Mickey McBan, screen juvenile; Carl Eastwood and Vivian M



Heavenly music from golden harps will float upon the ether Christmas Eve. A quintet of harp players, Velma Beard, Marjorie Carpenter, Ona Miller Briefer, Eva Beard and Ruby Beard will visit WHB, Kansas City. They will play old time Christmas carols and classical favorites. This program brings Yuletide spirit into the home.

## Wednesday, December 23

### Thursday, December 24

Headliners	Today
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	readillit	ers Louay	<b>'</b>
Eastern	Central	Mountain	Pacific
8 p. m.	7 p. m.	6 n. m.	5 n m
WBBR (272.)	<ol> <li>Special</li> </ol>	Christmas pro	erom
8;30	7:30	6:30	5:30
WHAS (399,8	<ol> <li>Special c</li> </ol>	concert.	0.00
8:45	7:45		
WIP (508.2)	Ancient Cl	hristmas carols	
9 '	8	7 .	. 6
WBZ (333.1)	Christmas	carols.	-
WCBD (344.8	<ol> <li>Christma</li> </ol>	S Program	
WHB (365.6)	Italian ha	arn ensemble	
WHO (526)	Special Chr	istmas Eve pr	ogram.
10	9	8	7
KTHS (374.8)	Latin Ame	rica serenade.	•
WUAN (526)	Christmas	Eve program	
10:15	9:15	R · 15	7 - 15
WIP (508.2)	Special Ch	ristmas carols.	
10:30	9:30	ጸ ተኛብ	7:30
WBAP (475.9	<ol> <li>Christma</li> </ol>	s Eve frolic	
WTIC (475.9)	) Special (	Christmas prog	ram.
11	10	q	R
KGO (361.2)	"A Christ	mas Carol,'' d	rama.
E.E.J. (405.2)	World Eam	One Christmas	carols.
WSAI (282.8)	Christmus	Eve program.	
14 m.	? F	10	9
KTHS (374.8	) . Christmas	Eve frolle.	
WRC (428.3)	St. Patric	k's charch.	
í a. m.	12 m.	- 11	10
WLW (422.3)	St. Peter	's cathedral.	

## AN EVENING AT HOME WITH THE LISTENER IN IN EASTERN TIME

Fairmont hotel orchestra; 8-9, Atwater Kent artists,	<u> </u>	<del></del>					TIVEL			ar reter	
Ernest Ingold, Inc., director; 9-10, dance program, Goodrich Silvertown Cord orchestra; 10-11, Walde- mar Lind and the States restaurant orchestra.			1			<del></del> .	<u> </u>				١,
	Call	Legation	Met.	Saturday	Sunday	Monday	Tuesday	Wednesday		Friday	ľ
KWSC, Pullman, Wash. (348.6), 7:30-9 p. m., faculty	CFCA	Fort Bragg, N. C. Terente, Ont	356.9		8:00- 7:00		Silent	Silent 8:15-11:45	8:00-9:55 9:00-11:45		l
service, Rev. G. W. Phillips.  KWSC, Pullman, Wash. (348.6), 7:30-9 p. m., faculty program; Mrs. Herbert Kimbrough, vocalist and planologuist; "Washington's Representatives at the National Club Congress," Elmina White, club specialist; "Who Should Stay on the Farm," Neil W. Johnson, book reviews, Alice Lindsew Wesh	CFCN	Caigary, Alta Edmonton, Can				Silent 9:30-11:30	Silent 9:30-10:00	Silent	10:00-11:00 11:00- 1:00	Silent	1
Should Stay on the Farm," Neil W. Johnson, book reviews, Alico Lindsey Webb.	CKAC	Montreal, Que	410.7	7:30-11:00	Silent	Silent	7:80-11:00	Silent	7:80-11:00		
	CKY	Toronto, Ont Winnipeg, Man	. 384.4	9:00-12:00	8:00-11:00			Silent 8:30-12:00	Silent 10:00-12:00	Silent Silent	۱ 🕨
Thursday Documber 24	CYL	Ottawa, Ont	. 434.5 . 480	8:30-1:30 Silent	9:00-10:30	Silent Silent	9:00-10:30	8:30- 1:30 Silent	Silent Silent	Silent 9:00-10:30	l.
Thursday, December 24	KDKA	Pittsburgh, Pa	309.1	6:15- 9:55	4:00- 8:43	6:15- 9:55	6:15-12:30			6:15- 9:55	W
	KFAB KFDM	Lincoln, Nebr Beaumont. Texas	340.7 315.6	6:30-10:30 Silent	5:00-8:00 9:09-10:00		6:30-11:30 9:00-11:30		Silent	6:30-11:80 9:00-11:80	
Headliners Today	KFI	Les Angeles, Callf	467	9:45- 3:00 Silent	7:00-2:00		9:45- 2:00	9:45- 2:00	9:45- 2:00	9:45- 2:00	l w
Eastern Central Mountain Pacific	KFMQ	Favetteville, Ark.	299.8	Silent	Silent Silent	Silent	10:00-11:00	Silent 8:30-9:30	8:30-9:30	10:00-12:00 Silent	"
WBBR (272.6) Special Christmas program.	KFRF	Northfield, Minn. Shenandeah, Ia	. 337 . 268	Silent 8:00-9:00	8:00-9:00 7:30-10:00		10:30-11:00 8:00- 9:00	10:00-11:00 8:00-9:00	Silent 8:00-9:00	11:00-12:00	W
8:30 7:30 6:30 5:30 WHAS (399.8) Special concert.	KFOA	Scattle, Wash St. Louis, Mo	454.5	9:00-2:80 Silent	Silent 9:15-10:15	9:00-1:00	9:00- 2:00	9:00-1:00 10:15-11:15	Sllent	9:00- 2:30	ĺ
8:45 7:45 6:45 5:45 WIP (508.2) Ancient Christmas carols.	KFVE	Univ'ty City, Mo		9:30-11:00	Silent	9:30-11:00	9:30-11:00	9:30-11:00	Silent	9:30-11:00	Ì
WBZ (333.1) Christmas carols	KFWB KGO	Hollywood, Calif Oakland, Calif		11:00- 3:00	12:00 - 2:00 6:30-12:00	11.00- 1.00	111:00-1:00	0.00.10.00	10:30- 2:00 11:00- 3:00	11:00- 2:00	l
WCBD (244.6) Christmas, program. WHB (365.6) Italian harp ensemble.	KGW	Pertland, Ore Los Angeles, Calif	491.5	1:00- 3:00	10:45-12:00 9:00- 1:00	11:00- 1:00	10:45- 3:00	11:00- 2:00	10:45-11:00	12:00-1:80	w
10 9 Special Christmas Eve program.	KIAF	Sihtipok, Minn	. 42f	Silent	3:00- 4:00	8 mm   0 mm	Silent	8.00 0.00	8:30- 2:00 Slient		
KTHS (374.8) Latin America serenade. WOAW (526) Christmas Eve program.	KJR KLD8	Seattle, Wash Independence, Mo.	. 584.4 440.9	Silent	7:30-11:00	10:00- 2:00 Silent	11:30- 1:00 8:00- 9:00	10:00- 1:00 Silent	11:30- 3:00 8:00- 9:00	11:30- 2:00	
10:15 9:15 8:15 7:15 WIP (508.2) Special Christmas carols.	KLX	Oakland, Calif	508.2 336.9	Silent	Silent 10:00- 1:30	9:00- 2:00	Silent	9:00- 2:80	Silent	9:00-1:30	
10:30 9:30 8:50 7:30 WBAP (475.9) Christmas Eve frolic.	KNX	Hollywood, Calif Denver, Cole	322.4	11:00- 1:00	6:00-11:00	9:30-3:00 8:30-11:00	8:30-10:30		8:30- 2:00 8:30- 9:30		
WTIC (475.9) Special Christmas program.  11 9 8  KGO (361.2) "A Christmas Carol." drama.	KOB	State College, N.M. Council Bluffs, Ia	278	Silent   8:30- 1:00	Silent 8:30-10:00	9:30-10:30 8:30-1:00	Silent 8:30-1:00	Silent 8:30-1:00	Silent	Sllent	w
KHJ (405.2) World Famous Christmas carols	KPO KPRC	San Francisco, Cal.	428.3	9:35- 3:00 8:30- 1:00	8:00-1:00	9:30- 2:00	9:30- 2:00	9:30- 2:00	9:30 - 2:00	10:00 2:00	w
WSM (282.8) Christmas Eve program. 12 m. 11 10 9 KTHS (374.8) Christmas Eve trolle.	KSD	St. Leuis, Mo	545.1	7:45-11:00	7:15-10:15	7:55-12:00	7 -55-11-00	8:00-10:00	8:30-10:00 7:55-11:00	8:30-10:00	
Who 1428.3) St. Patrick's church.	K8L KTAB	Salt Lake City, Ut. Oakland, Calif	240	Silent	10:45- 2:00	10:00- 1:00 11:00- 1:00	11:00- 1:00	10:00 - 1:00 Silent	10:00- 1:00 11:00- 1:00	11:00- 1:00	w
WLW (422.3) St. Peter's cathedral.	KTBI	Les Angeles, Calif. Seattle, Wash	295.9 305.9	Silent Silent	10:15-12:30 12:10- 9:10	Sllent	11:00-12:00 11:00-12:00	Silent Silent	11:00-12:00	Silent	
Thursday client night to our	KTH8	Hot Springs, Ark	374.8	10:00-12:00	10:00-12:30	10:00-12:00	10:00-12:00	10:00-12:00	10:00-12:00	10:00-3:00 10:00-12:00	
Thursday, silent night for: CHIC, CKNC, CNRA, CNRE, CNRO, CNRR, CNRT, CNRV, CNRW, KFAB, KFAU, KFDM, KFDM, KFEQ, KFMX, KFOA, KFUO,	KTW KWKH		455 261	9:80-10:30 10:00- 1:00	Silent Silent	Silent 11:00- 4:00	9:80-10:30 10:00- 1:00	Silent Silent	9:30-10:30 9:00-10:00	Silent \	,
KFVE, KFWA, KGW, KLX, KOA, KOB, KWSC, PWX, WAFD, WAHG, WCFF, WDOD, WEAD, WEB,	KWSC KYW	Pullman, Wash Chicago, III	348.6 535.4	Silent 8:00-11:00	Silent	10:30-12:00		10:30-12:00		10:30-12:60	K
KFVE, KFWA, KGW, KLX, KOA, KFUO, PWX, WAFD, WAHG, WCEE, WDOD, WEAO, WEBJ, WEBW, WGCP, WHAD, WHAZ, WJJD, WLIT, WOAI, WOR, WOS, WSM WSUI, WTAM.	NAA	Radie, Va Havana, Cuba	434.5	8:00-11:00	Silent	7:45- 8:00	7:45- 8:00	7:25- 8:40	7:45- 8:00	7:45- 8:00	
Eastern Time Stations	WAHG	Richmond, N. Y	315.6	Silent 12:00- 2:00	Silent Silent	Silent 8:00- 2:00	Silent Silent	8:30-11:00 7:30-12:00	Silent Silent	Silent 8:00-11:00	KI
CFCA, Terente, Can. (356), 11 p. m., special Christ-	WBAP.	Minneapolls, Minn. Fort Worth, Tex	475.9		12:00- 1:00	8:30- 2:00	8:30-11:40	8:30-11:45	11:00-12:30 8:30-11:45	11:00-12:00 8:30-11:45	
	WBAR	Sisiht, Wis Chicago, Ill	406 226	Silent	11:00-12:00	10:00-11:00	Silent	9:00-10:00	8:30- 9:30	Silent	K
clses; 5:45 p. m., Uncle Ed; 6:30, dinner concert, RDKA Little Symphony orchestra, Victor Saudek, con- ductor; 8:15, reading, Charles Dickens' "A Christmas Carol," Wayland M. Parrish; 9, concert, Little Sym- phony orchestra. Victor S. 24.	WBBR	Staten Island, N.Y.	272.6	9:00 - 1:00 8:00-10:00		8:00-9:00	9:00- 1:00 Silent	9:00-11:00 Silent	9:00- 2:00 8:00- 9:00	9:00-12:00 Slient	
Carol," Wayland M. Parrish; 9, concert, Little Symphony orchestra, Victor Saudek, conductor; Helen Marce Greenwood, soprano; 11, Pittsburgh Post midnight regree	WBCN	Chicago, III	266 333.1	10:00- 2:00 Silent	6:00- 1:00 8:00- 9:00		10:00- 2:00 6:30-10:02	9:00- 1:00 6:30- 9:45	6:30-10:00	10:00- 2:00 6:30-11:05	K
	WCAE	Pittsburgh, Pa Washington, D. C.,	461.3	8:30- 9:30 Silent		6:30-12:00		8:30-10:00 7:00-12:00	9:00-11:00	8:00-9:30	
WAHG, Richmond Hill, N. Y. (315.6), 12-1 p. m., Nickels trio.	WCAU	Philadelphia, Pa Zien, III	278	Silent Silent	5:00-11:20		7:30-12:00 9:00-11:30	7:30-11:00 Silent	Silent 7:30-12:00	7:45-12:00 7:45-12:30	
WBAL, Baltimore, Md. (375), 5:45-6:45 p. m., musical program; program of old English Christmas carols, chart of St. Mishall and		Minn-St. P., Minn.	344.6 416.4	7:05-12:00	9:00-11:30	7:00-12:00	7:30-11:00	8:00- 1:30	9:00-11:30	Silent 7:15-11:00	K
cholr of St. Michael and All Angels, P. E. church, direction of G. Thompson Williams, organist and choir master; 6:45-7:45, dinner program, WBAL dinner or-	WCX.	Detroit, Mich Kansas City, Me	516.9	6:00-7:00 7:00-2:00	Silent Silent	6:00- 9:00 7:00- 2:00		6:00- 9:00 7:00- 2:00	6:00- 9:00 7:00- 2:00	6:00-11:00	
WRRR New York N V (272 C)	WDWF	Providence, R. I	440.9	Silent 6:00-12:00	Silent 7:20-10:15	Silent	8:30- 9:30	Silent	Silent	7:00- 2:00 Silent	1
orchestra; 8:20, Fred Frank, tenor; 8:30, Watchtower orchestra; 9:25, I. R. S. A. choral singers; 9:40, Watchtower string quartet; 9:55, I. E. S. A. choral singers; 10:45	WEAO	New Yerk, N. Y Columbus, Ohio	293.9	Silent	Silent	Silent	Silent	6:00-12:00 8:00- 9:00	6:00-12:00 8:00- 9:00	6:00-12:00 Silent	K
singers, 10,00, Froi. Cuertes Konner violinist 10.15 1	WEBH	Cleveland, Ohio Chicago, Ili	389.4 370.2	7:00- 8:00 8:30- 1:30		7:00-8:00 Silent	7:00-10:00 8:30- 1:30	7:00- 8:00 8:30- 1:30		7:00-11:00 8:30- 1:30	1
WRZ Springfield Mass (222 t) 6.26	<del></del>	New York, N. Y Boston, Mass	348.6	Silent	7:20-10;20	8:30-10:00	8:00-9:00	8:00-10:00	8:00-11:00	7:00- 9:00	(
director; 8, musical program, Noves Buick company	WENR	Chicago, Ill	266 475.9	7:00- 3:00 9:30- 1:00	3:00-12:30	Silent	7:00-11:00	7:00- 3:00	7:00-11:00	8:30-11:00 7:00- 3:00	1
<ol> <li>Christmas earols, Lancaster theater children's chous, seventy voices; Roy Harlow, director; Sally Frise, planist; 9:30, organ recital, Arthur Cliffon.</li> <li>WCAD, Canton, N. Y. (263), 7-12 midnight. WGY's musical program.</li> </ol>	WFBH	New York, N. Y	272.6	11:30- 2:00	5:00- 8:00	7:30-10:30 11:30- 2:00	7:30- 1:00 11:30- 2:00		11:30- 2:00 1	7:30-10:30 11:30 - 2:00	j
WCAD, Canton, N. Y. (263), 7-12 midnight. WGY's musical program.	WGB8		394.5 315.6	8:00-9:30 6:00-11:30	7:30- 8:80 8:00- 9:00	Silent 7:00- 7:15	8:00-12:00 8:30-11:30	Silent 6:00- 8:30	8:00-11:00 6:00- 8:45	Silent	
WCAE, Pittsburgh, Pa. (461.3), 3 p. m., program, Loew's Aldine theater; 4:30, Sunshine girl; 6:30, din- ner concert, William Penn hotel; 7:30, children's period Santa Change I Laghthan	WGCP	Fulford, Fla New York, N. Y.	278 252	6:30- 1:00 Silent	9:30-12:00 8:0 <b>0-11:15</b>	6:30-1:00 8:00-11:00	6:30- 1:00 Silent	8:30-1:00 8:00-11:15	6:30- 1:00 Silent	6:30-1:00 8:00-11:00	W
ner concert, William Penn hotel; 7:30, children's period, Santa Claus; 8, Larkin period, WEAF; 10,	WGES	Oak Park, !!! Detroit, Mich	250 270	11:30- 3:00 Sllent	11:30- 3:00 Silent	Silent 7:00- 9:00	11:30- 3:00 7:00- 9:00	7:00- 9:00		11:30- 3:00 9:00-11:00	7
concert, Goodrich Zippers, WEAF, 10, concert, Goodrich Zippers, WEAF, 6:30 p. m., Billy Hayes and his Cathay tea garden orchestra; 7:30, program N. Smellophurg and company, 8 Mitchell Congram	WGN	Chicago, Ill Buffalo, N. Y	370.2 319	7:30-12:30 Silent	3:30-11:00 7:45-10:15	Silent 8:30- 1:00	7:30-12:30 8:00-11:00	7:30-12:30 8:00- 1:00	7:30-12:30	7:30-12:30 8:45- 1:00	W
gram, N. Snellenburg and company; S, Mitchell Gon- doller: 8:15. Buth B. Michel gorgane: Vinginia Flain	WGY	Schenectady, N. Y.		9:00-12:00 Sllent	6:30-10:00 Silent	6:30- 8:30 8:30-10:00	7:00-11:00 Silent	Silent 8:30-10:00	6:45-11:30	7:15-10:30	1
doller; 8:15, Ruth R. Michel, soprano; Virginia Klein, planist; 8:45, Kandy Kids; 9, Barry O'Moore, Itish tenor; 9:30, musical chefs; 10, Sesqui centennial hour.	WHAD	Milwaukee, Wis	275	Sllent	4:15- 5:15	9:00-11:00		11:30- 1:00	Silent	9:30-11:00	3
WCX, Detroit, Mich. (517), 6 p. m., dinner concert.  Book-Cadillac hotel; 8, studio concert.	WHAS		399.8	7:80-10:80 8:30-10:00	7:50- 1:15 5:00- 6:00	7:30-10:00 Silent	7:30-1:15 8:30-10:30	Silent 8:30-10:00	7:30-11:00	7:30-1:15 8:30-10:00	S
Book-Cadillac hotel; 8, studio concert, WEAF, New York, N. Y. (491.5), 6:45-7:20 a. m., "Tower Health Exercises;" 11-12, musical program; Mayfair Extension talk on food program; "Geokeration."			379.5 365.6	Silent Silent	Slient 9:00- 2:00	9:00-12:00 8:00- 9:00	Silent	Silent	Silent		WE
Mayfair Extension talk on food preparations; "Cookery," Columbia university; 4-5 p, m, musical program; 6-7, dinner music, Waldorf-Astoria hotel; 7-11, mid-week hymn sing; "Cushman's Serenaders;" "The Larki-		New Yerk, N. Y Des Meines, Ia	361.2 526	7:30-10:00 Silent	5:00- 5:30 8:30- 9:30	8:00-12:00 8:30- 1:00	9:30-10:00 8:30-1:00	10:00-11:30	8:00-10:00	7:30-12:30 8:30-1:00	8
hymn sing; "Gushman's Serenaders;" 'The Larki- nites;" carol services, Grace church; "Goodrich Zip- pers;" 'Dickens' Christmas Carol," (charles Mills:		Chicage, III	399.8 226	8:00- 2:00	1:00-11:30 7:00- 1:00	Silent	8:00- 2:00 7:00- 4:00	8:00-2:00	8:00- 2:00	8:00- 2:00 7:00- 3:00	7
nites;" carol services, Grace church; "Goodrich Zip- pers;" "Dickens' Christmas Carol," Charles Mills; Alvin Silver company; 11-12, dance orchestra.	WIP I	Philadelphia, Pa	508.2 305.9	8:00-12:05	Silent 7:20-10:15	Silent	8:00-1:00 7:30-10:00	Silent	8:00- 1:00	Silent	w
Alvin Silver company: 11-12, dame ordrestra.  WEAR, Cleveland, Ohio (383-4), 11 a. m., home service talk; 11:30, farm talk; 7 p. m., Hotel Statler con-	WJAS	Pitteburgh, Pa	275.3	7:00-12:00	Silent	8:00-10:00 7:00-12:90	7:00-12:00	7:00-12:00		7:00-12:00 7:00-12:00	S
Four WEAE: 8:20 studio programs 9 Cliquet alab	M11D [	Messeheart, Hi	322.4 302.8	Silent	Silent 9:45-11:00	Silent Silent	Silent 7:00- 2:00	Silent 1	11:00- 1:00	Silent 7:00- 2:00	200
WEEL, Boston, Mass. (348.6). 3 p. m., Lou Klayman	WJR	Pontiae, Mich New York, N. Y	516.9	7:00-12:30 Silent	8:30-10:00 8:15- 9:15	7:00-12:30 Sllent	7:00-10:00 8:30-11:15	7:00-11:30	7:00-12:00	7:00- 9:00 ,	wc
and his orchestra; 4. Junior choir, Ruggles St. Baptlst church; 6:45, Blg Brother club; 7:39, musicale; 8, Larkinites, pop concert, musicale, Goodrich Zippers,	WJZ	New York, N. Y San Juan, P. R	454.3	7:00-11:30	8:00-11:00 Silent	8:15- 9:15	8:10-11:30 Silent	9:30-11:30	8:30-11:00	8:45- 9:45 8:15-10:45	p
WEAE, WORK N V (215.6) 10.90 10.20	WKARI	Lansing, Mich	285.5	Silent 12:30- 2:00	Stlent	Silent 7:00- 8:00	Silent	8:00- 9:15	Silent	8:00- 9:00 7:00- 8:00	F
Hazel Lee, readings; 10:30-10:40, P. Edgar Schole; 10:40-10:50, "Better Homes and Gardens" Alleg	WLIB (	Cincinnati, O	302.8	8:00- 1:00	7:45-12:00 8:00-10:00	7:00- 1:00 Silent	8:00- 1:001	9:00-11:45 8:00- 1:00		Silent 8:00- 1:00	J. b
Deborah Greenburg sentang: 2-4 "Woman in Home"	WLS (	Philadelphia, Pa Chicago, Ill	344.8	Silent 8:45- 2:00	Silent 7:30-8:55	7:30-11:00 Silent		7:80-11:00 8:00-12:30	Silent		WE
Prudence Penny, Lillian Lessoe, soprano; 6-6:30, Uncle Geebee; 7-8, Voltaire hour; 8-8:30, Crystal Palace orchestra; 8:30-9, "Football and Lamplight," Oliver	WLWL	Cincinnati, O New York, N. Y	422.3		8:30-10:30 7:00- 8:00	8:00-9:00 8:00-10:00	7:30-11:00 8:00- 9:00	8:00-12:00 Silent	8:00-1:00 8:00-10:00	Silent	t.
Sayer; 9-10, County Fair club orchestra; 10:30-11:30, Vanderbit hotel orchestra	WMAK	Lockport, N. Y	265.5	7:30-10:00	7:30- 8:30 Silent	8:00-10:00	Silent 9:00-11:15	7:30-10:00 9:00-10:45	Silent	9:00-10:00	U
WGHB, Clearwater. Fla. (266), 6-7 p. m., Fenway or- chestra: 8:30-10, special entertainment; 11:45-1 a. m.,	WMBB	Chicago, III	447.5 250	0.00 20.00	8:00-11:30 7:12-12:00	Silent Silent	8:00-11:30	8:00-11:30	8:00-11:30	8:00-11:30	W E
orchestra.  WGR, Buffalo, N. Y. (319), 2:30 p. m., WGR's after- noon program; 6:30, Vincent Lopez Hotel Statler dance	WMC I	Miami Beach, Fla., Memphis, Tenn	400 7	8:30-10:30	Silent	7:00-12:00 8:30-10:30	8:30- 1:00	Silent		7:00-12:00 8:30- 1:00	F
orchestra, Harold Gieser, director; 8, jointly with	WMCA !	New York, N. Y. Boston, Mass	340.7 280.2	8:00-10:00	7:00-10:00 3:00- 9:30	9:00-12:00 8:00-10:00				8:00-11:45 8:00-10:00	WE
11-12, Christinas carois, directed by Gertrude Huchin-	WNYC !	New York, N. Y San Antonio, Texas	526 394 5	Silent	9:00-11:00 8:45- 9:45	Silent	9:30-10:30	9:30-10:30	7:35-10:30	7:30-10:30 9:30-10:30	Y
WGY, Schenectady, N. Y. (379.5), 2 p. m., musle; "Christmas Candles," Lucy Kimball; 6:30, Santa's half hour with the kiddies; 7, dinner program. Ten Eyek concert tries, 7:30, hoek, ebet ty UTF	WOAN	Lawrenceb'g, Tenn.		Silent 1 7:00- 1:00	0:00-11:00	10:00-11:00 1 7:00-12:00	0:00-11:00 1	0:00-11:00 1 Silent	0:00-11:00 1	0:00-11:00	H
	WOAX	Frenton, N. J	240	Silent	9:30-11:30 9:00-12:30	Silent	Sllent	Silent	Silent	Sllent	W F
viola selections, Leo Kliwen; Ollio G. Yettru, ac-	WOK	Davenport, Ia	217.3	11:00- 2:00	7:30-9:30	7:00- 2:00	1:00- 2:00 1	1:00- 2:00 1	1:00- 2:00 1		E
Christmas oratorio; St. John's church choir, WRC; 9, Royal program, "The Messlah," chorus; Charles Harrison, tenor; Grace Kerns, soprano; Rose Bryant, con-	WOR F	Philadelphia, Pa Kansas City, Me.	278		7:30- 8:30 9:00-10:15	6:00- 7:00 Silent	7:30-8:30 9:00-10:00		7:30-8:30 8:00-10:00	7:30-12:00 Silent	D
Stephen E. Boisclair.	WORD F	lewark, N. J	405.2 275		Silent 7:45- 9:00	6:15- 9:30 Silent	6:15- 7:80	6:15-10:00	6:15- 7:30	6:15- 7:30	WG
WHAR, Atlantic City, N. 1. (275), 2 p. m., Seaside hotel trlo; 7:30, "A Christmas Message from the Fumily Dector," Dr. Henry O. Reik; 8, Seaside hotel trio; 9, Christman careful.	WOS A	offerson City, Me. Liantic City, N. J	440.9 299.8		9:00-10:00	9:00-11:00 7:00-12:00		9:00-11:00	Silent	9:00-11:00	8
Dector," Dr. Henry O. Reik; 8, Seaside hotel trio; 9, Christmas carols.	34/60   0	161 an an 116	446 6	8:00- 4:00 7:00-11:30	8:00-11:00 Sllent	Silent	8:004 3:00	8:00- 3:00	8:00- 3:00 4	8:00- 3:00	WG
Cohen, planist 6:40. Sunshine talk, Billy B. Van;	WREOL	ansing, Mich	285.5	10:00-12:00	Silent	Silent Silent	7:00-11:00 8:15-10:00	Silent	7:00-11:00 8:15-10:00	Silent Silent	le St
land's Chateau Shanley; 8:30-9, Guardian entertainers: 9-9:10 p. m., Jimmy Clarke pianiet: 10:20-11	WSAL	incinnati, O	325.9	9:00- 1:00	4:00- 5:00	11:00- 1:00	8:45-11:30 1	1:00- 1:00	8:00-11:30	9:00-11:30 Silent	C
Kentucky orchestra: 11-11:30, Joe Ward's Swanee on- tertainers: 11:30-12, Bob Murphy's orchestra: 12-12-20	WSB A	Itlanta, Ga	282.8	9:00- 1:00	8,:30-10:15		9:00- 1:00 1			9:00- 1:00 Silent	n.
wiP, Philadelphia, Pa. (508.2), 7 a. m., sotting-up ex-	WALL	low Orleans, La	319	9:30-11:30	Silent	9:30-12:30	Silent	9:30-11:80	9:30-12:00	Silent	SO V
B. Scott; I p. m., Gimbel tea room orchestra; 3,	WTAG	Vercester, Mass	268	Silent	7:00- 9:15	8:30-10:00 8:00- 9:00	8:00-11:00	8:00- 9:00	8:00-11:00	Silent 8:00- 9:00	B ar W H
Christmas carols.  WHN. New York, N. Y. (361.2), 6:30-6:40 p. m., Jack Cohen, planist; 6:40. Sunshine talk, Billy B. Van; 7-7:30, Leeland dance orchestra; 8-8:30, Will Oak- land's Chaleau Shanley; 8:30-9, Guardian entertainers; 9-9:10 p. m., Jimmy Clarke, planist; 10:30-11, Club Kentucky orchestra; 11-11:30, Joe Ward's Swance on- tertainers; 11:30-12, Bob Murphy's orchestra; 12-12:30 a. m., Ted Lewis and his Parody club.  WIP, Philadelphia, Pa. (598.2), 7 a. m., sotting-up ex- ercises, Dr. Francois D'Eliseu; 10, menu, Mrs. Anna B. Scott; 1 p. m., Gimbel tea room orchestra; 3, memorial Christmas program. Theodore Presser; 6:05, Brunswick dance orchestra; 8, Provost Christmas din- ner, international club; 8:45, Christmas carols, faculty	WTIC	lartford, Conn 4	75.9	6:00-12:00 Silent	Silent	6:30 - 9:00	6:30-10:00	6:30-11:00	6:00- 7:00 6:30- 8:45	6:30-12:30	A
Carolis, 180010, 1			104./		o:20-10:00	o:00- 9:00	o ton- A :00	0:00-10:00	6:00-12:30	b:00-10:00 1	11
		<i>(</i> 1)		* ***							

of Philadelphia Institute of Music; 10:05, "Believe In and Invest in Philadelphia," member of the Philadelphia Real Estate Board; 10:15, Christmas carols, Eastern State Penitentiary; 11, Pagoda cafe orchestra; MJAR, Providence, R. 1. (305.9), 1:05 p. m., Joe McNamara and his Twin Elm orchestra; 8, Civic Christmas Evo celebration; 9, Robert W. Powers, Hudson-Essex orchestra.

WMCA, New York, N. Y. (340.7), 6-6:30 p. m., Olcott Vall and his Hotel McAlpin string ensemble; 6:30-7. Frank Gebbia and his Red Lion Inn oerhestra; 7-7:15, Violet Kaye, the Happy Girl; 7:15-7:17, Pace Institute program; 7:17-7:39, Violet Kaye, the happy Girl; 7:30-8:00, Lanson's orchestra; 8:00-8:30, Snedden Weir, Danitione; 8:30-9:15, Cinderella dance orchestra; 9:15-9:30, dramatic recitations, Horace J. Taylor; 10-10:15, talk, "How to Drive Automobiles," Harry T. Rainess; 11-12, Ermic Golden and his Hotel McAlpin orchestra. WNYC, New York, N. Y. (326), 7-7:30, p. m., dance program; 7:35-8, dance program; 8-9, program of Christmas music; 10:10-10:39, "The Message of Christmas," Dr. Sydney Lisshe, Pa. (508.2), 11 a. m., grand organ; 12 m., luncheon music, Golden's Crystal tea room orchestra; 4:45, grand organ and trumpets; 7:30, dinner music, Hotel Adelphia roof garden orchestra.

chestra.

WOR. Newark, N. J. (405.2), 3-3:15 p. m., talk. Dr.

Little; 6:15-6:30, sport talk; 6:30-7:30, Hotel Shelton

7:30. dinner musie, Hotel Adelphia roof garden orchestra.

WOR. Newark, N. J. (405.2), 3-3:15 p. m., talk. Dr. Little; 6:15-6:30, sport talk; 6:30-7:30, Hotel Shelton orchestra.

WRC. Washington, D. C. (468.5), 10 a. m., Women's hour, Wiz; 12 m., organ recital; 1 p. m., William Spencer Tupman's Hotel Mayflower orchestra; 6, Hotel Hamilton orchestra; 7, Smithsonian talk; 7:10, Sldney Soidenman's Shorehan hotel orchestra. Wiz; 8, Christmas carols, choir of St. John's church, Wiz; 8, Christmas carols, choir of St. John's church, Wiz; 8, Royal Sadion orchestra, Wiz; 10, Meyer Daris' "Swause" orchestra; 11, organ recital, Otto F. Beck; 12, midnight mass, St. Patrick's church.

WTAG, Worcester, Mass. (268), 10;30 a. m., musical selections; 10:435, talk by Mariorle Woodman, Sherer staff nurse; 12:05-2 p. m., huncheon nusic, Will Hardy's orchestra; 4:30, Radio entertainment for "Indoor Sports Club" 5:15. "Tinkle Twinkle Story Teller;" 7:45, nature talks, Esther Cumingham Averill; 8-8:30, "The Larkinites," WEAF; 8:30-9, "Pop" concert; 9:10, "Cliquot Club Entertainers," WEAF; 10-11, "Goodrich Zippers,"

WTAM, Gleveland, Ohio (389.4), 12:15-1:15 p. m., lunch hour; 6-7, dinner hour music, Carl Rupp and his Hotel Hollenden orchestra.

WTIC, Hartford, Conn. (475.9), 6:30 p. m., Hub rostaumant trio; 7:30, talk; 10:30, special program of Christmas music, organ recital, solos, vocal and instrumental; 11:35, Cmismas carols on chimes.

WM, Detroit, Mich (352.7), 9:30 a. m.. "Tonight's Dinner" and a general talk by the woman's editor: 205 p. m., Jule Klein's Hotel Stations

KFNF, Shenandoah, Ia. (260), 7 p. m., Christmas five. Central Time Stations

KFNF, Shenandoah, Ia. (260), 7 p. m., Christmas music festival, Dorsey Baird, organist.

KLDS, Independence, Mo. (441), S p. m., "Can We Do As We Plense," lecture course, F. M. McDowell; Flower lady, Lina Perguson; 4-5, talk G. H. Van Houten; 6-7, Jown Federation of Women's clubs; 9-11, Delmonice Dreamers, dance orchestra.

WICOS Will' program; 10, "Commerce Hour"; Christmas cantata, "

gram.

KTHS. Hot Springs, Ark. (374.8), 9-10 p. m., "Latin-American Serenade;" 10-10:30, Lawson Reid, organist; 10:30-11, Christmas carols, First Presby, church choir; 11-12, Christmas eve frolic, New Arlington Meyer Davis orchestra.

gram.

KTHS, Hot Springs, Ark. (374.8), 9-10 p. m., "Latin-American Serenade," 10-10:30, Lawson Reid, organist; 10:30-11, Christmas eve froile, New Arlington Meyer Davis orchestra.

KYW. Chicago, III. (536), 6:30-7. morning exercises, Paul A. Leonhardt; 7:30, family worship; 11:35, tablo talk. Mrs. Anna. J. Peterson; 12:05 p. m., noonday concert. Commonwealth Edison company; 1, lumchood concert. Commonwealth Edison company; 1, lumchood concert. Commonwealth Edison company; 1, lumchood didner music, KDKA; 7:30, hother more concert. Commonwealth Edison company; 1, lumchood Reading," Rev. C. J. Pernin; 8:20, musical program. Congress biolo; 9, classical concert. Commonwealth Edison company; 10, evening at home; 1 a. m., In-Walpison company; 10, evening at home; 1

artists.

(HAD, Milwaukee, Wis. (275), 11 a. m., pianologue, Andy Mertel; 4 p. m., Mrs. Ferne Medley Hansen, vocallst; 1. E. Clayton, baritone; 6:15-7, Bill Benning's Milwaukee Athletic club orchestra.

## ANNUAL CHILDREN'S PARTY AT KHJ

### Thursday, December 24

WHAS, Levisville, Ky. (399:8), 4-5 p. m., mustcal selections, direction Harry S. Currie, from the Muslo Box, assisted by Leroy Hobb; readings, editorials, 7:30-9, concert, auspices Mrs. Harriet Kuersteiner; Sunday school lesson; Welfare talk, WHB, Kansas City, Mo. (365.6), 2-3 p. m., ladies' hour program, Sweeney Rudio trie; 7-7:30, Morrell Moore, organist; 8-10, Italian harp ensemble; Athenaum ladies' quartet; Sherman Brefer, baritone: Mary Roach Ryon, violinist; Christmas address, Dr. James W. Fifield.

hour program, Sweency Radio tric; 7-7-30, Morrell Moore, organist; 8-10, Italian harp ensemble; Athenaum ladies; quartet; Stemman Brefer, baritone: Marx Roach Ryon, violinist; Christmas address, Dr. James W. Hoeld Des Meines, Iowa (526), 7:30-8 p. m., Raleigh-quintet; S-9, special Christmas eve program; 11-12, Bankers Lite Little symphonic orchestra. WiBO, Chicago, Ill. (226), 2-4 p. m., shut-in program, Jack Sprat and the Carl Sulzer orchestra; Ted Florito, pianist; Victor Young and Dan Russo, violinist; Verorno Hayes, saxophonist; 'Home Economics,' Graco Viall Gray; 6-8, Walter Preston, singing songs mado famous by John McCormac; Harriet Herbert, contralto; Elsle D. Hoffmun, soprano; Clester Nowman, bariltone; Monita Caldwell, planist; Mildred Perlin, reader; Wm. Molnaire, tenor; Helen Snyder, soprano; 12 midnight, midnight jamboree; colored quartet, Bob Northrop, Jack Sprat, Ted Florito, Dan Russo, Carl Sulzer orchestra, Floyd Revoir, Erwin Cornelius. WiAZ, Chicago, Ill. (322.4), 10-12 p. m., musical program; Dorrls Berry, contralto; E. Warren K. Howe bass; George Krueger, baritone; Vena McCombs, contralto; Laura Turner, soprano; Chicago Women's Musical club chorus; nembers Zenith Opera combanistics. Laura Turner, soprano; Chicago Women's Musical club chorus; nembers Zenith Opera combanistics of the Stemman and St

soprano.

WMBB, Chicage, Ill. (250), 7-8 p. m., Trianon due, Preston Graves, semi-elassical program and short talk on finance; 9-11, Trianon orchestra, Dell Lampe, Woodlawn theater orchestra, Armin F. Hand, Austin Cavanaugh, Scotty Welsh and Madison Sisters, Clyde

Cavanaugh, Scotty Welsh and Madison Sisters, Clyde Hager.

WMC. Memphis. Tenn. (499.7). 11 p. m., Christmas services from St. Mary's Episconal cathedral.

WOAW, Omaha, Nebr. (526), 12:45 p. m., Gilbert Jaffy and his Little Symphony orchestra: 6, Sandman's visit, val McLaughlin; 6:20, classical; 6:50, Randall's Royat Fontenelle orchestra; 9, Christmas eve program.

WOC, Davenport, Ia. (483.6), 12:13-12:25 p. m., farm school; "Legume Day—Soybeans—Past, Present and Future," Prof. J. C. Hackehan; 3-8:30, Home Management schedule, Aunt Jane; 5:45-6, chimes concert; 6:30-6:50, Sandman's beddime stories; 7-7:30, WEAF Larkinites; 7:30-8, WEAF program; 8-9, Cllquot Club Banjoleers, WEAF; 9-10, Goodrich Zippers, WEAF; 11-12, LeClaire hotel orchestra; Peter MacArthur, haritone.

Club Banjoleers, WEAF; 9-10, Goodrich Zippers, WEAF; 11-12, LeClaire hotel orchestra; Peter MacArthur, baritone.

WOI, Ames, Iowa (270), 12:30 p. m., college chimes; 12:45, farm crops, Prof. H. D. Hughes; 7:30, dairy-man's short course; 7:50, program.

WOK, Chicago, Ill. (217-3), 5-7 p. m., Capitol theater organ; George Allen, tenor; Harriet Doty, contralto; Bob Mokreis, pianist; 10-1:30, Bernie Cummins Town club orchestra; Husk O'Hare's Cocoanut Grove orchestra; Capitol theater program; Ned Miller, tenor; Harriet Lee, contralto; Herman Shadko, violinist; George Allen, tenor; Bob Mokreis, pianist.

WDRD, Batavia, 411. (275), S. p. m., Webster hotel concert trio; 8:15, William Benson, tenor; Douald Rice, trombone; 9, International Sunday school lesson.

WQI, Chicago, Ill. (447-3), 11-12 noon, home economics program, Helen Harrington Downing; Erna J. Bertrams, "The Mid-Nite Supper," 3-4 p. m., "Christmas Night Supper," Helen Harrington Downing; Fra, 3dinner concert, Ralph Williams and his Rainbo Gardens Russian soprano; 10-1 a. m., Ralph Williams of his Rainbo Skylarks; Jerry Sulivan; Rose Vanderbosch, soprano and pianist; Hal Lansing and his uke; Bert Davis; Ralph Keim, planologist; Anne Kelm, mezzosoprano; Lew Butler; Parish and Ward harmony singers; Ray Lawson, tenor; Blues Destroyers trio; artists; 1-2, Ginger hour, Ralph Williams and the little Skylarks.

WSAI, Cincinnati, O. (325-6), 7 p. m., Larkinites; 7:30, Pop. concert: 8, WEAF ensemble; 9, Goodrich Zippers, WSM, Nashville, Tenn. (282.8), 10 p. m., Christmas eve program.

Mountain Time Stations
Calgary, Can. (435.8). 7 p. m., bedtime story,
Lady; 9, CNRW; 10:30, City of Calgary, Mayor

Radio Lady; 9, CNRW; 10:30, City of Calgary, Mayor Wochster.

CNRC, Calgary, Alta. (435.8), 7 p. m., kiddles' beddime story, Aunt Mary; 9, program, Hadyn male quartet; Ben Skinner, tonor; Albert Garner, tenor; Ed
Gardiner, bass; Geo. Boothman, baritone; C. N. R.
orchestra; Gladys Webb Foster, violinist; May Hockey,
cellist; Christmas greeting from C. N. R.
KFWA, Ogden, Utah (261), 4-5 p. m., organ recital,
Faramount theater; 5-6, Ogden Radio Dealers' program; 9-10, Christmas program
KFXF, Colorado Springs, Colo. (250), 9-10:30 p. m.,
dance program, Rosemary Gardens.
KOA, Denver, Colo. (322.4), 12:15 p. m., Rialto theater musicale; 3:15, relaxing and corrective exercises;
3:30, matinee for housewives; 4, culinary hints; 4:15,
fashion review; 6:30, dinner concert. Brown Palace
string orchestra; 7:30, farm question box.

Pacific Time Stations

KFWB, Hellywood, Calif. (252), 7:10 p. m., "Safety

Pacific Time Stations

KFWB, Hollywood, Calif. (252), 7:10 p. m., "Safety
First," Sergt. Edgar Johnson of Traffic bureau; 7:20.
Jack Boaz, fishing scout; 7:30, Eye-o-logue, Dr. H.
S. Marshutz; 7:40-8, microphone brevities; 8-9, program, John Wright, The Right Tailor, California Blue
Boys. Hatch Graham and his banjo, Ray Balley's
String tric: 9-10, program, Western's Super-service
Garage; June Pursell and Ron Wilson, entertainers;
Ray Kellogg and Bill Hatch, the jazz twins; 10-11,
Warner Bros. frolic, direction Charlie Wellman; 1112, Hollywood Roof ballroom orchestra.
KGO, Oakland, Calif. (351.2), 7:15-7:30 a. m., health
training exercises. Hugh Barrett Dobbs; 7:45, "Pep
class;" 10:40, vacation period; 11:30-1 p. m., lunchson concert; 4-5:30, concert orchestra, Hotel St.
Francis, Vinton LaPerrera, conductor; 5:30-6:30,
"Friend to Boys," George W. Ludlow; 8, "A Christmas Carol," musical drama, Carl Rhodehamel and
Arthur Garbett; KGO players, Wilda Wilson Church,
director; Arion trio.

KGW, Pertland, Ore. (491.5), 12:30-1:30 p. m., Rose

## STATIONS IN ORDER OF WAVE LENGTHS USED

| Meters Call |
|-------------|-------------|-------------|-------------|-------------|-------------|
| 217.3 WOK   | 275 WORD    | 309.1 KDKA  | 361.2 KGO   | 406 WBAR    | 468.5 WRC   |
| 226 WBBM    | 275.3 WJAS  | 315.6 KFDM  | 361.2 WHN   | 410.7 CKAC  | 475.9 WBAP  |
| 226 WIBO    | 278 KOIL    |             |             | 416.4 WCCO  | 475.9 WTIC  |
| 240 KFVE    | 278 WCAU    |             |             | 421 KIAF    | 475.9 WFAA  |
| 240 KTAB    | 278 WGBU    |             | 370,2 WEBH  | 422.3 WLW   | 480 CYL     |
| 240 WOAX    | 278 WOQ     |             |             | 422.3 WKRC  | 483.6 WOC   |
| 243.8 WAMD  | 280.2 WNAC  |             |             | 428.3 WSB   | 483.6 WSUI  |
| 250 WGES    | 282.8 WOAN  |             |             | 428.3 KPO   | 491.5 KGW [ |
| 250 WMBB    | 282.8 WSM   |             |             | 434.5 CNRQ  | 491.5 WEAF  |
| 252 KFWB    | 285.5 WKAR  | 333.1  WBZ  |             | 434.5 NAA   | 499.7 WMC   |
| 252 WGCP    | 285.5 WREO  | 336.9 KNX   |             | 434.5 CFCN  | 508.2 KLX   |
| 265.6 WMAK  | 288.3 KFKX  | 337 KFMX    |             | 435 AT9     | 508.2 WIP   |
| 266 KFNF    | 288.3 WLWL  | 340.7 KFAB  | 389.4 WEAR  | 440.9 KLDS  | 508.2 WOO   |
| 266 WBCN    | 293.9 KTBI  |             | 389.4 WTAM  | 440.9 WDWF  | 516.9 CJCA  |
| 268 WTAG    | 293.9 WEAO  | 340.7 WMCA  |             | 440.9 WOS   | 516.9 WCX   |
| 270 WGHP    | 296.9 KPRC  | 344.6 WCBD  |             | 447.5 WMAQ  | 516.9 WJR   |
| 272.6 WBBR  | 299.8 KFMQ  | 344.6 WLS   |             | 447.5 WQJ   | 526 WHO     |
| 273 KWKH    | 200 0 TZST  | 1348.6 KOB  | 399.8 WHAS  | 454.3 KFOA  | 526 WNYC    |
| 272.6 WEBJ  | 299.8 WPG   | 348.6 KWSC  |             | 454.3 WJZ   | 526 WOAW I  |
| 272.6 WFBH  | 302.8 WJJD  | 1349.0 WEEL |             | 455 KTW     | 535.4 KYW   |
| 273 WRW     | 302.8 WLIB  | 352.7 WWJ   | 405.2 KHJ   | 461.3 WCAE  | 535.4 WHA   |
| 275 WHAD    | 305.9 KTCL  | 356.9 CFCA  |             | 467 KFI     | 545.1 KFUO  |
| 275 WHAR    | 305.9 WJAR  | 356.9 CKNC  | 405.2 WOR   | 468.5 WCAP  | 545.1 KSD   |
|             |             |             |             | ·           |             |

City trlo; 6-7, dinner concert; 7:45-8, lecture, Catholic Truth society.

KHJ, Los Angeles, Calif. (405.2), 6-6:30 p. m., Leighton's Areade cafeterla orchestra, Jack Cronshaw, leader; 6:30-7:30, history story, Prof. Retrzog; Christmas Eve party for KHJ kiddies; 7:30, Rev. Gordon Palmer of South Park Baptist church; 7:45, talk on health, Dr. Phillip M. Lovell; 8-10, Christmas Eve program of world famous Christmas carols and sacred music, Martin Music company featuring Ruth Pltts, soprano; 10-11, Don Clark's Biltmore hotel dance orchestra.

music, Martin Music company featuring Ruin Pitts, soprano; 10-11, Don Clark's Biltunore hotel dance orchestra.

KMTR, Hollywood, Calif. (238), 5-6 p. m., home hour, Mammy Simmons and pupils of Carter Weaver; 8-10. KMTR concert hour, The Turner orchestra, Loren Powell, director.

KNX, Hollywood, Calif. (336.9), 5-5:30 p. m., Sunny Jim's Talk to children; 5:30-6:15, Wurlitzer pipe organ studio; Town Tattler; 6:15, travel talk; W. F. Alder; 6:30-7, Atwater Kent concert orchestra, Paul Finstein, leader; 7-8, program, H. L. Crockett featuring Way Watts and his ukulele; 8-9, program, Willys-Overland dealers of Southern California; 9-10, program, M. Weinstein, dealer in precious stones; 10-11, Ray West's Cocoanut Grove dance orchestra from Ambassador hotel.

KPO, San Francisco, Calif. (428.3), 7.7:30 and 8 a. m., dally dozen; 10, domestic science, Virginia Tappan; 1-2 p. m., Rudy Sciger's Fairmont hotel orchestra; 2:30, matinee program; 3:30-4:30, Cyrus Trobbe's Pelace hotel orchestra; 5:30-6:15, children's hour, Big Brother; 6:40-7, Waldemar Lind and the States restaurant orchestra; 7-7:30, Rudy Seiger's Fairmont hotel orchestra; 8-9, studio program; 9-10, studio program; 10-11, Jack Coakley's Cabirians.

KTAB, Oakland, Calif. (240), 9-9:30 a. m., prayer service, Rev. G. W. Phillips; 9-12, Christmas Eve program, Kiwanis club.

## Friday, December 25

### Headliners Today

Eastern Contral Mountain Pacific 7:30 p. m. 6:30 p. m. 5:30 p. m. 4:30 p. m. VFAA (475.9) Hauulea School of Hawaiian nusic. 7:45 6:45 5:45 4:45 VEBJ (272.6) Special Italian operatic program. 8:15 7:15 6:15 5:15 VGY (379.5) Three one-act plays. 8:30 7:30 6:30 VHO (526) Des Moines university program. 9 WEEI (348.6) Christmas Day special. 

Friday, silent night for: CFAC, CHIC, CKNC, CNRC, CNRM, CNRO, CNRR, CNRW, KFDJ, KFEQ, KFMQ, KFUD, KGO, KLDS, KMA, KPRC, KUOM, PWX, WAFD, WBBR, WCAD, WCBD, WCX, WEAF, WEAD, WEBW, WGBS, WHAS, WHAZ, WHN, WIP, WJAR, WJAZ, WKRC, WLW, WMAQ, WNYC, WOC, WOI, WOR, WOS, WRC, WRO, WSAI, WSM, WSUI, WSMB, WTAG, WTAM, WTIC.

WSMB, WTAG, WTAM, WTIC.

Eastern Time Stations

CNRA, Moncton, N. B. (291), 8 p. m., beddime stories, Aunt Ida; 9. Christmas carols, chuir, First Baptist church; 11, program, CNRA orchestra.

CNRT. Terorito. Ont. (356.9), 6:30 p. m., dinner concert, Luigi Romanelli and King Edward hotel concert rechestra; 9, program, Christmas music. Music Makers; Mrs. Terry Curtis, Mrs. Pearl Whitehead, Allan McLean, George Alderoft, soloists.

KDKA, Pittsburgh, Pa. (309.1), 7:15 and 8 a. m., exercises; 10, domestic sclence and arts; 12:20 p. m., Sunday School lesson, James C. Mace; 5:45, Auntie Jim's Letter from across the see; 6:30, dinner concert; 9, teaberry time.

WAHG, Richmond Hill, N. Y. (315.6), 12-12:30 p. m., Sid Cohen, pianist; 4-4:30 p. m., Skinner organ recital; 5:30-6, Synchrophase mixed quartet; 5-5:33, Skinner organ recital; 5:30-6, Synchrophase mixed quartet; 7:30-8, Synchrophase trio; 9:49, eighth "Great Artist" recital, Chandler Goldthwaite, organist; 9-9:30, Synchrophase trio; 9:30-9:55, Christmas music.

WBAL Baltimere, Md. (375), 5:30-6 p. m., merry

galst; 9-9:30, Synchrophase trio; 9:30-9:55, Christmas music.

WBAL, Baltimere, Md. (375), 5:30-6 p. m., merry moments for children, "A Journey to Christmas Land," Hazel Knox, singer and story teller.

WBZ, Springfield, Mass. (333.1), 6:30 p. m., annunced; 8, concert, Edwin J. McEnelly and his orehestra; 8:30, Hotel Vendome concert, Samuel Seiniger, director; 9:30, Edwin J. McEnelly and his orehestra.

oreliestra. WCAE, Pittsburgh, Pa. (461.3), 10:45 a. m., Gold Medal talk; 3 p. m., Loew's Aldine theater program; 6:30, dinner concert, William Penn hotel; 7:30, children's period, Santa Claus; 7:45, address; 3:30, studio

concert.

WCAU. Philadelphia, Pa. (277.6), 7:30 p. m., Clarence Seaman and his Hotel Pennsylvania orchestra; 8:15, chiropractic talk, Doughty Marsh College of Chiropractic; 8:30, program; 8:45, Carolyn Thomas and American Radio trio; 9:15, Ed Kiefer, Radio humorist; 9:30, Billy and his saxophone; 10, program; 10:30, Jack Myers' musical architects.

WEAR, Cleveland, Ohio (383.4), 9:30 a. m., Goodyear concert orchestra, Ivan Francisci, director; 3:30 p. m., Goodyear concert entertainers; 7, Warmack's Singing syncopators; 8, F. W. Robert's children's Christmas party; 9, R. T. L. program; 10, Wormack's Singing syncopators.

syncopators.

WEBJ, New York, N. Y. (272.6), 7-7:30 p. m., Blenheim theater ensemble, directed by Sol Klein; 7:45-8,
special Italian operatic program, directed by Michele

Bontempo; 8:30-8:45, Sal Angarola and Edward Collins, uke and guitar; 8:45-9:15, John Landers and his Royal Aces.

WEEJ, Boston, Mass. (348.6), 6:45 p. m., Big Brother club; 7:30; Four Merry Milkment; 8, Sager's half hour of hospitality; 8:30, Scotty Holimes and his orchestra; Imperlal Marimba band; 9, Christmas day musical; 10, Scotch music, orchestra of 12 musicians, Charles Frank, director.

WGBS, New York, N. Y. (315.6), 3-5 p. m., special Christmas day program; 6-6:30, Uncle Geebee, WGHB, Clearwater, Fla. (266), 6-7 p. m., Fenway hotel orchestra; 8:30-10, Marion Hoffman, pianist; Al Shifka and his orchestra; Larry Saltmarsh, novelty songster; Louis Ross, banjolst; 11;45-1 a. m., orchestra.

orehestra.

WGY, Schenectady, N. Y. (379.5), 6:30 a. m., Candle service, First Lutheran church, Rev. Chalmers E. Frontz, pastor; 11, services, St. Peter's Episcopal church, Rev. Dr. Charles W. Harriman, pastor; 6:30 p. m., International Sunday school lesson; 7, health lalk; 7:40. French lesson, Loon A. Huguemont; 8:15, three one-aet Christmas plays, Ten Eyec Clay, director; WGY players; 10:30, Christmas program, WGY orchestra, Seenod Presbyterlan church courtet.

gram, WGY orenesuta, Section quariet.

WHAR, Atlantic City, N. J. (275), 10:45 a. m., Chelsea Baptist church; 2 p. m., Seaside hotel trio; 7:30, address; 8, Seaside hotel quartet; 11:15, Strand theaten seates

address; 8, Seaside hotel quartet; 11:15, Strand theater organ recital.

WIP, Philadelphia, Pa. (508.2), 7 a. m., setting-up exercises; 1 p. m., Gimbel tea room orchestra; 3, Buiffton college glee club; 6:05, Benjamin Franklin concert orchestra; 7, Uncle Wip's beddime story.

WMCA, New York, N. Y. (340.7), 6-6:30 p. m., Olcott Vail and his Hotel McAlpin string ensemble; 6:30-7:30, Ernic Gulden and his hotel McAlpin orchestra; 7, 30-8. Sachs program; 8-5:30, course in public speaking, O. G. Van Campen; 8:50-9, Broadway association program; 9-10, Hardman hour of music; 1:11:15, Uke Bob McDonald; 11:15-12, Donald Flamin, dramatic critic.

WOR, Newark, N. J. (405.2), 3:45-4 p. m., talk, E. P. Adams; 6:15-6:30, sport talk; 6:30-7:30, Hotel Shelton, ensemble.

ensemble.

Central Time Stations

KFAB, Lincoln, Nebr. (340.7), 5:30-8:30 p. m., Santa Claus, Monte Munn, Belshaw's orchestra; 8:30-10:30, Jos. J. Van Ackeren, violinist; Joe Bruhl and Victorians orchestra; Gordon G. Deiney, flutist; Richard Low, Chinese baritone; Mabel and Julius Ludlam, violinist and pianist; Delney and Hember, flutists; Rose Neff. opporatic whistler.

KFOM, Beaumont, Texas (315.6), 7-7:30, children's program; 8-10, band concert.

KFKX, Hastings, Neb. (288.3), 9 p. m., special Christmas musical program, artists, Kearney State Teachers college of Kearney.

mas musical program, artists, hearney State Teachers college of Kearney.

KFMX. Northfield, Minn. (337), 10-11 p.m., organ recital. KFNF, Shenandeah, ia. (266), 7 p. m., Sunday school

lesson.

KFVE. University City. Mo. (240), 9:15 p. m.,
"Amusement Review," Romaine Fielding; Mae
Miller, soprano; Mrs. Gertrude Watson, pianist.

KSO. Clarinda, Iowa (242), 7-9 p. m., amounced.

KTHS, Hot Springs, Ark. (374.8), 12:30-1 p. m.,
urchestra concert; 9-9:30 solo specialties; 9:30-11,
Christmas dance orchestra.

KYW. Chiegap. III. (538), 6:30-7, worning greaters.

Christmas dance orchestra.

KYW. Chicago, III. (538), 6:30-7, morning exercises, Paul A. Leonhardti; 7:30, family worship; 11:35, table talk, Mrs. Anna J. Peterson; 12:30 p. m., concert, Commonwealth Edison company; 1, luncheon concert, Compress hotel; 6, dinner music, KDRA; 7:35, bedtime story, Uncle Bob; 9, music, Commonwealth Edison company; 10-12:30, midnight revue; Paul Ash and orchestra will be heard at 10, Coon Sanders Original Nighthawks at 10:40 and 11:10; Henri A. Ketes will render an organized at 12 midnight; 1, a. m., Insomnia club.

WBAP, Ft. Worth, Tex. (475.9), 5:30-6 p. m., musical program; 6-6:30, dinner music, Texas Hotel Tokio Royals; 7:30-8:30, Christmas program, Will Foster, organist; 9:30-10:45, Christmas songs and instrumental music.

organist; 9:30-10:45, Christmas songs and instrumental music.

WBBM, Chicago, III. (226), 4-6 p. m., Harry Sosnik, Sundy Meek; Valentino Inn orchestra; Harold Moravo; William Dalton; Joe McManus, Moulin Rouge orchestra; 8-9, Kathryn Browne, Chicago Civie Opera company; Imperial quartet, special Christmas program; 9-10, Rocky Mountain quartet.

WBCM, Chicago, III. (266), 10-10:30 a. m., Penny Wise, "Thé Shopper's Ready Helper," shopping talk; 5-5:15 p. m., police bulletins; 7-8, Firestide hour, WBCN hobby club; George R. Cleveland, "Big Boy" Yagle, pianist; Will Rossiter, "The Daddy of the Song Publishers," tenor and songwriter; Harold Johnson, boy xylophonist; 10-12, request program; Midway dancing gardens orchestra; Eddle Matts and Billy Donovan, tenor and pianist; West End Harmony boys, instrumental duc; Ed. Dempsey, "The Siken-Yoiced Tenor;" Alice McMahon, contraito; "Big Boy" Yagle, pianologist.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 6:15 p. m., dinner concert; 8, Christmus music program; 10:05, dance program.

dance program.

dinner concert; 8, Christmas music program; 10:05, dance program.

WDAF, Kansas City, Mo. (365.6), 10:45 a. m., Gold Medal flour cooking school; 6-7 p. m., school of the air; address, Kansas City children's bureau; the Tell-Me-a-Story Lady; Trianon ensemble; 8-10, raried musical program, Star's ordiestra; soloists; 11:46-1-a. m., Nighthawks frolic; the Plantation players; Earl Coleman's orchestra; Kuhr's orchestra.

WDOD. Chattanoga, Tenn. (256), 6:30-7 p. m., Twolitheater organ; 7-8, Hotel Patten orchestra; 8:15, special feature; 11, popular request program.

WEBH, Chicago, III. (370), 7-3 p. m., Oriole orchestra; Jack Penewell, Fred Palmiter, Irene Beasley.

WENR, Chicago, III. (370), 6-7 a. m., daily dinner concort, Bauland lyric trio, Santa Claus letters; George Unge, violinist; vocal numbers; 8-10, All-American Pioneers, Jack Todd, baritone; George Moran, Bill Alt, Hawailan guitarists; Harmony Four; 12 m-2 a. m., All-American Pioneers; vocalists; twin piano duets; Frank Westphal.

WFAA, Dalias, Tex. (475.9), 6:30-7:30 a. m., three

20-minuto periods of health exercises, R. H. Schulze; 12:30-1 p. m., Dr. H. M. Whaling, Sunday school lesson; Alex Hughes, pianist; 3:30-4, Sears-Roebuck Agricultural Foundation program; 4:30-5, woman's hour, literary review; 5:30-6, story hour, Peggy Cooper; 6:30-f:30, Hauulea school Hawalian musle.

WGES, Oak Park, Ill. (250), 5-7 p. m., feature Christmas program, quartet, ensemble; plano, violin, flute due, pipe organ selections; 8-9, pipe organ, orchestra; 11-1 a. m., Corpor orchestra; comedian, features.

WGN, Chicago, Ill. (370.2), 12 m., bouschold service program; 12:40 p. m., luncheon concert, Drake concert ensemble and Blackstone string quintet; 2:30, Lyon and Healy, artist series; 3. rocking chair time, Walter Murray on 'Interior Decorating'; 3:30, tea time music, Marshall Field's tea room orchestra; 4:30-5, twilight musical; 6:30-7, dinner concert, Drake concert ensemble and Blackstone string quintet; 8-9, Drake concert ensemble and Blackstone string quintet; 8-9, Drake concert ensemble and vocal artists; 10-11, dance program, Jack Chapman's and Blackstone hotel dance orchestras; assisted by popular artists.

WHAD, Milwaukee, Wis. (275), 11 a. m., planologue, Audy Hertel; Chas. R. Allen, harmonica; 6:15-7 p. m., Arthur Richter, organist; 7, Bill Juhre's Radio cartoon game; 8:30-10, Wisconsin theater revue.

WHAS, Louisville, Ky. (399.8), 11 a. m., Christmas service, Christ Church cathedral.

WHB, Kansas City, Mo. (365.6), 2-3 p. m., Christmas concert, Sweeney Radio Trio and assisting artists; 7-8, Christmas music, Milo Finley trlo and assisting artists; WHO, Des Molnes, Ia. (526), 7:30-9 p. m., Des Molnes university program; 11-12, dance program, Corn Sucar

artists.
WHO, Des Moines, Ia. (526), 7:30-9 p. m., Des Moines university program; 11-12, dance program, Corn Sugar

university program; 11-12, dance program, Corn Sugar orchestra.

WIBO. Chicago, III. (226), 2-4 p. m., shut-in program; Jack Sprat and the Carl Sulzer orchestra; Ted Florito, planist; Victor Young, Dan Russo, violinists; Vermon Hayes, saxophonist; "Home Economics," Grace Viall Gray; 6-8, Walter Preston, popular songs; Ottls Pike Jester, soprano; Mary Thrash House, planist; jo North, baritone; Sheperd Levine, tenor; Florence Osterman; Ray McKay, baritone; Evelyn Nelson, planist, io, special Oh Henryl night, "Special Show."

WKAF, Milwaukee, Wis. (261), 10-11 p. m., program, WKAF, Milwaukee, Wis. (261), 10-11 p. m., program, 1-12, dance program, Jack Chapman and Blackstone hotel dance orchestras.

WLS, Chicago, III. (344.6), 12 m., Ford and Glonn;

11-12, dance program, Jack Chapman and Blackstone hotel dance orchestras.

WLS, Chicago, III. (344-6), 12 m., Ford and Glenn; 6:15 p. m., announcements; 6:30, Ralph Emerson, organist; 7. Ford and Glenn, lullaby time; 7:15, Chrlstmas Crools; The Chase House Children's chorus; 7:45, Wallace Bruce Amsbary in Foet's Corner, special Christmas program; 8, special Christmas program; WLS stduic tric; 8:15, "The Story of Christmas;" The Ravenswood Baptist church choir; 9, The Chicago Little Symphony's Christmas concert; 10, WLS Theater Christmas production; 10:45-11, Ford and Glenn time. WLW, Gineinnati, Ohio (422.3), 11 a. m., Christmas day services, auspieces of Parkway Y. M. C. A.; conducted by Rev. W. G. Kershner; 12:30, Christmas dinner music, Hotel Glisson, Robert Visconti, director: 1, organ recital, Mary Martin, Trirdyn tric. WHBB, Chicago, III. (250), 7:30-8 p. m., Trianon duo, Frank Bordner, semi-classical program and short talk on finance; 9-11, Trianon orchestra, Dell Lampe, Woodlawn theater orchestra, Armin F. Hand, Walter Wilson, Harry Davis, Scotty Welsh and Madlson sisters.

Wissun, sisters.

WMC, Memphis, Tenn. (499.7), 5 a. m., Christmas mass from St. Peter's Catholie church.

WORD, Batavia, III. (275), 8 p. m., Webster hotel concert trio; 8:15, Unclo Dan, Radio WORD study club; 8:35, children's chorus, Golden Age Sunday school class, direction Gladys Kennedy; 9, musical

culp; 8:30, children's chorne, chorned; 9, musical program.
WOAI, San Antonio, Texas (394.5), 3 p. m., musical program, Kamma's Hawalians; 8:30, musical program, Kamma's Hawalians; 8:30, musical program, Menger hotel trilo.
WOAW, Omaha, Nebr. (526), 12:45 p. m., Sunshine Sunday dinner menu; 1, Randall's Royal Fontenelle orchestra; 6, Sandman, Val McLaughlin; 6:20, music review, Hester Copper; 0:45, Brandels Tea Room orchestra; 9, Christmas night program.
WOC, Davenport, lowa (483.6), 4-5 p. m., musical program, Crescent orchestra.
WOK, Chicago, Ill. (217.3), 5-7 p. m., Capitol theater organ; Jean Carlson , soprano; Bob Mokreis, pianist, George Allen, tenor; 10-1:30, Bernie Cummins Town club orchestra; Husk O'Hare's Cocoanut Grove orchestra; Capitol theater program; Arnold B. Stephenson, musical saw soloist; Harriet Lee, contralto; Herman Sinaiko, violinist; George Allen, tenor; Bob Mokreils, planist.

Herman Sinaiko, violinist; George Allen, teuor; Bob Mokreijs, planist.

WQJ, Chicago, III. (447.5), 3-4 p. m., Christmas program, Saida A. Ballantine and artists; operatic quartet; Madame Castro Leon, Mexican lyric soprano; Fanny Fuerst, reader; Ballantine string trio; Kirste Gallen Kallella, cellist; Irene Thompson, violinist; Saida, A. Ballantine, planist; 8-10, Ralph Williams and his Ralpho Gardens orchestra; Herrietta Nolan, violinist; Everett G. Mitchell, baritone.

violinist; Everett G. Mitchell, buritone.

Mountain Time Stations

CNRE, Edmonton, Alta. (516.9), 6-8 p. m., Christmas carols, John Bowman and orchestra; 8-9:30, special Christmas musle by local artists, Christmas tree novelty, Santa Claus announcing,
KOA, Denver, Colo. (322.4), 6:45 a. m., sunrise program, Christmas carol service, Trinity M. E. church; "Our Christmas Heraldry," Dr. Loren M. Edwards; 5 p. m., KOA orchestra and soloists; 6. Marjories, p. m., KOA orchestra and soloists; 6. Marjories, Santa, Christmas carols, Kors, Jucille Moe, Soprano, Rev. Wm. O. Rogers; 8. "Christmas carols, Mrs. Jucille Moe, soprano; Mrs. Helle Moe, soprano; Mrs. Jucille Moe, soprano; Mrs. Helle Moe, soprano; Herbert Moe, tenor; "The Story of Christmas Carols, Mrs. Jucille Moe, Soprano; Herbert Moe, tenor; "The Story of Christmas Carols, Mrs. Jucille Moe, Soprano; Herbert Moe, tenor; "The Story of Christmas Carols, Mrs. Jucille Moe, Soprano; Herbert Moe, tenor; "The Story of Christmas Carols, Mrs. Jucille Moe, Soprano; Herbert Moe, tenor; "The Story of Christmas Carols, Mrs. Jucille Moe, Soprano; Herbert Moe, tenor; "The Story of Christmas Carols," Nov. Russell S. Jones; ladies, sextet; Helen Alin Roberts, contralto; Ray Nygren, basso; KOA jorchestra.

Pacific Time Stations

KFOA, Seattle, Wash. (453.3), 6:45-8:15 p. m., Sherman, Clay and company, studio program; 8:30-10, Times studio program; 10-11:30, Eddie Harkness and ble orphostry

Times studio program; 10-11:30, Eddie Harkness and hls orchestra.

KFWB, Hollywood, Calif. (252), 7:30-8 p. m., program, Elmer R. Sly company; 8-9, program, Starr Piano company, Hollywood Rythum Kings; Ina Mitchell Butler, soprano; Estelle Shake, blues singer; 9-10, program, Don P. Smith, Inc., Dians-Moon orchestra, Sol Hoopi's Hawalian trlo, Ashley Sisters, close harmony due; 10-11, Warner Brother frolk with Charley Ilch's Sunset Canyon Country Club orchestra; 11-12, Hollywood Roof ballroom orchestra.

orchestra.

KGO, Oakland, Caiii. (361.2), 7:15-7:30 a. m., health training exercises, Hugh Barrett Dobbs; 7:45, Pen class; 8:15-8:30, health training exercises; 11:30-1 p. m., luncheon concert; 3-4, Irenó Carroll, soprano; Florence Sanderson, nezzo-soprano; Irma Vogt, accompanist; Tillie Brown, violinist; vocal numbers. Warriner vocal studios; hook review; 4-5:30, concert orchestra., Hotel St. Francis, Vinton LaFerrera, conductor; 6-7, dinner concert, Sherman, Clay and company

chestra, Hotel St. Francis, Vinton LaFerrera, conductor; 6-7, dinner concert, Sherman, Clay and company studio.

KGW, Portland, Ore. (491.5), 12:30-1:30 p. m., Rose City triç; 6-7, dinner concert; 9-10:30, concert, Sherman, Clay and company studios; 10:30-12 midnight, Hoot Owls.

KHJ, Los Angeles, Calif. (405.2), 6:30-8 p. m., KHJ's annual Christmas party for the Radio children; 8-10, program, Western Auto Supply company; 10-11. Den Clark's Biltmore hotel dance crhestra.

KMTR, Hollyweod, Calif. (336.9), 5:30-8:15 p. m., KMTR concert orchestra. Loren Powell, director.

KNX. Hollyweod, Calif. (336.9), 5:30-8:15 p. m., Wurltizer pipe organ studio; Town Tatler; 6:30-7, Atwater Kent concert orchestra, Paul Finstein, leader, 7-7:30. El Patio ballroom orchestra; 7:30-8, program, Eastern Outfitting company; 8-9, Atwater Kent program, Paul Althouse, tenor, Arthur Middleton, barltone; 9-10, program, Davis Perfection Bread company; 10-11, program, Walter G, Seheck; 11-12, Ray West's Coccanut Grove dance orchestra from Ambassador hotel.

# Radio Digest

Livitated

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Vol. XV

Saturday, December 19, 1925

No 11

### Christmas and Radio, Our Loves

CHRISTMAS! What a magic word that is! How we used to thrill over it and the wonder of Santa Claus. Grown-up, we still thrill—not so much now from the anticipation of a visit from the fine, old gentleman, but from the warm, good spirit which seems to settle down and permeate all mankind.

"Peace on earth, good will to men."

Christmas and Padio Since broadcasting has be

Christmas, and Radio. Since broadcasting has become popular the two words have become closely allied Hundreds of stations—located everywhere—reach out to the barren places, the waste lands, with their messages of good cheer and service to all mankind.

None but a few of the many hundreds of stations are making a return on their investment in the form of tangible profits. The great majority of broadcasters depend for their existence on the good will of the public, the good will that the stations themselves build by their foundation of service to the public.

Some broadcasters, it is true, are lacking on some score, be it poor programs, transmission, announcing or whatnot. But even the inefficient ones are trying to do their best. Perhaps they are failing somewhat. What of it? When one tries to serve the public, one

does a great good.

Scrooge, of Dickens' "Christmas Carol" fame, didn't have a model Christmas spirit, but we all felt sorry

for him. He did try.

Radio as a maker of homes, keeper of the hearth, educator, minister, entertainer and provider of necessary news, has proven itself indispensable during the last four years. It is truly a wonderful invention, worthy only of Santa Claus.

Christmas, and Radio—two things we all love.

## Give Christmas to Supervisors

THE inspection department of the Radio section of the department of commerce is a wonder department. If the nation's taxpayers could actually visualize how far a dollar stretches in the administration of Radio, they would be astounded.

We find now, however, after investigating carefully the needs of the Radio supervisors, that the Radio section is very badly cramped in its activities because it has not enough funds. As a result listeners in wonder why there is so much interstation interference, and why some of the broadcasters wander so far

off their assigned wave lengths.

The Radio section is stretching its last dollar as far as it will go, but it won't go far enough. The inspectors, of which there are entirely too few, because of lack of funds, cannot cover the large areas embraced by each of the nine inspection districts, because of lack of funds for traveling expenses. They cannot check up on the wave lengths of the broadcasting stations and other Radio stations in their districts without precision receiving and wavemeter instruments and more help, which they do not have, because of lack of funds.

Because of lack of funds, Radio reception is not

what it should be.

What do you say, Mr. Taxpayer? Will you back up Radio Digest in its effort to secure an appropriation this year of \$500,000 from congress to meet the expanding needs of the Radio section of the department of commerce? Will you—dear reader—this minute take pen in hand and write your two senators and one representative asking that at least one half million dollars be set aside for Radio?

That's only 10 cents out of the yearly taxes for every receiving set in use, you know. Write the letter, NOW!

## The Dove in the Ether

diplomacy becomes the order of the day, says C. W. Horn, Westinghouse official, in an address. Woodrow Wilson had the same vision, but that was before international broadcasting was known. His was only built on the basis of open diplomacy. But broadcast diplomacy—we wonder? Perhaps the scientists, who in the past have invented terrible instruments of warfare, suffering and deaths, have brought out a counter force in the invention and development of broadcasting.

### RADIO INDI-GEST

### Choirs Invisible

Voices from eternity Floating in the air; Songs from souls immortal,— Singing everywhere.

Choirs are invisible Chanting Christmas song; Hearts lost in reverie,— Far from mortal's throng.

Beside the dying embers Of December fires; Music in Radios,— Ere my heart expires.

Voices from eternity Assuring us hope; Speak of life enternal, Beyond human scope.

RHEA SHELDON.

A Bit Late

Dear Indi: This is the winter of cold weather and likewise aural appendages. It is also the Radio season, is it not? They why not combine a pair of ear muffs and a set of Radio phones and tune in on something hot?

MACARONI.

Good idea, Mac, but some cartoonist beat you to the idea. What we need now is a pair of phones one can wear in the inside of hunting boots to provide warmth through the receiving of red hot Charleston tunes.

## Crazy Quilt Poetry (With Thanks to Bertie, the Buccan-ear)

Listening in on the Radio
To stations all over town,
I heard of several people
Whose "Sweeties turned them down."

For me love has no interest
In fact, I do not care
But tell me, please, in the present case
Just who was given the air.

The answer must be, "Yes, Sir, That's My Baby."

### Helping the Third Trombone Player Through the Graveyard

Dear Indi: Please hand the Third Trombone Player the following epitaphs with my pious compliments and tell him to go to it, but make it "Louder and Funnier."

(1)
Here lies the body of Luther McLester,
He erects his antenna without an arrester.

Here lies what's left of Roland G. Squires Who strung his antenna across high-power wires.

P. S. There's a sermon in the above that's short and

Please do not ask the gentleman with the slip horn to play louder. We once slid a mean brass in a band ourself and the leader used to tell us, "Der big woof is nix sehr gud on der trumboon, make it soft and pretty, like summer dunder."

### Dying Jazz

Discordant jazz is dying fast, And on the trash heap being cast, But in its place come songs and tunes We have not heard for many moons.

For this relief much thanks we give; Once more it seems worth while to live. We hope that with jazz-dying groans Will also die all saxophones. GEORGE.

### Out of the Fog

Dear Indi: Driver of large motor lorrie tied up by a little two-seater in the streets of dear old London: "Hi there! Can't you get your bloody crystal set out of the way and let a six-valver past?"

LONDON BOBBY.

And this is the way they would say it on one of Chicago's busy loop streets:

"!!\*\$\*&! Say bo if you don't get a little DX on that blooper of yours, I'll cut yer antenna, blow yer tubes, short your groundline, and run my super-het all over you!"

### Downfall of Jazz

"William Stoess," says the Crosley Weekly, "studio director of Crosley WLW superpower broadcasting station, traded an old saxophone for a 1917 model automobile. Somebody got stung in the deal."

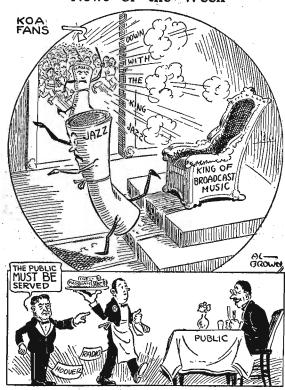
The foregoing, tells a sad story. Imagine the neighbors of the man who originally owned the auto just getting used to being awakened every morning by the machine backfiring in the alley and now having to rearrange their schedules so they can stay awake until the new old saxophone quits moaning at 2 A. M.

### WAIVES TEETH PULLING, BECOMES TRUMPETER; AND IS NOW RADIO IDOL

-From KYW News Notes.

He had to be where the howls were loudest!

## News of the Week



## Condensed BY DIELECTRIC

There are several "little symphony orchestras" spread around among the broadcasting studios and the majority of them are well worth hearing. One of them to receive but meager mention heretofore comes in for recommendation to you who enjoy good programs well played. The little symphony orchestra at WLS, Chicago, comprises musicians capable of rendering classical music in the approved fashion, which they did in the course of a program the other evening, presenting a serenade by Moszkowski and a Tchaikowsky waltz. These two numbers were especially good.

What were your reactions to the broadcasting of Evangeline as presented during the Eveready hour in the studio of WEAF, New York? Had you any difficulty in picturing to yourself the action, locale and personalities of the principles in this stirring drama of life? The resort to chorus or instrumental music in parts was highly effective and the solo parts were very well done. Basil fairly towered beside the beautiful form of Evangeline, so well were their voices suited to the characters. Nor did anyone suffer from the few occasions when McNamee relieved the reader of the evening whose hoarseness was quite apparent. On the whole that was a memorable performance of an American classic.

Station WCX, Detroit, has no apparent difficulty in arranging dance programs that satisfy most listeners, in fact the music is quite comparable to any heard these days. Some of us who may listen to the station, however, are liable to find the numbers to follow each other with more of an intermission than we like. Recently the announcer emphatically stated at one point in the program that they would not slow up at all, then proceeded to entertain us with silence for a while. This may not be the usual custom and certainly should not be, but it has happened too often.

Stop off on your next trip around the broadcasting station circuit to listen to the Wardman Park hotel trio, whose concerts are quite acceptable. They entertain from the studio of WCAP, Washington. You will find their selections to be varied, with as much attention given the lighter works as those requiring more knowledge of music in the abstract.

Roanoke, Va., has a transmitting station, WDBJ, you may or may not have heard. At any rate, the director of that station may as well shake his fist at Dielectric along with the rest. There certainly are some in the Radio audience largely dependent on this station for their entertainment. It is for their benefit that the suggestion is made that the station call be slowed up considerably, with long waits eliminated after the numbers. A saxophone solo of the "Evening Star" song and a group of old familiar songs rendered by mixed voices proved to be the better parts of an otherwise drab program. Let's hope we get the call hereafter.

Football has taken its exit until next season when we shall hear reports again of the big contests on the gridirons east, west, north and south, but before we sign off that subject I wish to mention a program arranged in the studio of KDKA, Pittsburgh, when Lehigh university occupied the preferred position before the mike. Those boys certainly emphasized sports as related to the life of college students in talks which attempted to show how effectively one was prepared for the sterner duties of business after successfully occupying some position on a college

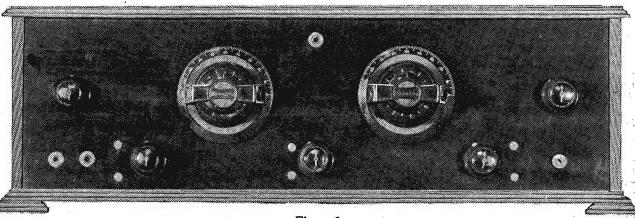
## Straight-8: Outside Aerial Tuned R. F. Super

## Part I—The Circuit and the Parts Required

By A. Christen and Jacques Fournier

THERE HAS, for a long time, been a demand for a super-heterodyne receiver that could successfully be used with an outside antenna. Practically all supers that are presented the set builder are for use on loop only and those which include a means of connection to ontenne and ground are worthly defined. antenna and ground are woefully defi-cient in the element of selectivity. The well-built loop operated super-heterodyne does wonderful things, cuts through a maze of local stations with clean precimaze of local stations with clean precision, and brings in far away stations with pretty fair consistency. The volume on these DX stations may, however, be clear and enjoyable one evening but weak and fading the next. The owner of such a set feels, logically, that if he could just like in a little more energy the "happy pick up a little more energy the "happy hunting ground" would be attained. The first solution of this difficulty was

the addition of an antenna coupler in front of the usual "mixer" or first detector; by connecting the variable condenser across the secondary, the primary consisting of six to twelve turns coupled to this is an oscillator tube in which the grid secondary. Three factors made this solution unsatisfactory to users: a single to produce oscillation. The microphone tuned circuit at this point was not M is connected through the power source enough, the couplers were high in losses,



power Radio telephone transmitters. V|this constitutes the heterodyne modulais an oscillator tube in which the grid and plate circuits are coupled together The microphone

tion), if the frequencies of the incoming signal and the oscillator tube are close, the output will consist of beats of a fre-quency that is the difference between the two. This same beat note frequency may be had whether the generated frequency is greater or less than the frequency of the incoming program.

Considering now figure 4, which is the actual circuit of this receiver, we have, first of all, the inductance L1 which is in an aperiodic antenna circuit and is coupled to the secondary L2. The variable condenser C1 is placed across, and tunes, the coil L2 when there is no plug in jack J1; if a loop antenna is plugged in jack J1; if a loop antenna is plugged into that jack, however, it will tune the loop instead of L2 which is then cut out of the circuit. The tuned radio frequency amplifying tube V1 and the oscillator tube V2 are electromagnetically coupled by the coils L3 and L4. The coil L2 constitutes the grid circuit of the oscillator, and this can be adsequately tuned by corp. and this can be adequately tuned by con denser C2. The plate circuit of the oscillator V2 includes the feedback winding L5 and the primary of the long wave coil in the plate circuit coupled to L2 transformer T1. From that point on the but we do not recommend this. In order

eliminates the fire hazard that is

If desired, the tube V1 could be made regenerative by insertion of a feedback

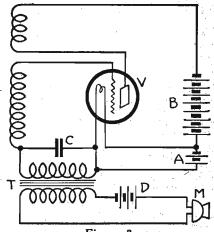


Figure 2

LIST OF PARTS

1 Prest-O-Lite Storage Battery 2 Eveready No. 486 B Batteries 1 Eveready No. 771 C Battery 1 Balkite Trickle Charger

2 Orthometric Cond., 0005 mfd.
4 Victoreen No. 170 R.F. Trans.
8 Clar-a-tone A type Sockets
1 Pair Benjamin Brackets
2 Carter Imp 100-ohm Potentiom.
2 Carter Imp 10-ohm Rheostats
1 Carter Imp 10-ohm Rheostats
1 Carter Model 104 Jacks
2 Carter Model 104 Jacks
3 Amperites for A tubes
1 Formica Panel, 7x24x3/16
1 Coutler-Hammer Lock Switch
1 Daven Leakandenser, No. 24
1 Set Special Diamond Coils
1 Set Walnart Binding Posts
1 Set Walnart Binding Fosts
1 Potter .5 mfd. Bypass Cond.
1 Erla .002 mfd. Fixed Cond.
1 Erla .002 mfd. Fixed Cond.
1 Cabinet, 7x24
2 Micro-Dials
Miscellaneous, such as Bus Bar, Spaghetti, Screws, etc.

Suggested Accessories

Suggested Accessories

Prest-O-Lite Co., Indianapolis National Carbon Co., New York City \$11.00 National Carbon Co., New York City .60 Fansteel Prod's Co., North Chicago 10.00

and the coupling between primary and secondary was far too tight, or close. This third point could not be altered because, if the primary or antenna circuit were removed more than one-half inch from the secondary, too little energy got through to actuate the mixer tube.

Christen Explains Circuit
In the Armstrong super-heterodyne, the In the Armstrong super-neterodyne, the first tube is a mixer and, by means of a pick-up coil, the energy from the antenna circuit and the energy from the oscillator tube are mixed and passed on to be amplified at a lower frequency. In the ultradyne receiver, the plate of the first tube is supplied the energy from the oscillator and with the energy of the

oscillator and, with the energy from the incoming signal, produces a beat note which is of a lower frequency that is passed on to be amplified.

Although the Straight-8 receiver is also a super-heterodyne, it does not work on the same principle as the others. Figure 2 shows the modulation system called "crid control method" often used in low-

transformer T. The secondary, connected in series with the grid circuit of the oscillator, is shunted with a bypass condenser C as otherwise it would present a very high resistance to the radio frequency currents.

When the microphone is spoken into the variations in the primary circuit produce induced voltages in the secondary duce induced voltages in the secondary of the transformer, and these voltages, being impressed on the grid of the tube, change the amplitude or swing of the radio frequency alternations. Thus, in the plate circuit, we have a radio frequency output modulated by speech.

Heterodyne Modulation

Now suppose the phone transformer is replaced by a radio frequency transformer, the primary of which is supplied with the energy from an antenna tuned to a broadcasting station (see figure 3). As in the former circuit, this current acting on the grid of the oscillator tube will modulate the plate current in accordance

"grid control method" often used in low- with the music or speech. Further (and Attachments for Radiala III and III-A Antenna Selector Switch The full range of antenna adjustments can be made by simply turning the two knobs and without loosening a nut.
Rangue the knurled nuts, slip the witch on the binding posts and replace the nuts. The antenna wire attaches to the one binding post on the rear. Four Phone Post

This post will take any number of head sets from one to four and all in sories. It is equipped with prongs that push chrough the phone holes in the face of the panel.

[Rodold III]

The Barkelew Electric Mfg. Co.

Middletown, Ohio, U. S. A.

NEW YORK, 157 Chambers St. BOSTON, 31 Bedford St, WASHINGTON, D. C., Mills Bldg. ATLANTA, GA., 180 Spring St.

CHICAGO, 15 S. Clinton St. DENVER, Denham Bldg.
MINNEAPOLIS, 1017 Lumber Ex. SEATTLE, 1041 Sixth Ave. S.

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to obtain the same amplification over the whole wave length range we have increased the number of turns on L3 and used a potentiometer P1 to avoid oscilla-tion on short waves. The tube V1 might also be neutralized by the Hazeltine process or its capacity compensated by any of the numerous bridge arrangements. Again, if one prefers, a C-R-L unit of 200,000 ohms can be inserted in

the B return lead as in Mr. Fournier's

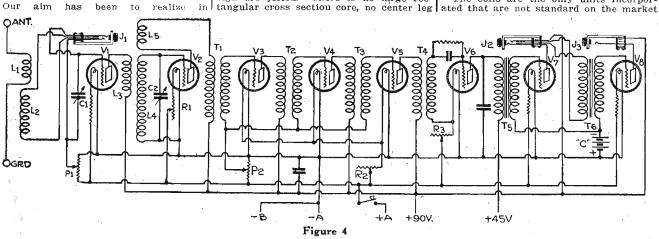
STRAIGHT-8 SUPER-HET is a filter and the secondaries must be tuned with capacities to resonance. Personally, I prefer the latter units and to obtain the same amplification over the latter units and colder Digest readers may recall the four ance standpoint, the luster of its finish. is a filter and the secondaries must be tuned with capacities to resonance. Per-sonally, I prefer the latter units and older Digest readers may recall the four filter super described last spring. The Victoreen intermediate transformers are air core and tuned, the accuracy of this being guaranteed by the makers to be 1/3 of 1 per cent.

Meloformers Are New

The Meloformers are something new to readers of Radio Digest and their construction will be a distinct shock. All one's predetermined ideas of correct de-sign are jolted. There is no large rec-

will be there years from now as beautiful as it is when the panel is put in. Since Straight-8 is about the last word in restraights is about the last word in re-ceivers and is not likely to be replaced by anything for a number of years, this permanance of the panels is important. The walnut markings used on the panel of my Straight-8 are most realistic and it takes close inspection to determine that the panel is not really wood.

The coils are the only units incorpor-



Straight-8 a perfect selectivity when with huge winding. Instead, there is a and Radio Digest has arranged for two using an outside antenna, without at the solid iron core made in spool shape on different concerns to supply these, one same time diminishing equally the which the primary and secondary are ran-in the East and one West. In Chicago, using an outside antenna, are as a same time diminishing equally the strength of the apparatus. Those who will construct this receiver strictly along these lines will find themselves able to do that which neither they nor their friends have been able to do before. The home builder who has already constructed a super will have no difficulty with Straight-8. It is but the work of a few

a super will have no difficulty with Straight-8. It is but the work of a few hours to transform one already built. He who is not so familiar with this type of set, but desires to join the ranks of those who are owners of a "Rolls Royce of Radio," will have less difficulty with Straight-8 than any other.

Fournier Chooses the Parts

The development of this system which he chooses to call "hyperdyne" is the work of Mr. Christen, as is the design of the coupling coils used. This set won second prize in the Radio Digest contest last spring and, if performance alone had been considered, would probably have won first. The designing of a receiver of this type which Radio Digest readers might build, and the description of the building, is up to me. Straight-8 is the development, in standard parts, of the original "hyperdyne" and it performs fully up to the standard set by the original. I feel sure that the home builder the rully up to the standard set by the original. I feel sure that the home builder likes to be let behind the scenes in the designing of a set and the use of various pieces of apparatus from all the parts on the market, so I am going to take some space to go into this.

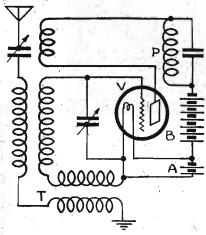


Figure 3

Orthometric condensers been chosen for this receiver for two reasons. Naturally, efficiency was con-sidered first but, after this had been narsidered first but, after this had been narrowed down to several makes, shape was next in importance. We have plenty of nanel space lengthwise and are trying to keep this set within reasonable limits as to depths. Karas takes up some room back of the panel but makes up for this in being very shallow. From the efficiency standpoint it is truly a straight line frequency condenser is made of brace. throughout, and rigidity and alignment have been taken care of. The rotor is provided with a strong flexible copper The rotor is pigtail, in preference to bearing contact, and the bearings are such that these condensers turn easily and smoothly, without

There are two types of intermediate transformers available; iron core and air core. In the system using the first named type, three with small type, three transformers are provided with small laminated iron cores, which has certain advantages but broadens the tuning, and a filter or air core, tuned transformer is necessary. In the system using the air core units, each transformer

dom wound with over a mile of wire. A shell 1/2 inch thick covers core and windings so that the wire is embedded in a degree. I'll admit I was one of those who scoffed at first and said it was impossible—yet these little units reproduce with a fidelity that is amazing and there is no discussion possible against the facts of performance. Although this feature is not utilized in Straight-8, it is perfectly possible to use three of these units with as many tubes and get tremendous

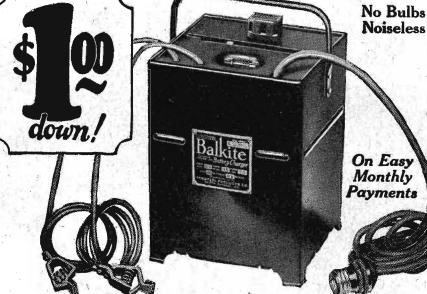
volume without howl.

The front and sub base panels are Formica. Experience has shown that its

the McConnell Cable & Specialty Co., 424 South Clinton street, have built units exactly according to the specifications given below and can ship you a set of four coils for \$3.50. In the East the F. W. Sickles company, Springfield, Mass., are also pre-pared to ship these coils on order.

Should you be in a position to wind your own, the procedure is as follows: The form consists of a wood or fiber cylinder 2 inches in diameter and 1 inch long. Around the outer surface drill 15 holes equidistant apart and 1/2 inch in diameter. For insertion in these holes 18 diameter. For insertion in these holes, 15 (Continued on page 26)

Genuine Fansteel Balkite Battery Charger No Bulbs **Noise**less



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Enclosed find \$1.00. Ship special advertised Balkite Bat-tery Charger. I am to have 30 days free trial. If I seep the charger, I will pay you \$2.50 monthly. If not satisfied, I am to return the charger within 30 days and you are to refund my money and any express charges I paid. Balkite Battery Gharger, No. 79306843, \$12.50.

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# Straight Frequency Line Tuning Orthometric Condensers

Specified for the Prize Winning "Straight-8" Super, described in this issue by Christen and Fournier.



How They SIMPLIFY the Tuning of Any Radio Set



Ordinary Condenser Arrangement of Wavelengths Ordinary straight capacity condensers crowd 70 of the 100 wavelengths into the first 30 points of the dial.



Straight Wavelength Condenser Arrangement With straight-line-wavelength condensers 57 of the 100 wavelengths are crowded into the first 30 points on



Karas Orthometric Condensers insure absolutely equal dial separation of all wavelengths, 200 to 600 meters.

If your dealer hasn't secured a stock of Karas Condensers

## Order on this Coupon!

Most good dealers everywhere, sell Karas Orthometric Condensers. If your dealer happens to be one who hasn't secured them, we will supply you direct on our 30-day Money-Back Guarantee, Just fill in and mall this coupon at ones. Send no money. Pay your

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SIZES AND PRICES	20
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17 plate, .00037 mfd	6 <b>.</b> 75
11 plate, .0025 mfd	
5 plate, .0000972 mfd	

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Please send me	Karas Orthon	netric Con-
ery. It is understood to	at\$. the list price, plus postage hat I have the privilege on the within 30 days if they do you will refund my more	f returning
Name		
Address		
Dealer's Name		

## Applied ABC Principles of Radio Receivers

## Part I—In Which You Become a Train Dispatcher

By Carl Patterson

O THE greater part of the American public, Radio is among life's youngster. It will be my object in this your unloading track one at a time.

deep mysteries—one of several series to try and get behind the panels Looking at Radio in this way, you at which we just accept as contributions to which we just accept as contributions to our entertainment and happiness—content to let it give forth music, humor or knowledge, without thought of the "why" behind it all. Every day 12,000,000 people listen to all or part of a broadcast program that may emerge from the loud speaker with close fidelity to the original rendition, or may be blurred, distorted rendition, or may be blurred, distorted and screechy. When Radio broadcasting was a new-born child we were content to listen to it in any form and marvel at the wonder of it all—"nothing in between." Now, however, the thrill has worn off and Radio has, for most of us, been reduced to the commonplace. And we expect the obedience to our will or whim that we get from other instruments with which we are more familiar. with which we are more familiar.

with which we are more familiar.

The babe has grown—grown to a size where it can take its place, in might at least, with older and very powerful industries. In its ability to take its place in any and all society and mix well it is still the child and we should treat it with some consideration and much patience. Its advance notices are frequently somewhat misleading and, as is the habit with publicity men, apt to be a little exagpublicity men, apt to be a little exag-

Any point in the United States, North America or the world is not at one's finger tips with any set. You cannot just touch a lever or knob and listen to just touch a lever or knob and listen to a soprano, violinist or dance orchestra— anywhere—that you happen to know is broadcasting at the moment. That is a sweet dream that will undoubtedly come true at a not far distant date—the child learning every day-but you cannot do it now.

You can, though, get hours of worth-while enjoyment from Radio as it now stands—providing you will coddle it just a little—will try to understand its moods and disposition. Many have tried to explain, in simple words, the complex make-up of the prodigy, so that you, Mr.

and cabinets for you, with similes to everyday matters, and give you a new picture of young Mr. Radio.

Enlarge your perspective, for the mo-ment, beyond the walls of your room, the

once wonder why there have to be so many lines, why there must be so many trains, why the system must be so complicated. That is a problem you cannot, individually, do anything to alter. You home you occupy so snugly, the city in which you live, and picture a great railroad system—imaginary of course—with all lines leading to your neighborhood.

Roads lead out in all directions to all the vour own difficulties and learn Radio

sands of identical trains simultaneously

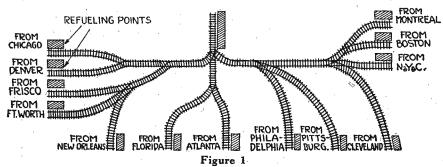
To help you sort out your trains from all the stations, unload them without damage and handle the contents to your satisfaction, many types of receivers have been developed. They are available under many names, in an amazing variety under many names, in an amazing variety of shapes and sizes, yet in one respect they are all alike. Each contains a unit essential to unloading the trains which is called a "detector." This may be a small piece of mineral resembling a piece of coal or precious ore, and it may resemble an electric light bulb, but it is somewhere in every set to enable you to take the program off the train. What then happens to the train is of no importance, it disappears after the voices and music are removed.

and music are removed.

Since long distance Radio trains cannot have coaling points on the route, they are pretty well depleted in energy when they reach you. Very likely they can just get into the outer yards and would never make the final track through the maze of switches if not given new fuel. For that purpose some sets are provided with that purpose, some sets are provided with bulbs for the purpose of refueling the train desired, before it is unloaded, and these the Radio man terms "radio fre-quency amplifiers" or "R.F. stages." It should be kept in mind that these serve only to refuel the train (our carrier wave) and, properly handled, do not affect the

Such bulbs are found in four tube (bulb) sets, five tube sets and many of six tubes. There are occasional combinations where they are found in three tube outfits, but that is a special case to be considered later. If a receiver has seven, eight or nine tubes, you know it has these refuelers, but here they are, in effect, refueling trains of your own that go out and help a very exhausted train that might otherwise never get even to

This year, all receivers worthy of the name, and costing from about \$20.00 up, (Continued on page 26)



have scores of other tracks radiating out to smaller, but just as important points, such as Schenectady, Troy, Columbus, Louisville, Lansing and Davenport.

Around your home you have a complicated network of switches and yards, into

which all lines merge, several lines com-bining first into one, then combinations joining to cut down the total and, at last, one single unloading track and platform. You stand then at a great terminus of lines, peculiar in that all trains come in and none go out—peculiar also in the fact that you cannot telegraph to distant points and order trains started as you wish; they are all rushing toward you and you have the problem of accepting

great cities, Chicago, St. Louis, New York, railroading. As our laws stand at pressan Francisco, New Orleans, Denver. In some cases you have several parallel lines to the same metropolis. In addition, you have more and more, the division of time have severes of other tracks medicing out in a locality or each ways of the control of the have, more and more, the division of time in a locality on each wave channel. Getting back to our railroad, a line is operated by one lessee for an hour or two and then, for awhile, by another user,

To understand something of the under lying principle behind Radio, let us take our railroad comparison yet further. A broadcasting station starts a train, which broadcasting station starts a train, which you desire to get safely to your terminus. Now a railroad does not move trains just for the pleasure derived—neither does a broadcaster. It is what the trains carry that counts. The broadcaster sends a train that is called a "carrier wave"—very apropo in view of our comparison—and on this carrier wave is loaded a shipment of music and messees. True the ment of music and messages. True, the

## TONE

Full, sweet, mellow and natural, without the slightest indication of distortion, is another achievement that is making the APEX SUPER FIVE the most popular of all receiving sets.

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That supplies dance music or entertainment without any loss, is a feature for which the APEX SUPER FIVE is world famed.

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## MELOFORMER

Messrs. Hansen and Fournier used MELOFORMERS in their Straight-Eight Super described in this issue of Radio Digest.

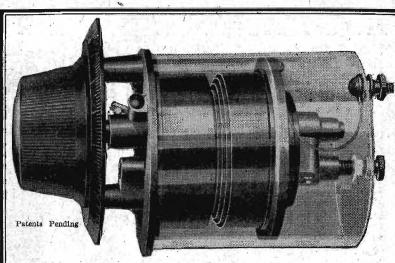
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The Furnell replaces open multiple plates with two shielded plates, each coiled in the form of an evolute. Assures clean-cut separation of stations, tone clarity and scientific precision heretofore impossible. Dust-proof, moisture-proof, damage-proof.

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360° TAPER COIL CONDENSERS

## APPLIED RADIO A-B-C'S STRAIGHT-8 SUPER-HET

(Continued from page 25)
provide a means of putting the voices and
music onto a loud speaker. Whether refueling tubes are incorporated or not, the program would be so faint after being unloaded by the detector, that it could be heard only in a pair of head receivers. Means must be provided for strengthening the program (not the formstrengthening the program (not the formstrengthening the strengthening the st Means must be provided for strengthening the program (not the carrier remember) so that it will actuate a speaker and, for this purpose, two or three tubes identical with the refueling tubes and that used for the detector or unloader, are provided. These, to the Radio world, are called "audio frequency amplifiers." It is not a difference in construction or appearance of the tubes but one of use

appearance of the tubes but one of use. So much for the bulbs or tubes. We have not as yet considered anything that will help you stop unwanted trains in your switchyards and bring through the trains carrying the load desired. This series of operations, by the sired. This series of operations, by the way, is known as tuning. Its counterpart in railroading includes the switch towers and their operators, the telephoning back and forth from these towers to the central office, and the green and red lights tral office, and the green and red lights notifying when to go and stop. In our Radio set we have apparatus paralleling all this, which is controlled from the front of the panel with you as the central office—the train dispatcher. It is up to you how well the trains come in—whether those that have come a long way are properly refueled—whether those still full of energy because from peoply still full of energy because from peoply still full of energy because from nearby points are kept out until wanted—whether they are unloaded as carefully as they should be.

If you have an average three tube receiver—and note I say average to dis-tinguish such a set from the special type called reflex—you are not particularly well equipped to handle much traffic. Such a set, however, does not have refueling tubes and many exhausted trains discovered to the special type. disappear at your outer yard limits. Thus there are not as many trains to handle with your limited switching arrangements. Only one of the group of switches and derailers is provided before the unceding plotform and this work. loading platform-and this is called the

(The various types of sets available and what you can do with them and why will be continued by Mr. Patterson next week. Suggestions for improvement of equipment and pointers on train dispatching will follow in natural order.—Editor's

(Continued from page 24) (Continued from page 24) rods of wood, bakelite or brass (preferably the latter) should be cut 3 inches long and so they will slide in and out of the holes fairly easily. There should be just enough "stick" so they will not drop out without pull. Each coil is started by securing the wire, number 20 dcc., to one of the pegs close to the core, then passing on one side of two pegs, then on the opposite side of the next two, and so on around and around until the proper number of turns have been put on. put on

Four coils, consisting of five windings in all, are to be used. Coil L1 has 10 turns, L2, has 52 turns, L3 has 25 turns. The coils L4 and L5 are wound together. The coils L4 and L5 are wound together. L5 is at the center and contains 25 turns; outside of it wind L4 with 45 turns. At the finish of each winding, it can be secured by wrapping the wire twice around the last peg. To give each coil its necessary rigidity it should be given two coats of special varnish before removing from the form.

This varnish can be any of the Radio cements on the market or can be made by

cements on the market or can be made by dissolving photographic films (from which the gelatine has been removed) in acetone. If more readily available, celluloid can be dissolved in acetone; however, I would suggest the use of any of the prepared cements on the market. For mounting, I have used 1/16-inch fiber sheet cut into small elongated triangles, the point of which is inserted up into one of the diamond shaped openings with a base width of about % inch. Small right angle brass brackets, secured to this broad base portion, enable one to readily secure the coil as to be shown later. As purchased from McConnell these coils are equipped with the mounting just described.

(In the next issue, Mr. Fournier will (in the next issue, Mr. Pournier will continue the construction of Straight-8 with the drilling of the panel and subbase, and the assembly on them of the parts listed.—Editor's Note.)

## The Reader's View

We'll Leave It Up to Hoover

As I believe you are trying to get the viewpoint of all Radio listeners, I want to tell you mine. I would really like to know why we cannot have "time zone silent nights"—the crystal set owner

And would it be impossible to force all 100-watt or smaller stations to broadcast only in daylight hours? They cannot expect to get very far anyway except in some freak reception cases.

Would appreciate your opinion on the above.—F. W. K., Portland, Ore.

Just One Word
You have accomplished some splendid results for Radio listeners. Here is something that will be of as great benefit

something that will be of as great bollone as anything you have done.

Make it a rule for every announcer to announce his station, instantly, at the close of each number. For instance:

"WOK—Chicago." Nothing more, nor

would have to lay off on that night but Sunday evening programs were being he has to now wherever they have local silent nights.

Sunday evening programs were being received and I take this opportunity to express the sentiments of my household.

express the sentiments of my household.
My command of the English language
is not sufficient to express how much we
enjoy these programs. We live 300 miles
from the nearest city that could afford
to have these artists. It has been a
number of years since either of us have
been privileged to hear real artists.
We also appreciate the pictures of the
artists as published in your magazine,
while hearing them it is not a difficult
thing to imagine one sees the artists also

thing to imagine one sees the artists also. Extend our appreciation to these artists from some music hungry westerners.—Mr. and Mrs. G. C. B., Long Pine, Neb.

### Just What Was Needed

"WOK—Chicago." Nothing more, nor less.

Announce the letters slowly, and clearly.—E. S. L. St. Louis.

Music Hungry Westerners

A recent copy of the Digest expressed the desire to know how the Atwater Kent

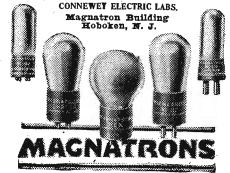
"WOK—Chicago." Nothing more, nor less.

Your article on "Race Track" an announcing was good. Just what we needed. Have already congratulated Henry Field of KFNF and Billy Knight of WIL on their change of pace. Please get Dielectric a two tube super-heterodyne so he can reach more points.—V. K. Y., St. Louis.



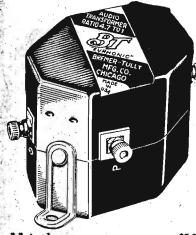
now we'll have <u>clear</u> music





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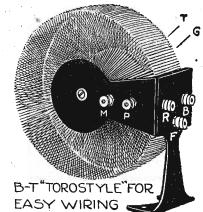
The B-T Torostyle R. F. Transformer is the heart of the Counterphase.

B-T 9-color writing diagrams have never been approached in Radio. They are included with Kits or sold separ-

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An excellent 4-tube set using Counterphase principles is described in January Radio Age.

"Better Tuning" 9th Ed. gives complete Hook-ups, instructions, tuning information. Postpaid 10c. Circulars free.

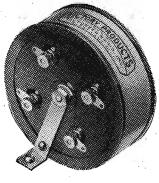


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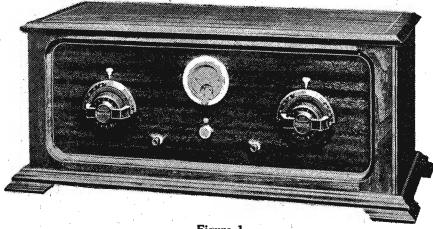
383 Brannan St., San Francisco, Calif. 508 So. Dearborn St., Chicago, III. 45 Ruggery Bldg., Columbus, Ohio 443 So. San Pedro St., Los Angeles, Calif.

## OPERATING AND TROUBLE SHOOTING

OPERATING and Trouble Shooting, is a Radio Digest feature the purpose of which is to give practical information on the operation, care and cure of simple troubles in every kind of receiver. Standard Radio receivers of wide distribution and use are studied from the standpoint of instructions for installing and connecting, tuning and operating, and remedying little difficulties. The suggestions below, if executed faithfully, will make winter broadcast listening yield all there is to yield to the reader and give your set a fair chance to show its worth.

## For the Owner of a Jewett Radio Receiver

ceptionally handsome appearance and embodying all the latest refinements embodying all the latest refinements known to a set of this type. Two of the dials customarily found on a 5-tube receiver have been combined by ingenious arrangement exclusive with the Jewett, so that on the front of the panel there are only two tuning dials, the meter, the filament switch and a volume control. The control which regulates the brilliancy of the filaments in the tubes has been of the maments in the tubes has been placed inside the cabinet, and once it is set at the voltage specified by the Jewett company it may be left alone. There are two methods incorporated to improve the



rating a number of powerful locals or eliminating a single powerful local.

The Jewett company has taken excepcabinet of this receiver shall not be damaged in transit, and when you come to unpack this set, a suggestion may not be amiss. The writer found that the best way to get this set out of its container was to place the container on its side and remove the heavy, corrugated board pads at both top and bottom. You can then push the set through from one side or the other and remove the protecting layer of paper.

The receiver should be placed as close to the point where the aerial and ground enter the room as is possible, so that these leads may be kept short. The loud leads may be kept short. The loud speaker may be placed on the same table with the set, or, if the speaker is provided with a felt base, it can be placed on top of the receiver cabinet. The batteries are presumably going to be placed on the lower shelf of the table or within some sort of a cabinet below the set but

nection to the batteries, and little diffi-culty should be experienced in hooking up this set. The Crowe cable marker labeled "A+" is to go to the positive terminal of a 6-volt storage battery, and this terminal or a 6-volt storage battery, and this terminal can be identified on the battery either by the letters POS. or a touch of red paint on the terminal itself. The wire identified with "A—" is to go to the other terminal of the storage battery.

minal on the second unit is to be con-nected to the remaining wire from the receiver, contained within the cable, and identified as "B+."

The antenna lead-in is to be brought into the rear of the cabinet through the hole nearest the left end, and the binding hole nearest the left end, and the binding post for its connection will be found at the left end of the shelf. The ground connection is brought in through the second hole from the left for connection to the large nickel binding post about midway of the rear edge of the shelf, close to which there is the letter "G" engraved on the shelf. The cord from the speaker is brought in through the third hole and the tips are inserted in the two little nickeled jacks right close to the ground binding post. It makes no difference which speaker tip goes in which jack, as the Jewett circuit makes this of no consequence.

Five tubes of the "A" type are required

Five tubes of the "A" type are required in this receiver, and they can now be inin this receiver, and they can now be inserted in the sockets by pushing each one
down gently and then giving it a slight
twist to the right. The small control
knob near the bottom and to the left of
set should now be turned to the right,
and the five tubes should light up. The
pilot light provided in the exact center
of the set should also light. The rheostat
for regulating filament brilliancy is found of the set should also light. The rheostat for regulating filament brilliancy is found minal of the storage battery.

The B battery should consist of two 45-volt units, either dry cell or storage battery. The wire from the set, identified as "B-," should go to the negative terminal on one of the 45-volt units, and the plus terminal of the same unit should be connected to the negative terminal of the negative terminal of the same unit should be connected to the negative terminal of the same unit should cause the tubes to light, presuming the storage battery is charged.

(Continued on page 90)



## "Test your tubes at home"

¶Your set is no better than the poorest tube in it. With a Jewell Junior Tube-Checker you can test your tubes at home and thus save a lot of trouble and disappointment.

¶ Send for special circular No. 735. Order from your dealer.

## JEWELL ELECTRICAL INSTRUMENT CO.

1650 Walnut Street-CHICAGO



### THE JEWETT RECEIVER

(Continued from page 27)

the bottom of the meter, and in cluded as part of it, there is a small switch which can be pushed to the left or right. You should now turn this small handle to the left. This will enable you to read on the scale the voltage being supplied the tubes, and the rheostat should be adjusted until the scale shows 4.8 volts. the local broadcasters.

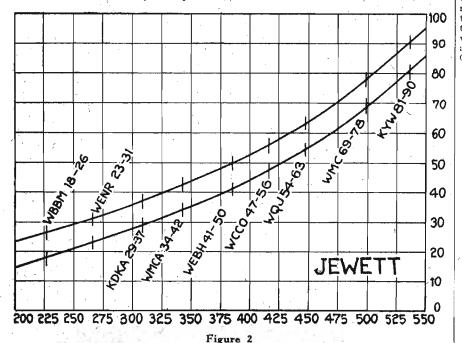
The small control knob near the bottom of the front panel and to the right of the set is a sensitivity and volume control. When this is turned to the right, both the range and volume are increased, but, The receiver is now ready for operation, if it is turned too far, distortion

will, however, also have the tendency to decrease the volume, and a compromise position should be found where sufficient volume is still heard from out-of-town stations yet you are able to go through vary with each antenna installation, and it will be noted that, with the conditions stated above, dial number 1 ran about eight points below dial number 2 throughout the scale.

There are a number of suggestions which the writer would like to give the newcomer in Radio to keep this set func-tioning at its best. A storage battery is tested with a device called a hydrometer, which can be purchased for about \$1.50 at any Radio or automobile supply store. One of the caps on the storage battery

which will draw liquid up into the large glass portion of the hydrometer. Within this glass cylinder there is a small float with a scale reading from 1100 to 1400. The battery is fully charged when the surface of the liquid within the hydrometer is at 1300 to 1325 on the scale, and the battery is corridored discharged. and the battery is considered discharged when the reading is 1100 to 1125. It is better practice to charge the storage bat-tery often, and keep it close to the fully charged point, than to try letting the bat-tery go too long at a time and compensat-

(Continued on page 30)



but before going further it might be a good idea to test the B batteries, which can be done by turning the meter switch to the right. The upper scale on the meter should indicate between 88 and 100 volts. The two dials should be turned together, with a hand on each, so that numbers can be kept approximately together.

With as many stations as there are With as many stations as there are now, there should be no difficulty in finding a station, but if you have difficulty at first you will find a selectivity control within the set in the front left-hand corner. This is marked "broad" and "sharp," and it may be that this control happens to be in the sharp position, which will make our preliminary tuning a little difficult. Thum this selectivity control difficult. difficult. Turn this selectivity control into either of the positions identified as "broad," and rotate the dials slowly over the scale once more, keeping the dial readings approximately the same, and a station will be heard; in fact, you will probably hear several. If you are close to a number of highly powered stations you may have difficulty in separating

If this proves to be the case, open the link connector at the left end of the set, inside, which automatically places a small fixed condenser in series with the antenna lead. It will have the effect of horroring your enterpressed increasing. shortening your antenna and increasing selectivity. Should you still have trouble, the selectivity control should be moved over toward the "sharp" position, which of 87. The chart which is included with will probably eliminate this difficulty. It this article as figure 2 shows the points

creep in. The best operating point for this control can quickly be found. If your antenna and lead-in combined have a length of more than one hundred feet, it will certainly be necessary to leave open the link referred to above. Probably the better antenna for use with this set would be one in which the antenna proper, and the lead-in, have a combined length of about seventy feet, which would permit operation with the selectivity control on the broad position and the link either open or closed, depending on the proximity of powerful stations.

Once you have a distant station tuned in to maximum strength and clearness it would be a good idea to try switching the tubes around in their sockets to find the tubes around in their sockets to find those which function best as amplifiers and detector. This will require slight readjustment of the sensitivity control on the front of the panel, and a combination of tube positions will be found which gives the maximum in volume and tone quality quality.

The Digest laboratory in which this receiver was tested is exceptionally close to three powerful broadcasters, and is considered a difficult location. With an antenna and lead-in of a combined length of eighty-five feet the receiver was operated with the link open and the selectivity control on the line dividing "broad" and "sharp." The tubes, which were not new, were operated on a meter reading of 5.1 volts, and the B battery showed a voltage





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## Counterphase: Perfect Bridge Tuned R.F. Set

## Part IV—Adjusting and Tuning

By James McDonald

rear trimmer condenser attached to the twin condenser at the left; then turn the rotor plates of the rear trimmer on the right twin condenser to the same position. This is the permanent setting for the rear trimmer condensers. Adjust the dials so that both read 100, with con-denser plates fully in and flush with the

In connecting the accessories to the set we will consider the receiver from the front. The first binding post (at rear left front. The first binding post (at rear left corner.) is for the antenna lead-in, the next is for ground wire. The third post (first of the group of six) is to be attached to the plus terminal of a 6-volt storage battery, while the fourth is to be connected to the minus terminal of the battery. Insert the tubes in their sockets; rheostat should regulate brilliancy of all tubes, when turned, and "on-off" switch should flash tubes on and off when snapped.

Now remove all tubes and disconnect the storage battery. Connect the plus terminal of the storage battery to both the minal of the storage battery to both the fifth and sixth binding posts; connect the negative of storage battery to the third binding post. Insert all tubes. The filaments of the tubes should not light. If any filament shows brilliancy, a wrong connection or a short circuit is indicated at some part of the B plus wire or apparatus connected to it.

Final Connections

Final Connections

Assuming that the tubes do not light on this test, we are ready to connect all the accessories. The storage battery the accessories. The storage battery should be disconnected from the way in which you just had it, and the plus terminal is to be connected to the third binding post. At the same time connect the negative terminal of one of the B battery units to this binding post. The negative terminal of the storage battery is to be connected to the fourth binding post. While doing this, connect also the positive terminal of a 4½-volt C battery. The positive terminal of the B battery unit, already partially connected, is to be attached to the fifth binding post and also to the negative terminal of the second B battery unit. The positive terminal of this second B unit is then connected to the sixth binding post, which will give 90 volts difference between the third and the sixth binding post. An Eveready C battery is provided with two negative terminals, one identified by a 3 and one by a 4½ mark. The 3 (volt) terminal is connected to the seventh binding post on the set, and the 4½ (volt) terminal is connected to the eighth or last binding

post.

You can now replace all tubes and turn the filament switch to the "on" position. The rheostat should be adjusted for medium brilliancy of the tubes, and then the loud speaker or phones can be plugged into the first stage jack. Place the selectivity switch, at the left end of the front panel, on the seventh point, the volume control at the center of the panel at the zero position, and then rotate the selector zero position, and then rotate the selector dials very slowly, maintaining about the same scale reading on both until a sig-nal is tuned in. The Mikro-Mike condens-ers should be adjusted so that the pointers are about half way down.

Now tune in a comparatively weak sig-

nal and then reduce the brilliancy of the tubes with the rheostat (at the right end of the panel) to that point which gives best results. The volume control can be rotated to the point which gives the loud-est clear signal. Then plug the loud speaker into the second stage jack, which is that in the lower right corner. The volume should be greatly increased. Adjust the selectivity switch to various Adjust the selectivity switch to various points from 1 to 8, retuning slightly on each new position. The volume will be decreased on points 1 and 2, but tuning should be much sharper. The greatest volume will be found on points 7 and 8.

Sensitivity and Volume Control

This control operates throughout shout

This control operates throughout about one and a half turns. You will note that in the half way position between extreme adjustments this control snaps into a neutral or zero position. The knob on the volume control should be attached with the arrow pointing directly up when control is in neutral. The B-T dual control consists of two separate resistance one of which operates in the Counter one of which operates in the Counterphase balancing circuit. As the second resistance is increased, volume and sensitivity are decreased. Always adjust this control to secure clear signals. Operate tubes at lowest brilliancy consistent with satisfactory results. Increasing brilliancy only increases the volume up to a certain only increases the volume up to a certain point, and shortens the life of the tubes. Adjustment Method Number One

The Mikro-Mike or Counterphase con-densers must each be carefully adjusted, starting with number 3, next to the de tector. A long sharpened wooden rod may

URN rotor plates half way in on the be used to adjust these MMF condensers. Tune in a strong signal near 40 on the Remove tubes 1 and 2. Tune signal carefully, using trimming knobs for maximum volume. Set volume control at 0 (midpoint). Rotate selector 2 (right condenser) back and forth across signal and an oscillation beat or whistle will be heard as signal is brought in and out of tune, or oscillation may be indicated by a click. When Mikro-Mike condenser number 3 is properly adjusted, oscillation will not occur and no beat or whistle will be heard. Therefore, rotate adjustment screw of the Mikro-Mike slowly until no beat is heard when crossing signal with selector 2. Continue turning adjustment screw until beat is heard again. The proper until beat is heard again. The proper adjustment is half way between the point where oscillation stops and point where it is again heard. Adjust Mikro-Mike to this middle position and leave permanently at this adjustment.

Replace tube number 2 and adjust Mikro-Mike condenser number 2 in same manner except that selector 1 (left condenser) is rotated across signal to detect oscillation beat or click.

number 1 in same manner as number 2.

As the point of adjustment is quite sharp on numbers 1 and 2, it will be necessary to proceed slowly, always making certain that station is tuned to maximum volume, as the Mikro-Mike ad will change the tuning slightly.

### Method Number Two

Disconnect antenna, operate tubes at normal brilliancy, with volume control at zero or neutral. Adjust selectors at reading of about 75.

Rotate selector number 2 (right dial) and out of resonance and a "click" will be heard as it is brought into tune, and again as it is brought out of tune. The first "click" indicates that the tubes have gone into oscillation, and the second indicates stopping of oscillation as selec-

tor is rotated out of tune.

Count divisions on dial between first

click (start of oscillation) and second click (stopping of oscillation).

The Mikro-Mike is properly adjusted when the divisions of selector rotation between clicks is smallest. Therefore,

The third step is to replace tube number 1 and adjust Mikro-Mike until clicks occur ber 1 and adjust Mikro-Mike condenser as closely together as possible when seas closely together as possible when se-lector is rotated in and out of tune. If these clicks are not heard, adjust

trimmer condenser knobs until they are heard. Keep trimmer knobs closely tuned, because adjustment of Mikro-Mike con-denser slightly detunes stages. Rotate Mikro-Mike screw very slowly and care-

iny. Starting with the neutralizing con-enser nearest the detector tube (numdeuser nearest the detector tube (number 3), slowly turn the adjustment screw so that the indicator moves downward. If the separation of oscillation clicks on the controls becomes less, adjustment is being made in the right direction, and should be continued until the separation between clicks reaches a minimum. If it is found that when the Mikro-Mike indicator is adjusted downward the number of scale divisions between the oscillation clicks does not decrease, the indicator should be moved up until the click band narrows as previously described. operation should be repeated on the sec-ond and third R.F. stages. If instructions

(Continued on page 30)



ek more." Preston Fow-Gordon, Nebraska.

NATIONAL BADIO INSTITUTE.

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## "COUNTERPHASE" SET

(Continued from page 29)

have been properly followed, the best possible results will be obtained from

In actual tuning, complete suppression of oscillation is brought about by adjust-ment of the volume control, and close adjustment of Mikro-Mike condensers is not imperative, but is desirable for maximum results. Always turn trimmer knob number 2, when adjusting Mikro-Mike number 3, and trimmer knob number 1 for Mikro-Mike numbers 1 and 2.

### Use of Tuning Controls

Selectors 1 and 2 are used to tune the receiver to the same frequency as the signal to be received. For strong signals, close tuning is not necessary and it may even be desirable to rotate selector 2 slightly out of resonance to prevent overloading. However, weak signals require very close adjustment of selectors for maximum volume, and volume may be considerably increased by means of the knobs.

Strong local signals may often be improved by rotating selector 2 slightly out proved by rotating selector 2 slightly out of tune to prevent overloading. Always operate at lowest volume consistent with size of room. Volume or sensitivity may be increased by rotating the dual resistance control. Increasing the sensitivity beyond a certain degree causes the circuit to go into oscillation. This is indicated by a "click," oscillation beats, whistles or distorted signals. Always reduce sensitivity below this point.

When tuning weak signals, use both hands, tuning each control and its trimmer carefully. Then adjust sensitivity

mer carefully. Then adjust sensitivity control carefully for loudest clear signal

### Keeping Circuits "In Tune"

When searching for weak, distant stations, it is necessary that all tuned circuits be kept in resonance, otherwise the station may not be heard; that is, it may be passed by. To keep the circuits resonant—in other words, tuned to the same wave length when the tuning controls are rotated—is difficult unless you are sysrotated-is difficult unless you are sys

simple rule is to follow the outside sounds or noises; there is always a certain amount of static present. If your tuning controls are kept together, these sounds can be heard as you turn the dials, although there may be no station signal Keep your circuit resonant so that these static noises can be heard as you go up or down the scale, and you will locate the dial readings of practically all stations within range.

By recording dial readings, these stations may be located thereafter without difficulty.

The necessity for keeping tuned circuits closely in resonance is one of the reasons "single control" methods do not give satisfaction. Some stations may come in just right, but many others can only be approximated.

### Shielding

When operating a receiving set very near one or more powerful stations, it is highly desirable to shield the receiver

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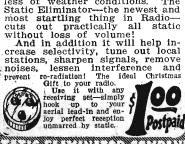
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because the wiring in the set, the battery leads, and the tuning apparatus pick up and deliver, directly to the detector, sufficient energy to produce an audible signal, regardless of tuning. To obtain full selec-tivity from a receiver it is necessary that the signal be delivered to the antenna post of the set only, so that undesired signals may be rejected by the various tuned stages.

The stray pick-up can be largely overcome, if you find it too objectionable, by lining the inside of the cabinet with aluminum, copper, brass or any metal, of about 24-gauge thickness. The parts of lining should be soldered together or have thorough connections throughout. All necessary holes should be as small as possible. A sheet of metal should be placed to cover the entire back of the panel with good connection to other lining. Holes in panel shield should be sufficiently large to prevent contact with shafts or mounting bushings of any apparatus.
Place a thin plate of insulating mate-

rial between metallic apparatus and shielding plate when mounting to prevent short circuits, except where frame of apparatus is connected to same wire or lead as shield.

(CONCLUSION)

### THE JEWETT RECEIVER

(Continued from page 28)

for this weakness by increase of the rheostat within the set. The meter can be made to show 4.8 even if the battery is low by turning the rheostat, but, as just stated, it is much better practice to charge the battery oftener and change

the rheostat less.

The B batteries, if of the dry cell type, need not be changed until the meter on the panel shows that they cannot supply better than 70 volts. If your B batteries are of the storage type they should be re-



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in order to obtain maximum selectivity, charged when the meter shows that they have run down to 80 volts.

Among other things, we tried this re-ceiver on B battery eliminators and found that it could be used successfully with the Philco, the Balkite, the Cooper, the R.C.A. and the Freshman.

If the above suggestions as to battery care are kept in mind, and you will learn to tune carefully, you should have little trouble with this receiver; but if anything goes wrong, do not try to have it fixed by any local "expert." You will have much more satisfaction in the long run if you take this up with your dealer and, if he can make no suggestions, have him send it back to the factory for examination, and, if necessary, repair.

("Operating and Trouble Shooting" next

("Operating and trouble Shooting" next week will be devoted to the study of an-other standard receiver. The Isolodyne, Dayfan, Apex Super Five, Stewart Warner and Erla sets will be among the first to appear .- Editor's Note.)

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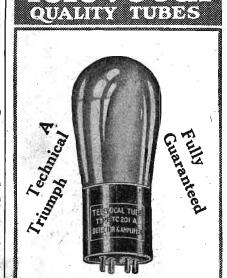
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