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New Eight Tube Super-Heterodyne Series Conclusion; Care of Batteries; How Resistance Affects Your Selectivity; Most Complete Advance Programs

Radio Disest EVERY INTERIOR TENTS

Vol. XI

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SATURDAY, NOVEMBER'1, 1924

No. 4

COLOR PICTURES BY RADIO

MARCONI WILL OPEN THIRD ANNUAL SHOW

AMERICA WILL BROADCAST GREETING TO INVENTOR

Two Miles of Exhibits at Monster New York Exposition in Grand Central Palace

NEW YORK.—Guglielmo Marconi, the "father of Radio," it is announced, will open the Third Annual National Radio exposition at Grand Central palace, New York, on the evening of November 3.

The famous inventor will he the central figure in a remarkable demonstration of international broadcasting. It will be followed by an exceptional program of entertainment and education given on a mammoth scale by the leading broadcasters and Radio manufacturers of the United States.

At an appointed moment on the opening day, Marconi, in his London laboratory, will touch the key of a special transmitting instrument, releasing by Radio a bolt of power that will be hurled across the ocean and instantaneously light a huge American flag outlined in electric lights at Grand Central palace

To Greet Marconi
Immediately thereafter, three of the most powerful stations in the United States, WJZ in New York, WRC in Washington and WGY in Schenectady, will be joined together to broadcast to Mr. Marconi a message of greeting from the Radiophans of America, direct from the exposition.

Many broadcasting stations both in the United States and on the other side of the (Continued on page 2)

NEW MACHINE BROADCASTS PHOTOGRAPH

Natural Tints Are Kept

Capt. G. A. Taylor, of Australia, Demonstrates Epochal Invention for First Time in London

LONDON.—Colored pictures transmitted by Radio were shown here recently for the first time in Europe.

Captain George A. Taylor, president of the Association for Developing Wireless in Australia, New Zealand and Fiji, demonstrated his machine for transmitting them and explained the process.

The colored picture for transmission by Radio is photographed through screens on to metal plates in the ordinary way for printing in the three primary colors—yellow, red and blue. Each plate is printed in black ink and the print is enlarged so that when acid etched on a metal plate it will have deep etchings between the screen lines.

Sent in Dots and Dashes

The plate is then placed on a cylinder moving with a needle coming in contact with the metal parts untouched by the acid, and such contacts are transmitted by Radio over any distance in (Continued on page 2)



Margaret Buckey, well-known soprano, who is familiar to the fans who tune in on Station KQV, Pittsburgh, is shown above. Left, Marian Hansen, who has broadcast her readings from WOAW, Omaha, several times. Right, Elizabeth Wottring, piano soloist, heard from WBAV, Co-

lumbus.



GIMBEL BROS. OPEN **NEW YORK STATION**

USE WESTERN ELECTRIC 1B TYPE TRANSMITTER

Use Storage Battery Power and Filter to Eliminate All Carrier Wave Noises

NEW YORK .- Because of the success Gimbel Brothers met with its broadcasting station, WIP, in the Philadelphia store, the New York store now also has its own broadcasting station. It opened its program on Sunday evening, October 26.

This new station has the call letters WGBS, and operates on a wave length of 316 meters (949 K. C.). Due to the experience gained from the Philadelphia station and by the recent developments of the Western Electric company on broadcast transmitters, WGBS promises to be one of the finest of its kind in the country.

The transmitter proper is the Western Electric type 1B, consisting of two 250watt oscillator tubes and two modulator tubes of the same rating. The antenna consists of a four wire flat top supported by 137 feet above the roof by steel masts. A lead is brought from this directly to the transmitter on the eighth floor of the

Storage batteries furnish the power supply for the transmitter.

MARCONI OPENS SHOW

(Continued from page 1) water, will offer the courtesy of "silence in the air" for the few moments that will be required to accomplish this feat. As atmospheric conditions also are usually favorable during this period of the year, the wizard of wireless will have little difficulty, it is expected, in hearing the voice of America transmitted across the Atlantic.

Race Against Time

Another thrilling demonstration, attempted for the first time in the history of Radio, will be a race against time. From a transmitting and receiving plant, to be installed at Grand Central palace for the week of the show, two Radio telegraphic signals will be released simultaneously and sent flashing around the world in opposite directions, to return after the messages have completely circumnavigated the globe. The famous letter "S," used by Marconi in his first historic achievements of *panning the ocean by Radio will be the signal used in the experiment by a group of leading Radio engineers.

A great world map to be hung on the mezzanine floor of the palace. As each signal is received at and relayed from country to country, a white and red light respectively will flash from those parts of the map, and a special loud speaker will repeat the acknowledgments from England, France, Germany, Norway, Poland, China, Japan, Honolulu, and the American west coast stations.

Demonstrate Teledynamics

A striking demonstration of Radio in teledynamics will also be shown. A pan of flashlight powder in Grand Central palace will be touched off by Radio from a point across the Atlantic ocean. In the fraction of a second in which this blinding flash occurs, an automatic camera will click and take a group picture of the opening night throngs assembled at the exposition.

The vast scale upon which the exposition is to be held is best indicated by the fact that it will require a promenade of almost two miles for a complete inspection of all the exhibit.

S. L. Rothafel of the Capitol theater in New York will be in charge of a nightly entertainment program which will be broadcast by Station WEAF direct from the exposition.

Will Give Big Prolic

On election night, November 4, the entire third floor of the Grand Central palace will be turned into a dance floor for the National Radio exposition frolic. It is expected that this will draw 10,000 people, who can be comfortably accommodated. Prominent figures of society, the opera, the stage and the screen are sponsoring the "frolic," the proceeds from which are to be equally divided between the Actors' Fund of America and the Wounded Veterans Radio fund. Vincent Lopez will direct a greatly augmented orchestra on the night of the dance.

Kalamazoo College Resumes Winter Broadcast Program

DETROIT.-WOAP, Kalamazoo college station, will be on the air again soon. Professor Leonard J. Ashby, whose voice so many Radiophans eame to know last winter and spring, will have charge of the programs and has promised to broadcast a series of concerts that will make his listeners eager to tune in whenever he is on the air.

It is planned to begin broadcasting from the college the first week ln November

until next March.

AND THE INTERCITY FAILED TO APPEAR

ASHINGTON.—When Secretary Hoover denied a renewal of license to the Intercity Radio company on the assumption that they were interfering with broadcasting, the case was taken into court. Both the Supreme court of the District of Columbia and the District court of Appeals ruled against Hoover. He appealed to the United States Supreme court. There the ease was dismissed. Something happened to the Intercity company and they had gone out of business.

Why Is a Berry and If it Is, How Many?

And WBZ Wonders What It's All

SPRINGFIELD, Mass.—The fever which seizes the average Radiophan makes him unaccountable for many errors committed while he is wrapped in the mysteries of his receiving set.

They make many slips, but the prize 'bone" arose out of a postcard of acknowledgment a local fan sent to the Westinghouse station, WBZ, at Springfield,

The fan wrote as follows: "You Westinghouse bunch are berries. Please con-

Bureau of Standards Warns Against Use of Its Name

WASHINGTON.—The attention of the bureau of standards has been called batteries have been published.

Wandering Minstrel Entertains in Boston

Colwell, Tramping Artist, Travels 5,000 Miles in Six Months

BOSTON. - Nate Colwell, the real twentieth century edition of the wandering minstrel, arrived here recently and is now making his headquarters at the Edison Light company Station WEEI.

Colwell is one of the most interesting fellows on the air. During the past six months he has walked over 5,000 miles in his travels about the country. His story of these wanderings sounds like a Horatio Alger book. He came east from Chicago about three years ago to attend college. Here his health failed and he was ordered by physicians to live out in

RADIO COLOR PICTURES

(Continued from page 1) the simple "dot and dash" method, the "dot and dash" being easily picked up as in ordinary reception by Radio, and made to establish contact by means of an inkmarker on to a cylinder moving at the same speed as that at the transmitter.

The receiving cylinder, however, is covered with paper so that at the receiving station the picture is received in black as transmitted. It is then reduced to the original size and printed in color, the black print of which has been transmitted. The three pictures received at the receiving station are reduced and printed in the three primary colorsyellow, red and blue. This gives the effect as shown on the original colored picture at the transmitting station.

Predicts Wide Use

Captain Taylor, in showing the machine at work, explained that it opened the way for many possibilities. He predicted the early showing of happenings afar off in several times to the unauthorized use of all their glory of color. He also explained its name in connection with the sale of a process by which drawings can be dry batteries for Radio receiving sets. shown being made at a distance, and how No test results of competing brands of colored pictures and cartoons will be broadcast during their actual making.

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Looking Ahead

Watch for the New and Improved Advance Program Department.—A distinct improvement in the method of giving the important stations' programs, will be initiated next issue. The change, it is believed, will be hailed with unanimous approval by all readers of Radio Digest.

Static Inter-Coupling Phenomena Are as the Sphinx to the average listener in who takes an interest in "what makes it go," but William W. Harper, in his next article, has a very lucid explanation of this phase of the underlying principles of selectivity.

Charge Your Batteries with a Homemade Charger if you like to make apparatus, but of course the manufactured ones are better. William Fenwick, in his next article of the series on the upkeep of batteries, will tell how to build an

Beginners Will Learn All about Grid Leaks and Biases from Thomas W. Benson in his next "Helpful Hints" article. He will tell the reason for the grid leak and other forms of biasing.

Coming Soon-KYW, KFNF and WSAI in Pictures, Interviews with Rosaline Green, Fiddlin' John Carson, Capt. Donald B. MacMillan, Ernie Rogers, Bert Davis and other Radio notables. Watch for them.

Newsstands Don't Always Have One Left

WHEN YOU WANT

YOU WANT IT!

BE SURE OF YOUR WEEKLY COPY BY SUBSCRIBING NOW

SEND IN THE BLANK TODAY

510 N.	her Radio Dearborn o, ilinols.				
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For ease of tuning, selectivity and long distant reception, you can't beat a Crosley. Actual performances prove this day in and day out.

Here are what a few of the happy Crosley

Apponnag, Rhode Island.

"I purchased my Crosley one tubo No. 50 around the first of August and I think it is my duty to express my satisfaction of its performance during the warm spell. Have heard New York, Boston, Pittsburgh, Cincinnati, Chicago, Detroit, Ottawa, Canada, and many other stations."

Dallas, Texas.

"The set, Model 51, has already surpassed my greatest expectations. On the night of September 13th, Oakland, California, was received with sufficient volume to be clearly heard throughout seven rooms. Kansas City, Chicago and many other stations were received with respectively greater volume."

Chicago, Illinois.

"My Trirdyn has dono all that you claimed for it. The first silent night, Monday, September 22nd, using fonly two tubes, I pulled in twenty-eight stations. On the following night with most of the Chicago stations going full blast, using two tubes, I pulled in Memphis, Cincinnati, Dallas and Omaha."

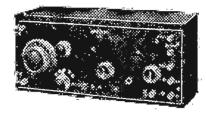
(Names upon request)

These are only a few of the thousands of unsolicited letters that come to us. You, too, can enjoy similar results with a Crosley. And the cost of any Crosley is remarkably low.

BEFORE YOU BUY—COMPARE YOUR CHOICE WILL BE A CROSLEY

Crosley Regenerative Receivers are licensed under Armstrong U.S. Patent 1,113,149. Prices West of the Rockies add 10 per cent

For Sale By Good Dealers Everywhere



Crosley Model 52, Price \$30.00 With three tubes and Crosley Head Phones, \$45.75

Write For Complete Catalog

The Cresley Radio Corporation

Powel Crosley, Jr., President

11491 Alfred Street

Cincinnati, O.

Crosley Owns and Operates Broadcasting Station WLW

The kind of Letters
Thordarson-gets-No. 4

NOTE—Copy of following letter was sent to Thordarson Electric Mig. Co., Chicago.

Next week we will print the letter Mr.

Bond wrote us direct.

BRADSHAW & WEIL, Inc. INSURANCE 175 W. Jackson Blvd.

Radio Station WMC. Memphis Commercial Appeal, Memphis, Tenn.

Gentlemen:

I have stood this just as long as possible and, as Mr. Nuvolini yelled at me as I and, as Mr. Nuvolini yelled at me as I me and, as Mr. Nuvolini yelled at me as I me and it is enough is enough if you do not cut down the out-put of the globe-trotting cross country gallopthat globe-trotting cross country fing 10,000,000 kilowath transmitter of ing 10,000,000 kilowath transmitter of yours, you will blow all the bottles out of my receiver.

As you know, we have some very fine

my receiver.

As you know, we have some very fine local stations here, WDAP, WJAZ, KYW, local stations here, I certainly would like WMAQ, etc., and without you birds crashwing through with more noises than Peter ing through with or conclusing back in the Tracy and Mike Connoly used in the Tracy and Mike Connoly used in the when they got to arguing back in the days when you could get two for a quarter when losing any fillings or inlays.

All foolishness aside, you are getting out days when you could get two for a quartot without losing any fillings or inlays.

All foolishness aside, you are getting out wonderfully, and it is a pleasure to listen to your programs. Toll the boys if they want a real receiver that tunes, to funk their standards, reflexes and singles and build a Cockaday Four Circuit, stick in two new type low ratio Thordarsons, and lean back and listen to It is the only lean back and Byhalia. It is the only lean back and Byhalia. It is the only medium priced receiver that, from Chicago, Hell, Hull and Byhalia. It is the only little outside stations so they can be pick up outside stations so they can be pick up outside stations so they can be loud speaker.

Less power to you for the sake of my ears and thanks for the excellent entertainment.

Yours very truly.
(Signed) H. W. Bond.

HWB:M

Standard on the majority of quality sets Audio Fremmency: 2-1. \$5; 3½-1. \$4; 6-1, \$4.50. Power Amplifyling, pair \$13.

Write for some real bulletins!

DISMISS INJUNCTION MOTION OF A. T. & T.

McCULLOUGH LABORATORY WINS COURT DECISION

Manufacture of Metal Covered "Heli-tron" Tube to Be Continued— Will Add New Line

PITTSBURGH. - When the United States District Court entered its order recently, dismissing the motion of the American Telegraph and Telephone company for a preliminary injunction against the F. S. McCullough laboratories of Wilkinsburg, Pa., probably the first adverse decision among a score of favorable ones was entered on the records of the rapidly expiring DeForest three electrode

The tube, for the manufacture of which the McCullough company is being sued, is known as the "heliotron," invented by him. It is a power tube having a metal covelope instead of the usual glass one. This metal shell, which is really an ex-

ternal plate, serves as the anode of the tube. Inside the shell there is only the filament and grid. Leads are brought in through a special glass seal at the bottom of the shell. This seal was developed by Mr. McCullough.

Tube Contains Helium

The external plate of the tube can be readily cooled by air or water. The tube derives its name from the presence of a very perceptible quantity of helium contained within which materially increases the efficiency.

In addition to the manufacture of the heliotron, McCullough is also making B battery eliminator rectifier tubes and has developed a new type of 100 and 250-watt power tube which is expected on the market within a short time. Patent and pending applications cover all of these developments.

It is the contention of the A. T. and T. that McCullough has no right to manufacture tubes of any description.

WGY Players Present Broadway Show by Air

Radiophans Hear "First Night" of New Crook Play

SCHENECTADY, N. Y.—By means of wires running between here and New York, the WGY Players have realized their ambition of every follower of the drama—a hearing on Broadway. WJZ, the New York station of the Radio Corporation of America rebroadcast the offerings of the Schenectady group during the

month of October. Five plays were given. The WGY Players are heard weekly by many New York Radiophans but a great majority find difficulty in picking up the General Electric's eastern station because of fading or interference. In a single performance the WGY Players, the oldest and foremost group offering drama to Radiophans, entertained listeners of two stations. One or two plays that have had their day on Broadway came back through the air. On October 3 Radiophans tuned to WGY or WJZ became real first-nighters for on that date "Silence," a crook drama by Max Marcin, presented by the WGY Players in advance of the play's opening in New York and while the play was in rehearsal by Selwyn & Company.

The WGY Players were first heard on the air in October 1922 in Eugene Walters' play "The Wolf." Since that time they have presented 83 plays.

Preliminary regulations regarding broadcasting have been completed by the Radio committee of Esthonia and are now subject to the approval of the minister of communications.

"HIRED HAND"—LONE STAR ACE



Finishing fourth in the Radio Digest first annual Gold Cup Award, the "Hired Hand," chief annuancer and director of WBAP, Fort Worth Star-Telegram, ever remains a popular Radio figure. His original announcing is so typical of him that a recent communication from a listener suggested reprimanding him for having given one "wise crack" twice the same year.

Football Radiocasts

November 1 Harvard-Boston, WBZ (337).

Iowa-Illinois at Illinois, WGN (370). West Point-Yale at New Haven, WEAF (492), WGY (380), WJZ (455).

Wooster-Ohio at Columbus,

November 8

Butler-Iowa at Iowa City, WHAA (484). Harvard-Princeton at Cambridge, WBZ 337), WEAF (492).

Illinois-Chicago at Chicago, KYW (536), VMAQ (448).

Indiana-Ohio at Columbus, WEAO (294). Northwestern-Michigan at Ann Arbor,

WWJ (517). Yale-Maryland at New Haven, WGY (380), WJZ (455).

Give Broadcasting Concession WASHINGTON, D. C.—A ten year concession for exclusive broadcasting privileges has been granted by the government of Peru to the Peruvian Broadcasting company.

STAGE RADIO FIRE AT CELEBRATION

Purdue-Chicago at Chicago, KYW (536), Fans Get Thrill as Sounds of Imaginary Blaze and Fire-Fighting Are Broadcast

> KANSAS CITY .-- All the thrills of sixteen fire companies speeding to an imaginary burning building, together with the official commands and sounds incident to a big fire, were broadcast by WDAF, at Kansas City, Mo., the night of the opening of Fire Prevention Week.

> The entire equipment of the Kansas City, Mo:, fire department was used in staging a performance especially for the Radio audience. The fire run was arranged by Elmer E. Scott, state fire marshal of Kansas, and John McNarrey, fire chief. Special microphones were placed in the fire headquarters and special lines carried the demonstration to The Star's transmitter.

It is believed that this is the first time in the history of Radio that such a demonstration has been put on the air.

RADIOCASTERS GIVE **ELECTION RETURNS**

GREAT INTEREST CREATED BY BROADCAST TALKS

Will Begin Announcing Returns at Closing of Polls and Continue Until After Midnight

From reports and programs which have come to the attention of Radio Digest, probably every sizable Radiocaster in the country will announce the returns of the presidential election on November 4.

Stations in all sections report that correspondence from listeners in points out that never before has any single factor influenced political opinion as much as has Radio. This is especially true concerning women voters.

Influenced by the two party conventions broadcasts and by the numerous political addresses to which they have listened, they have formed definite opinions about the candidates. The names of candidates in the newspapers have become more to them than just names.

Obviates Husband Opinions
One woman wrote to Station WGY,
"Thanks to Radio, we women do not have to depend on our husbands for our political opinions any longer."

Because of the nation wide scope of Radio it has become necessary for the speaker to make his appeal national in scope. Much has been done in breaking down the sentimental politics of triviality. sectionalism and religious difference, according to authorities. The same authorities believe it will be highly instrumental in bringing thousands to the polls who would otherwise neglect to go.

It is estimated that millions of people will listen in to hear the returns. Most stations will begin broadcasting at the closing of the polls and continue until after midnight.

WOMEN BUILDERS ENTER CONTESTS

Prizes Given for Best Sets Made by Women at Montreal Exhibition

MONTREAL.—"And I learned about Radio fronı her.''

What with Radio contests of all descriptions being held in all parts of the world it has remained for this city to hold the first contest in which the ladies can exhibit their skill as set builders.

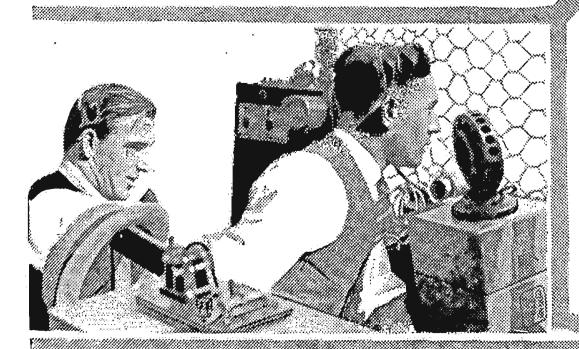
At the recent Montreal Radio show a score of women vied with each other for the honor of winning the prizes offered for the best sets made by them.

Mrs. Sturgess of Station 2CN, Canada's only woman amateur operator took charge of a complete amateur station in operation in one of the booths at the exposition. A "museum" showing all the Radio apparatus from the time of the science's inception up to the present set used by Marconi occupied another booth.

Station WJAG Starts Fund to Buy Sets for Shut-ins

NORFOLK, Nebraska.-Station WJAG of the Norfolk Daily News has requested that its listeners in stop sending in candy and cigars and instead dedicate their pennies and nick es to the "shut-in" fund.

This fund, already mounting above the thousand dollar mark will be used to buy Radio sets for the use of invalids and others who are confined indoors and are financially unable to buy sets. On each set a metal plate will be attached. It reads as follows: "From the listeners in of WJAG, World Series of 1924, dedicated to the 'shut-ins.' When you are through with the set please send it back and we will send it to some one else."



Albert Protz-man, talking into the mi-crophone, and his aide, George McElraph, who broadcast details of the world's series through eight stations, a r e shown on the left. Right is Graham Mc-Namee and John P. Mc-Avory, giving the fans a minute description, inning by inning, through Sta-tion WEAF.



New York's Street Railway Station—WEBJ



By J. L. Newman

STREET car ride and a Radio program for a nickel. That is what the Third Avenue Railway company of New York city, owner of Station WEBJ, is offering to the public. This station is distinguished in many ways. Designed and constructed in two months by W. J.

Although open only a few weeks, this station is giving some of the finest programs ever broadcast to the Radio public. Operating on a wave length of 273 meters and using 500 watts power, reports have reached the station indicating that they are being heard throughout the country.

Many noted Broadway celebrities are making their appearance before the microphone at WEBJ, among them Florence Johns who recently related to the Radiophone her reason for going on the stage.

It seems that this talk made quite a hit with the invisible female audience, for the next day the studio mail for Miss Johns was exceedingly



A. Bruno, former aviators, who now do the announcing at Station WEBJ. Mr. Blythe is chief announcer, while Mr. Bruno is second

Plorence Johns well-known Broadway star frequently heard from this

> Miriam Lak, lyric so-prano and favorite artist with the Radiophans, when singing at WEBJ.

Views of studio and mechanical equipment, all of which was built by engineers of the Third Avenue Railway company in two Many improvements have been incorporated in its design.

Quinn, electrical engineer, it is the first broadcast station owned and operated by a street railway company.

Colored posters announcing the programs are placed in each car. By using its 800 or more cars in this manner, it is estimated that more than 1,000,000 persons are made aware daily of the activities of the station.

Dual is the purpose of the station—to amuse and educate the public served by the company and to elevate the morale of its personnel. Leaders of community organizations are given the opportunity to tell of the achievements of their neighborhoods.

"Our broadcast station is like a house organ or magazine," said Garrow T. Geer, secretary of the company. "By means of it we are able to talk personally to our employees."

Another star performer is Miriam Lak, lyric soprano, who on numerous occasions has entertained the WEBJ fans. She is very popular, receiving the plaudits of the public whenever appearing on the program.

The men who handle the microphone end of the station are both aviators of national repute. Richard Blythe, formerly connected with the Royal Flying Corps, is chief announcer. His right hand man and second in command is H. A. Bruno, also an aviator with an enviable record.

Three years ago, Captain Bruno as he was then known, commanded the flying boat which established a world's distance (Continued on page 9)

Peer of Sports Announcers — J. Andrew White

Enthralls Thousands

By John Galbraith

"HEY'RE off!" A murmur that spreads over the throng swells with the volume of ejaculation. The "peer of sport announcers," Major J. Andrew White, is describing one of the greatest horse races in the history of the turf.

Perched high on a rail at the judge's stand, with a pair of binoculars in one hand and a microphone in the other, Major White is straining his eyes for a clear vision, as the restless horses kick the yellow dust high in the air.

Whenever a championship contest is scheduled, either boxing, horse racing, baseball or football, Major White is the man usually picked to describe it. He received a letter recently from a prominent business man in Fall River, Mass., relating a humorous story of how his set brought in a big fight.

It seems that this man had been attending a meeting on the evening of the Lynch-Goldstein bout. His wife was entertaining a number of women. On his return he found a note in his wife's handwriting under the lamp on the library table.

the library table.

It read, "Goldstein won. The score was Goldstein 8, Lynch, 3, tie 4."

Knowing nothing of the fight, in the morning, he inquired of his wife what it was all about. She informed him with a very superior air that SHE had followed the fight by Radio.

Transmitting to listeners the thrill of the game is the particular trick which has made this sports announcer the leader of them all. During the broadcasting of a football game, he was asked how it was done. ally," he sai and I let in all the interior if I was act.

The district description in sports the fact that he past tense, at the exact. He follows ers, intent thowling specially wild.

Major W makes his we so vivid the actually precome of admired, streamly incided but a sing which tells out, and to of emotion race or fight. For many worked the outs broadca

"I play the game myself, emotionally," he said. "I am 'in' every play and I let myself go, vocally, with all the intenseness that I would use if I was actually carrying the ball."

The distinctive character of the description given by this specialist in sports broadcasting lies in the fact that he does not speak in the past tense, but describes each play at the exact instant that it is made. He follows the milling mass of players, intent upon the game, while the howling spectators about him go wild.

Major White's gift of observation makes his word pictures of the scene so vivid that listeners feel they are actually present at the contest.

One of his favorite, and much admired, stunts is picking out some small incident, relating perhaps to but a single individual or group, which tells a story, tragic or humorous, and typifies the complexities of emotion which sway a football, race or fight crowd.

For many years Major White has worked the microphone end of various broadcasting station. His glow-

ing descriptions of a "stride-bystride" horse race has won him numerous friends who have never seen him in person. But, even away from the microphone, he is the same unassuming gentleman that he is when talking to the invisible audience.

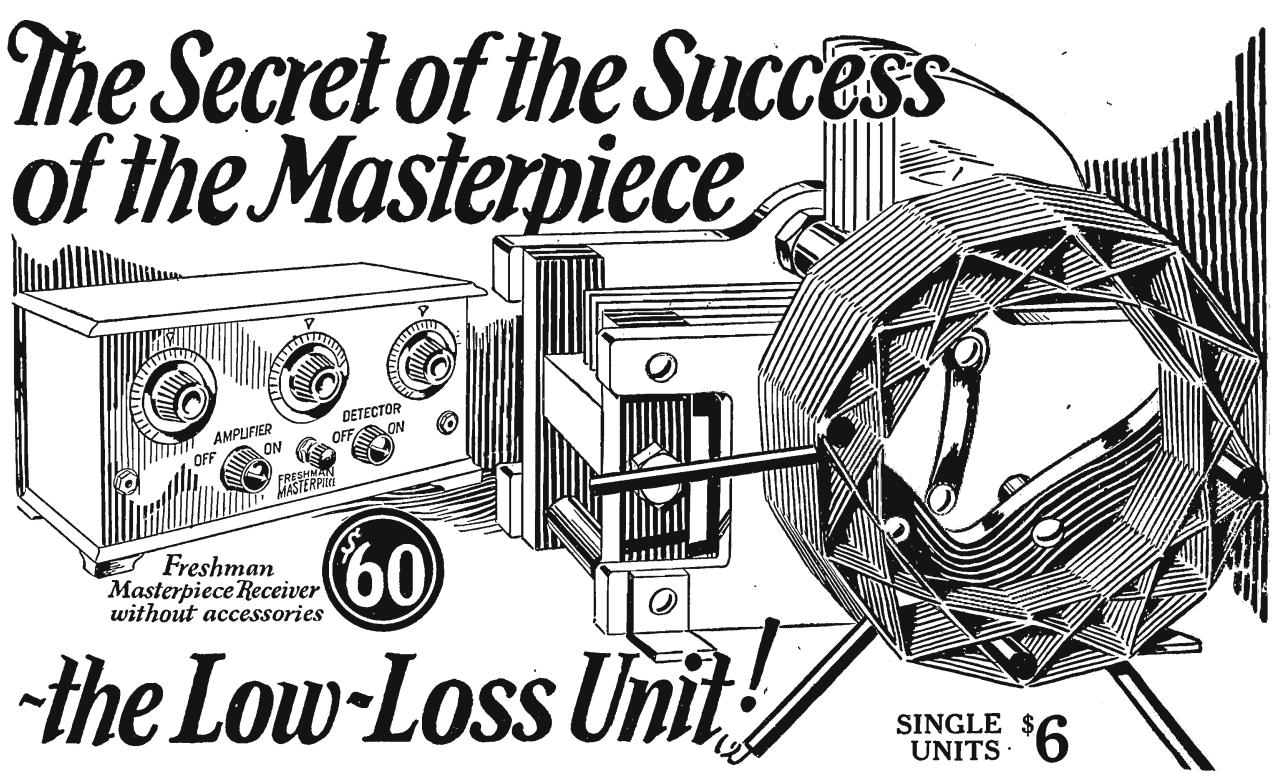
And here he is, the man all Radio sports fans listen to, as he appears when at his best—in action.

Major J. Andrew White, announcing the results of a prize fight, is shown above. Rated among critics as one of the most versatile announcers, he has the knack of "carrying" his audience through the entire program spellbound. Below he is shown describing a football match, following the players with binoculars while he tells of their various plays.

There is only one way to describe a football game, and that is to play the game emotionally. This is Major White's secret of announcing which ranks him as the foremost sports announcer in the world today.

Never in the history of broadcasting has an announcer held his audience as Major White did when he "covered" the horse race in which Epinard, the French ace, lost to an American horse.





It's Easy to Build

A Five Tube Radio Frequency Receiver When You Use the FRESHMAN MASTERPIECE KIT

NO NEUTRALIZING OR
BALANCING CONDENSERS REQUIRED

When you build with the Masterpiece Kit which produces a tuned Radio Frequency Receiver that will bring in even the most distant stations with the volume and clarity of locals. So selective that stations can be brought in day after day at the same dial settings. A set that will be the equal, if not the superior, of any 5 tube receiver on the market, and what's more, it's the easiest set in the world to operate.

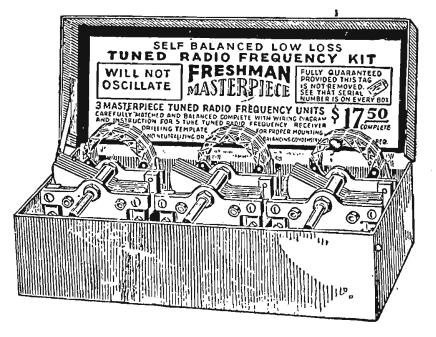
Each and every Freshman Masterpiece Coil bears a serial number and trade mark—our guarantee of electrical and mechanical perfection. Every genuine Coil is made of specially insulated wire to prevent short-circuiting, so often caused by inferior coils. For your protection demand only the genuine.

For Reflex and Other Circuits

MASTERPIECE TUNED RADIO
FREQUENCY KIT COMPLETE

with 3 MASTERPIECE UNITS carefully matched and balanced. Complete with wiring diagrams and instructions for building any 5 tube Tuned Radio Frequency Receiver and drilling template for proper mounting.

\$1750



At your dealer's, otherwise send purchase price and you will be supplied without further charge.



BROADCASTING PAYS THIS TEAM



famous team of Britt & Finch, are making a hit with their 45-week tour of all the broadcasting stations in the principal cities of the United States, Canada, Mexico and Cuba. Their booking. arranged by the National Association of Broadcasters and Henry Watterson, music publisher, is doing much to prove that broadcasting does help the music composer, publisher and dealer.

The team has a special acknowledgment postcard which is used to reply to all Radiophan letters, telegrams and postcards—and incidentally, lets the fans know just what songs they are "plug-

DDY Britt and Dick Finch of the ging." The reverse side of the card lists the compositions, published by Henry Watterson, that the team has written.

The winning personalities of the two singers is creating a great deal of good will for them and their songs. Their itinerary for the next few weeks will be: Two weeks ending November 9, WTAM,

Willard company, Cleveland. Two weeks beginning November 10, St.

Louis stations. Two weeks beginning November 24, WSB, Atlanta Journal, Atlanta, Ga.

Week beginning December 8, WMC, Commercial Appeal, Memphis, Tenn.

WHEREIN ANDY RIDES AIR WITH NITE CAPS

I WEAR NO MAN'S COLLAR HE TELLS RADIOPHANS

Deserts Caboose Porch for Radio -Expects to Occupy White House in Early Spring

CLEVELAND.—With a more than lively appreciation of the value of Radio as an aid in his presidential campaign, Andy Gump, palladium of the peoples' rights, champion of liberty and defender of the faithful, has forsaken the proscenium arch of the caboose and completed his tour of the country via Radio with "The Nite Caps on Lake Erie."

Mr. Gump, who wears no man's collar, visited the principal and unprincipled cities of the country as guest of the Cleveland News-Leader and the Euclid Music company, who jointly arranged the itinerary of the "Nite Caps" cruise from the twentieth floor of the Union Trust company's building.

Gives'Interview

Mr. Gump, when interviewed, said, "It's safer up here. They can't get at me as easily as they can on the back porch of the caboose.

"I have traveled the country over on freight trains," said Mr. Gump, "and I find public sentiment strong in its offerings of unsolicited and unexpected tributes. If I am a target for votes as I am for other things," he continued, "I feel that Min and I will be running this coun-

try of ours next March.
"It is partly on this account that I finished my triumphal tour by Radio. Mr. Frew of the Euclid Music company asked me to do so on behalf of the Radiophans of the United States, and I could not well refuse. As the Radiophans go, so

goes the country."

Danes Open Station
WASHINGTON, D. C.—Operation of the
new broadcasting station of the Danish Radio club was recently begun. The station cost about 75,000 kroners. The Danthe returns at first hand he crawled in ish Metcrological institute is broadcasting and shorted the set. weather reports three times a day for the benefit of farmers.

OPERATOR LAUDS SHORT WAVE SET

Small Transmitter on Giant Dirigible Highly Successful in Tests

FORT WORTH.—"We have proven the efficiency of the short wave length sending and receiving set."

This was the first statement of Gunner G. W. Almour, one of the Radio experts aboard the great dirigible Shenandoah, when it landed here on its way to the west coast.

Almour stated that for the first 850 miles of the trip into the west they were constantly in touch with NKF, the United States government Radio laboratory at Bellvue, using the short wave entirely. The talk by Admiral Moffett from Station WBAP was received perfectly.

Over a hundred amateurs helped the tests, answering from as far as Chicago and Minneapolis.

When the huge gas bag nosed in to make fast to the mooring tower near the helium plant it was necessary to signal with lights to have Station WBAP stop broadcasting because of the interference with the ship's outfit.

Water-Bug Stops Show While Ball Fans Howl

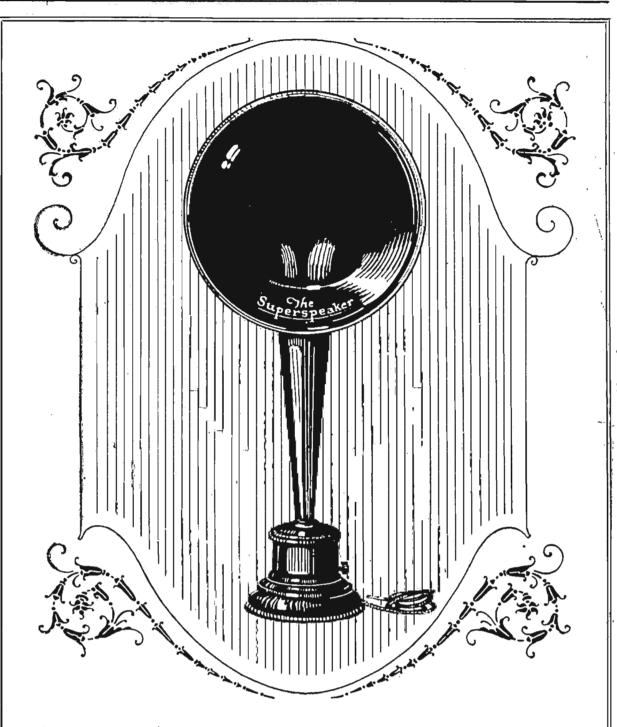
Shorts Condenser Plates Attempting to Get First Reports

WASHINGTON .- This is about a real Radio bug."

During the operation of the Washington Star Radio score board in one of the world's series games, the receiver suddenly became silent and the fans became

A crystal set proved that Station WCAP was broadcasting. The receiver was hastily torn apart and between the plates of a variable condenser a common office building variety of water-bug was found.

He was removed and the announcements of the game continued.



Take No Chances

In the whole field of Amplified Reception, there is absolutely no adequate substitute for THE JEWETT SUPERSPEAKER.

The Superspeaker is the one instrument used and recommended by experts everywhere—the one standard by which all others are rated—the despair of imitators—the delight of users—the pride of conscientious radio merchants.

Don't cheat yourself or your set with anything cheap, doubtful or untried.

Install a Superspeaker and sweep the ether, with absolute confidence that your set is performing up to its full limit to receive.

No extra batteries or coils—adjustable by positive metallic cam, to increase the volume of distant stations or to modify local reception as desired—a big, beautiful musical instrument, standing 26 inches high, weighing more than five pounds and finished in permanent ebony gloss.

WARNING TO DEALERS

Holiday Superspeaker demand will surely be beyond our ability to supply, so fortify now with an ample stock

JEWETT RADIO & PHONOGRAPH COMPANY 5670 Twelfth Street DETROIT, MICH.





TOWER'S Scientifics are used by MILLIONS, being approved by all newspapers, magazines and technical laboratories wherever submitted.

Tower's *Scientific* Headsets are guaranteed to be made of the best materials money can buy--- highest test enamel, insulated magnet wire, best grade five-foot tinsel cord, unbreakable caps, polished aluminum cases, using the famous scientific head-band constructed for maximum comfort.

If your dealer cannot supply you, order direct by post card, and we will ship immediately Parcel Post, C. O. D., plus a few cents postage.

THE TOWER MFG. CORP. 98 BROOKLINE AVE. Dept. WBOSTON, MASS.

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Important Decision Handed Down by Judge Knox Acclaimed by National Broadcasters' Association

NEW YORK .- The motion of the American Society of Composers, Authors and Publishers, made in the name of the Jerome H. Remick company, to enjoin the General Electric company from broadcasting the music of the society under the authorization of its members by the orchestra at an Albany hotel, was idenied by Judge Knox of the United States District court here.

The publishers' suit was started to restrain broadcasters from using for Radiocasting purposes their copyrighted composition.

Resume of Decision

In short the decision states: That whether or not broadcasting of musical compositions can under any circumstances be a public performance for profit, it is not an infringement where the playing of the musical composition, which is being broadcast, is itself authorized by the owner of the copyright or by anyone representing him. In other words, it is no infringement for a broadcasting station to broadcast performances of musical compositions by orchestras in hotels or elsewhere when the playing of the piece by the orchestra is itself authorized.

This decision, rated as one of the most important in the history of broadcasting, overrules the claim constantly made by the American society that broadcasting was a performance in itself, distinct and separate from the performance which was being broadcast.

This upholds present conditions-complete freedom to the public-and obviates the necessity of finding a way to make Radiophans pay for the entertainment. According to authorities it will also prevent any further misinterpretation of the copyright law.

Not only is the big station of Rome (IDO) now working on 100 to 120 meter waves, but two other amateurs, IHT and IMT, have entered the lists, and are reported with great intensity.

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Great collection of Radio information. Lessons for the beginner. Instruction on how to build and operate the standard

Valuable Question and Answer depart-

TODAY IS YOUR RADIO DAY In addition to these features the current issues give you all the live news in Radio. Advance Broadcasting Station programs. Correct and authoritative list of all Broadcasting stations. The first and last word in Radio.

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VOICE OPINIONS OF HOOVER MEET

authorities attending the conference just closed here, were well pleased by the manner in which the meeting was held. Asked for their Interpretation of the results of the conference, they gave the following messages to readers of Radio Digest:

SECRETARY HOOVER: "To my mind, the outstanding feature of the conference was the fine spirit manifested by the representatives of the listeners, broadcasters, manufacturers and all others of the Radio family. It was because of this that we were able to accomplish so much for the betterment of Radio.

"I am sure that as soon as the recommendations can be put in effect, the listeners can enjoy Radio with much greater satisfaction. There will be lessened interference between stations, and elimination of code interference which is now so troublesome in the broadcasting band.

"The refusal to lay down any super power program and limiting it to a purely experimental basis seems a happy solution of a difficult subject."

DR. FRANK W. ELLIOTT: "The conself government. Guiding the course of land."

WASHINGTON, D. C .- Leading Radio | an agency which bids fair to prove its worthiness as the greatest means of intelligent transmission the world has ever seen. The findings of the conference will in no way hinder progress in Radio development. It was a splendid achieve-

> POWELL CROSLEY, JR.: "The masterly ability of Herbert Hoover in the direction and handling of Radio broadcasting has been demonstrated. It would have been a mistake to have limited the amount of power that can be used. The development of broadcasting would suffer a serious set-back if it had been applied.'

> CAPT. P. P. ECKERSLEY: "As chief engineer of the British Broadcasting company under His Majesty's Postmaster General, I was extremely fortunate to be present at the conference. What impressed me chiefly was the manner in which the difficulties were discussed and

"Americans are interested in distance. Englishmen in the quality of his limited stations. Nevertheless, the policy of increased power and experimental super power indicates a trend towards strong ference has demonstrated the value of signals and simple receivers as in Eng-

SELECT SITE OF NEW SUPER POWER PLANT

Engineers Select Harrison, Ohio, for 5-kw. Crosley Station

CINCINNATI.-Radio engineers and surveyors have selected Harrison, Ohio, as the ideal place for the new powerful Radio broadcasting station of the Crosley Radio corporation.

Locating the powerful new five-kilowatt WLW station twenty-five miles from the studios in Cincinnati and away from thickly populated districts will lessen in-

NEW RADIOCAST WEBJ

(Continued from page 4)

When the Navy balloonists were reported lost last summer in the region of the Great Lakes, Captain Bruno flew to their assistance. His crew found the drifting balloon and were the first to report that the balloonists had been drowned.

When asked her reactions before the microphone, Miss Johns, noted Broadway star, said, "I feel as if I talk to myself—it is worse than stage fright.' Then looking in startled fashion at the microphone, she bowed in answer to in-









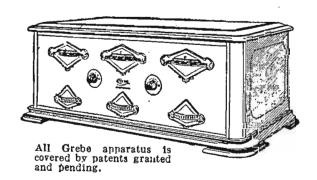
A BROADCAST Receiver that marks another long step forward in radio design and establishes a new set of standards in craftsmanship.

"Of what use is cleverness of speech?"

—Confucius

Words even though selected and phrased with the greatest deliberation, cannot do full justice to the Grebe Synchrophase—and its performance.





Ask your quality dealer for a demonstration of the Grebe Synchrophase or write us for literature.

A. H. GREBE & CO., Inc.

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NEW MODELS

Bristol Radio Receivers

Incorporating the Patented
Grimes Inverse Duplex System

Watch for further announcements in all leading radio publications.

Improved Bristol Audiophone Loud Speakers—gives greater volume, is more sensitive and still maintains its round, full tone and its distinctive freedom from distortion.

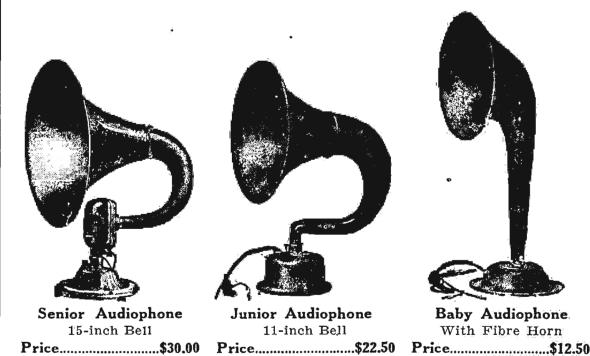
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THE BRISTOL COMPANY

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GRIMES SYSTEM INSURES NATURAL TONE QUALITY



Why it is Better

"MASTER of Every Note in the Orchestral Range" is the proven claim of the Federal No. 65 Audio Frequency Transformer!—Volume without distortion is the basis for the beauty of Federal Tone.

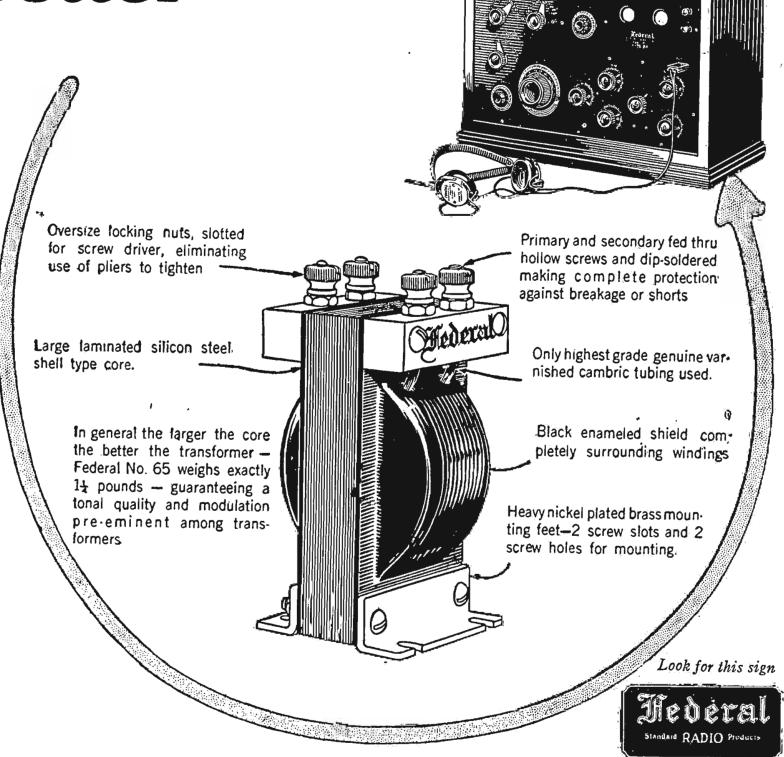
From its oversize locking nuts to its heavy brassmounting feet the Federal No. 65 Transformer incorporates the same engineering skill that has made Federal the recognized leader in electrical communication apparatus since 1890.

Insist upon Federal parts for your "pet" hook-up. There are over 130 standard parts bearing the Federal iron-clad performance guarantee.

FEDERAL TELEPHONE & TELEGRAPH COMPANY BUFFALO, N. Y.

Boston New York Philadelphia Pittsburgh Chicago San Francisco Bridgeburg, Canada





OPERATING AND TROUBLE SHOOTING

For the Owner of a Freed - Eisemann NR5 Neutrodyne

PLACE the receiver on the table or other piece of furniture on which it is to be permanently located. Keep the set at least 1 foot from the wall and away from heavy metal objects, such as radiators, etc. Connect two 45-volt B batteries or four 22½-volt B batteries "in series." These connections are to be made in accordance with the drawing on the back of the receiver. Do not put any tubes into the receiver until the set is completely wired.

Turn the two small dials at the extreme left hand, Number 4, and the right hand, Number 5, of the receiver to 0. Connect the dry batteries and the storage battery to the receiver, following the drawing on the back of the set very carefully. Connect the antenna and ground connection to the appropriate binding posts, on the rear of the set. Two antenua binding posts are provided, one for a short antenna, say 50 feet, more or less, in length, and one for a long antenna, 50 feet or longer.

Then insert one vacuum tube into the socket at the extreme right hand side of the set and turn the extreme right hand dial, Number 5, to about 75 to be sure that your batteries are properly hooked up. Then insert one vacuum tube in the extreme left hand socket and insert the telephone plug in the jacks and turn the extreme left hand dial, Number 4, to about 75 to be sure that all filament circuits are complete.

Operating Turn both these dials, Numbers 4 and 5, back to zero; then insert the remaining tubes into the set. The receiver is now ready for operation.

Turn "Detector Tube" dial, Number 5, till the index mark points to about 75

ASK TO SEE

The Most Logical Vernier Condenser Ever Designed



Low-Loss Condensers (Plain and Vernier)

Bakelite Condensers (Plain and Vernier)

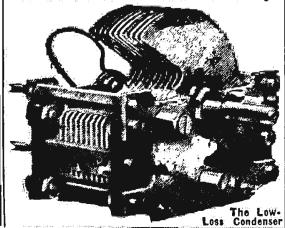
RHEOSTATS **POTENTIOMETERS** (All Sizes)

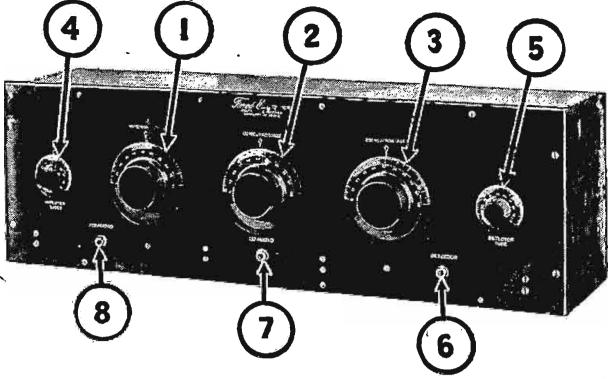
Are Leaders in the Industry

SCIENTIFIC PRODUCTS ARE RECOGNIZED AS STANDARD BY SET MANUFACTURERS

Send for descriptive literature and price list

The United Scien. Lab., Inc.





dial, Number 4, till its index mark also points to about 75 on the dial. Insert plug of telephones or loud speaker into

on the dial. Then turn "Amplifier Tubes" | Audio." All five vacuum tubes are now lighted and the receiver is ready to be "tuned-in."

Set the "Second Neutrostage" dial, the jack, Number 8, marked "Second Number 3, at, say 70, and the "First

Neutrostage" dial, Number 2, at 70. (This setting is approximately correct for receiving broadcasting on 492 meters.) Move "Antenna Tuning" dial, Number 1, slowly from about 0 to 90. If there is any broadcasting on 492 meters, it will be heard at some setting of the "An-

tenna Tuning" dial.

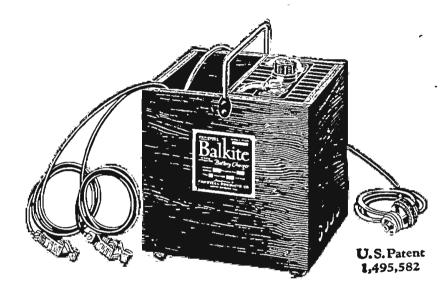
If no broadcasting is heard, set each of the "Neutrostage" dials at 68, and readjust "Antenna Tuning" dial, Number 1. Continue this tuning operation, always commencing by setting the two "Neutrostage" dials at the same setting and then rotating the "Antenna Tuning" dial.

Because of the sharpness of tuning of this receiver and the complete absence of "beat notes" new settings of the "Neutrostage" dials should be only about 2 apart when "picking up" a station. Thus, if no broadcasting is heard with the "Neutrostage" dials at 68, reset these dials to 66, then 64, then 62, etc., till a station is received. Then move each dial separately either up or down the scale, slightly, till the broadcast music or speech is loudest.

The "Detector Tube" and "Amplifier Tubes" dials, Numbers 4 and 5, should be readjusted till broadcast reception sounds clearest and loudest. This adjustment is not essential and need only be made once during a receiving period.

(Continued on page 28)

TESTED AND LISTED AS STANDARD BY UNDERWRITERS' LABORATORIES



A noiseless battery charger

without bulbs, vibrators, or moving parts

The Balkite Battery Charger is today universally known and accepted as one of the most efficient and trouble-free methods of charging radio batteries. It is based on a new principle, the use of Balkite, a rare metal developed for this purpose. This metal changes the AC current commonly used for lighting to the DC current necessary for charging batteries, with out the use of fragile bulbs or noisy vibrators.

1. The Balkite Battery Charger is entirely noiseless. 2. It cannot deteriorate through use or disuse. 3. It has no contact points, bulbs, vibrators, or moving parts. 4. It has nothing to adjust, break, or get out of order. 5. It cannot discharge or short circuit the battery. 6. It requires no attention other than an occasional filling with distilled water. 7. It delivers a taper charge, and cannot damage the battery by overcharging. 8. It cannot fail to operate when properly connected to the battery and line current. 9. It is unaffected by temperature or fluctuations in line current. 10. It will charge a completely discharged battery. 11. Its operation does not create disturbances in either your set or your neighbor's. 12. It is simple, efficient, and indestructible except through abuse. 13. Designed primarily for charging "A" batteries, it will also charge "B" batteries of the lead type without added attachments. 14. It can be used while the radio set is in use, without affecting the set or its operation, and without disturbing noises.

The Balkite Battery Charger will charge the ordinary 6-volt radio "A" or automobile battery at 3 amperes, from 110-120 AC, 60 cycle current. Special model for 50 cycles. For sale by all leading radio dealers. If your dealer cannot supply you, sent direct, prepaid, on receipt of price.

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FANSTEEL lkite Battery Charger it of the Rockies 120 · In Canada 1278

AN EVENING AT HOME WITH THE LISTENER IN

(SEE INSTRUCTIONS FOR USE BELOW)

(SEE	INSTR	OCTION	15 FUR	USE BI	LOW		
Station and City	Met.	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
AT9, Fort Bragg, N. C	435	Silent	7:00- 8:55		7:00- 8:55	Silent	7:00- 8:55	7:00- 8:00
CFAC, Calgary, Alta CFCA, Toronto, Out	430	9:00-11:00 7:00- 8:00			10:00-11:00 7:00- 8:00		Silent Silent	Silent 6:00- 7:00
CFCN, Calgary, Alta	440	Silent	12:30- 1:30		Silent	Silent	11:00- 1:00	Silent
CHYC, Montreal, Que	341 425	Silent Silent	Silent 6:30- 9:30	7:30- 8:30 Silent	Silent 6:30- 9:30	Silent Silent	Silent 6:30- 9:30	8:00- 9:00 3:30- 4:30
CKCD, Vancouver, B. C	410		10:30-11:30	10:30-11:80	10:30-11:30	10:30-11:30	10:30-11:30	Silent
CKY, Winnepeg, Man CNRO, Ottawa, Ont	450 435	Silent Silent	8:15-10:00 Silent	Silent 6:30-11:30		8:15-10:00 Silent	Silent 6:30-11:30	7:00- 8:00 Silent
CYB, Mexico City, Mex	370	Silent	8:30- 9:00		9:00-11:00		8:30- 9:00	Silent
CYL, Mexico City, Mex CYX, Mexico City, Mex	330	Silent 9:00-12:00	10:00-11:30 Silent	Silent	Silent Silent	10:00-11:30 8:00-10:00	Silent Silent	Silent Silent
KDKA, E. Pittsburgh, Pa KFAE, Pullman, Wash	326 330	5:30- 8:00 9:30-10:30	5:30-10:00 Silent	5:30- 8:00 9:30-10:30	5:30-10:00 Silent	5:30- 8:00 9:30-10:30	5:30- 8:00 Silent	6:30- 7:30 Silent
KFAF, Denver, Colo	278	9:00-10:00	9:00-10:00	Silent	9:00-10:00	9:00-10:00	9:00-10:00	Silent
KFDM, Beaumont, Texas KFGZ, Berrien Springs, Meh	306 286	Silent 7:45- 9:00	8:00-11:00 Silent	Silent Silent	Silent Silent	8:00-11:00 9:00-10:00	Silent Silent	Silent 7:45- 9:00
KFI, Los Angeles, Calif	469	8:45- 1:00	8:45- 1:00	8:45- 2:00	8:45- 1:00	8:45- 2:00	8:45- 2:00	8:45- 1:00
KFKB, Milford, Kan KFKX, Hastings, Nebr	286 291	7:20- 2:00 9:30-11:00	7:20- 2:00 Silent	7:20- 2:00 Silent	7:20- 2:00 9:30-11:00	7:20-2:00 Silent	7:20- 2:00 Silent	Silent - Silent -
KFMX, Northfield, Minn	283	Silent	Silent	9:00-10:00	Silent	Silent	Silent	7:00- 8:00
KFNF, Shenandoah, Ia KFOA, Seattle, Wash	266 455	Silent 10:30-12:00		7:30- 9:00 10:30-12:00	7:30- 9:00 10:30-12:00	7:30- 9:00 10:30-12:00	7:30- 9:00 Silent	6:30- 7:30 Silent
KFPT, Salt Lake City, Utah	268	10:30-11:00	Silent	10:00-11:00	Silent	10:00-11:00	Silent	Silent
KGO, Oakland, Calif KGU, Honolulu, Hawaii	312	10:00-11:00 12:00- 1:30	10:00- 3:00 12:00- 1:30	Silent 12:00- 1:30	10:00-11:00 12:00- 1:30	10:00-11:00 12:00- 1:30	10:00- 3:00 12:00- 1:30	Silent 12:00- 1:30
KGW, Portland, Ore	492	10:00-11:00	10:00-11:00	10:00- 1:00	Silent	10:15- 1:30	12:00- 2:00	8:00- 9:00
KHJ, Los Angeles, Calif KLX, Oakland, Calif	395 509	10:00-12:00	Silent	10:00-12:00 10:00-12:00		10:00-12:00 10:00-12:00	10:00-12:00 Silent	Silent
KOB, State College, N. Mex.	360	8:30-9:30	Silent	8:30- 9:30	Silent	8:30- 9:30	Silent	Silent
KPO, San Francisco, Calif KSD, St. Louis, Mo	423 546	7:00- 9:30	Silent	10:00-12:00 8:30-9:30	Silent	8:00- 9:00	Silent 8:00- 9:00	
KYW, Chicago, Ill NAA, Radio, Va	536 435	Silent 5:45- 7:20	8:00-11:30 6:05- 7:20	8:00-12:30			8:00-10:30 Silent	7:00- 8:00 Silent
PWX, Havana, Cuba	400	Silent	Silent	7:30-10:00	Silent	Silent	7:30-10:00	Silent
WAAW, Omaha, Nebr WBAP, Fort Worth, Tex	286 476	7:30- 9:00 7:30-10:45	Silent 7:30-10:45	Silent 7:30-10:45	7:30- 9:00 7:30-10:45	Silent 7:30-10:45	Silent 7:00- 8:00	Silent Silent
WBAV, Columbus, O	423 -	Silent	7:00- 9:00	Silent	Silent	7:00- 8:00	Silent	Silent
WBBG, Mattapoisett, Mass. WBBR, Staten Island, N. Y.	248 273	8:00-10:00 7:00- 8:00	Silent Silent	8:00-10:00 7:00- 8:00	Silent 8:10- 9:30	8:00-10:00 Silent	Silent 7:00- 8:00	Silent 8:10- 9:30
WBT, Charlotte, N. C WBZ, Springfield, Mass	360 337	Silent 6:40-11:30	7:30- 8:30 6:40- 8:55	Silent 6:40-11:30	7:30- 8:30	Silent 6:40-11:00	Silent 6:40- 8:55	5:30- 6:30 6:00- 9:00
WCAE, Pittsburgh, Pa	462	8:30-11:00	8:30-9:30	8:30- 9:30	8:30-11:00	8:30- 9:30	8:30- 9:30	6:00- 7:00
WCAJ, Univ, Place, Neb. WCAL, Northfield, Minn	280 360	Silent Silent	7:00- 8:00 Silent	Silent Silent	Silent 10:00-11:00	9:00-10:00 9:30-10:30	Silent 1:00- 2:00	Silent Silent
WCAP, Washington, D. C.	469	6:30- 9:00	Silent	6:45- 9:00	Silent	6:30-11:00	Silent	6:20- 9:00
WCBD, Zion, Ill	417	8:00-10:15 6:00- 9:00	Silent 6:00- 7:30	Silent 7:00- 8:00	8:00-10:15 7:00-10:30	Silent 6:00- 9:00	Silent 6:00- 9:00	2:30- 6:00 8:00- 9:00
WCX, Detroit, Mich WDAF, Kansas City, Mo	517 411	7:30- 9:00	7:30-11:00 11:45- 1:00	7:30- 9:00		7:30- 9:00	Silent 11:45- 1:00	6:15- 7:15
WDAR, Philadelphia, Pa	395	6:30- 9:00	6:30- 7:30	6:30- 9:00	6:30- 7:30	6:30-12:00	6:30- 7:30	Silent
WEAF, New York, N.Y WEAO, Columbus, Ohio	492	7:00- 9:00 Silent	7:00- 9:00 Silent	7:00- 9:00 Silent	7:00-11:00 7:00- 9:00	7:00- 9:00 Silent	7:00-11:00 Silent	Silent Silent
WEBH, Chicago, Ill	370	7:30-12:30	7:30-12:30	7:30-12:30	7:30-12:30	7:30-12:30	7:30-12:30	7:00- 9:00
WEBJ, New York, N. Y WEAY, Houston, Texas	273 360	Silent 10:00-12:00	6:00- 8:00 10:00-12:00	Silent 10:00-12:00	Silent 10:00-12:00	6:00- 8:00 8:00-12:00	Silent 8:00-12:00	Silent 8:00-10:45
WEEL, Boston, Mass WFAA, Dallas, Tex	303	7:00- 8:00		7:00- 8:00	7:00- 8:00	6:00- 8:00	Silent	6:20- 8:00
WFI, Philadelphia, Pa	476 395	8:30- 9:30 Silent	7:00- 8:00		8:30-12:00 7:00- 8:30	Silent	8:30-12:00 Silent	6:30-7:30
WGAQ, Shreveport, La WGI, Medford, Mass	263 360	9:00-12:00 Silent	Silent 6:30: 9:00	8:00- 9:00 6:30- 9:00		Silent 6:30- 9:00	9:00-12:00 6:30- 9:00	Silent 7:30- 9:00
WGN, Chicago, Ill	370	8:30-11:30	8:30-11:30	8:30-11:30	8:30-11:30	8:30-11:30	8:30-11:30	9:15-10:00
WGR, Buffalo, N. Y WGY, Schenectady, N. Y	319	5:30-11:00 6:45- 9:00	5:30- 6:30 6:45- 9:00	5:30-11:00 Silent	5:30-6:30 6:45-9:00		5:30- 6:30 8:30- 9:30	3:00- 4:00 6:30- 7:30
WHA, Madison, Wis WHAA, Iowa City	360 484	7:30- 8:30	Silent Silent	7:30- 8:30	Silent Silent	7:30-8:30 Silent	Silent Silent	Silent Silent
WHAS, Louisville, Ky	400	Silent Silent	7:30- 9:00		7:30- 9:00	7:30- 9:00	7:30- 9:00	4:00- 5:00
WHAZ, Troy, N. Y WHB, Kansas City, Mo	380 411	8:00-10:00 7:00- 8:00	Silent 8:00-11:30	Silent 7:00- 8:00	Silent 8:00-11:30	Silent 7:00- 8:00	Silent Silent	Silent 8:00-10:00
WHK, Cleveland, Ohio	283	5:00- 6:30	5:00- 6:30	5:00- 6:30	5:00-11:00	5:00-11:00	5:00-11:00	7:00-10:00
WHN, New York, N. Y WHO, Des Moines, Ia	360 526	6:30-11:00 7:30:12:00	8:30-11:00 Silent	6:30-11:00 7:30- 9:00	8:30-11:00 Silent	8:30-11:00 7:30- 9:00	6:30-11:00 Silent	8:30-11:00 7:30- 9:00
WIP, Philadelphia, Pa WJAR, Providence, R. I	509	Silent 7:00- 8:00	7.00-11:00	Silent 7:00-12:00	7:00-11:00		7:00-11:00 6:10- 7:10	9:30-12:00 Silent
WJAS, Pittsburgh, Pa	286	7:30-10:00	7:00- 8:00 7:30-10:00	7:30-10:00	6:30- 9:00	6:30- 9:00	Silent	Silent
WJAX, Cleveland, O WJJD, Mooseheart, Ill	390 278	Silent 7:00- 9:30	6:30- 9:00 7:00- 9:30	Silent 7:00- 9:30	8:00-10:30 7:00- 9:30	Silent 7:00- 9:30	Silent 7:00- 9:30	Silent Silent
WJY, New York, N. Y	405	Silent	6:45- 8:00	Silent	6:30- 9:30	6:30-10:30	Silent	7:15- 7:45
WJZ, New York, N. Y WKAQ, San Juan, P. R	455 360	6:00-10:30 Silent	6:00-10:00 7:00- 8:30	6:00-10:30 6:00- 7:30		6:00-10:30 Silent	6:00-10:30 Silent	6:00-10:30 Silent
WKBF, Providence, R. I	286	Silent	8:00- 9:30 Silent	Silent	Silent	Silent	Silent Silent	Silent Silent
WLBL, Stevens Point, Wis WLS, Chicago, Ill	278 345	Silent Silent	6:30- 1:00	8:00- 9:00 6:30-12:00	6:30- 1:00		8:00-12:00	6:30- 8:00
WLW, Cincinnati, O WMAQ, Chicago, Ill	423 448	8:00-10:00 Silent	10:00- 1:00 6:00-10:00	7:00-10:00 6:00-10:00	10:00-12:00 6:00-10:00	Silent 6:00-10:00	Silent 6:00-10:00	7:30- 9:15 Silent
WMC, Memphis, Tenn	500	8:30- 9:30	8:30-12:00	Silent	8:30- 9:30	8:30-12:00	8:30- 9:30	Silent
WMH, Cincinnati, O WNAC, Boston, Mass	309 278	8:00-10:00 6:00-10:00	Silent 8:00-10:00	8:00-11:00 6:00-10:00	8:00-10:00	Silent 6:00-10:00	9:00-12:00 9:00-10:00	Silent 7:30- 9:30
WNYC, New York, N. Y	526	7:30-10:30	7:30-10:30	7:30-10:30	7:30-10:30	7:30-10:30	7:30-10:30	Silent
WOAL, San Antonio, Texas. WOAW, Omaha, Neb	385 526	Silent 6:00-11:00	9:30-10:30 6:00-11:00		7:30-8:30 6:00-11:00	Silent 6:00-11:00	Silent 6:00-11:00	9:30-10:30 9:00-11:00
WOC, Davenport, Ia WOO, Philadelphia, Pa	484 509	8:00-11:00 6:30-10:00	Silent Silent	8:00- 9:00 6:30-10:00		8:00- 9:00 6:30-10:00	9:00-10:00 Silent	7:00-11:00 Silent
WOQ, Kansas City, Mo	360	Silent	8:00- 9:30	Silent	8:00- 9:30	Silent	8:00- 9:30	7:00- 7:45
WOR, Newark, N. J WQJ, Chicago, Ill	405	5:15-10:00 Silent	5:15-10:00 7:00- 2:00	5:15-10:00 7:00- 2:00	7:00- 2:00	5:15- 6:30 7:00- 2:00	6:15-10:00 7:00- 2:00	Silent 8:00-10:00
WRC, Washington, D. C	469	Silent	4:15-10:00	Silent	4:15-10:00	Silent	4:15-10:00	Silent
WRW, Tarrytown, N. Y WSAI, Cincinnati, O	273 309	6:00-10:30 10:00-12:00	7:00-10:00	Silent	10:00-12:00	Silent	8:00-10:30 8:00-10:00	Silent 3:00- 4:00
WSB, Atlanta, Ga WSY, Birmingham, Ala	429 360	8:00-12:00 Silent	8:00-12:00 Silent	Silent Silent	8:00-12:00 Silent	8:00-12:00 Silent	8:00-12:00 Silent	7:30- 2:00 8:00- 9:00
WTAM, Cleveland, O	390	5:00- 9:00	5:00- 6:30	5:00-10:00	5:00- 6:30	5:00- 6:30	5:00-11:00	Silent
WTAS, Elgin, Ill WTAY, Oak Park, Ill	286 283	7:30-11:00 Silent	6:45- 9:45	6:45- 9:45	6:45- 9:45	7:30-12:30 6:45- 9:45		7:30-12:30 Silent
WWJ, Detroit, Mich		7:30- 8:30						6:30- 7:30
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Instructions for Use. - All the hours above are given in Central Standard Time. If your city uses Eastern Time, add one hour to each of the periods stated; if your city uses Mountain Time, subtract one hour; if your city uses Pacific Time, subtract two hours. This table includes only the evening Radiocasts, and, on Sunday, the late afternoon program.

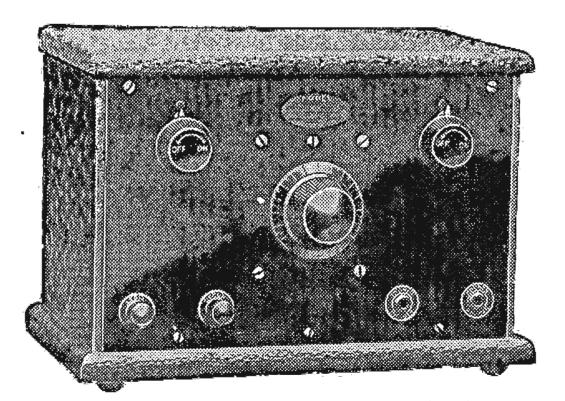
STATIONS IN ORDER OF WAVE LENGTHS USED

Meter	s Call	Mete	rs Call	Meters	Call	Meters	s Call	Meters	s Call	Mete	rs Call
240	WBBG	286	$W\Lambda AW$	345	WLS		WHAZ	425	CKAC	476	WFAA
263	WGAQ	286	WJAS	360	KGU	385	WOAI	429	WSB	484	WHAA
266	KFNF	286	WKBF	360	KOB		WJAX	430	CFAC	484	WOC
26 8	KFPT	286	WTAS	360	\mathbf{WBT}		WTAM	435	ATN		
270	KQV	291	KFKX		WCAJ	395	KHJ	435	CNRO	492	KGW
273	WBBR	294	WEAO		WCAL	395	WDAR	435	NAA	492	WEAF
273	WEBJ	303	WEEI		VEAY.	395	WFI	440	CFCN	500	$\mathbf{w}_{\mathbf{MC}}$
273	$\mathbf{w}_{\mathbf{R}}\mathbf{w}$	306	KEDM	360	WGI	400	CFCA	441	wos	509	KLX
278	KFAF	309	WMH	360	WHA	400	PWX	448	WQJ	509	WIP
278	WJJD	309	WSAI	360	WHN	400	WHAS		WMAQ	509	woo
278	WLBL	312	KGO	360	WJAR	405	WJY	450	CKY	510	CYL
278	WNAC	319	WGR	360 V	VKAQ	405	WOR	455	KFOA	517	WCX
280	WCAJ	326	KDKA	360	woo	410	CKCD	455	WJZ	517	WWJ
283	KFMX	330	CYX	360	WSY	411	WDAF			526	WHO
283	WCAJ	330	KFAE	370		411	WHB		WCAE	526	WNYC
283	WHK	337	WBZ	1	CYB	417	WCCO	469	KFI	526	WOAW
283	$\mathbf{W}\mathbf{T}\mathbf{A}\mathbf{Y}$	341	CHAC		VEBH	423	KPO	469	WCAP	536	KYW
286	KFKB	341	KFKX	370	WGN	423	WBAV	469	WRC	546	KSD
286	KFGZ	345	WCBD	380	WGY	423	WLW	476	WBAP	526	WNYC

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RADIO ELECTION RETURNS TUESDAY



Headliners of the Week

THE NEW organ at the Scottish Rite Cathedral, St. Louis, will be heard for the first time Wednesday, when M. Corbein, the famous Belgian organist will send the first notes forth from KSD. But it is Wampus night again at KFI, and anyone who knows what Wampus means will surely travel westward after KSD signs off.

Once more the fragrant sounds of the Frontenac breweries will be heard in many earphones. Sad to tell only Quebecers will receive the prize awards. Americans should not tune in for CKAC Thursday for fear revenue officers misled by familiar evidence may confiscate their Radio sets. It would be better to learn to appreciate the Russian operas which puzzle opera lovers every season. Fullerton L. Waldo will explain the

Russian music, assisted by Piotr

Wizla at WFI.
CNRT has produced a musical composer of note, Fraser Allan. Friday he will direct the production of his own opera "The Prince of Mah Jong."

Andy Gump, the friend of the people gives his last campaign speech at WJAX, Saturday night. If you have never heard this world famous politician, tune in at midnight for the meeting of the Nite Caps and hear

his last appeal for votes.

Is your disposition sweet? If not, listen in to the University of Pittsburgh lecture, "Developing a Pleasing Personality," Monday. This is also, by the way, KDKA's fourth birthday.

Tuesday for the first time election returns may be heard in every home. All the stations are broadcasting the results of the presidential election.



Wednesday, October 29

Silent night for: CKAC, KGO, WFAA, WGY, WJY, WMC, WOAW, WRC, WSAI. CFCA, Toronto, Can. (Eastern, 400), 7 p. m., results

Silent night for: CKAC, KGO, WFAA, WGY, WMC, WOAW, WRC. WSAI.

CFCA. Toronto, Can. (Eastern, 400), 7 p. m., results of British elections.

CHYC, Montreal, Can. (Eastern, 341), 7:45-11 p. m., Salvation Army, Silver band.

CKAC, Montreal, Can. (Eastern, 326), 7:30 p. m., Mount Royal hotel luncheon concert.

KDKA, E. Pittsburgh, Pa. (Eastern, 326), 7:30 p. m., exercises, Y. M. C. A.; 9:45, stock reports, markets; 11:55, time; 12 m., weather, markets 12:15, Daugh-erty's orchestra; 6:30, dinner conert, Pittsburgh Athletic association, Gregorio Scalzo's orchestra; 7:15, Kindergarten Good-Night circle; 7:30, late news; 7:40, stocks, markets 8, feature; 8:15, "The Role of Chemistry in Everyday Life," Dr. Alexander Low; 8:30, KDKA String quartet; Dora Bryan Moorehead, soprano; 9:55, weather.

KFAE, Pullman, Wash. (Pacific, 330), 7:30 p. m. Vincent Hiden, cellist, saxophonist; Harry Isaacs, baritone; "Poultry Management in November." W. D. Buchanan; "Results of State College Leaf Roller Experiments," A. Spuler; readings.

KFI, Los Angeles, Calif. (Pacific, 469), 5:30-6 p. m., talk, Dr. Ralph L. Power; 6:45-7:30, detective stories, Nick B. Harris; orchestra concert; 7:30-8, Harry Baxter recital; 8-9 Evening Herald concert; 9-10, Examiner studio recital, Wampus program; 10-11, specisl drsmatic program featuring Harry James and Georgla McCrone Fifield; 11-12, Ambassador hotel Cocoanut Grove orchestra.

KFKB, Milford, Kans. (Central, 286), 8 p. m., Abe Martin's band; 9, lecture, Dr. Osborn, male quartette; Martin's band; 9, lecture, Dr. Osborn, male quartette; 10-11, lecture, Dr. Brinkley, jubilee boys' orchestra.

KFNF, Shenandoah, Ia. (Central, 286), 7:30 p. m., concert, Clearmont Oil company.

KFOA, Seattle, Wash. (Pacific, 455), 12:30-1:30 p. m., concert, Clearmont oil company.

KFOA, Seattle, Wash. (Pacific, 350-7:30, Gray studio chidren's program, featuring Mrs. Edward Hughes and children's program, featuring Mrs. Edward Hughes and children's program, featuring Mrs. Edward Hughes and children's program, featuring Mrs.

children's program, teaturing and Helen in nature study daughters, Mary Elizabeth and Helen in nature study program.

KGO. Oakland. Calif. (Pacific, 312), 1:30 p. m., stock; 1:40, S. F. stocks; 1:45, weather; 3, musical program and Cora L. Williams Institute speaker; 4-5:30, concert orchestra, Hotel St. Francis, Vinton La Ferrera, conductor; 6:45, N. Y. stocks; 6:55, S. F. stocks; 7, weather; 7:05, S. F. produce news; 7:10 haseball scores; 7:15, news.

KGW. Portland. Ore. (Pacific, 492), 11:30 a. m., weather; 12:30 p. m., Bill Darby's orchestra; 5, chliveather; 12:30 p. m., Bill Darby's orchestra; 5, chliveather; program, story, Mrs. Edward Gulver; 7:15, markets, weather, news, police reports; 8, concert, Hanna Davis; 10, dance music George Olsen's Metropolitan orchestra.

KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:30, Aggler and Musser Seed company; 2:30-3:30, musical Aggler and Musser Seed company; 2:30

Mars F. Baumgardt; the Gaylord trio, Lotena Ranager; 10-11, Art Hickman's dauce orchestra, Earl Burtnett, director.

KLX, Oakland, Calif. (Pacific, 509), 8-10:20 p. m., an opera in three acts, "La Traviata," Gregorlo Artleda, director; Violetta Valery, soprano, Tereclna Artleda, director; Violetta Valery, soprano, Tereclna Monotti; Flora Bervoix, mezzo soprano, Grace Gilbert; Annina, aoprano, Beatrice L. Sherwood; Alfredo Germont, tenor, Gregorio Artleda; Giorgio Germont, barlmont, tenor, Gregorio Artleda; Giorgio Germont, barlmont, Marion Vecky; Gaston, tenor, Dixon A. Ervin; Baron Douphol, barltone, E. Arnold; Marquis D. Obigny, bass, C. Alibertina; Doctor Grenvil, bass, L. Lelmhach; Augustus Berantend, planist; American Theater orchestra; 10:10, Clement Barker, organist.

KOB, State College, N. M. (Mountain, 360), 7:30-8:30 p. m., "Conditions Affecting Farm Profits in New Mexico," L. H. Hauter; "Food Value of Milk," Prof. O. C. Cunningbam; College male chorus, quartets.

KPO, San Francisco, Calif. (Pacific, 423) 1-2 p. m., Selger's Fairmont hotel orchestra; 5:30-6:30, Rudy Selger's Fairmont hotel orchestra; 7-7:30, Budy Selger's Fairmont botel orchestra; 7-7:30, Budy Selger's Fairmont botel orchestra; 8-11:20, E. Max Bradfield's Versatile band; "Vocatlonal Education for Your Boy and Mine," William T. Elzinga; Yvonne Farr, soprano; conversational French course lesson; male quartet, S. E. Police KSO, St. Louis, Mo. (Central, 546), 8 p. m., M. Cor-

quartet.

KSO, St. Louis, Mo. (Central, 546), 8 p. m., M. Corbein, Belgian organist, will open the new organ at the Scottish Bite cathedral.

KYW Chicago, III. (Central, 536), 6:30 a. m., morning exercises, Y. M. C. A.; 9:30, news, markets; 11:35, table talk, Mrs. Anna J. Peterson; 6:02-6:15 p. m., news, markets; 6:35-7, children's bedtime story, Uncle Bob; 7-7:30, dinnor concert, Congress hotel; 7:30-8, program, Duncan Sister Music Publishing company;

8-8:30, Tony Prince, accordianist; Evans Lloyd, haritone; Charlotte Simmons, soprano; Dorothy Wilkins, mezzo soprano; Thora Martens contralto; Florence Boydston, contralto; 9:30-8:45, around the town with KYW in Chlcago; 8:45-9:05, musical program; 9:05-9:15, "Good Roads," Chicago Motor club; 9:15, "Hygeia," Dr. Dodson; 9:45-11:30, midnight revue; 1:30 a. m., American feature, Coon-Sanders Original nighthawks; W. Remington Welch, organist.
WBAP, Fort Worth, Tex. (Central, 476), 7:30-8:30 p. m., dance music: 9:30-10:45, Texas hotel orchestra.
WBAV, Columbus, Ohio (Eastern, 423), 12 m., Ila Lorhach Owens, pianist.
WBZ, Springfield, Mass. (Eastern, 337), 11 a. m., weather, time, markets; 6 p. m., dinner concert, Westinghouse Philharmonic trio; 7, markets dept. of agriculture; 7:10, civil service examinations information: 7:30, bedtime story for the kiddles; 7:40, Westinghouse Philharmonic trio; Mrs. Carl Rommell, planist; 8:15, special Jewish program, Y. M. H. A.; 9:55, they to the program, and the program of the

culture; 7:10, civil service examinations information; 7:30, bedtime story for the kiddles; 7:40, Westinghouse Philharmonic trio; Mrs. Carl Rommell, planist; 8:15, special Jewish program, Y. M. H. A.; 9:55, time; 10, Charles Bradford Beach, baritone; Stanley Usher, accompanist; 11, Leo Reisman and his Hotel Brunswick orchestra; 11:30, songs, Bill Coty, Jack Armstrong; 11:45, Leo Reisman and his Hotel Brunswick orchestra.

WCAE, Pittsburgh, Pa. (Eastern, 462), 12:30 p. m., news, weather; 3, Fred Rosenfeld, pianist; 3:30, news; 4:30, stocks; 6:30, dinner concert, William Penn hotel; 7:30, Sunshine glrl; 7:45, special feature; 8:35, special feature; 8:30, Mrs. E. C. Sheets, contraito; Frances Victor, entertainer.

WCAL, Northfield, Minn. (Central, 360), 9:45 a. m., St. Olaf College chapel services.

WCAP, Washington, D. C. (Eastern, 469), 7:30-7:45 p. m., music; 7:45-8, address, Hon. Lerton R. Ginn; 8-8:20, musicale; 8:20-10, New York Philharmonic orchestra, from WEAF.

WCAY, Milwaukee, Wis. (Central 266), 6:30 p. m., Boston Store night: Olymplans hand; Tony Wuchterl, reader; Lucille Snyderworth, soprano.

WCX, Detroit, Mich. Eastern, 517), 4:15 p. m., musical program; 6, dinner concert; 8:30, musical program, direction of George H. Carr; Glenn Nichol's orchestra.

WDAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., the Star's string trio; 6-7, school of the air; piano solo; address speaker, Meat Council of Greater Kansas City; address, auspices, Health Conservation association; the Tell-Me-a-Story lady; music, Hotei Muehlebach Trianon ensemble; 8-9:15, program by string pupils of Anton Seufert; 11:45-1 a. m., nighthawk frolic, the "Merry Old Chief" and the Plantation players.

tlon players.

WDAR, Philadelphia, Pa. (Eastern, 395), 11:15 a. m., daily almanae; 12:02 p. m., organ recital, Stanley theater; 12:30, services, direction Philadelphia Federation of churches; Arcadia cafe concert orchestra, Feri Sarkozi, director; 2, Arcadia cafe concert orchestra; "Care of the Children," Mrs. Louis Love; 7:30, Dream Daddy's hedtime etories; 8, "Conversation

Corner," Arnold Ahbott; 8:15, Green Hills Farms orchestra; 10, Arcadla cafe dance orchestra; Arthur Murray's dancing lessons.

WEAF, New York, N. Y. (Eastern, 492), 11-12 a. m., young mother's program; 12-12:30 p. m., cbapel services, Columbia university; 4-4:30, Jeanette Uhle String quartette; 4:30-5, stories for children; 6-7, dinner music, Waldorf-Astoria hotel; 7-7:30, services United Synagogue of America; 7:30-8, Alfred Urner, tenor and William Liebling, barltone, 8-8:15, O. S. Rogers, flutist; 8:15-10, concert, New York Philharmonic society, Willem Van Hoogstraten, director; 10-10:30, Grace Fisher, soprano.

WEAO, Columbus, Ohio (Eastern, 294), 9 a. m., music Marguerite Manley Sledel School of Music talent; 11, music, Siedel artists; 1:30 p. m., music, Siedel artists.

WEEI, Boston, Mass. (Eastern, 303), 6 p. m., Maxwell Melody boys, dance music; 7, Radlo rally conducted by James M. Curley, Mayor of Boston; 7:10, Boston Edlson Big Brother club; 7:45, talk, Dorothy H.

MEEI, Boston, Mass. (Eastern, 303), 6 p. m., Maxwell Melody boys, dance music; 7, Radlo rally conducted by James M. Curley, Mayor of Boston; 7:10, Boston Edlson Big Brother club; 7:45, talk, Dorothy H. Goodwin; 8, Boston police night.
WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3, closing prices, Chicago grain market; 3:05, recital, Roman Niteski, violin, Madeline Beifsynder Budd, soprano; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jlm, the kiddles' pal.
WGBS, New York, N. Y. (Eastern, 316), 10 a. m., dally shopping talk; 10:10, Ludmilla Vojackova Wetche, planist and composer, Czecko Slovakian folk songs; 10:20, first of scries of mothers talks, Mary G. Armstrong of the United Parents association; 10:30, Mme. Ludmilla Vojackova Wetche, planist; 10:50, Priscilla Bayne, soprano; 1:30 p. m., recital, Carl Sacks, Hotel Empire concert trlo; 2-2:30, Ruth Bowman, mezzo soprano; 3, interview, Terese Rose Nagel with Emanie Sachs, author of "Talk"; 3:10, Crystal Water, songs; 3:20, talk, Mrs. Clarence M. Smith; 3:30, Crystal Waters, songs; 3:40, students' period; 3:50, Carrle Hirsch, mezzo soprano; 6-6:30, Uncle Geebee; 6:30, Vera Robbins Brown, niezzo soprano; 6:45, Bernard Mann, planist; 7, Uncle Robert, "Talking to the Family"; 7:15, Bernard Mann, planist.
WGN, Chicago III. (Central, 370), 1:40 p. m., Drake concert ensemble and Blackstone string quintet; 2:30, recital from Lyon and Healy concert hall; 3, rocking chair time; 5:30, Skeezix tlme; 6, Lyon and Healy organ recital; 6:30, Drake concert ensemble and Blackstone string duintet; 8, the classic bour; vocal, instrumental muslc; 10, Jack Chapman's dance orchestra and latest popular songs.
WGR, Buffalo, N. Y. (Eastern, 319), 12:30-1 p. m., George Albert Bouchard, organist; 2:30-4:30, Buffalo Courler and Enquirer musical program; 6:30, dinner music; 8, address, "Buffalo Harbors and Canals," Cornish Stalley; 8:15-9, Malle and Little, Cameo record artists; 9-11, recital, featuring lsabelle Whea

Tenny: 11, supper-dance music, Vincent Lopez Hotel Statler dance orchestra. Harold Gieser, director. WHA, Madison, Wis. (Central, 275), 7:45 p. m., University School of Music; "Voting and Elections," Prof. Ford H. MacGregor, assistant professor of political science.

WHAA, lowa City, la. (Central, 484), 9-9:30 a. m., high school assembly program; 2:30-1 p. m., "Capital Punishment as a Preventive of Crime," T. D. Yoder. WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., Alamo theater orchestra; weather; "Just Among Home Folks"; readings, Courler-Journal Louisville Times: 7:30-9, Keith Kannard and bis Kentucky Ramblers, Keith Kannard director.

readings, Courler-Journal Louisville Times; 7:30-9, Keith Kannard and bis Kentucky Ramblers, Kelth Kannard director.

WHB, Kansas City, Mo. (Central, 411), 2-3 p. m., ladles' hour program, Sweeney Radlo trio; 7-8, "Mausoleums and Tombs—Ancient and Modern," C. L. Van Nostrand; muslc, Sweeney Radio trlo.

WHN, New York, N. Y. (Eastern, 360), 2:15 p. m., Jimmy Clarke and his entertainers; 2:35, Ben Jacobs, tenor; 2:45, Original Runnin' Wild orchestra; 3:45, Betty Ross "Peeps at Celebrities;" 4, Samuel Shankman, pianist; 4:15, Arcady Borkenholtz, violinist; 4:30, Edwin Preble, tenor; 4:45, "Americanism," May M. Gooderson; 5, John DeDroit and his New Orleans orchestra; 6:30-7, Huston Ray's Alamac quartet; 7-7:20, Huston Ray's Alamac orchestra; 7:20-7:30, "Personal Chats of the Stage and Screen," E. S. Colling; 7:30, "Life Story of Emily;" 7:45, Florence Hynes, child soprano; Orry Parado, planist; 8, Vincent D. Daniels, pianist; 8:10, "The Bible as a Gulde for Life," Rabbi J. A. Dolgemas; 8:20, Cantor M. M. Hillman; 8:30, Alfred Dulin, planist; 8:45, Margaret Fallonius, violinist; Hazel Gruppe, accompanist; 9, Kiwanis Club Boys' perlod, William J. Stuart; 9:15, Johnston-Davidson Society orchestra; 9:30-9:37, news; 9:37-9:45, Johnston-Davidson Society orchestra; 9:35-10, Leo Wood's Air troopers; 10-11, Clover Gardens dance orchestra.

WHO, Des Moines, 1a. (Central, 526), 7:30-9 p. m., Bankers Life Radio orchestra, W. L. Marsh, director; Virginia Groome Maurrine, Leone Martindale, Pauline Payton vocal soloists; Gladys M. Stribling, accompanist; Kathryn Mason, pianist; movie chats, Dorothy Day.

panist; Katnryn Mason, Planist, Modern Day.

WIP, Philadelphia, Pa. (Eastern, 509). 1 p. m., Gimhel's tea room orchestra, Ray Steem, director; 3, Marlon Werner, soprano; Anna Bassett Cheney, planist; William H. Cornog, baritone; Flora Ripka, accompanist; 6:05, Art Coogan and bis Club Madrid orchestra; 7, Uncle Wip's bedtime stories.

WJAR, Providence, R. !. (Eastern, 360), 10 a. m., housebold hints, Mrs. Wood; 10:45, style talk, McCall; 1:05 p. m., studio program; 7:30, program from

1:05 p. m., studio program; 7:30, program from WEAF.

housebold hints, Mrs. Wood; 10:45, style talk, McCall; 1:05 p. m., studio program; 7:30, program from WEAF.

WIZ, New York, N. Y. (Eastern, 455), 10 a. u., housewives league menu, Mrs. Julian Heath; 10:20, "Household Equipment," Ethel R. Peyser; 10:30, "Keeping the Baby Well," Henry St. Visiting Nurse service; 10:40, Tribune Institute, Bertha Baldwin; 10:50, Eleanor Gunn's fashion talk; 1:15 p. m., Orlando's Hotel Roosevelt orchestra; 4, Leonard D. Ornauer, barltone; Keith McLeod, accompanist; 4:30, Hotel Belmont Tea orchestra; 5:30, state and federal agricultural reports, farm and home reports; stocks, foreign exchange quotations, news; 7, Cafe Boulevard orchestra; 8, Wall Street Journal review; 8:10, NYU, air college, "Economics," Prof. Reld L. McClung; 8:30, Helen Davis, banjoist; 8:45, "Milltary Aviation," General Patrick; 9:05, Helen Davis, banjolst; 9:20, Miriam Hoffman, violinist; Phillip Svigals, accompanist; 9:45, talk, ausplees, Democratic National committee; 10, Hock and Jerome, popular songsters; 10:15, Frieda Willlams, soprano; Keith McLeod, accompanist; 10:30, Billy Wynne's Greenwich Village Inn orchestra. WLS, Chicago, III. (Central, 345), 9 a. m., livestock markets, weather; 11, livestock, dairy, fruit, vegetable markets; 12-1, noon-day farm program: "Book Farmer Series," G. C. Biggar; "Putting Up Farm Machinery for the Winter," J. C. Bohmker; music numbers, Nakutin studio; 1:30 p. m., livestock, fruit, vegetable markets; 3, final grain markets; 3:45-4:45, bomemakers hour, home dressmaking question box, Ellen Rose Dickey; games and music for the home, Mrs. H. A. McKeene; daily recipe; 6, market summary and farm news bulletins; 6:30, organ, Ralph Emerson; 6:45, Hutter School of Music; 6:50, organ, Ralph Emerson; 6:45, Hutter School of Music; 7:30, 1sham Jones and his College Inn orchestra; 7:45, Hutter School of Music; 8-9, farm program: weekly wool market summary, "Farm Flickerings," E. B. Heaton; "Co-operative Livo Stock Marketling," C. A. Stewart; talk, J. C. Bohmker; 9, Saddler feature, poem

wlw, Cincinnati, Ohio (Central, 423), 4 p. m., Ilo lesson, Fred Smith, instructor; 8, Virginia entertainers; 9, Formica band and orchestra; 11:30 Lange-

taines; 9, Formica band and orchestra; 11:30 Lange-McKay orchestra.

WMAQ, Chlcago, III. (Central, 447.5), 1 p. m., speeches from the weekly luncheon of the association of commerce; 4, child life stories for children; 4:30, musical program; 6, Chicago theater organ recital; 6:30, stories for children, Georgene Faulkner, the story lady; 8, weekly lecture, Northwestern university; 8:30, WMAQ "Play night"; 9:15, Leo Sowerhy, pianist; 9:45 talk, one of the Chicago charities.

WMH, Cincinnti, Ohlo (Central, 309), 8 p. m., Goodrich Silvertown orchestra; 9, talk, "Bits of Cincinnati History," George W. Platt; piano solos, Eddie Scholwer; Law instrumentai trio; 10, Auburn orchestra, Lawrence Archolz, director; 12, midnight session, Royal Order Peacocks, orchestra concert.

(Continued on page 14)

(Continued on page 14)

Where to Hear Dramas

The Happiness Boys, Ernest Hare, Jerry Biero, Billy Jones, all set to distribute joy at WEAF, Friday.

Central Standard Time

DRAMAS, humorous, serious, musical comedies and even operettas are broadcast during the week. Below are the stations and dates.

Wednesday: 8:30, WMAQ, "play-night;" 10, KLX, "La Traviata," Gregorio Artieda, director. Thursday: 7:20, WLS, comic opera, "Prince of Pilsen," Robert W. Ste-

vens, director.

Friday: 7, CNRT, "The Prince of Mah Jong," Fraser Allan, director; 9, WLS, "The Monkey's Paw." Saturday: 9:05, WFI, Radio play, Starlight players.

ADDITIONAL PROGRAMS, RECEIVED TOO LATE FOR CLASSIFICATION, WILL BE FOUND ON PAGE EIGHTEEN

ANDY GUMP TALKS AT WJAX SATURDAY

TABLE FOR MAKING TIME TRANSITIONS

12 1 2

11 12 1 2

10|11|12| 1

HOW TO USE. If a station is giving a program at 8 o'clock Mountain time and you wish to find what this is equivalent to in Central time, find 8 o'clock in the third of Mountain time row. Then immediately above it in the same vertical column will be found the figure 9 in the Central time row. This indicates that the program would be heard at 9 o'clock Central time.

Wednesday, October 29

(Continued from page 13)

WNJ, Nework, N. J. (Eastern, 233), 10:30-12:30 n. m., Frank Dally and his Meadow Brook orchestra. WOC. Davenport, la. (Central, 484), 10 a. m., markets; 10:05, household hints; 10:55, time; 11, woather; 11:05, markets; 12 m., chinnes; 2 p. m., stocks, markets; 6:45, snorts, weather; 7. Sandinan's visit, Vai McLaughlin: 8 string trio, Sutterlin, Peterson, Brown, WOO, Philadelphia, Pa. (Eastern, 509), 11 a. m., organ recital, Mary E. Vogt; 12:02 p. m., Wanamaker crystal tea room orchestra, Robert E. Golden, director; 5:15, Mary E. Vogt, organist; 7:30, A. Candelori and his Hotel Adelphia concert orchestra; 8:15, R. (C. O. band, L. Lawrence Grinnell; 9, WOO orchestra, Robert E. Golden; 10:03, organ recital, Mary E. Vogt; 10:30, Vincent Rizzo and his Hotel Sylvania dance orchestra. WOR, New York, N. Y. (Eastern, 405), 2:30 p. m., Florence Steele. contralto; Sonna Talley, planist; 6:15, "Music While You Dine," Henry Jedel's Hotel Riviera orchestra; 7, sport talk, Bill Steinke; 8, Geno Ingraham's Great Notch Inn orchestra; 10:15, Manhattan serenader, Iteid Instrumental sextette.

WQI, Chicago, Ill. (Central, 448), 11 a. m.-12, homo economics program, Helen Harrington, director; "Some Foints That Every Woman Should Know About Banking and Property," Mrs. Wilbur E. Fribley; "The Care of Canarles," L. J. Andris; 3-4 p. m., "Entrees," Helen Harrington Downing; "Plannling the Menn," Martha Logan, home economics expert; 7-8, Ralph Williams and his Rainbo Garden orchestra; Lilah Older Bell, reader; W. O. Berberick, accomponist; Sheppard Levine, tenor; 10, Ralph Williams and his Rainbo Skylarks; Dagmar Kashmirl, song Woodfordo Finden, Mrs. W. O. Berberick, accomponist; Sheppard Levine, tenor; the Meloilans, Laurie, Eddio and Bennie; Clarence Theders, tenor; George A. Little and Larry Sbay, harmony singers: Rita McFawn, soprano.

WRC, Washington, O. C. (Eastern, 469), 3 p. m. fashion developments of the moment, women's wear; 3:10, songs; 3:25, report, National Conference hoard; 3:30, songs; 3:45, Eleanor Glynn, pianist; 3:50,

for women; 4, songs; 6, stories for children, Peggy Alblon.

WSAC, Clemson College, S. C. (Eastern, 360) 8 p. m., farun nows; timely hints, poultry; 10-minute talk, scasonal; 10-minute talk, agronomy.

WTAM, Cleveland, Ohio (Eastern, 390), 8 p. m., Cleveland Plain Dealer program; Medina, Ohio night; Medina Symphony orchestra, 40 pieces; Etta Mausser Bigelow, soprano; Katherine Hemmeter contraito; Grace Fisk, pianist; Fred Bohley, baritone; Audrey Sedgewick, accompanist; Richard Warner, xylophonist; Loren Wainwright, trombonist.

WTAS, Elgin, 111. (Central, 286), 6-8 p. m., Tip Top Inn string sextette; 8-12, dance program, Terrace Garden orchestra, Fred Hamm, director; Terrace Garden entertainers.

entertainers.
WTAY, Oak Park, III. (Central, 283), 6:45-7:45 p. m.,
George H. Clark, organist; 9-9:45, 10:15-11:15, Axel
Christensen, pianologues; Polly Willis, soprano;
technical talk, member of staff of Radio Age; Guyon's

Paradise Ballroom orchestra.

WWJ, Oetroit, Mich. (Eastern, 517), 8 a. m., setting-up exercises, R. J. Horton; 9:30, talk, women's editor, Detroit News; 12 m., musical program; 3 p. m., Detroit News orchestra; 7, Detroit News orchestra; Charles Coates, baritone; 10, Goldkette's orchestra.

Thursday, October 30

Silent night for: KFAF, KGW, KLX, KOB, KSD, WCAP, WDAR, WGR, WHO, WJAR, WOO, WOR, KAC, Montreal, Can. (Eastern, 425), 7:45 p. m., talk on Quehec's good roads, Hon. J. L. Perron; 8, Frontenac Breweries special entertainment, prize awards to Quebecers only. KDKA, E. Pittsburgh, Pa. (Eastern, 326), 9:45 a.

(DKA, E. Pittsburgh, Pa. (Eastern, 326), 9:45 a. m., stocks, markets; 11:55, time; 12 m., weather; 12:15 p. m., Scalzo's orchestra; 6:30, dinner concert, KDKA Little Symphony orchestra, Victor Saudek, conductor; 7:15, Daddy Winkum has a Halloween, story for the Radio children; 7:30, talk, representative of the Auto-Mohlle club; 7:40, stocks, markets; 8, program, National Stockman and Farmer; 8:30, KDKA Little Symphny orchestra, Victor Saudek, conductor; Christine Miller Clemson, mezzo-soprano; 9:55, time; 11, barn dance.

barn dance.

KFI, Los Angeles, Calif. (Pacific, 469), 5:30 p. m., music; 6:45-7, Y. M. C. A. lecture; 7-8, concert, Norman Kelch, baritone; 8-9, Hotel Ambassador concert orchestra; 9-10, Examlner studio concert, 1da Mae Walls; 10-11 vocal concert, Gertrudo Childs Hunting-

ton, dramatic soprano. KFKB, Milford, Kans. (Central, 286), 8 p. m., Abe Martin's band, concert; 9, lecture, Dr. Osborn, male quartette; 10-11, lecture, Dr. Brinkley, jubilee boys'

KFNF, Shenandoah, la. (Central, 266), 7:30 p. m.

concert, Coin community. KFOA, Seattle, Wash. (Pacific, 455), 8:30 p. m.

concert, Coin community.

KFOA, Seattle, Wash. (Pacific, 455), 8:30 p. m., Seattle Post-Intelligencer program.

KFSG, Los Angeles, Calif. (Pacific, 278), 3:30-4:30 p. m., organ recital, courtesy, B. Earnest Ballard, organist, assisted by Margarct Kennedy, soprano and Harold Lloyd, tenor; 7:30-9:15 auditorium service, evangelistic sermon and water baptism; music by choir, hand and organ; 9:15-10, Gray studio program, featuring the Angelus Temple choir; 10-11, organ hour, Esther Fricke Green, organist, assisted by Alfred C. Green, tenor; Dr. Joseph Marple, tenor; S. R. Donaldson, trombonist and Tiida Rohr, Swiss contraito.

KGO, Oakland, Calif. (Pacific, 312), 1:30 p. m., N. Y. stocks; 1:40, S. F. stocks; 1:15 weather; 4-5:30, concert, orchestra, Hotel St. Francis, Vinton La Ferrera, conductor; 6:45, N. Y. stocks; 6:55, S. F. stocks; 7. weather: 7:05, S. F. produce news; 7:10, haseball; 7:15, news Items; 8, "Tarnish." KGO players, cast: Josephine Lee Tevis, Mary Harper; Mrs. Healy, Jean Hansen; Apolline Stutz, Florence Palmer; Letitia Tevis, Leonore Everett; Emmet Carr Bert Horton: Adolph Tevis, Fred Thomas; Nettle Dark, Jean Hansen; Aggle, Bertha Spring: Cremona trio; 10-1, dance music, Henry Halstead's orchestra.

KGW, Portland, Ore. (Pacific, 492), 11:30 a. m., weather; 12:30 p. in., concert, Civic Minsic club; 5, children's program; 7:15, markets, weather, news, police reports.

KHJ Los Angeles, Calif. (Pacific, 395), 12:30-1:30

WFAA, Dallas Tex. (Central, 476), 8:30 p. m., Webb male quartet; 11, Adolphus Hotel orchestra.

WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3, closing prices, Chicago grain market; 3:05, talk, Philadelphia Club of Advertising Women; 3:30, Verne L. Reynolds; talk, Mrs. Hannah Durham; Housewives' Radio Exchange, direction Mabel Swint Ewer; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim, the kiddies' pal; 8:05, Boy Scouts period; 8:30, recital, violin, harp and cello trio; Harvey Aleinikoff, Emil Folgman and Frank Vicoletti; 9, J. Malla male quartet; 9:30, political address, Mrs. Marle O'Connell; 10:05, talk, 'Russian Opera,' Fullerton L. Waldo, assisted by Piotr Wizla, baritone.

WGBS, New York, N. Y. (Eastern, 316), 10 a. m., shopping talk; 10:10, Louis Baker Phillips, planist; 10:20, 'Fall Fruits and Vegetables,' Anna Barrows; 10:30, Louis Baker Phillips, planist; 10:40, 'Recreation for tho Child'; 10:50, Mary Brown, mezzo soprano; 1:30 p. m., recital, Jeanette Johnson, soprano, and her orchestra; 3, 'Missing Boys and Girls,' interview by Terese Rose Nagel with Mary Hamilton, chief of woman's division of N. Y. police department; 3:10, C. Baldwin Ailen, Scotch baritone, accompanied by i. Clarendon McClure; 3:20, 'Why 1 am Going to Vote the Progressive Ticket,' Arthur Garfield Hays; 3:30, G. Baldwin Allen, Scotch baritone; 3:40, students' period; 3:50, Lulu Jones Downing, composer, pianist; 6-6:30, Uncle Geebee; 6:30, Loretta Ellen Brady, story telling; 6:45-7:30, May Singhi Breen, and her syncopators; 8:30, Oliver M. Sayler, writer and critic, hook and play review; 9, Theodore T. Mattman, cellist: 9:15, Mary Beaton, swimming export, talk; 9:25, Marie Thomas! Welsh contraito; 9:40, Theo

children's program; 7:15, markets, weather, news, police reports.

KHJ Los Angeles, Calif. (Paeific, 395), 12:30-1:30 p. m., concert, Coy Barkley and Palace ballroom or chestra, Ocean Park; Carl "Shorty" Brandenburg, tenor; 2:30-3:30, musical appreciation talk, Carolyn Pearson; 6:6:30, Art Hickman's concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, children's hour, "American History," Prof. Walter Sylvester Hertzog; silver sheet starlets; beditine story, Uncle John; 7:30, "Art," Harold Swartz; 8-9, concert, the Plggly-Wiggly girls; Ruth Florence, soprano; George Hood reader; 9-10, concert, contesty, Robert Marsh and company, arranged through Thorlief Olsen; 10-11, Art Hickman's dance orchestra, Earl Burtnett, director. KPO, San Francisco, Calif. (Paeific, 423), 12 in., readings of the Scripture time; 1-2 p. m., Budy Selger's Fairmont hotel orchestra; 5:30-6:30, children's hour storles, Big Brother of KPO, Book of Knowledge; 7-7:30, Rudy Selger's Fairmont hotel orchestra; 5:30-6:30, children's hour storles, Big Brother of KPO, Book of Knowledge; 7-7:30, Rudy Selger's Fairmont hotel orchestra; 5:30-6:30, children's hour storles, Directors of KPO, Book of Knowledge; 7-7:30, Rudy Selger's Fairmont hotel orchestra; 8-9, Theodore J. Irwin, organist; 9-10, program H. B. Passmore, planist, (Central, 536), 6:30 a. m., morning

Theodore J. Irwin, organist; 9-10, program H. B. Passmore, planist.

KYW, Chicago, Ill. (Central, 536), 6:30 a. m., morning exercises, Y. M. C. A.; 9:30, news, markets; 10:30, farm and home service; 11:35, table talk, Mrs. Anna J. Peterson; 2:35-4 p. m., afternoon frolic; 6:02-6:18, news, markets; 6:35-7, children's bedtime story, Uncle Bob: 7-7:30, dinner concert, Congress hotel; 8-8:20, "Twenty Minutes of Good Reading," Rev. C. J. Pernin; 8:20-9:15, Luther Day celebration, Charles F. Lorenzer; 9:15, "Safety First," Z. C. Elkin; 10-11:30, at home program, Coon-Sanders Original nighthawks.

WAAW, Omaha, Nebr. (Central, 286), 8-9 p. m., talks, music.

WBAP Fort Worth, Tex. Central, 476), 7:30-8:30 p. m., Quirtet Musle company; 9:30-10:15, Chamber of commerce program, Marlin, Texas.

WBAV, Columbus, Ohio (Eastern, 423), 12 m., religious servico, Columbus Council of churches, Rev. David Barre, Church of Good Shepherd, speaker.

WBZ, Springfield, Mass. (Eastern, 337), 11:55 a. m., time, weather markets; 6 p. m., L. S. Wiggin'a Schrafft onsemble; 6:30, songs, Bill Coty, Jack Armstrong; 6:40, Leo Relsman and his Hotel Brunswick orchestra; 7, markets; 7:10, letter from New England homostead; "At the Theaters," A. L. S. Wood; 7:30, bedtime story for tho kiddles; 7:15, Charles R. Hector with his St. James theater orchestra; 8:15, second talk on astronomy, George L. Patterson; 8:15, Grace Bradford Olin, reader; 9, Becthoven trio, Maurice Greenberg, violinist; Samuel Aldsman, violinist; Dorothy Marino planist; 9:55, time, weather; 10, Edward J. Coffey, violinist; Margaret E. Smith, soprano, WCAE, Pittsburgh, Pa. (Eastern, 462), 12:30 p. m., news, weather; 3:30, news; 4:30, stocks, Sunshine Girl; 6:30, dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 7:45, special feature; 8, special feature; 8:15, special feature; 8:30, Moore's Cafeteria weekly Radio review, E. T. Moore, manager.

WCAL, Northfield, Minn. (Central, 360), 9:45 a. n., St. Olaf College chapel service; 9 p. m., Gertrude Boe Overby, soprano; Thelma Torgrimson, planist.

WCAY, Milwaukee, Wis. (Central, 266), 10:30 p. m., Arcadla ballroom orchestra; Corinne Deuster, soprano; Querlin Deuster, planist.

WCBO, Zion, Ill. (Central, 345), 8 p. m., ladies' ehorus;

WCAY, Milwaukee, Wis, (Central, 266), 10:30 p. m., Areadla ballroom orchestra; Corinne Deuster, soprano; Querli Deuster, planist.

WCBO, Zion, Ill. (Central, 345), 8 p. m., ladies' chorus; cornet quartet; E. B. Poxton, barltone; M. P. Barton, tenor; Mrs. Edna Huston Paxton, reader.

WCX, Octroit Mich. (Eastern, 517), 4:15 p. m., musical program; 6, dlinner concert; 8:30, musical program, direction of Harry E. Parker.

WOAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., the Star's string trio; 6-7, school of the air, plano tuning-in number on the Duo-Art; travelogue, Edgar Allen Linton; readings, Cecile Burton; the Tell-Me-a-Story lady; music, Hotel Muchleboch Trianon ensemble; 11:45-1 a. m., nighthawk frolic, the "Merry Old Chief" and the Plantation players.

WOAR, Philadelphia, Pa. (Eastern, 395), 11:45 a. m., daily almonae; 12:02 p. m., organ recital, Stanley theater; Arcadia cafe concert orchestra, Feri Sarkozi, director; 2, Arcadia cafe concert orchestra; Edna Fintstone, planist; 7:30, Dream Daddy's bedtime storles.

WEAF, New York, N. Y. (Eastern, 492), 11-11:15 a. m., Minnle Weil, planist; 11:15-11:45, "Come out of the Kitchen," Wm. Johns of Swift and company; 4-4:15 p. m., musical program; 4:15-5, Carrie Chapman Catt, Columbia University, Institute of Arts and Sciences; 6-7, dinner music, Waldorf-Astoria hotel: 7-7:30, services, Greater New York Federation of churches': 7:30-7:45, Arline Thomas, soprano; 7:45-8, talk, Proctor and Gamble; 8:15-8:45, Harry C. Shafran, violinist and Maude Foot, pianist; 8:45-9, talk, Bank of America; 9-9:30, Touring with the Packard, Geo. Elllott Cooley; 9:30-9:45, Benjamin Lucatorto, pianist; 9:45-10:45, Cordes and Marks dance orchestra; 11-12, Vincent Lopez and his Hotel Pennsylvania dance orchestra. dance orchestra.
WEAO, Columbus, Ohio (Eastern 294), 9 a. m., music,

MEAU, Columbus, Unio (Eastern 294), 9 a. m., music, Marguerlte Manley Sledel School of Music talent; 11, music, Siedel artists; 1:30 p. m., music, Siedel artists; 8, chimes concert, Prof. A. P. McManigal; lecture, member Ohlo State university faculty; concert, Gladys Shawaher, soprane; Mildred Curry, pianlst; trio, Mrs. F. G. Charles, violinist; Mrs. Ethel Sisson Harris, cellist; Mrs. E. F. Almy, pianist.

luncheon, Boston chamber of commerce; 6, dance music, Dok-Eisenhourg and his Sinfonians; 7, Radio rally, conducted by James M. Curley, Mayor of Boston; 7:10, Boston Edison Big Brother club; 7:45, Arthur K. Bayley, tenor; 8, program by Boston Federation of churches; 8:30, concert arranged by Norman church; 9-12, program from WEAF.

WEW, St. Louis, Mo. (Central, 280), 7 p. m., "Sweethearts," "Andante Cantabile," St. Louis University orchestra; "Education, a Nation's Best Investment," Rev. A. G. Schmidt; "Poem," "Liebesfreude," "Spirit of Independence," orchestra.

WFAA, Dallas Tex. (Central, 476), 8:30 p. m., Wcbb male quartet; 11, Adolphus Hotel orchestra.

WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer

and critic, hook and play review; 9, Theodore T. Mattman, cellist; 9:15, Mary Beaton, swimming export, talk; 9:25, Marie Thomas; Welsh contratto; 9:40, Theodore T. Mattman, cellist; 9:55, Vee Lawnhurst, recording juzz planist; 10:10. Joseph M. White, tenor; 10:25, Marie Thomas, contratto; 10:40, Vec Lawnhurst, jazz planist; 10:50, Joseph M. White, tenor; 11, special program from Piccadily theater.

WGN, Chicago, III. (Central, 370), 1:40 p. m., Drake concert ensemble and Blackstone string quintet; 2:30, recital from Lyon and Healy concert halt; 3, rocking chair time; 5:30, Skeczix time; 6, Lyon and Healy organ recital; 6:30, Droke concert ensemble and Blackstone string quintet; 8, the classie hour, vocal and instrumental music; 10, Jack Chapman's dance orchestra and latest popuar songs.

WGR, Buffalo, N. Y. (Eastern, 319), 12:30-1 p. m., Georgo Albert Bouchard, organist; 2:30-4:30, Buffalo Courler and Enquiror musical program; 6, Halipryd string quartette.

Courier and Enquiror Musical Programs of the String quartette.

WGY, Scheneetady, N. Y. (Eastern, 380), 2 p. m., "Health News," Dr. C. W. Woodall; 6:15, report on condition of New York State highways, Capt. A. W. Brandt; 6:30, dinner music, Hotel Ten Eyck orchestra; 7:45, "A Few Moments with New (Books," Wil-

commerce; 6, dance musi

Eastern Standard Time

Central Standard Time

Mountain Standard Time

Pacific Standard Time

heon. Boston chamber o

liam F. Jacob; 8, "Stradella," WGY orchostra; "Folk Song," Ollie G. Yottruc, pianist; "La Soronade," orchestra; "Romance," Edward A. Rice, violinist; "Romanza and Polacca," Peter Schmidt, clarinetist; "As You Like It," orchestra: 9, Wendell Hall; "Russlan Chant," Waiter Hogben, ceiliat; "La Traviata," orchestra; 11;30, Stephen E. Bolsclair, organist

organist.

WHAA, lowa City, la. (Central, 484), 12:30-1 p. m..

"The Hayes-Tilden Election of 1876," Prof. Corl

organist.
WHAA, lowa City, la, (Central, 484), 12:30-1 p. m.,
"The Hayeg-Tiiden Election of 1876," Prof. Corl
Wittke.
WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., Alamo
theater orchestra, Harry S. Currie, director: "Just
Among Home Folks;" readings, Courier-Journal and
Louisville Times editorials; 7:30, concert, ouspices of
Mrs. Pleasant M. Brooks; four-minute digest of International Sunday school lesson, Rev. Paul Harris;
four-minuto welfare talk.
WHB, Kansas City, Mo. (Central, 411), 2-3 p. m.,
ladies' hour program, Sweeney Radio trio; 8-9, scmiclassicol musical program, directed by Kate Halpin;
9-10, dance musle, Sweeney Radio orchestra.
WHN, New York, N. Y. (Eastern, 360), 12:30-1 p. m.,
Charles Strickland's Palais D'Or orchestra; 2:15, Mrs.
Bob Schaefer, Radio glri; 2:30, Original Louisville
Jazz band, Christie Malsto, leader; 3, Bob Miller,
Ira Schuster; 3:45, Lydelle Kppelman, coloratura;
Jean Berman, pianist; 4:15, Arthur Ball, tenor; 4:30,
Victor Wilbur, baritonc; 4:45, tea time tolk, Loretta
C. Lynch; 5, Original Dixie Five; 6:30-7:10, Ruston
Ray's Alamac orchestra; 7:10-7:30, WHN Welfare
period; 9:30-9:37, news; 9:37, Elias Cohen, violinist;
Ruben Kroll, pianist; 9:45, Edwin Preble, tenor; 10,
Spear's dance orchestra; 10:30, Som Lannin's Roseland
dance orchestra; 11, Jack Morisse, tenor; 11:10, Fain
and Milo, harmony kings; 11:20, Gene Austin, baritone; 11:30, Lou Gold's orchestra; 12-12:30, Ted Lewis
and his Symphonic clowns.
WIP, Philadelphia, Pa. (Eastern, 509), I p. m., Gimbel's tea room orchestra, Ray Steen, director; 3,
Mildred Matthews, dramatie soprano; Marjorle K.
Stackhouse, reader; Flora Ripka, pianist; 6:05, dinner
musie program arranged by Charles Sansonne, featuring the Richard brothers; 7, Uncle Wip's bedtlme
storles; 8, "Timely Topics for Motorists," Gene Hogle;
8:15, direct broadcast from Eostern State Penitentiary
of program by Inmates; 11:05 p. m., Harvey Marburger
and his Vaudeville orchostra.

WJAX, Cleveland, Ohio (Eastern, 390), 7 p. m., Anstin
J. Wiley's Golden P

and his Vaudeville orchostra.

WJAX, Cleveland, Ohio (Eastern, 390), 7 p. m., Austin J. Wiley's Golden Pheosant orchestra; 8-9:30, program arranged by Music Department, Cleveland Federation of Women's clubs; 10-12, Austin J. Wylle's Golden Pheasant orchestra dance program.

WJY, New York, N. Y. (Eastern, 405), 7:30 p. m., Rerlitz weekly French lesson; 8, organ recital; 8:45, time pop question game; 9, Al Reiser's club Ferreri orchestra; 10, "Among the Aleuts," Harold McCracken; 10:15, Alice V. Conkiin, mandolinist; Josephine Arena, accompanist.

WJZ, New York, N. Y. (Eastern, 455), 10 a. m.

phine Arena, accompanist.

WJZ, New York, N. Y. (Eastern, 455), 10 a. m., housewives league menue, Mrs. Julian Heath; 10:20, "Arts and Decorations," Mrs. Roberts; 10:30, "Eat and Grow Thin," Vance Thompson; 10:40, "Dress Embroideries," Editor of Needle art; 10:50, fashion talk, Eleanor Gunn; 1 p. m., Nathan Abas Hotel Pennsylvania orhestra; 4, Ruth M. Donaldson, soprano; Keith McLeod, accompanist; 4:30, Bernhard Levitow's Hotel Commodore Tea music; 5:30, agricultural reports, farm and home reports; stocks; news; 7, Bernhard Levitow's Hotel Commodore dinner orchestra; 7:55, Colliers Weekly, John B. Kenncdy; 8, Wall Street Journal review; 8:10, NYU air college, "Eco-

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Smartly Dressed Woman—and the Woman who meroly Weors Clothes," Eleanor Chalmers; 3-4 p. m., "Bran, A Great Health Food." Cora Beoman; "The Losson Taught by Nature," W. P., Heath, eminent food scientlst; 7-8, Ralph Williams and his Ralnbo Garden orchestra; contralto, Mrs. Lydia Lochner, Marlon Henry, accompanist; Manuel Rodriguez, spanish tenor; Mardene Borrlson, baritone; "Safety," Ralph Nixton, Illinois Automobile club; 10-2 a. m., Ralph Willioms and his Rainbo Skylarks; Axel Christiansen, pianologues; Grace Wilson, contralto; Hill, Hirseh and Gorny, harmony singers; Edna Solomon, contralto; Rosemary Hughes, soprano; Will Rossiter, "The Daddy of Them all."
WRC, Washington, D. C. (Eastern, 469), 6 p. m., children's hour, Peggy Albion; 7, dinner music; 8, dance program, Better 'Ole club orchestra; 8:30, talk on motorling, auspices Aunerican Automobile association; 8:45, Florence Sindall, soprano; Thelma Smith, contralto; Horace A. Lake, baritone; 9:30, Claude Miller, planist; 9:55, time signals; 10:15, dance program, Meyer Davis' Le Paradis orchestra.
WSAI, Cincinnati, Ohio (Central, 309), 10 p. m., special program, Delta Omicron sorority; 11:30, popular songs, Hughes and Axtman.
WTAS, Eigin, Ill. (Central, 286), 6-8 p. m., Tip Top linn string sextette; 8-12, dance program, Terrace Garden orchestra; Terrace Garden entertainers.
WTAY Oak Park, Ill. (Central, 283), 6:45-7:45 p.m. Catherine Nisted, violinist; Paul Bay, baritone; Nina Joslyn, soprano; Richard Joslyn, baritone; 9-9:45, 10:15-11:15, Guyon's Paradise ballroom orchestra.
WMJ, Octroit, Mich. (Eastern 517), 8 a. m., setting-up exercises, R. J. Horton; 9:30, talk, women's editor, Detroit News; 12 m., music; 3 p. m., Detroit News orchestra; 7, Detroit News orchestra: Mme. Homer Dubard, soprano; 10, Goldkette's orchestra.

Friday, October 31

clent night for: CKAC, KGO, KPO, WLW, WMH, WOR, WRC, WSAI.
CKAC, Montreal, Can. (Eastern, 425), 1:45 p. m., Mount Royal hotel luncheon concert; 4:30, Ho Jesson. CNRM, Montreal, Can. (Eastern, 440), 8 p. m., "Madcleine," C. N. R. mlxed quartet; "A Request." Mrs. L. Hartley, contralto; duet, "Two Beggars," J. A. Brown, A. Fry; Mildred Page reader: "Three Jolly Scotchmen," "Auld Lang Syne," Jock Hunter, Scotch eomedian; "The Rise and Development of tho Seed Potato Industry of Prince Edward Island," Boulter; "Floral Dance," A. Fry, baritone; "Fn the Noo." Jock Hunter; Mildred Page, reader; "Mavis," J. A. Brown, tenor; "The Bells of St. Mary's," C. N. R. mixed quartet.
CNRT, Toronto, Can. (Eastern, 400), 8 p. m., "The Prince of Mah Jong," Fraser Allan, composer and producer; cast: Marcelle, Jean Halg; the Prince; Hugh Allan; Admiral and Itajah, Itose Allan; Capt. Boats, naval captain, William Sannders; Tom Spar, naval lleutenant, George Young; Jack Murray, Joseph W. Clarke; Nero, a negro valet, Lionel Amelen; seletions: "Salling," Ross Allan and chorus; "Girls, Girls, Gorge Young and chorus; "Hall to the Prince; William Kellet and chorus; "Glors Joseph Clark and chorus; "Sleep Tree," "Count Out Your Ties," Joseph Clark and chorus; "Sleep Tree," "Count Out Your Ties," Joseph Clark and chorus; Sleep Tree," "Count Out Your Ties," Joseph Clark and chorus; Alland of Mah Jong," Jean Halg and chorus; "Sleep Tree," "Count Out Your Ties," Joseph Clark and chorus; and Saderes, "The Rise and Development of the Seed Potato Industry of Prince Edward Island," W. Boulter.
KOKA, E. Pittsburgh, Pa. (Eastern, 326), 7:30 a. m., exercises, C. Shannon, Y. M. C. A.; 9:45, stocks, markets; 11:55, time; 12 m. weather, markets; 12:15, Sunday school lesson, James C. Mace; 6:30, Samuel Winters Ellotson, organist; 7:15, Uncle Ed Visits the Radio children again; 7:30, "Why Take the Trouble to Vote," Senator David A. Reed; 7:40, stocks, markets; 8, address, representati

chestra.

KFKB, Milford, Kans. (Central, 286), 8 p. m., Abe
Martin's band, concert; 9, lecture, Dr. Osborn, male
quartette; 10-11, lecture, Dr. Brinkley, jublice boys'

Martin's band, concert; 9, lecture, Dr. Osborn, male quartette; 10-11, lecture, Dr. Brinkley, jublice boys' orchestra.

KFNF, Shenandoah, Ia. (Central 266), 7:30 p. m., concert from Nodaway, Lloyd Means, director.

KFOA, Seattle, Wash. (Paeific, 455), 12:30-1:30 p. m., noonday luncheon program, Members' Council of the Seattle chamber of commerce; 8:30, Seattle chamber of commerce night, Seattle City quartet, Marion London Milholin, soprano; Winifred Parker, contralto; Lawrence Mayer, bass; Herbert Williams, tenor; John Sundsten, accompanist.

KFSG, Los Angeles, Calif. (Pacific, 278), 3:30-4:30 p. m., organ recital, courtesy, Roy Reid Brignall and assisting artists; 7:30-9:15, "Crusaders' Rally," music, the Sliver band, G. N. Nichols, director; revival chorus; testimony service; address, Judge Carlos S. Hardy; evangelistic sermon, Almee Semple McPherson; 9:15-10 band concert, the Sliver band, direction of Gladwyn N. Nichols; "Radio Problems," N. E. Brown, Radio engineer; Marjorie Nell Slnder, readings.

KGO, Oakland, Calif. (Pacific, 312), 1:30 p. m., N. Y. stocks; 1:40, S. F. stocks; 1:45, weather; 3, studio musical program and speaker; 4-5:30, concert orchestra, Hotel St. Francis, Vinton La Ferrera, conductor; 6:45, N. Y. stocks; 6:55, S. F. stocks; 7, weather; 7:05 S. F. produce nows; 7:10, baseball scorcs; 7:15, news items.

KGW, Portland, Ore. (Paeific, 492), 10:30 a. m.

KGW, Portland, Ore. (Pacific, 492), 10:30 a. m., weather; 12:30 p. m., concert, Multnomah hotel strollers, Dwight Johnson, director; 5 children's Hailoween

weather; 12:30 p. m., concert, Multnomah hotel strollers, Dwight Johnson, director; 5 children's Hailoween program, story, Aunt Nell; music, Ethel Rand; 7:15, markets weather, news, police reports; 8, popular lecturc, U. of Oregon; 10:30, Hoot Owls, George Olsen's Hoot Owi orchestra, Pantages theater.

KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:30 p. in., concert; 6-6:30, Art Hickman's concert orchestra, Edward Fitzpatrlek, director; 6:30-7:30, children's program, "American History," Prof. Walter Sylvester Hertzog; Sir Richard Heardlek, sllver sheet Juvenile; a Halloween sketch, "Walting for the Ghost," pupils of Edythe McGrath; 8-9 concert, Rogers' Book shop; the Isbell trio; A. Fornandez, dramatic tenor; 9-10, special Halloween party; 10-11, Art Hickman's dance orchestra, Earl Burtnett, director.

KLX, Oakland, Calif. (Pacific, 509), 8-8:50 p. m., studio program, Less Capp's Diablo country club orchestra; 8:50-9:05, American Thoater orchestra, Owon Sweeten, director; 9:05-10:10, "Serenade," "Hungarian Danco," Prof. Sam Schildkrot, flutist; "Hold My Hands Tonight," "Sing to Me, Sing," Ada Robey Barton; "Souvenir," "Hulaksaw," Celeste Beliarle, violinist; "Souny Boy," "I Know," "A Disappointment," Ada Robey Barton; "Serenade," "Winking, Blinking Moon," Prof. Sam Schildkret, flutist; "Romanco," Kuthryn Brown Falmer, planist; "Humoresquo," "The End of a Perfect Day," "My Wild Irlsh Rose," Celeste Bellarle, violinist; "Swanee River," "Old Black Joe," "Old Kentneky Home," "The Mocking Bird," Prof. Schildkret; 10:10, Clement Barker, organist.

KOB, State Coilege, N. M. (Mountain, 360), 7:30-8:30 p. m., talk on tuberculosis, Dr. Asa Brunson; "Nutrltion Fads," Prof. H. W. Titus; College Girls' Glee club.

KPO, San Francisco, Calif. (Pacific, 423), 12 m., timo

KPO, San Francisco, Calif. (Pacific, 423), 12 m., timo signals; readings from the Scripture; 12:45 p. m., talk Commonwealth club; 1-2 Rudy Soiger's Fairmont hotel orchestra; 4:30-5:30, Rudy Seiger's Fairmont

hotel orchestra (Continued on page 15)

WEEI, Boston, Mass. (Eastern, 303), 6 p. m., assembly | nomics," Prof. Reid L. McClung; 8:30, National Remonies; Coolidge's Home Town quartet; William Schwartz' band; addresses, Elsie Ferguson, Dr. Nicholas Murray Butler, Hon. Chauncey M. DePew, E. C. Carpenter; 10:30, Waldorf-Astoria dance ormeages,

chestra.

LS, Chicago, III. (Central, 345), 9 a. m., early livestock markets, weather; 11, preliminary livestock, dairy, frult, vegetable markets; 12-1 p. m., noon-carry, frult, vegetable markets; livestock markets, was analysis dairy, frult, vegetable markets; 12-1 p. m., mondairy, frult, vegetable markets; 12-1 p. m., mondairy farm program: music numbers, Carl Craven; "Getting all the Cream." G. F. Fowler; "Farm Question Box," E. B. Heaton; 1:30, complete livestock, fruit, vegetable markets; 3:45-4:45, honemakers' hour: "The Last Word," Mrs. Grace Vlall Gray; "Chums," Mrs. H A. McKeene; household hints; 6, market summary and farm news; 6:30, organ, Ralph Emerson; 6:45, Glenn Rowell, Ford Rush; 7, lullaby tlme, Glenn Rowell, Ford Rush; 7, Saddler feature, comic opera, "Prince of Pilsen,"

Rush; 7, lullaby time, Glenn Rowell, Ford Rush; 7:20, Saddler feature, comic opera, 'Prince of Pilsen,' Robert W. Stevens, director.

WLW, Cincinnati, Ohio (Central, 423), 4 p. m., French lesson, Madame Tcimpidis, instructor; 10, Doherty Melody Boys; 10:30, Milnor instrumental trio; address, Senator Schultz; 11:30, Lange-McKay orchestra

address, Schatol Schatz, chestra.

WMAQ, Chicago, III. (Central, 447.5), 4 p. m., household hour, Mrs. Elizabeth O. Hiller; 4:30, musical program; 6, Chicago theater organ recital; 6:30, Hotel LaSalle orchestra; 8, garden talk, James H. Burdett; 8:15, Boy Scouts' program; 8:45, investment talk; 9, lecture, University of Chicago; 9:15, Chicago Heights quartet.

wMC, Memphis Tenn. (Central, 500), 8:30 p. m., Hotel

WMC, Memphis Tenn. (Central, 500), 8:30 p. m., Hotel Chisca orchestra.

WMH, Cincinnati, Ohio (Central, 309), 8 p. m., plano solos, Eugene Perazzo; popular songs, Angela Devoto; violin solos, Eugene Perazzo, David Brinkmoeller, accompanist; contralto solos, Margy Rebisso, playing own accompaniment; 9, Avon dance orchestra; R. C. Fisher, director; 12, Peacock Inn orchestra.

WOAW, Omaha, Nebr. (Central, 526), 6 p. m., chlid's story hour, Grace Sorenson; 6:20, miscellaneous; 6:30, Al Finch's Symphonians; 9, program from vocai studio, J. Edward Carnai; 10:15, program, Davis Studio of expression selections from well-known authors and poets, Elicn Elise Davis, J. Simmons Davis; 10:30, Wowl frolic, Frank Hodek, Jr. and his Omaha Nightingales.

Wowl frolic, I'rank Hodek, Jr. and his Omaha Nightingales.

WOC, Oavenport, la. (Central, 484), 10 a. m., markets;
10:05, household hints; 10:55, time; 11, weather and
river forecast; 11:10, agricultural bulletins; 12 m.,
chimes; 12:15 p. m., weather; 2, stocks and markets;
6:45, sports, weather; 7, sandman's visit, Val McLaughlin; 9 the Palmer School Radio orchestra, Erwin
Swindell, director, "Roses of Picardy," "The World
Is Waiting for the Sunrise," "Blue-Eyed Sally,"
"In the Garden of Tomorrow," "Sally," "Sweet Callfornia"; Ralph W. Fuller, barltono.

WOO, Philadelphia, Pa. (Eastern, 509), 11 a. m.,
organ recital, Mary E. Vogt; 12:02 p. m., Wanamaker
crystal tea room orchestra, Robert E. Golden, director;
5:05, Mary E. Vogt, organist.

WOR, New York, N. Y. (Eastern, 405), 2:30 p. m.,
Virginia Parkinson Wells, violinist; Cecile M. Berens,
planist; 6:15, Radio for the layman, Alfred E. Sonn;
6:30-7, Jimmie Lent and his orchestra; 7:15, sports,
Jolly Bill Steinke.

WOL Chlegge III. (Central, 448), 11 a. m.-12 m., homo

Jolly Bill Steinke.

WQJ, Chicago, Ili. (Central, 448), 11 a.m.-12 m., homo

economics program, Helen Harrington Downing, director; "How to Select Beef," Erna Bertrams; "The

FAR EAST TALK SATURDAY AT WMAQ

Friday, October 31

(Continued from page 14)

(Continued from page 14)

KSD, St. Louis, Mo. (Central, 546), 8 p. m., Sixth U. S. Infantry band.

KYW, Chicago, III. (Central, 536), 6:30 a. m., morning exercises, Y. M. C. A.; 9:30, news, markets; 11:35, table talk, Mrs. Anna J. Peterson; 12:30 p. m., "The Progress of the World," Review of Reviews; 6-6:30 news, markets; 6:35-7, children's bedtime story, Uncle Bob; 7-7:30, dinner concert, Congresa hotel; 7:30-8, program, Duncan Sisters Music Publishing company; 8:20-8:45, American Farm Bureau federation: "Farm Juniors at the International Live Stock Exposition," B. H. Heide; "What the Illinois Farm Bureaus Are Doing," H. C. Butcher; 9-10, midnight revue; 11-2:30 a. m., midnight revue, Coon-Sanders Original night-hawks; W. Remington Welch, organist.

WBAP, Fort Worth, Tex. (Central, 476) 7:30-8:30 p. m., musical program, Mrs. H. E. Nash, director; 9:30-10:45, Walter Collins' fiddlers of Cleburne, Texas, WBAV, Columbus, Ohio (Eastern, 423), 12 m., Ila Lorbach Owens, pianist; 9 p. m., concert, talent from Ohio Wesleyan university, Delawere, Ohio.

WBZ Springfield, Mass. (Eastern, 337), 11:55 a. m., time, weather, markets; 6 p. m., dinner concert, Westinghouse Philharmonic tric; 7, markets; 7:10, current book review, Court Square Book store; 7:30, bedtime story for the kiddles; 9:55, tlme; 10, Reba Harrington, cellist: Catherine Hogan, violinist; Beatrice Haynes, pianist; 10:30, Alden E. Davis, tenor; Jessie Fleming Vose, accompanist; 11:30, McEnelly's singing orchestra.

WCAE, Pittsburgh, Pa. (Eastern, 462), 12:30 p. m., news; 3:30, news: 4:30, Sunshine girl, stocks; 6:30, dlnner concert, William Penn hotel; 7:30, Uncle Kaybee; 8, special feature; 8:15, special feature; 8:30, musicale.

WCAL, Northfield, Minn. (Central, 360), 9:45 a. m., St.

musicale.

WCAL, Northfield, Minn. (Central, 360), 9:45 a. m., St.
Olaf college chapei service; book talk, "Marbacka,"
an autobiography of Selma Lageriof.

WCAP, Washington, D. C. (Eastern, 469), 8-9 p. m.,
United States Navy band orchestra, Charles Benter,
ieader; 9-10, program from WEAF; 10-12, Halloween
dance program, Irving Boernstein's Wardman Park
hotel orchestra.

"Fail Fashions from Paris," Amy Hogeboon; 10:30, Stella Goldberger, pianist; 10:40, "What of Marriage?", Ruth Mason Rice; 10:50, Lilliebelle Barton, soprano; 1:30-2:30 p. m., "Why Women Can Fili Big Positions," Terese Rose Nagei; 3:10, Lou Olp, pianist and monologist; 3:40, studente' period, "Boy Scout Movement in Public Schools"; 3:50, Rose Wieninger, soprano; 6-6:30, Uncle Geebee; 6:30, Clifford Lodge orchestra, Mr. Reddick, conductor.

WGR, Buffalo, N. Y. (Eastern, 319), 12:30-1 p. m., George Albert Bouchard, organist; 2:30-4:30, Buffalo Enquirer and Courier musical program; 6:30, dinner music; 8:40, readings, John Dodsworth; 9-10:30, recital, James W. Duncan and assisting artists; 10:30-11:30, musical program, Buffalo Trust company, direction of Cecile Kertz; 11:30, supper-dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

WGN, Chicago, Ill. (Central, 370), 1:40 p. m., Drake concert ensemble and Blackstone string quintet; 2:30, recital from Lyon and Healy concert hall; 3, rocking chair time; 5:30, Skeezix time; 6, Lyon and Healy organ recltai; 6:30, Drake concert ensemble and Blackstone string quintet; 8, the classic hour, vocai and instrumental music; 10, Jack Chapman's dance orchestra and latest popular songs.

WGY, Schenectady, N. Y. (Eastern, 380), 11:55 a. m., tlme; 12:30, markets; 12:40 p. m., produce market; 12:45, weather; 2, "The Citizenship of Women," Mrs. Florence E. Tabor; 6, produce and stock, news; 6:30, stories for children; 7, Sunday school lesson; 7:45,

talk, auspices Democratic National committee; 8:30, program, French line, music, S. S. De Grasse orchestra; 9:30, "Income Taxes," Frank Shevit; 9:40, Max Kaifus, tenor; 10, Looseleaf current topics, Dr. William H. Allen; 10:15, Leopold Busch, violinist. WIZ. New York, N. Y. (Eastern, 455), 10 a.m., housewives league menu, Mrs. Julian Heath; 10:20, Review of Reviews; 10:30, "Be Your Own Decorator," Amy Mail Hicks; 10:40, "Shoppers Guitle," Mrs. Paullne Peck; 10:50, fashlon talk, Eleanor Gunn; 1 p. m., Henry Vander Zanden's Hotel Anhassador trio; 4, Hotel Astor organ recital, Leo Riggs, director; 5, Hazel Frankling Bailey, soprano; 5:30, agricultural reports, farm and home reports; stocks; news; 7. Savarin ensemble, Nathan Franko, director; 8, Wall Street Journal review; 8:10, N. Y. U. Air college, "Economics," Prof. Reid L. McClung; 8:30, Norma Gradstein, planist; 9:30, Pavlowa ballet music, Manhattan Opera house; 10:30, Duke Yellman's Irene Castle orchestra.

WLS, Chicago, III. (Central, 345), 9 a.m., live stock markets, weather; 11, live stock, dairy, fruit, vegetable markets; 12-1 p. m., noon-day farm program; music, Four Harmony aces; "The Care of Gasoline Engines," B. F. Watson; "Book Farmer" series, G. C. Biggar; 1:30, live stock, fruit, vegetable markets; 3:45-4:45, homemakers hour: "Beauty Hints, Wilnkies, Question Box," Ellen Rose Dickey; Hints, Wilnkies, Question Box," Ellen Rose Dickey; WWI. Defroit, Mich. (Eastern, 517), 8 a. m., setting-up

hattan Opera house; 10:30, Duke Yellman's Irene Castle orchestra.

WLS, Chicago, III. (Central, 345), 9 a. m., live stock markets, weather; 11, live stock, dairy, fruit, vegetable markets; 12-1 p. m., noon-day farm program; muslc, Four Harmony aces; "The Care of Gasoline Engines," B. F. Watson; "Book Farmer" series, G. C. Biggar; 1:30, live stock, fruit, vegetable markets; 3, final grain markets; 3:45-4:45, homemakers hour: "Beauty Hints, Wrinkles, Question Box," Ellen Rose Dickey; "Simplifying Cooking at Home," Mrs. H. A. Keene;

ballroom orchestra.

WWJ, Detroit, Mich. (Eastern, 517), 8 a. m., setting-up exercises, R. J. Horton; 9:30, talk, women's editor, Detroit News; 12 m., musical program; 3 p. m., Detroit News orchestra; 7, Detroit News orchestra; Cyrii Wezemaei, baritone; maie quartet.

Saturday, November 1

Silent night for: CKAC, KFAE, KFOA, KLX, WBAP, WCAP, WCX, WDAR, WEE!, WGR, WHB, WHO, WJY, WNJ, WOO, WWJ.

KDKA, E. Pittsburgh, Pa. (Eastern, 326), 9:45 a. m., stocks, markets; 1:30 p. m., Daugherty's orchestra; 2:30, Pitt-Syracuse football game; 6:30, dinner concert, Westlnghouse band, T. J. Vastine, director; 7:15, "Wimble the Wanderer"; 7:30, sport review, James J. Long; 7:45, address, representative of the American Red Cross; 8, "Inside Movie Gossip," Sam Comley; 8:15, feature; 8:30, Westinghouse band; T. J. Vastine, conductor: Alice Smith, soprano; F. Robert Coe, baritone; P. Zahner, violinist; 9:55, time, weather.

KFI, Los Angeles, Calif. (Pacific, 469), 5:30-6 p. m., Anita Arliss; 6:45-8, dance orchestra; 8-9, special recital; 9-10, Examiner studio concert; 10-11, Packard Radio club recital; 11-12, Ambassedor hotel Cocoanut Grove orchestra.

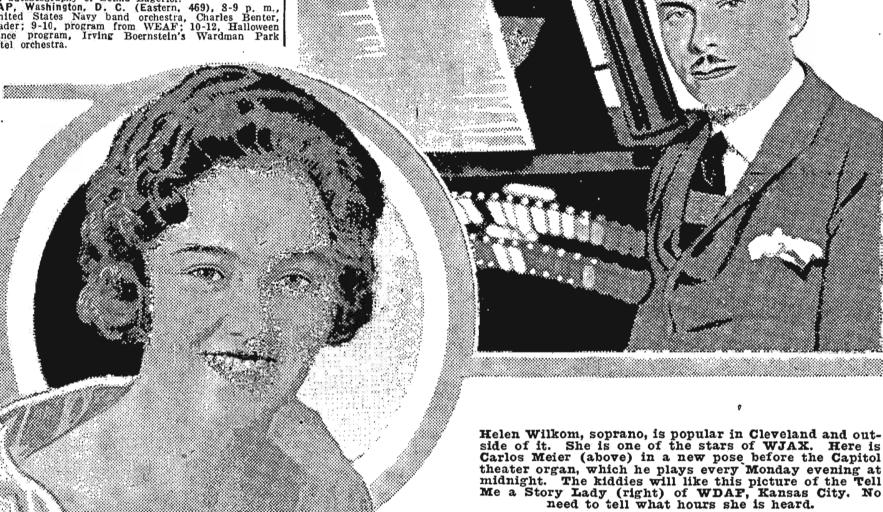
Radio club recital; 11-12, Ambassedor hotel Cocoanut Grove orchestra.

KFKB, Milford, Kans. (Central, 286), 8 p. nl., concert, Abe Martin's band; lecture, Dr. Osborn, male quartet; 10-11, lecture, Dr. Brinkley, Jubilee Boys' orchestra. KFNF, Shenandoah, Iowa. (Central, 266), 7:30 p. m. Scotch program, Scottish concert trio of Omaha, E. S. Dodds, director; 10:30, midnight frolic, Seedhouse burgh.

bunch.

KFOA, Seattle, Wash. (Pacific, 455), 2:30 p.m., football game, U. of Washington-U. of Oregon.

KFSG. Los Angeles, Calif. (Pacific, 278), 3:30-4:30 p.m., children's service and program featuring talented



WCAY, Milwaukee Wis. (Central, 266), 8 p. nl., Oswald Jaeger night: Tune Tinkers; Margie Mackin, soprano; Franz Lindl, zitherist; Helen Loeffler, mezzo

WCX. Detroit, Mich. (Eastern, 517), 4:15 p. m., musi-

soprano; Franz Lindi, zitherist; Hclen Loeffler, mezzo soprano; Gainner Concert; 8:30, musical program; 6, dinner concert; 8:30, musical program, direction of Mrs. Theodore Miller.

WDAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., the Star's string trio; 6-7 school of the air, plano tuning-in number on the Duo-Art; address, auspices Kansas City Children's bureau; the Tell-Mea-Story lady; music, Hotel Muehlebach Trianon ensemble; 8-9:30, popular program, the Star'a Radio orchestra and the WDAF minstreis; Frank O. Kohn, harmonica player; Fields Jones, barltone; 11:45-1 a. m., nighthawk frolic, the "Merry Old Chief" and the Plantation players.

WDAR, Philadelphia, Pa. (Eastern, 395), 11:45- a. m., daily almanac; 12:02 p. m., organ recital, Stanley theater; Arcadia cafe concert orchestra; Feri Sarkozi, director; 2, Arcadia cafe concert orchestra; playet, members National School of Oratory and Elocution; 4:30, King Pin Six dance orchestra; 7:30, Dream Daddy's hedtime stories; 8, book review, Arnold Abbott; band concert, "Songs of Scotland," "T. O. H.", "Bambalina," "Elieen," and "Blue Paradise," Atlantic City Raiiroed band; 10, Arcadia cafe dance orchestra; "Morning Glory Club," program song, "On My Eukelele," Zoehrns and Herscher.

WEAF, New York, N. Y. (Eastern, 492), 11-11:30 a. m., health talk, New York Speakers service; 11:30-12, organ recital, Capitol theater; 4-5 p. m., club program for women and Arthur Stone, blind planist; 6-7, dinner music, Waldorf-Astorla hotel; 7-7:30, children's stories, G. R. Kinney Shoe company; 7:30-7:45, Marle Nleholson, soprano; 7:45-8, Happiness boys—Billy Jones and Ernest Hare; 9-9:30, G. Schirmer's half hour of newly published music; 9:30-10, B. Fischer and company Astor Coffee orchestra; 10-10:30, Van's Collegiate orchestra.

WEAO, Columbus, Ohio (Eastern, 294), 9 a. m., music, Marguerite Manley Siedel School of Music talent; 11, music, Siedel artists; 1:30 p. m., music, Siedel artists; 1:30 p. m., music, Siedel artists; 9:10-10:30, program from WEAF; 11-11:30, dance mus

WFI, Philadelphia, Pa. (Eastern, 395). 1 p. m., Meyer Davia Bellevue Stratford concert orchestra; 3, Caroline Hoffman, planlat; closing prices, Chicago grain market; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny, Jim, the kiddles' pal.

WGBS, New York, N. Y. (Eastern, 316), 10 a. m., stopping taik; 10:10, Stella Goldberger, planlat; 10:20,

heaith taik; 7:50, harvest program, Josh Quinby and his wife, S'manthy, give a Huskln' Bee; "All Hands Around," Village orchestra; "I Wonder How the Old Folks Are at Home," Cowbell four; "Sea Faruing," William Flyth Wells; "Uncle Josh's Huskin' Dance, orchestra; "Juanita," Cowbell four; reading, "Pleasure Exertion," S'manthy; "Rubenesque," orchestra; "The Old Sexton," Snowbali; "Farm Yard Mediey," Cowbell four; "Cocoanut Dance," orchestra; 10:30, "Cavalleria Rusticana," WGY orchestra; "La Filie aux Cheveaux de Lin," Ollie G. Yettru; "Shipmate o' Mine," Harry Taylor, bass; "Floradora Waltz," orchestra; "In a Boat," Edward A. Rice, violinist; "The Sentincl Am I," Harry Taylor, bass; "Intermezzo," orchestra; "Tho Wonder," Peter Schmidt, clarinetist; "I Am a Pirate King," Harry Taylor; "Seranade," orchestra. orchestra.

WHA, Madison, Wis. (Central, 275), 7:45 p. m., "The Government Work in Animal Husbandry," Prof. L. J. Cole, professor of Genetics.

WHAA, lowa City, la. (Central, 484), 12:30-1 p. m. "What Interests People in Newspapers," George H Gallup.

WHAS, Louisville, Ky. (Central, 400) 4-5 p. m., Alamo theater orchestra, Harry S. Currie, conductor; "Just Among Home Folks"; readings, Courier-Journal, Louisville Tlmes editorials; 7:30-9, Jake Seligman's Kentucky Night Owls; Phil Coady, baritoné.

WHB, Kansas City, Mo. (Central, 411), 2-3 p. n., ladles' hour program, Sweeney Radio trio; 7-8, music, Sweeney Radio trio; weekly W. C. T. U. talk Mrs. Famile L. Taylor

Name of the control o

daily recipe; 6, market summary and farm news; 6:30, organ, Ralph Emerson; 6:45, tenor, Sam Madia; 6:50, organ, Ralph Emerson; 7, lullaby time, Glenn Rowell, Ford Rush; 7:20, Sam Madia, tenor; 7:30, 1sham Jones and his College Inn orchestra; 7:45, Sam Madia, tenor; 8-9, farm program: weekly dairy products review; "Principle of Co-operative Dairy Marketing," E. B. Heaton; "The World's Three Great Dairy Cows," Edward Horst; "John Turnipseed," farm philosopher of the "Prairie Farmer"; 9. "The Monkey's Paw," Saddler feature; 9:35, Dennis sisters; 9:45, George D. Horne, barltone; 10, Isham Jones and his College Inn orchestra; 10:15, George D. Horne, baritone; 10:40, Ford and Glenn time.

WLW, Cincinnati, Ohio (Central, 423), 4 p. m., French iesson, Madame Tcimpidis.

WMAQ, Chicago, III. (Central, 447.5), 4 p. m., "English as Sho Is Spoke" Alexandra Carlisle Jenkins; 4:30, program, Bush conservatory of music; 6, Chicago theater organ recitai; 6:30, Hotel LaSalle orchestra; 8, weekly Wide-Awake club program, Mrs. Frances M. Ford, program director; 8:30, musical geography, Marx Oberndorfer, Mrs. Marx E. Oberndorfer; 9, Hilda Butler Farr, planist; Flora Walkes, soprano.

WMC. Memphis, Tenn. (Central, 500), 8:30 p. m. Brittlings' Novelty orchestra; 11 mldnight frolic. WNJ, Newark, N. J. (Eastern, 233), 10:30-12:30 p. m. Frank Daily and his Meadow Brook orchestra.

Frank Daily and his Meadow Brook orchestra.

WOAW, Omaha, Nebr. (Central, 526), 6 p. m., "Uncle Ross" story hour, Doris Claire Secord; 6:20, Normal unale choir and college band of Concordia Teachers' college; St. John's Lutheran choir, Prof. Kari Haase; "The Broadcester," "The Elves," "In a Rose Garden," band; "Send, O God, a Gentle Shower," "Psalm No. 46," Normai choir; "Rigoletto," Martin Renken; "Seward Concordia Teachers' College and Our Christian Day School," Prof. Henry Koenig; "O, Great Is the Depth of Riches and Wisdom and Knowledge of the Father" choir; selection from Mozart P. Rickenberg, pianist; "Jehova, Let Me Now Adore Thee," "Jerusalem, Thou City Fair and High," choir; "Celestial Overture," "The Twilight Hour," "Choral Overture," college band; 9, "A Mighty Fortress Is Our God," band; "The City of God," St. John's Lutheran choir and Normal nale choir, Mrs. C. H. Riggert, soprano; Prof. Henry Koenig, baritone; Mrs. C. D. Zimmerman, accompanist.

Prof. Henry Koenig, baritone; Mrs. C. D. Zimmerman, accompanist.

WOC, Davenport, Ia. (Central, 484), 10 a. m. markets; 10:05, househoid hints; 10:55, time; 11, weather, river forecast; 11:05, markete; 12 m., ehimes; 12:15, weather; 2 p. m., stocks, markets; 6:45, sports, weather; 7, sandman's visit, Val McLaughlin; 7:20, "The Growing of Apples," C. F. L. Clemons; 8 Hawaiian music, Fred Sutteriin, ukeiele soloist; Jesse Clinton, guitarist; Edward Brown, guitarist; artists from Orion.

from Orion.

WOO, Philadelphia, Pa. (Eastern, 509), 11 a. m., organ rocital, Mary E. Vogt; 12:02 p. m., Wanamaker crystai tea room orchestra, Robert E. Golden, director; 5:05, Mary E. Vogt, organist; 7:30, A. Candelori and his French room orchestra from Hotei Adelphia; 8:30, Erno Rapee'e intimate concert from Fox theater; 9:30, organ recitai, Mary E. Vogt; 10:30, Vincent Rizzo and his Hotel Sylvania dence orchestra.



tofs from child's church; 7:30-9:30, auditorium service. "Bible Teaching on Divine Healing." Almee Semple McPherson; altar call; temple choir; Marion McGlashen Muller, Salvation Army soprano.

Semple McPherson; altar cali; temple choir; Marion McGlashen Muller, Salvation Army soprano.

KGO Oakland, Calif. (Pacific, 312), 12:30 p. m., N. Y. stocks; 12:30, S. F. stocks; 12:45, weather; 4-5:30, concert orchestra, Hotei St. Francis, Vinton La Ferrera, conductor; 8, studio program; Yerba Buena Minstreis and Olio, minstreis: end men, Richard H. Glissman, Ernest W. Stenberg, Lloyd D. Barzee, A. E. Evers, Sydney H. Hansen, Harry Roach; interiocutor, George W. Ludlow; soloslsts, Cari Anderson, Clarence H. Oliver, R. J. Bishop A. H. Arneson, E. C. Dowdie, A. C. Kroeger, Chris Hampton, Willard B. Zimmerman; Ollo: J. E. Whitehead, pianist; comle songs, Charles W. Reynolds; A. L. Bangle, clarinetist; monologues, A. E. Evers; Sydney T. Maar, violinist; George W. Ludlow, reader; Charles T. Besserer, organist; Newton Deprez, bass; Howard Tremble, pianist; monologues, Anson Bilger; Wiley R. Martin, saxophonist; piano duet, Mr. and Mrs. William W. Carruth; 10-1 a. m., Henry Halstead's orchestra.

KGW, Portland, Ore. (Pacific, 492), 11:30 a. m., weather; 10 p, m., dance music, George Olsen's Metropolitan orchestra; weather, news.

KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:30 p. m., concert; 2:30-3:30, matinee musicale; 6-6:30, Art Hickman's concert orchestra, Edward Fitzpatrick, director; 6:30-7:30, children's program, "American History," Prof. Walter Sylvester Hertzog; Helene Pierie screen juvenile; bedtlme story, Uncle John: 8-10, special de luxe program; 10-11, Art Hickman's dance orcbestra.

KLX, Oakland, Calif. (Pacific, 509), 2:30 p. m., foot-

dance orchestra.

KLX, Oakland, Calif. (Pacific, 509), 2:30 p. m., football, U. of Callfornia-U. of Southern California.

KPO, San Francisco, Calif. (Pacific, 423), 12 m., time; readings from the Scripture; 1-2 p. m., Rudy Selger's Fairmont hotel orchestra; 3:30-5:30, E. Max Bradfield's Versatile band; 8-12, Art Weldner's dance orchestra; May Clarke Burns, soprano.

(Continued on page 16)

BELGIAN ORGANIST DEDICATES M.

Where to Hear Concerts

Central Standard Time

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

Wednesday, October 29th: 6, WGN, WMAQ, WWJ; 6:15, WGBS; 6:30, WCAY, WEAF, WJAR, WLS; 6:40, WBZ, WLS, WTAY; 7, WCAE, WCAP, WEAF, WEEI, WHB, WLS, WQJ, WTAM; 7:15, WBZ, WEAF, WGR, WOO; 7:20, WCAP; 7:30, KDKA, KFNF, KYW, WCAE, WCX, WHAS, WHO: 7:45, CHYC, WHA, WLS; 8, KFKB, KHJ, KSD, KYW, WDAF, WGN, WLW, WOC, WTAS; 8:30, KOB, 8:45, KFI, KYW; 9, KFI, WBZ, WEAF, WGR, WMH, WOC, WTAY; 9:15, WLS, WMAQ, WOR; 9:30, KFAE, KFSG, KHJ; 10, KGW, KLX, KPO, WQJ; 10:15, WLS, WTAY; 10:30, KFOA, WBZ; 10:40, WLS; 11, KFI, WMH; 11:45, WDAF; 12, KFI.

WTAY; 10:30, KFOA, WBZ; 10:40, WLS; 11, KFI, WMH; 11:45, WDAF; 12, KFI.

Thursday, October 30th: 6, WGN, WMAQ, WWJ; 6:30, WEAF; WGN, WLS, WMAQ, WOAW; 6:45, WEEI, WLS, WTAY; 7, CKAC, KDKA, KYW, WCAE, WEAO, WEEI, WGY, WLS, WMH, WJAX, WQJ; 7:15, WEAF, WIP; 7:30, KDKA, KFNF, WBAP, WCAE, WCX, WEEI, WFI, WHAS; 7:45, WRC; 8, KFKB, KHJ, WAAW, WBZ, WCBD, WEAF, WEEI, WFI, WGBS, WGN, WGY, WHB, WTAS; 8:20, KYW, WGBS; 8:30, WEAF, WMC, WRC; 8:40, WGBS, 9, KFI, WBZ, WGBS, WOAW, WOC; 9:15, WMAQ; 9:30, KHJ, WBAP, WMC; 10, KGO, KHJ, KPO, KYW, WQJ, WSAI; 10:15, WTAY; 10:30, KFOA, WCAY, WGY, WLW, WOAW, 11, KFI, KHJ, WPO; 11:15, KFSG; 11:30, WSAI; 11:45, WDAF; 12, KFI, KFSG.

Friday, October 31st: 6, WGN, WJZ, WMAQ; 6:30, WCAE, WEAF, WGN, WLS, WMAQ, WOAW; 6:45, WEAF, WEEI, WGY, WLS, WTAY; 7, CNRM, CNRT, WCAE, WCAP, WDAR, WEEI, WHB, WJAR, WLS, WQJ; 7:15 WEBJ; 7:30, KDKA, KFNF, KYW, WBAP, WCAE, WCAF, WEAF, WEEI, WGN, WCAY, WGR, WCAE, WEAF, WEAF, WCAY, WBAP, WCAE, WCAP, WCAY, WDAF, WCAY, WBAP, WCAE, WCAY, WBAP, WCAE, WCAY, WBAP, WCAY, WDAF, WEAF, WEEI, WGN, WGR, WOC, WOO, WTAS; 8:30, KOB, WMAQ; 9, KYW, WBZ, WDAR,

WMAQ, WOAW, WTAY; 9:30, KFAE, KFSG, WBAP, WBZ, WGR, WGY, WLS, WMC; 9:45, WJAR. WLS; 10, KFI, KHJ, KLX, WBZ, WQJ; 10:15, WLS, WTAS, WTAY; 10:30, KFOA; 10:40 WLS; 11, KHJ, KYW, WMC; 11:15, KFSG; 11:45, WDAF; 12, KFI; 12:30, KGW. 12:30, KGW.

12:30, KGW.

Saturday, November 1st: 6, WGN, WJAR, WTAY, WWJ; 6:30, WCAE, WGN; 6:45, WEAF, WCAE, WTAY; 7, WCAE, WLS, WOR, WQJ, WRC; 7:15, WEAF, WIP: 7:30, KDKA, KFNF, KYW, WEAF, WHAS, WRC; 7:45, WJZ; 8, KFKB, KHJ, KYW, WGN, WJZ, WRC, WSAI, WTAS; 8:15, KHJ, KSD, WJZ, WMC, WOO; 8:45, WOR; 9, WMAQ, WOC, WTAY; 9:15, WSAI; 9:45, WIP, WOR; 10, KFI, KGO, KHJ, WPO, WMH, WQJ; 10:15, WOR, WTAY; 10:30, KFNF; 11, KFI, WJAX; 11:45, WDAF; 12, KFI, WSAI.

Sunday, November 2nd: 6:20, WEEI, WJAR, WJZ; 6:30, KFNF, WLS, WOO; 7, WHK, WLS; 7:30, KDKA; 8, KFKB, WGR, WHAZ, WQJ, WJAX, WTAS; 8:15, WJAR, WJZ; 8:30, KOB, KHJ, WHO: 8:45, WLW; 9, KFSG, KHJ, WGN; 10, KHJ; 11, WBAP; 12, KFSG

Monday, November 3rd: 6, WCX, WDAF; 6:30, WDAR, WOAW, WOO; 6:45, WGY, WTAY; 7, WHB, WJAR, WTAM; 7:30, KDKA, WBAP, WHAS, WHO, WWJ; 8, KFKB, WCBD; 8:15, WOR; 8:30, WFAA, WOR, 9, KDKA, WJZ, WOAW, WOO, WTAY; 9:30, KFAE, WBAP, WOR; 10, KGW, KPO, WSAI; 10:30, KFOA; 11, KPO; 11:15, WHO; 11:45, WDAF.

Tuesday, November 4th: 6, WMAQ; 6:30, WMAQ; 6:45, WGY; 7, WJZ, WQJ; 7:15, WEBJ; 7:30, CKAC, KFNF, WBAP, WJZ, WWJ; 8, KFKB, WMB, WJAR, WJZ, 8:15, WFI; 8:30, WFAA; 9, WCX, WOAW, WSAI; 9:15, WMAQ; 9:30, WBAP; 9:50, WSAI, 10, WQJ; 10:20, WGY; 10:30, WOAW; 11, WFAA, WMC; 11:45, WDAF; 12, KPO.



WLW, Cincinnati, Ohio (Csntral, 423), 11:30, Crostey Arabian night; Lange-McKay orchestra.

WMAQ, Chicago, III. (Central, 447.5) 2 p. m., football game; 6:30, Hotel LaSalle orchastra; 8, music; 8:40, travel lecture on Java and Sumatra, E. M. Newman; 9, weekly Balaban & Katz Chicago theater review, WMC, Mempbis, Tenn. (Central, 500), 8:30 p. m., Malcolm Burks orchestra.

WMH, Cincinnati, Dbio (Central, 309), 10 p. m., plano solos, Angela Haele; soprsno solos, Ruth Waltzel, Angela Heale, accompanist; barltone solos, Frederick J. Meyer, Mary Fredarick Neiman, accompanist; 11, Hotel Alms orchestra.

Alms orchestra.

Meyer, Mary Fredarick Neiman, accompanist; 11, Hotel Alms orchestra.

WOAW, Omaha, Nebr. (Central, 526), 6 p. m. program, plano studio, Stanley Jan Leiovsky; 9, program, auspicas of Omsha Printing company; 11:15, Wowl frolic, WDC, Davenport, Ia, (Central, 484), 10 a. m., markets; 10:05, household hints; 10:55, time; 11, weathar and river forecast; 11:05, markets; 11:10, agricultural bulletins; 12 m. chimes; 12:15 p. m., weather; 12:17, markets; 6:45, aports, waather; 7, sandman's visit, Val McLaughlin; 9, "Chimes Blues," "In the Garden of Tomorrow," "Adoration Waitz." "Msndalay," "Let Me Ba the First to Kiss You Good-Morning," Talking to Myself," the Palmer School Radio orchestra; Raiph W. Fuller, baritone.

WOO, Philadelphia, Pa. (Eastern, 509), 11 a. m., organ recital, Mary E. Vogt; 12:02 p. m., Wansmaker crystal taa room orchastra, Robert E. Golden, diractor; 5:05, Mary E. Vogt, organist; John Wanamaker Commercial Instituta hand, Arthur Rosander, director.

WDR, New York, N. Y. (Eastern, 405), 2:30 p. m., Bank's Colonial Inn orchestra; 3, Lucy Coopar, soprano; 3:30, "Tom Bank'a Colonial Inn orchestra; 6:30, musle while you dina, Cinderella Wolverinas; 7:15, sports, Jolly Bili Steinke; 8-8:30, Sadye M. Gann, planist; 8:40, Tom Barry; 8:55, Mary Rose Eaton and Mary Eaton Deinier; 9:45-10:30, program, James A. Rielly, director; 10:45, muslc; 11:15, Perry and Russell, 2-man singing orchestra.

WQI, Cbicago Ill. (Central, 448), 11 a. m., "Pressure

Eaton Deinier; 9:45-10:30, program, James A. Rielly, director; 10:45, music; 11:15, Perry and Russell, 2-man singing orchestra.

WQI, Chicago Ill. (Central, 448), 11 a. m., "Pressure Cookles," H. W. West; 3-4 p. m., koffee klatsch; 7-8, Raiph Williams and His Rainho Garden orchestra; Otis Pika Jester, soprano; Mary House, planist; James J. Whalen, tenor; 10-2, Ralph Williams and His Rainho Garden orhestra; Jerry Sullivan; Sandy Maak, Scotch tenor; The Melodians, Laurie, Eddle, and Bennie; Harmony Singers, George A Little, Larry Shay, Dorothe Rae.

WRC, Washington, D. C. (Eastern, 469), 6 p. m., children'a hour Peggy Albion; 7:45, Bible talk; 8, Viola Harpsr, soprano; 8:15, talk; 8:30, Sua Hess, contraito; 8:45, talk; 9. Capitsl Male quartat; 9:15, Lee House trio; 9:55, time; 10:30, danca program,

WSAI, Cincinnati, Ohio (Central, 309), 2:30 p. m., Cincinnati-Dayton football game; 8, chimes concert; 8:15, baritono solos, Sam Pusateri; plano-accordian solos, Charles Partington; violin solos, Rubin Phillips, popular songs, Hughes and Axtman; 9, weekly naws review, Allison F. Stanley; 9:15, aoprano solos, Alice Loftus; cornet solos, Virginia Bush; 12, WSAI Midnight entertainers: Frada Sanker's Toad Stooi orchestra.

WTAM, Cleveland, Dbio (Eastern, 390), 9 p. m., WTAM danca orchestra, Ev Jones, director; solos, favorite entertainers.

WTAS, Elgin III. (Central, 286), 6-8 p. m., Tip Top

WTAS, Elgin III. (Central, 286), 6-8 p. m., Tip Top Inn string sextette; 8-12, danca program, Terrace Garden orchestra, Fred Hamm director; Tarrace Garden

entertainers.

WTAY, Oak Park, III. (Central, 283), 6:45-7:45 p. m.,
Grace Hansen, violinist; Mildred Hansan, pisnist;
Josaph McMannus, baritone; 9-9:45, 10:15-11:15, Polly
Willis, soprano; Guyon's Paradise bailroom orchestra.

WWJ, Datroit, Mich. (Eastern, 517), 8 a. m., setting-up
axercises, R. J. Horton; 9:30, talk. woman's editor,
Detroit News; 12 m., musical program; 3 p. m., Datroit News orchestra; 5, football scores; 7, Detroit
Nawa orchestra.

Sunday, November 2

Slient night for: CKAC, KFDA, KGW, WDAF, WMH, WNJ, WOR, WSAI, WTAY, WWJ.

KDKA, E. Pittsburgh, Pa. (Eastern, 326), 11 n. m., services, Sixth Prosbyterian church, Rev. B. F. Farber, minister; 2:45 p. m., concert; 4, organ recital, Dr. Charles Heinroth; 4:45, vesper aervicas, Sbadyside Presbyterian church, Rev. Hugh Thomson Kerr, minister; 6:30, dinner concert, Gregorio Scalzo'a orchestra; 7:45, services, Calvary Episcopal church, Rev. E. J. Van Etten, minister.

KFDM, Beaumont, Tex. (Central, 306), 8 p. m., mixed musical concert.

musical concert.
KFI, Los Angeles Calif. (Pacific, 469), 10-10:45 a. m. KFI, Los Angeles Calli. (Pacine, 405), 10-10-35 a. III., L. A. church federation aervice; 4-5 p. m., vesper service; 6:45-7, musical appreciation address, Paul. Reese; 7 8, Metropolitan theater program; 8-9, Hotel Ambassador concert orchestra; 9-10, Examiner studio program; 10-11. Theron Bennett's dance orchestra. KFK, Milford, Kans. (Central, 286), 8-10 p. m., religioua talks and nusic.
KFNF, Shenandoah, la. (Central, 286), 3 p. m., religioua aervice, Men's Gospel team; 6:30, regular song scrvice.

scrvice.
KFSG, Los Angeles, Calif. (Pacific. 278) 10:80-12:30 noon, morning service and praise, templo revival

chorus; tripie male quartet; vocal soloists; Esther Fricke Green, organist; sermon, Aimee Semple Mcpherson; 2:30-4:30 p. m., dispensational messaga and Bibie teaching, Aimee Semple McPherson; Temple Silver band; combined choirs and musical features; Roy Reid Brignall, organist; Ruth Thomas, planiste; 7-9:30, musical hour; rendering praisa to the Lord; Silver band; choir, male quartet assisting; Esther Fricke Green, organist; evangelistic saivation sermon, Aimae Semple McPherson; after service and alter call; 10-11, "Eventide," musical benediction by Roy Reid Brignall with assisting artists.

KGD, Dakland Calif. (Pacific, 312), 11 a. m., church service; 3:30 p. m., KGO Little Symphony orchestra, Carl Rhodehamal, conductor, "Valse—Lenteinent," "Overture—Maritana," "Mignon," orchestra; "Go to Sea," Fred Kickbush; "Round about Jerusalem," travelogue, Ford E. Samuel; ballet suite, "La Sonree," "Scarl Dance," "Scena D'Amour," "Danco Circassienne," "Berceuse," "Ave Maria," "March Lc Regiment," orchestra; 7:30, church service.

KGW, Portland, Dra. (Pacific, 492), 6 p. m., church service, Portland Council of churches.

KHJ, Los Angeles, Calif. (Pacific, 395), 10 a. m., ser-

KHJ, Los Angeles, Calif. (Pacific, 395), 10 a.m., sermon from KHJ studio. Rev. Gordon Palmer. South Park Bsptist church; 10:30-12:30 p. m., service, First M. E. church, Arthur Blakeley, organist, Rev. E. E. Holms, pastor; 6:30-7 Art Hickman's concert orchestra, Edward Fitzpatrick, director; 7-7:30, organ recital, Arthur Blakeley, organist; 8-10, concert, George M. LaShill of Long Beach.

Arthur Blakeley, organist; 8-10, concert, George M. LaShill of Long Beach.

KPD, San Francisco, Calif. (Pacific, 423), 11-12 m., church services, auspices American Bible society; soloist, Carmencity O'Neili, Theodore J. irwin, organist; 8:30-10, Rudy Sciger's Fairmont hotel orchestra.

KSD St. Louis, Mo. (Central, 546), 9 p. m., musical specialties, Grand Central theater.

KYW, Chicago, III. (Central, 536), 7 p. m., Imperial Male quartet; "Pilgrim's Progress," Cliford W. Bsrnes; 7:40, "Sonato in A Minor," "Allegro Moderato," "Adagio," "Allagro con Fucco," "Chant du Bonheur," "March Herolque," Staniey Martin. organist; "All Men, All Things," choir of 100; Doxology and the Lord's Prayer; "Bless Our Land," choir; Scripture; prayer; "Land of Hope and Glory," Louis Kreldler and choir; announcements, Clifford W. Barnas; "The Lord is My Shepherd," Mrs. Mahel Sharp Herdien, soloist; hymn; addrass, Dr. Lynn Harold Hough; hymn; organ postlude, "Marche Militaire."

WBAP, Fort Worth, Tex. (Central, 476), 11 a. m., services, First Mathodist church, Rev. J. W. Bergin, pastor; Will Foster, organist; 4 p. m., Rialto theater; 11-12, midnight frolics, dance orchestra.

WBAV, Columbus, Dhio (Eastern, 423), 2:30 p. m., religious service at studio, conducted by Columbus Council of churchss.

WCAL, Northfield, Minn. (Central, 360), 8:30 p. m., religious service at studio, conducted by Columbus Council of churchss.

WCAL, Northfield, Minn. (Central, 360), 8:30 p. m., program undor the auspices of the Kanssa Conference Greettum, planist; John Gaardsmoo, baritone.

WCX, Detrolt, Micb. (Eastern, 517), 10:30 a. m., services, Central M. E. church, Dr. Lynn Harold Hough; Hudson quartets; 2 p. m., organ recital, Prof. Guy C. Filkins, broadcast from Central M. E. church. WDAF Kansas City, Mo. (Central, 411), 4-5 p. m., program undor the auspices of the Kanssa Conference Board of Sunday schools of the Evangelical church.

WDAF, New York, N. Y. (Eastern, 395), 2 p. m., Arcadia cafe concert orchestra; 8:30, "Round Table Forum."

WEAF, New York,

Forum."

WEAF, New York, N. Y. (Eastern, 492), 7:20-9:15
p. m., Roxy and his gang, Capitol theater; 9:15-10:15,
Skinner organ recital.

WEEI, Boston, Mass. (Eastern, 303), 3:45-5:30 p. m.,
regular Sunday men'a conference in Bedford Branch
Y. M. C. A., Brooklyn, N. Y.; 7:20-10, musical
program, Mark Strand theater, N. Y. C., Moe Mark,
director

program, Mark Strand Libeact, director.

WEW, St. Louis, Mo. (Central, 280), 7 p. m., "Man Is Naturally Religious," Rev. L. W. Smith,

WFAA, Dallas, Tex. (Central, 476), 8:30 p. m., Hunt Family singers, Jack Davis orchestra.

WFI, Philadelphia, Pa. (Eastern, 395), 4:30 p. m., services from studio; 7:30, service, Arch Street Presbyterian church.

Saturday, November 1

(Continued from page 15)

KSO, St. Louis, Mo. (Central, 546), 8:30 p. m., music and specialties. Missourl theater.

KYW, Cbicago III. (Central, 536), 6:30 a. m., morning axercises, Y. M. C. A.; 9:30, naws, markets; 10:30, farm and home acrvice; 11:35, table talk, Mrs. Anna J. Peterson; 8:02-6:15, news, markets; 6:35-7, children's bedtime atory, Uncle Bob; 7-7:30, dinner concert, Congress hotel; 8-8:58, Thomaa B. Stephenson, tenor; Elsle C. Stephenson, accompanist; Calumct Cambrian Ladies' quartat; Mrs. Joseph Fishar, 1st soprano; Mrs. John Bevan, 2nd soprano; Mrs. Harry Isaac 1st alto; Mrs. W. E. Jones, 2nd alto; Edith Collier, accompanist; 9:05, Youth's Companion; 9:35 12-2 a. m., midnight showa.

midnight showa. WBAV, Columbus, Ohio (Eastern, 423), 12 m., Ila

Lorbach Owens, planist.

WBZ, Springfield, Mass. (Eastern, 337), 11:35 a. m., time; 6 p. m., Leo Reisman Hotel Lenox ensemble; 6:30 Copley Plaza orchestra, W. Edward Boyle, director; 7, market raports; 7:05, bedtima atory for the kiddies; 7:30, Hotel Kimhail trio, Jan Geerts, violinist; Arnold Janser, cellist; Lloyd Stoneman, planist; 8:15, Weitman Conservatory Junior orchestra; 9:15, D. Lea Chestnut, trombonist; Alice Newhall Cook, organist; 9:55, tlme.

organist; 9:55, time.

WCAE, Pittsburgh, Pa. (Eastern, 462), 12:30 p. m., news, weathar; 3, Pitt-Syracuse football gama; 6:30, dinner concert, William Penn hotel; 7:30, Uncle Kayhee; 7:45, Lew Kennedy, popular songster; Irene Setzler, accompanist; 8, Halloween party.

WCAL, Northfield, Minn. (Central, 360), 9:45 a. m., St. Olaf college chapel services; 12, midnight musicale.

WCX, Detroit, Micb. (Eastern, 517), 4:15 p. m., musical program: 6, dinner concert.

WCX, Detroit, Mich. (Eastern, 517), 4:15 p. m., musical program; 6, dinner concert.
WDAF Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., the Star's Radio orchestra; 6-7, school of the air, plano tuning-in number on the Duo-Art; address, member of the editorial staff of the Star; the Tell-Me-a-Story lady; music, Hotei Muchiebach Trianon ensemble; 11:45-1 a. m., nightbawk frolic, the "Merry Old Chleft" and the Plantation players.
WDAR, Philadelphia, Pa. (Eastern, 395), 11:45 a. m., daily almanac; 12:02 p. m., organ recital, Stanley theater; Arcadia cafe concert orchestra; 2. Arcadia cafe concert orchestra; 4:30, "Cotton Pickers" dance orchestra, direction Wilhur DeParls; 7:30, Dream Daddy's bedtime stories.
WEAF, New York, N. Y. (Eastern, 492), 2:30-4 p. m..

orchestra, direction Wilnur Delfaris; 7:30, Dream Daddy's bedtime stories.

WEAF, New York, N. Y. (Eastern, 492), 2:30-4 p. m., West Point-Yalc football game direct from Naw Haven, Graham McNamee, announcing; 4-5, Bruno Brothers orchestra; 6-7, dinner muslc, Waidorf-Astorla hotel; 7-7:30, adventure stories for boys, Fred J. Turner; 7:45-8, Elsie Kiesewetter, soprano; 8:15-8:30, Ruth Ryan, planist; 8:30-8:45, Ruth Ryan, planist; 8:40-9, Penn Red Cap quartet; 9-9:15, Colonel Pattee, soldier fiddler; 9:30-10, Florence Poyet, soprano, and John Fobert, baritone; 11-12, Vincent Lopez and his Hotel Pennsylvania Grili orchestra.

WEAD, Columbus, Obio (Eastern, 294), 9 a. m., muslc, Marguerite Manley Siedel School of Music talent; 11, rouslc, Siedel artists; 2:30, play by play report of Ohio State-Wooster football game.

WFAA, Dallas, Tex, (Central, 476), 8:30 p. m., Richard Mandell alngers; 11, Adolphus hotel orchestra.

WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3, Caroline Hoffman, planist; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim, the kiddles' pal; 8:05, "Scarlet Fover and Its Provontion," talk, Philadelphia County Medical aociety; 10:05, Radio play, Starlight players.

WGBS, New York, N. Y. (Eastern, 318), 10 a. m.

Starlight players.

WGBS, New York, N. Y. (Eastern, 318), 10 a. m., shopping talk; 10:10, Marie Herites Kobnova, violinist; 10:20, Susan Salt, interior decoration talk on "Curtains and Draperies"; 10:30, Mary Herites Kohnova, violinist; 10:40, Roselle M. Montgomery, "Talk"; 10:50, Corona Winn, planist; 1:30 p. m., recital, Bsila Hecht, concert planist, and Ben Gordon, tenor; 3, inauguration of club woman's period, Mrs. Thomas Slack; 3:10, talks on American composers; 3:20, Helen Varick Boswell, "Why I am Going to Vote the Republican Ticket"; 3:30, James G. MacDermid, composer; 3:40, students' period; 3:50, Clare Mond, planist 13:10, Uncle Gecbec; 6:30.7, Albert Mesrop,

tenor; 7, Felian Garzia, concert pisnist; 9:30, Al Wagner program; 10:15, Bella Bart, talk on new astrology; 10:30, Ladies trio; 11:15, Nat Martin and his '1'll Say She 1s' orchestra.

WGN, Chicago, III. (Central, 370), 1:40 p m., Drake concert ensemble and Blackstone string quintet; 3, rocking chair time; 5:30, Skeezix time; 6, Lyon and Healy organ recital; 6:30, Drake concert ensemble and Blackstone string quintet; 8, tha classic hour, vocal and instrumental music; 10, Jack Chapman's dance orchestra and latest popular songa.

WGR, Buffalo, N. Y. (Eastern, 319), 12:30-1 p. m., Georga Albert Bouchard, organist; 2:30-4:30, Buffalo Courlar and Enquirer musical program; 8, Hallpryd string quartet.

wGY. Schenetady, N. Y. (Eastern, 380), 11:55 a. m., time; 12:30, stocks; 12:40 p. m., produce market reports; 3, football game, Army vs. Yala at New Haven; 9:30, dance music, Kenmore hotsl; football results.

WHAS, Louisville, Ky. (Central 400), 4-5 p. m., Alamo theater orchestra, Harry S. Currle, conductor; "Just Among Home Folks"; readings, Courier-Journal, Louisville Timea aditorials; 7:30-9, concert, auspicas Arthur Findling. WHB, Kansas City, Mo. (Central, 411), 2-3 p. m., ladies' hour program, Sweeney Radio trio.

NAB. Raisas City, mo. (Central, 411), 2-3 p. m., ladies' hour program, Sweeney Radio trio.

WHN, New York, N. Y. (Eastern, 360), 2:15 p. m., Jamea A. Kandis, tenor; 2:25, Edward J. Falterman, pianist; 2:35, Gene Austin, baritone; 2:45, Booker's Memphis six; 3:45, lda Alien, soprano; Richard Brown, pianist; Mabai Anderaon, soprano; Vernon Griffith, saxophonist; 4:15, the Radio widow, Belia Nawmann Zilberman; 4:30, Morris Handel, tenor; G. Abbey, pianist; 4:45, Ruth Lucille Sharpe, twilight storias; 5-5:30, Bert Relth'a Southern harmonists; 6:30-7, Huston Ray's Alamac quartet; 7-7:30, Huston Ray'a Alamac orchestra; 7:30, Hotel Carlton Terrace orchestra; 8, goodnight children, Elizabeth Morrison Jones; 8:05, Jimmy Flynn, tenor; 8:15, Arthur Stone, pianist; 8:30, Metropolis trio, King, Butler, Ellis; 8:45, Josephine Michelson, popular adolst; 9, Frisco Jazz Rings; 9:30, Avy La Skere; 9:45, Victor Wilbur, haritone; 10, Vic and Jack Lauria; 10:15, Fitzpatrick brothers; 10:30, Clarance Williams' Radio trio; Blue Five orchestra; 11, Jimmy Clarke and his entertaincrs; 11:30, Fletcher Henderson's Rosciand dance orchestra.

crs; 11:30, Fletcher Henderson's Roscland dance orchestra.

WIP, Philadelphia, Pa. (Eastern, 509), 1 p. m., Kari Bonawitz, organist; 2:30, play by play of football game between Penn-Lafayette collège; 6:05, Hotel St. James orchastra; 7, Uncle Wip'a bedtime stories; 8, talk, Ernest C. Carpenter; 8:15, Philadelphia Concert company, Lillian A. Mayer, soprano and planist; Fanny Donnelly, contralto, and William J. Mayer, baritone; 9, Tillie B. Shalet, reader; 9:20, Olga Mendoff, eminent Russian planist; 10:50, Art Coogan and his Club Madrid orchestra; 11:05, Karl Bonawitz, organist, WJAR, Providance, R. I. (Eastarn, 360), 1:05 p. m., studio program; 7:05, musical program.

WJAX, Cleveland, Dhio (Eastern, 390), midnight "The Nite Caps on Lake Erlo," cruise arranged by Euclid Music company Cleveland News-Loader; featuring Andy Gump'a final whirlwind tour of the country via Radio in his presidential campaign; Austin J. Wiley'a Golden l'heasant orchostra; H. M. Dunham, tenor; Eddie Connora, Ray Zucker, banjo duct; Forest City Hot Shots, direction Larry Wright; Lotta May Kelly, contralto; Gordon Dewey, guitarist; Kosilek-Wallace orchestra; Ethei Rhode, pianologue; Homer Walters, violinist; Seven musical magpies; Rex Haiier, lyric soprano; Tom Donohue's Bamboo Villago orchestra; Guy Lombardi'a Royal Canadian orchestra; Frank Wolsenherger, accompanist on all solo numbers.

WJZ, New York, N. Y. (Eastern, 455), 1:15 p. m.

Lombardi'a Royal Canadlan orchestra; Frank Wolsenherger, accompanist on all solo numbers.

WJZ, New York, N. Y. (Eastern, 455), 1:15 p. m., Orlando'a Hotel Roosevelt orchestra; Herbert Somay, director; 2, Army-Yale football game; 7, Waldorf-Astoria dance orchestra; 8, talk, Honest Ballot association; 8:15, Rinaido Sidoll, violinist; 8:30, talk, William A. Murpby, auspices N. Y. Board of Trade and transportation; 8:45, Rinaido Sidoll, violinist; 9, Democratic meeting, auspices of the Democratic National committee, addresses, John W. Davis, Governor Al Smith; 10:30, Hotel Astor dance orchestra.

WLS, Chicago, Ill. (Central, 345), 9 a. m., livo stock markets, weather; 11, live stock, dairy, fruit and vegetable markets; 1:30 p. m., market aummary for the day; weather, farm news; 7-12, Saturday night mardi-gras; organ, Ralpb Emerson; Isham Jones and his College Inn orchestra; Misses Ingram and Carpenter, "The Harmony Giris"; Walter Peterson, "The Kentucky Wonder Bean"; old-time fiddiars; Ford Rush and Gienn Roweil.

Wis; Wdan Kpo, Kn, 11:30, Kgw, The Wqi: Wtus Kpo,

> Woc. Kikb. Wlw,

11:30 Khi, Fri Wda1

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7:30. Wmh. 8:30,

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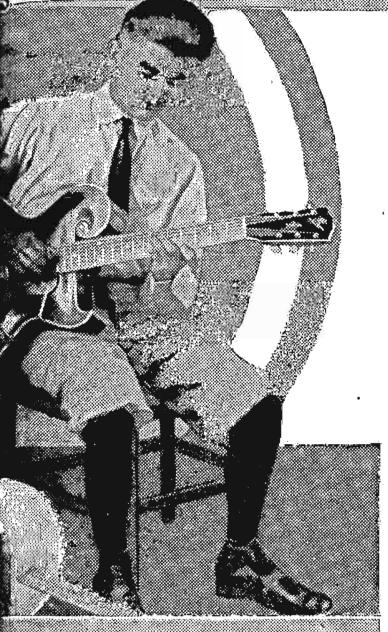
Ffi.

6:30, Wwj; Wine: 9:30,

Wip,

SONIC ORGAN AT KSD WEDNESDAY

Alice Graze, soprano, is a regular feature of WWJ, Detroit. These two youngsters, the Williamson Brothers of Des Moines, are perwill amost brothers of Des Moines, are perhaps two of the most popular youthful artists heard over any microphone. They will play at WHO this Friday, October 31. Ray Stilwell (right) is the director of the orchestra bearing his name, and is at the present time pleasing not only the patrons of Rainbow room at the Hotel Wilston in Claydon, but less the in-Hotel Winton in Cleveland, but also the invisible audience of WHK.



CING

Time October 29:

Kyw, Wor, Wdar: 7:30, Wex, Who, o. Wtas; 9, Wwj: 9:30, % Woo; 10,

g Wmh, Woi; ## 10:45, Whz;

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Wenf; 9, Wiax, Willi. 10. Kdka.

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tober 31: 6, 7.30. Wis.

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Weaf: 9:30.

Ifkb. Weel. RajoWai; 10:15. Wbz; 11. 11:15, Kfsg;

w; I. Kfl. Salvovember 1:

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Wgy, Wine: Woc; 9:30. Weaf, Wgn. Wtay; 11,

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Vsai; 11:30. 73, Kpo.

lovember 4: Waj: 7:30. Teaf; 8:30,

ipo, Whb; 10, Kfkb, 1:15, Wtay.

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WGBS, New York, N. Y. (Eastern, 316), 8:30 p. m., official opening, unusual program to be brosdcasted from studio of the new Gimbel Brothers' station.

WGN, Chicago, III. (Central, 370), 11 a. m., Uncle Walt reads the funnies to the children; 11:45, concert from Chicago theater; 2:30 p. m., Lyon and Healy organ and Chicago musical college concert; 9, concert, WGN singers, Drake eusemblo.

WGR, Buffalo, N. Y. (Eastern, 319), 3-4 p. m., vcsper service, Buffalo Council of churches; 4-5, Leonard Adams, organist; 7:15, service, featuring William Wall Shiddlt, organist, and Dr. J. MacAlpine, Central Presbyterian church.

WGY, Schenectady, N. Y. (Eastern, 380), 10:30 a. m., service, First Presbyterian church, Rev. William Herman Hopkins; 3:45 p. m., "March Hongroise," WGY Symphony orchestra, Leo Kliwen, conductor; "The

man Hopkins; 3:45 p. m., "March Hongroise," WGY Symphony orchestra, Leo Kllwen, conductor; "The Jewel Song," Viola Halles, soprano; "Adagio and Allegro Vivace," orchestra; "Qui La Voce," Vlola Halles; suite "Woodland Pictures," orchestra; "Here's Where the Smugglers Dwell," Viola Halles; "Overture Fra Diavolo'," orchestra; 7:30, services, Albany First Presbyterian church, negro spirituals, Fisk Juhllee singers; Nathaniel Dett, organist.

WHAA, lowa City, la. (Central, 484), 9-9:30 p. in.

famillar hymns.

WHAS, Louisville, Ky. (Central, 400), 9:57 a. m., organ music; 10, church service, auspices of the Fourth Avenue Presbyterian church, Rev. Dr. Charles W. Welch, pastor; William E. Conen, organist; choir, Esther Metz, soprano; Mrs. Virginia Shafer Herrick contralto; William Layne Vick, tenor; William G. Meyer, baritone; 4 p. m., George Latimer, organist; 4:30, vesper service, Christ Church cathedral; address, Rev. Robert L. McCreedy; boxs. doctor three. Rev. Robert L. McCready; boys' choir; Ernest Arthur organist

WHB, Kansas City, Mo. (Central, 411), 9:45-11 a. m., services, Linwood Boulevard Christian church, Dr. Burris Jenkins, pastor; 8-9:15 p. m. services, Westport Methodist Episcopal church, Dr. W. A. Tetley,

pastor.

WHK, Cleveland, Ohlo (Eastern, 283), 8 p. m., chapel scrvlces, auspices Cleveland Federated churches, Rev. E. R. Wright, conductor; current religious topics, sacred music, invocation; 9, Mary E. Black, soprano; Ruth Sponseller, contraito; Jean Webster Erlsman, soprano; O. A. Bryan barltone, planist; Leonard Z. Bryan, tenor, violinist.

WHO, Des Moines, Ia. (Centrai, 526), 7:30-8 p. m., sacred concert and sermon; Bankers Lifo Radio artists.

WIP, Philadelphia, Pa. (Eastern, 509), 11 a. m., services, Holy Trinity church, Rev. Floyd W. Tomkins, D. D., rector.

D. D., rector.

WJAR, Providence, R. I. (Eastern, 380), 7:20-9:15
p. m., Roxy and his gang, Capitol theater, New York
clty; 9:15-10:15, organ recttal, WEAF.

WJAX, Cleveland, Ohio (Eastern, 390), 9 p. m., concert
program arranged by Radio Apparalus company, Warren R. Cox, vico-president and general manager; R.
A. C. concert orchestra, Max Schmilt, director; Ben
Burt, planist; Ben Silverberg, violin; Joseph Parlitzki,
violinist; Max Schmilt, cellist.

violinist; Max Schmitt, cellist.

WLS, Chicago, III. (Central, 345), 6:30 p. m., organ, Raiph Emerson; 7-8, musical program arranged hy Robert W. Stevons, U. of C. WLW, Cincinnati, Dhio (Central, 423), 9:30 a. m., Sunday school; 11, sermon, Dr. Frank Stovenson, Church of the Covenant; 7:45 p. m., sermon, Rev. Frederick N. McMillin, Walnut Hills First Presbyterlan church; 2:45. Westorn & Southern orchestra.

Frederick N. McMillin, Walnut Hills First Presbyterlan church; 8:45, Westorn & Southern orchestra.

WOAW, Omaha, Nebr. (Central, 526) 9 a. m., Radlo chapel service conducted by Rev. R. R. Brown; 9, musical chapel service, Immanuel Lutheran church, Rev. O. Henry, pastor.

WOC, Oavenport, Ia. (Central, 484), 9 a. m., sacrod chimes; 1 b. m., the Palmor School Radlo orchestra, Ewin Swindell, conductor; 7:30, sport news; 8, church service; 9:30, the Palmer School Radlo orchestra.

WDD, Philadelphia, Pa. (Eastern. 509), 10:30 a. m. services. Bothany tempic; 2:30 p. m., Sunday school

services, Bothany temple; 2:30 p. m., Sunday school Bethany temple; 6:05, organ recital, Clarenco K. Bawden; 7:30, Services, Bethany temple. WJ, Chicago, Ill. (Central, 448), 10:30 a. m., People'a church; Clarence Eddy, organist; 8-10, Ralph Williams and His Rainho Garden orchestra; Maria Dnoprova,



Russian soprano; Marion Morgans; Prof. Ira Hamilton,

wsala soprano; Marion Morgans; Prof. Ita Hamilton, planist; Appoilo quartet.

WSAl. Cincinnati, Dhio (Central, 309), 3 p. m sermonette; 3:10, sacred chimes concert.

WTAS Elgin, Ill. (Central, 286), 2-5 p. m., Vilia Olivla Star Sunday aftornoon concert; 8-8, Sunday night dinner hour program. Tip Top Inn string sextette; 8-12, Terrace Garden dance program, Fred Hamm and his orchestra.

orchestra.

WWJ, Detroit, Mich. (Eastern, 517), 5 p. m., Detroit
News orchestra; 7:30, services, St. Paul's Episcopal
cathedral.

Monday, November 3

Silent night for: CKAC, KFNF, KFSG, KYW, WGN, WHAS, WJY, WLS, WMAQ, WQI, WRC, WTAY, CHNC, Toronto, Can. (Eastern, 350), 8:30 p. m., Clarence Causton, vlolinist; Lionel Bilton, ceilst; Slmoen Joyce, planist; R. S. Overand, tenor; Lawrence Defoe, tenor; A. E. Vandervoort, bass; Mrs. A. G. Dominguez, Mexican prima donna.

CKAC, Montreal, Can. (Eastern, 425), 1:45 p. m., Mount Royal botel luncheon concert; 4, weather and stock reports; 4:30, Ho lessons.

KDKA, E. Pittsburgh, Pa. (Eastern, 326), 7:30 a. m., morning exercises, O. Shannon; 9:45, stocks, markets; 11:55, tlme; 12 m., weather, markets; 12:15 p. m., Daugherty's orchestra; 6:30, dinner concert, KDKA Little Symphony orchestra, Victor Saudek, conductor; 7:15, The Radio Rhymster; 7:30, "Politicis, everybody's Business," Daniel Dwyer; 7:40, stocks, markets; 8, Radio Girl scout meeting, Laura Holland Macdonald; 8:15, "Developing a Pleasing Personality;" 8:30, "KDKA's Fourth Birthday Party;" 9:55, tlme, weather; 10, anniversary program.

KFAE, Pullman, Wash. (Pacific, 330), 7:30 p. m., "Waltz," "The Old Music Box," "Tamhourlne" Thelma Johnson, pianist; "Gypsy Danco," "The Old Refrain," "Souvenir de Posen," "Mighty Like a Rose," Margaret MacLachlan; "Juportant Points in Poultry Raising," J. S. Carver; "What Happens at Very Low Temperatures," J. L. Culbertson; "Home Treatment of Tuberculosis," U. S. Public Heolth service; "Winter Hations for Hogs," C. M. Hubbard, KFI, Eos Angeles, Calif. (Pacific, 469), 8-9 p. m., Evening Herald concert; 9-10, Examiner studio recital; 10-11, Ambassador hotel Cocoonut Grove orchestra.

KFKB, Milford, Kans., (Central, 286), 8 p. m., Abe Martin's band, concert; 9, lecture, Dr. Brinkley, juhilee boys' orchestra.

KFKB, Milford, Kans., (Central, 286), 8 p. m., Abe Martin's band, concert; 9, lecture, Dr. Brinkley, juhilee boys' orchestra.

KFOA, Seattle, Wash. (Pacific, 455), 8:30 p. m., Seattle Post Intelligencer program.

KGO Oakland, Calif. (Pacific, 312), 1:30 p. m., N. Y. stocks; 6:55, S. F. stocks; 7, weother; 7:05, S. F. produce

o, Aunt Betty stories, KOO Riddles Riub; 0:45, N. Y. atocks; 6:55, S. F. stocks; 7, weother; 7:05, S. F. produce news; 7:10, baseball scores; 7:15, news items; 8, educational program, coursos in agriculture, economics, American citizenship, English hook reviews; music, selections from "Faust," "Serenade," "Broken Melody," "Blue Danube Waltz," "Tarantella," "My Love's Walting," Arion trio; 10-1 a. m., Henry Halstead's orchestra.

Love's Waiting, Airon t.c., stead's orchestra, KGW, Portland, Orc. (Pacific, 492), 11:30 a. m., weather; 5 p. m., children's Roosevelt program; travel story, Aunt Nell; 7:15, markets, weather, news, police reports; 8, Oregonian concert orchestra; Appilo elub. KHJ, Los Angeles, Calif. (Pacifio, 395), 12:30-1:30

KDB, State College, N. M. (Mountain, 360) 7:30-8:30 p. m., musical program.

p. m., musical program.

KPO, San Francisco, Calif. (Pacific, 423), 12 m., tlme, reading of the Scripture; 1-2 p. m., Rudy Selger's Falrmont hotel orchestra; 4:30-5:30, Rudy Selger's Falrmont hotel orchestra; 5:30-6:30, children's hour stories, Big Brother, Book of Knowledge; 7-7:30, Rudy Selger'a Falrmont hotel orchestra; 8-9, Theodore J. Irwin, organist; 9-10 Wolsh choir, Theodore J. Phillips, director; 10-11, E. Max Bradfield's Versalile band.

KSD, St. Louis, Mo. (Csntral, 546), 6:45 p. m., Ahergh's concert ensemble, Arno Arnesen, violinist.

WBAP, Fort Worth, Texas (Central, 476), 7:30-8:30 p. m., "Moments from the Majestic," stars from the Majestic; 9:30-10:45, concert, Montgomery Ward and

p. in., Moments from the Majestic, 9:30-10:45, concert, Montgomery Ward and

watestic, 5:30-10:45, concert, Montgomery Ward and company's orchestra.

WBAV, Columbus, Ohio (Eastern, 423), 12 m., Ita Lorbach Owens, planist.

WCBO, Zion, Ill. (Central, 345), 8 p. m., Hire trio, Mrs. L. J. Hire, planist, Mr. L. J. Hiro, viola, Richard Hire, violinst, assisted by quartot, soprano, contraint

contralto

WCX, Oetroit, Mich. (Eastorn 517), 4:15 p. m., musical program; 6, dinner concert; 7, musical program, auspices of the Highland Park Musical club.

WOAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., tho Star's string trio; 6-7, school of the air, piano tuning-in number on the Duo-Art; personal message from Roger W. Babson, statistical expert; the Tell-Me-a-Story lady; music, Hotel Muchiebach Trianon ensemble; 8-9:15, popular program, the Star's Radio orchestra; 11:45-1 a. m., nighthawk frolle, the "Merry Old Chiof" and the Plantation players.

Where to Hear Talks

Central Standard Time

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

Wednesday, October 29th: 6, WDAF; 7, WDAR, WHB, WSAC; 7:15, KDKA; 7:45, WHA; 8, WLS, WAMQ, WMH; 8:30, KOB, KYW; 9, KFKB; 9:15, KYW; 9:30, KFAE; 9:45, WMAQ; 10:30, KFOA.

Thursday, October 30th: 6, WRC; 6:45, CKAC, WEAF, WGY: 7, WDAR, WIP, WRC; 7:15, WBZ; 7:30, WHAS; 8, KYW, WAAW, WMAQ; 8:30, WFI; 8:45, WMAQ; 9, KFKB, WFI, WMAQ; 9:15, WRC.

9:15, WRC. Friday, October 31st: 7, CNRM, CNRT, KDKA; 7:15, KDKA; 7:30, WDAR, WHAS; 7:45, WHA; 8, WLS;

8:20, KYW; 8:30, KOB; 9, KFKB; 9:30 KFAE; 10, KGW. Saturday, November 1st: 6:45, KDKA, WRC; 7, KDKA, WFI, WIP; 7:15, WBZ; 7:30, WDAR; 7:40, WMAQ, WRZ; 9, KFKB; 12, KGW. Sunday, November 2nd: 6:30, WDAR, 8, KFKB. Monday, November 3rd: 7, WEAF; 7:15, KDKA; 8, WDAF; 9, KFKB; 9:30, KFAE; 10, KGO. Tuesday, November 4th: 7, WIP, 7:30, WFI; 8, WHAA, WMAQ; 8:20, WMAQ; 8:40, WMAQ; 9, KFKB.

WOAR, Philadelphia, Pa. (Eastern. 395), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra, Feri Sarkozl, director; 2. Arcadia cafe concert orchestra, retri sarkozi, director; 2. Arcadia cafe concert orchestra; music from Stanley theater; 7:30, overture, Stanley theater symphony orchestra, bedlime stories by Dream Daddy; 8:30, talk, "Bill" Roper, coach Princeton football team; 10, Arcadia cafe dance orchestra, fentures from Fay's theater.

Fay's theater.

WEAF, New York, N. Y. (Eastern 492), 11-11:15, a m., "What Shall We Do With the Non-Voter," Dr. Sidney U. Assher of Board of Education; 11:30-12, organ recital, Capitol theater; 12-12:15 p. m., motion picture, forecast, Adele Woodard; 4-5 University Eight; 6-7, dinner music, Waidorf-Asioria hotcl; 8-8:20, Politics, Barnard college; 8:30-9, Gold Dust Twin; 10-11, National Carbon company.

WEAO Columbus, Ohio (Eastern, 294), 9 a. m., music, Margucrite Manley Siedel School of Music talent; 11, music, Siedel artists; 1:30 p. m., music, Siedel artists.

WFAA, Dallas, Texas (Central, 476), 12:30-1 p. m., "Moonlight and You," Dr. J. D. Boon; 8:30-9, Lone Star Five orchestra

WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer

Lone Star Five orchestra

WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davls Bellevno Startford concert orchestra; 3, Closing prices, Chlcago grain mayket; 3:05, recltal, Lorretta Kcrk, planist; 6:30, Meyer Davls Bellevno Stratford concert orchestra; 7, Sunny Jim, tho kiddies pal.

WGBS, New York, N. Y. (Eastern, 316), 10 a. m., shopping tsik; 10:10, Mme. Olga Halasz, planist of the Royal Hungarlan conservatory; 10:30, "Up to Dato Cooking, Prudence Penny; 10:30, Mmc. Olga Halasz, planist; 10:40, "Aro You Looking Your Best," Alice Blair, beauty specislist; 10:50, Charles Dawson, tenor; 1:30 p. m., Nat Sanders Hargrave trio; 2, May Singhi Breen, banjo solos; 3, talk, Terese Rose Nagel; 3:10, Leonard Lonquist, planist; 3:20, "Straight Thinking," Ethel Poyser; 3:30, Fredorick Twombly, tenor; 3:40, talks, students of N. Y. C. schools; 3:50, Frederick Twombly, tenor; 6, Uncle Geebee; 6:30, Vincent Lopez and hls orchestra. and his orchestra.

WGN, Chicago, 1th, (Central, 370), 1:40 p. m., Drake ensemble and Blackstone string quintet; 2:30, recital from Lyon and Healy concert hall; 3, vocking chair time; 5:30, Skeezix time; 6, Lyon and Healy organ recital; 6:30, Drake concert ensemble and Blackstone string quintet; 8, the classic hour, vocal and instrumental musle; 10, Jack Chapman's dance orchestra and istest popular songs.

mental music; 10, Jack Chapman's dance orchestra and istest popular songs.

WGR, Buffalo, N. Y. (Eastern, 319) 12:30-1 p. m., George Albert Bouchard, organist; 2:30-4:30, Buffalo Courier and Enquirer musical program; 6:30, dinner music; 8:45-9, address, "Lincoln, the Man of God," J. Wesley Hill, chancellor of Lincoln Memorial university; 9-11, concert, by the Buffalo store, E. W. Edwards & Son, direction of Bradley Yaw; 11:30, supper-dance music, Vincent Lopez Hotel Statler Dance orchestra, Haroid Gieser, director.

WGY, Schenectady, N. Y. (Eastern, 380), 11:15 p. m.

WGY, Schenectady, N. Y. (Eastern, 380), 11:15 a. m., U. S. Naval observatory time signais; 12:30 p. m., stocks; 12:40, markets; 12:45, weather; 2, "Homemaking 1s a Profossion," Florence E. Winchell; 6, produce and stock market quotation, news; 6:30, weekly sports review, Harold Anson Bruce; 7:45, "March," WGY orchestra; "Valse Brilliante," Elizabeth Christenssen, pianist; "Yesterday," "Coerubie," Mrs. John Madsen; soprano; "Minuct," WGY orchestra; "The Functioning of the Electorial College": "Betty's Mrs. John Madsen; soprano; "Minuct," WGY orchestra;
"The Functioning of the Electorial College"; "Betty's
Muslc Box," Elizabeth Christianssen, planist; "Waltz,"
orchestra; "O Sleep Why Dost Thou Leave Me," Mrs.
John Madsen; "Polonskse Militaire in A Major,"
Elizabeth Christianssen; "Koko San," orchestra; "O
Dry Those Tears," Mrs. John Madsen; "Morwegian
Bridal Procession," Elizabeth Christianssen, planist;
"Love Song," orchestra.

WHAA, lowa City, la. (Central, 484), 12:30-1 p. m., talk, Rollie F. Williams.

WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., Alomo theater orchestra, Harry S. Currie, conductor; weather; "Just Among Home Folks"; roadings, Courior-Journal Louisville Times editoriais.

WHAZ, Troy, N. Y. (Eastern, 380), 9 p. m., concert, Mrs. Guy R. Smith, director; 10:30, Tony Flush's dance orchestra, WHB, Kansas City, Mo. (Central, 411), 2-3 p. in., ladies' hour program, Sweeney Radio trio; 7-8, rebroadcasting programs of out-of-town stations; address, member of the faculty of the Sweenoy School; music, Sweenoy

Radlo trio. WHO, Des Moines, la. (Central, 526), 7:30-9 p. m., Sally Myers, planist; talent, Drake Consorvatory of music, Dean Holmes Cowper, director; 11:15-12, L.

music, Dean Holmes Cowper, director; 11:13-12, L. Carlos Meier, organist.

WIP, Philadelphia, Pa. (Eastern. 509), 1 p.. m., Gimbel tea room orchestra, Ray Steen, director; 3, "Man's Redemption Provided," C. Calhoon; 3:15, recital by Flora Ripka, pianist; 6:05, Hotel St. Jamos dinner orchestra; 7, Uncie Wip's bedtime storlos.

WIAR, Providence, R. 1. (Eastern, 360), 10 a. m., household hints, Mrs. Wood; 10:45, McCall's style talk; 1:05. p. m., studio program; 8:05, musical

talk; 1:05. p. m., studio progrom; 8:05, musical program.

WLW, Cincinnati, Ohio (Central, 423), 4 p. m., Ho lesson, Fred Smith, instructor; Babson report; 8, Alvin Roher's orchestra; 8:45, Cooper orchestra and male quariet; 11:30, Lange-McKay orchestra.

WMAQ Chicago, III. (Central, 447.5), 4 p. m., mothera in council, Mrs. Frances M. Ford; 4:30, "English as Sho Is Spoke," Alexandra Carlisle Jenkins; 6, Chicago theater organ recital; 6:30, Hotel LaSalle orchestra.

WMH, Cincinnati, Dhio (Central, 309), 8 p. m., WMH concert orchestra, Dr. Werner Bertram, director; 9, Original Blue Grass orchestra, Bill Schoulters, director.

WOAW, Dmaha, Nebr. (Central, 526), 6 p. m., dramatic hour, Davis studio of expression; 6:30, dinner program, Randaii'a Royal orchestra; 9, Hotol Fontonello con-ecrt orchestra; 10, dramatic play writton by Geno

Rouse.

WOC, Davsnport, la. (Central, 484) 10 a. m., markets; 10:05, household hints; 10:55, tlme; 11, weather and river forocast; 11:05, markets; 11:10, weekly bay and grain review; 12 m., chlines; 12:15 p. m., weather; 2, stocks, markets; 6:45, sports, woather; 7, eandman's visit, Val McLaughlin; 7:20, cducational iccture; 8, musical program; 10, musical program.

WDD, Philadelphia, Pa. (Eastern, 509), 11 a. m., orgon recital, Mary E. Vogt; 12:02 p. m., Wanamaker crystal tea room orchestra, Robert E. Golden, diroctor; 5:15, Mary E. Vogt, organist; 7:30, A. Candelori and his Hotel Adelphia ensemblo; violin solo, A. Candelori; 9:25, Erno Ropoe and his grand orchestra from Fox theater; 10:03, organ recital, Mary E. Vogt; 10:30, Vincent Rizzo and his Hotel Sylvania dance orchestra.

WOR, New York, N. Y. (Eastern, 405), 9 p. m., dancing lessons, Arthur Murray; 9:15, Carolinlans: 9:20, Joseph Del Puento, baritone; Hayward Hedden, planist; 10:30-11, Pcerless trio.

WQJ, Chicago, III. (Central, 448), 11-12m., 'Linens and their Manufacture,' Marcia Meadows; 'Bakery Products and the Home,' Dr. Frod P. Siebal; 'Wholesome Foods Easily Prepared,' Agnes M. Olson; 3-4 p. n., 'Ways of Serving Fish,' Helen Harrington Downing; book review, Rev. Fred Harrison WRG. Washington D. C. (Festern 460), 2 p. 160.

WRC, Washington, D. C. (Eastern, 469), 3 p. m., fashion development of the moment, Women's Wear; 3:10, songs; 3:25, current topics, Editor of The Outlook; 3:55, piano recital; 4, songs; 4:10, book review, auspices of The League of American Penwomen; 6, storles for children, Peggy Albion.

WSAI, Cincinnati, Ohio (Central, 309), 10 p. m., popular songs, Hughes & Axtman; Royal Garden orchestra.

WTAM. Cleveland, Ohio (Eastern 390), 8 p. m., Ben Tindolph, tenor; Arthur Parry, harltone; Florence Wasson, soprano; Dorothy Smith Lenz, contralto; Mr. and Mrs. Otis C. Arnold, the old-time fiddler: WTAM Symphony orchestra.

WWI, Oetroit, Mich. (Eastern, 517), 8 a. m., setting-up exercises, 1t. J. Horton; 9:30, talk, women's editor, Detroit News; 12 m., music; 3 p. m., Detroit News orchestra; 8:30 Detroit News orchestra.

Tuesday, November 4

Silent night for: KFAE, WCAP, WGR, WMH, WNJ, WOO, WOR.

WOO. WOR.

CKAC, Montreal, Can. (Eastern, 425), 4 p. m., weather and stock market reports; 7, kiddies' stories in French and English; 7:30, Rex Battle and his Mount Hoyal Hotel concert orchestra; 8:30, Canadian Industrial Coal entertainers; 10:30, Joseph C. Smith and bls Mount Royal hotel dance orchestra.

KOKA, E. Pittsburgh, Pa. (Eastern, 326), 9:45 a. m., stocks, markets; 11:55, time; 12 m., weather, markets; 12:15, Scalzo's orhestra; 6:30 p. m., Albert F. Taylor, organist; 7:15, Radio Godmother; 7:30 election returns.

KFI, Los Angeles, Calif. (Pacific, 469), 6:45-8 p. m., Acolian organ recital; 8-9, Hotel Ambassador Cocoanut Grovo orchestra; 9-10, Examiner studio concert; 10-11, popular ballard hour.

KFKB, Milford, Kans. (Central, 286), 8 p. m., Abc Martin's band, concert; 9, lecture, Dr. Osborn, male quartet; 10-11, lecture, Dr. Brinkley, Jubileo Boys' orchestro.

KFMF, Shenandeah, la (Central, 266), 7:30 p. m. con-

quartet; 10-11, lecture, Dr. Brinkley, Jubileo Boys' orchestro.

KFNF, Shenandoah, la. (Central, 266), 7:30 p. m., concert from Fairfax, Ralph Phllipa, director.

KFSG, Los Angelos, Calif, 278) 3:30-4:30 p. m., organ 'gems,' Esther Fricke Green, organist; vocal selections by assisting artists; 6:30-7:30, 'Cousin Jim,' childron's friend in song, music and story for Radiolond children; Eugene Lamb, planist.

KGO, Oakland, Calif. (Pacifio, 312), 1:30 p. m., N. Y. stocks; 1:40, S. F. stocks; 1:45, weather; 3:45-1, presidential election returns.

KGW, Portland, Dre. (Pacific, 492), 11:30 a. m.

weather; 12:30 p. m., concert; 5, children's program; story, Jean Adkins; 7:15, morkets, news, weather, police reports; 8, election returns.

KHJ, Los Angeles Calif. (Pacific, 395), 12:30-1:30 p.

KHJ, Los Angeles Calif. (Pacific, 395), 12:30-1:30 p.
m., concert, the Rendezvous ballroom orchestra; 2:303:30, musical appreciation talk, Carolyn Pearson; 66:30, Art Hickman's concert orchestra, Edward Fitzpotrick, director; 6:30-7:30, children's hour, "Amerlean History," Prof. Walter Sylvester Hertzog; the
visit of the Sandmon and Queen Titania; bedlime
story, Uncle John; 8-10, concert, courtesy, Barker
Brothers; 10-11, Art Hickman's dance brehestra,
Earl Burtnett, director.

KPD San Francisco, Calif. (Pacific, 423), 12 m., time,
reading of the Scripture; 1-2 p. m., Rudy Seiger's
Fairmont Hotel orchestra; 4:30-5:30, Rudy Seiger's
Fairmont Hotel orchestra; 5:30-6:30 children's hour
stories; 7-7:30, Rudy Seiger's Fairmont Hotel orchestro; 8-10, election returns; program, Paul Corbel,
director; 10-11, E. Max Bradfield's Versatlle band.
KSD, St. Louis, Mo. (Central, 546), 7 p. m., election
returns; music, Vin Jaines and company; Al Walsh,
tenor.

wBAP, Fort Worth, Texas (Central, 476), 7:30-8:30 p. m., musicale, Boptist Theological seminary, Frank Cheek, director; 9:30-10:45, program, E. Clyde Whit-

p. m., musicale, Boptist Theological seminary, Frank Cheek, director; 9:30-10:45, program, E. Clyde Whitlock, viloinist.

WBAV, Columbus, Ohio (Eastern 423), 12 m., Ha Lorbach Owens, pianist; 8 p. m., WBAV orchestra, Frances Handlheau, director.

WCAL, Northfield, Minn. (Central, 360), 9:45 a. m., St. Olof college chapel scrvices.

WCX, Detroit, Mich. (Eastern, 517), 4:15 p. m., musical program; 6, dinner concert; 10, Red Apple club.

WDAF, Kansas City, Mo. (Central, 411) 3:30-4:30 p. m., the Star's string trlo; 5-5:30, weekly child talent program, pupils of the Gertrude Concannon School of Music; 6-7, school of the air; piano tuning-in number on the Duo-Art; fourth of a series of Radio piano lossons, Maudellen Litticfield; the Tell-Me-a-Story Lady; music, Hotei Muchlebach Trianon ensemble; 11:45-1 a. m., Nighthawk frolic, the "Merry Old Chlef" and the Plantation players.

WDAR, Philadelphia, Pa. (Eastern, 395), 11:45 a. m., daily almanae; 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra, Feri Sarkozi, director; 2, Arcadia cafe concert orchestra; 1:30, Edma Finestone, planist; 7:30, Dream Daddy's hedtime stories; "Botb Sides of the Footlights," Arnold Abbott.

WEAF, Now York, N. Y. (Eastern 492), 2:30-4 p. m.

Abbott.
WEAF, Now York, N. Y. (Eastorn 492), 2:30-4 p. pn.,
Government club, Hotol Astor; 4:15-5, Columbia and
versity, Institute of Art and Sciences; 6-7, dinner
music, Waldorf-Astorla hotol; 8-8:10, Mears and company; 8:30-8:45, Harriet Youngs, soprano; 9-10, A. &
P. Gypsles.

P. Gypsles.

WEAO, Columbus, Ohio (Eastern, 294), 9 a. m., music Marguerito Manloy Siedel School of Music taient; 11 a. m., music, Siedel artists; 1:30 p. m., music, Siedel artists.

WEBI, New York, N. Y. (Eastern 273), 7-7:15, p. nu... Blybrun's Review of now photoplays on Broadway; 7:15-8, Dan Gregory and his Crystal Palace orchestra; 8:15-9, Rivoll ensemble, under personal direction of Rivoll ensemble, under personal direction of

WFAA, Dallas, Texas (Central, 476), 12:30-1 p. m., music, Red head girl; 11-12, Palace theater, Dwighl Brown, organist.

(Continued on page 181

BELGIAN ORGANIST DEDICATES MASONIC ORGAN AT KSD WEDNESDAY

Where to Hear Concerts

Central Standard Time

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

Saturday, November 1

(Continued from page 15)

Sunday, November 2



DANCING Cestral Time Westacidey, Orlaber 29: 6. Well: 77. Kiw. West Wal: 77/18. West 1700. Kiss. West, Wise: 8.



Monday, November 3

Where to Hear Talks

Central Standard Time

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

daily and felow are listed the stations.

Wednesdey, October 28th) 6.
WIGNEY 7. WITH, WHILL WASKLY 71.5.
KUKA, 7.48. WITA 28 WIS WIND,
WMILL 8.30. REID, KYW.
913. KVW 8.30. KEAP 8145.
WITH 8.30. REID, KYW.
913. KVW 8.30. KEAP 8145.
WITH 9.30. KEAP 9.30.
WITH 9.

Tuesday, November 4

ocast

, 9:30

6:45, WIP: 7:40, W. 6:30,

EAF;

WIP. 8:20,

9 p. m.. Carolinlans; ward Hedden,

A8). 11-12m., "Linens cia Meadows; "Bakery Dr. Fred P. Siebai; pared," Agnes M. Oi-Serving Fish," Helen ew, Rev. Frod Harrison. rn, 469), 3 p. m., fash-t, Women's Wear; 3:10, Editor of The Outlook; s; 4:10, book review. Imerican Penwomon; 6,

, 309), 10 p. m., popu-Royal Garden orchestra. n 390), 8 p. m., Ben ry, haritone; Florenco th Lenz. contraito; Mr. the old-time fiddler;

17), 8 a. m., setting-up, talk, women's editor, 3 p. m., Detroit News orchestra.

'ember 4

', WGR, WMH, WNI,

425), 4 p. m., weather 7, kiddies' stories in 6 Battle and his Mount 7, 8:30, Canadian In-1:30, Joseph C. Smith 60 orchestra cc orchestra.
tern, 326), 9:45 a. m.,
2 m., weather, markets;
10 p. m., Albert F.
dio Godmother; 7:30

ic, 469). 6:45-8 p. m., otel Ambassador Cocoa-caminer studio concert:

. 286), 8 p. m., Abc ture, Dr. Osborn, male Brinkley, Jubilee Boys'

266), 7:30 p. m., con-ips, director, 3:30-4:30 p. m., organ organist; vocal selec-0-7:30, "Cousin Jim," ic and story for Radio-planist, 42), 1:30 p. m., N. Y. 1:45, weather; 3:45-1.

492). 492), 11:30 a. m., 5, children's program; arkets, news, weather,

ins. he, news, weather, ins. he, 395), 12:30-1:30 p. llroom orchestra; 2:30-5, Carolyn Pearson; 6-rehestra, Edward Fitz-illdren's hour, "Amer-Sylvester Hertzog; the ueen Titania; bedtime cert, courtesy, Barker an's dance brehestra,

ific, 423), 12 m., time. p. m., Rudy Seiger's 0-5:30, Rudy Seiger's 1-6:30 children's hour Fairmont Hotel orches-brogram, Paul Corbel, ld's Versatlle band, 546). 7 p. m., election company; Ai Walsh,

ntral, 476), 7:30-8:30 oglcal meminary, Frank ogram, E. Clyde Whit-423), 12 m., Ha Lor-BAV orchestra, Frances

al, 360), 9:45 a. m.,

7), 4:15 p. m., musical Red Apple club. ntrai, 411) 3:30-4:30 5-5:30, weekly child e Gertrude Concannon

e Gertrude Concannon
he air; plano tuning-in
l of a series of Radio
lefield; the Tell-Me-aMuehlebach Trianon enNighthawk frolic, the "Merry
Plantation players.
Pa. (Eastern, 395), 11:45 a. m.,
daily almanae; 12:02 p. m., Stanley theater organ
recital; Arcadia cafe concert orchestra, Feri Surkozi,
director; 2. Arcadia cafe concert orchestra; 4:30,
Edna Finestone, planist; 7:30, Dream Daddy's bedtimo stories; "Both Sides of the Footlights," Arnold
Abbott.

timo stories; "Both Sides of the Footlights," Arnold Abbott.

WEAF, New York, N. Y. (Eastern 492), 2:30-4 p. m., Government club, Hotel Astor; 4:15-5, Columbia university, Institute of Art and Sciences; 6-7, dinner music, Waldorf-Astoria hotel; 8-8:10. Mears and company; 8:30-8:45, Harriet Youngs, soprano; 9-10, A. & P. Gypsies.

WEAO, Columbus, Ohio (Eastern, 294), 9 a. m., music, Marguerito Manloy Siedel School of Music talout; 11 a. m., music, Siedel artists; 1:30 p. m., music, Siedel artists;

WEBJ, New York, N. Y. (Eastern 273), 7-7:15, p. m., Blybrun's Review of new photoplays on Broadway; 7:15-8, Dan Gregory and his Crystal Palace orchestra; 8:15-9, Rivoli ensomble, under personal direction of Hugo Riesenfeld.

WFAA, Dallas, Texas (Central, 476), 12:30-1 p. m., music, Red head girl; 11-12, Palace theater, Dwight Brown, organist.

(Continued on page 18)

violinist; Max Schmitt, cellist.

violinist; Max Schmitt, cellist.

WLS, Chicago, III. (Central, 345), 6:30 p. m., organ, Raiph Emerson; 7-8, musical program arranged by Robert W. Stevons, U. of C.

WLW, Cincinnati, Ohio (Central, 423), 9:30 a. m., Sunday school; 11, sermon, Dr. Frank Stevenson, Church of the Covonant; 7:45 p. m., sermon, Rev. Frederick N. McMillin, Walnut Hills First Presbyterian church; 8:45, Western & Southern orchestra.

WOAW, Omaha, Nebr. (Central, 526) 9 a. m., Radio chapel service conducted by Rev. R. R. Brown; 9, musical chapel service, Immanuel Lutheran church; Rev. O. Henry, pastor.

WOC, Oavenport, Ia. (Central, 484), 9 a. m., sacred chines; 1 b. m., the Paimer School Radio orchestra, Ewin Swindell, conductor; 7:30, sport news; 8, church service; 9:30, the Paimer School Radio orchestra.

WOO, Philadelphia, Pa. (Eastern, 509), 10:30 a. m. scruces, Bethany temple; 2:30 p. m., Sunday school Bethany temple; 6:05, organ recital, Clarenco K. Bawden; 7:30., Services, Bethany temple.

WQI, Chicaga, III. (Central, 448), 10:30 a. m., People's church; Chirence Eddy, organist; 8-10, Kalph Williams and His Rainbo Garden orchestra; Maria Dnoprova,

band.

KSD, St. Louis. Mo. (Central, 546), 6:45 p. m., Abergh's concert ensemble, Arne Arnosen, violinist.

WBAP, Fort Warth. Texas (Central, 476), 7:30-8:30 p. m., 'Moments from the Majestic,' stars from the Majestic, 9:30-10:45, concert, Montgomery Ward and company's orchestra.

WBAV, Columbus, Ohio (Eastern, 423), 12 m., Iia Lorbach Owens, pianist.

WCBO, Zion, iii. (Central, 345), 8 p. m., Hire trio, Mrs. L. J. Hire, pianist, Mr. L. J. Hire, viola, Richard Hire, violinst, assisted by quartet, soprano, contraito

contralto

contraito

WCX, Detroit, Mich. (Eastern 517), 4:15 p. m., musical program; 6, dinner concert; 7, musical program, auspices of the Highland Park Musical club.

WOAF, Kansas City, Ma. (Central, 411), 3:30-4:30 p. m., the Star's string trio; 6-7, school of the air, plane tuning-in number on the Due-Art; personal message from Roger W. Babson, statistical expert; the Teli-Me-a-Story lady; music, Hotel Muehlebach Trianon ensemble; 8-9:15, popular program, the Star's Radlo orchestra; 11:45-1 a. m., nighthawk frolic, the "Merry Old Chief" and the Plantation players.

theater organ recital; 6:30, Hotel LaSalle orchestra, WMH, Cincinnati, Ohio (Central, 309), 8 p. m., WMH concert orchestra, Dr. Werner Bertram, director; 9, Orlginal Bluo Grass orchostra, Bill Schoulters, director.

director.. WOAW, Omaha, Nebr. (Central, 526), 6 p. m., dramatic hour, Davis studio of expression; 6:30, dinner program, landall's Royal orchestra; 9, Hotel Fontenolle concert orchestra; 10, dramatic play written by Geno

Rouse.

WOC, Davenport, Ia. (Central, 484) 10 a. m., markets; 10:05, household hints; 10:35, time; 11, weather and river forecast; 11:05, markets; 11:10, weekly bay and grain review; 12 m., chlmos; 12:15 p. m., weather; 2, stocks, markets; 6:45, sports, woather; 7, aandman's visit, Val McLaughlin; 7:20, educational lecture; 8, musical program; 10, musical program.

WOO, Philadelphia, Pa. (Eastern, 509), 11 a. m., organ recital, Mary E. Vogt; 12:02 p. m., Wanamaker crystal tea room orchestra, Robert E. Golden, director; 5:15, Mary E. Vogt, organist; 7:30, A. Candelori and his Hotel Adelphia ensemble; violin solo, A. Candelori and his Hotel Adelphia ensemble; violin solo, A. Candelori 19:25, Erno Rapee and his grand orchestra from Fox theater; 10:03, organ recitsl, Mary E. Vogt; 10:30, Vincent Rizzo and his Hotel Sylvania danco orchestra.

1 to, Wss1; 1, November 3: 8, Wlw, 8:25, Woo: 0 8:45, WIW: dar, Wmh: W00; 10. Vsai; 11:30, 70, KDo.

lovember 4: f Wq1: 7:30. 17eaf; 830, tpa, Whb: # 10, Krkb, "0:15, Wtay.

Tuesday, November 4

(Continued from page 17)

(Continued from page 17)

WF1, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Believne Stratford concert orchestra; 3, closing prices, Chicago grain market; 3:05, Parolino Hoffman, planisi; 6:30, Meyer Davis Believne Stratford concert orchestra; 7, Sunny Jin, the kiddies' pal; 8:30, medical talk, Dr. John B. Becker; 9:15, Artisan's Giec Club and string band.

WGBS, New York, N. Y. (Eastern, 316), 10 n. m., shopping talk; 10:10, Harriet P. Dietrich, planist; 10:20, "The Black Spot in Your Kitchen," Walter D. Smith; 10:30, Harriet P. Dietrich, planist; 10:40, "Oress Appreciation," Sarah Gliman; 10:50, Nardi music trio; 1:30 p. m., Benjamin Lucatorto, planist; 1:15, Itchard B. Gilbert, popular songs accompanied by Taropatch; 2, Benjamin Lucatorto, planist; 2:15, Richard B. Gilbert, popular songs accompanied by Taropatch; 3, Terese Rose Nagei on "Tho Miraele' production; 3:10, Edith Rennyson, soprane; 3:20, "Why J am Going to Vote," Mrs. Walter Timme; 3:30, Edith Rennyson, soprano; 3:40, students' period; 3:50, Dr. Joseph Kalman, tenor; 6, Finelo Geobee; 6:30, Coretta E. Brady, author of "Green Forest Falry Book"; 6:15, Charles Wold, musical glasses.

WGN, Chicago, Iii. (Central, 370), 1:10 p. m., Drake

riero Williams, soprano; 7:15, Charles Wold, musical glasses.

WGN, Chicago, Iil. (Central, 370), 1:10 p. m., Drake ensemblo and Blackstone string quintot; 2:30, recltal from Lyon and Healy concert hall; 3, rocking chair time; 5:30, Skeezlx time; 6, Lyon and Healy organ recital; 6:30, Drake concert ensemble and Blackstone string quintet; 8, the classic hour, vocal and instrumental music; 10, Jack Chapman's dance or rhestra and latest popular songs

WGR, Buffalo, N. Y. (Eastern, 319) 12:30-1 p. m., George Albert Bouchard, organist; 2:30-4:30, Buffalo Courier and Engulrer, musical program; 6, Hallpryd string quartet; 7:30, election returns.

WGY, Schenettady, N. Y. (Eastern, 380), 11:55 a. m., time; 12:30 p. m., stocks; 12:10, produce markets; 12:45, weather; 2, "The Art of Looking Up Pletures," Mrs. C. N. Mooro; 6, produce and stock markets, news; 6:30, dinner music, Trio from Hotel Ten Eyck; 7:45, WGY orchestra, election returns; "Alr," "Melody," "Chanson Espagnole," orchestra; "Can a Waliflower Come Back," Liberty magazine; "March, 'Here Goes," orchestra; 11:20, Stephen E. Boisclair, organist.

WHAA love City ia (Central 484), 12:30-1 p. m.

organist.

WHAA, lowa City, la. (Central, 484), 12:30-1 p. m.,
"Synthetic Resin," Prof. P. A. Bond; 8, program
speech department faculty.

speech department faculty.

WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., Alamo theater orchestra; weather; "Just Among Home Folks;" readings, Courier-Journal and Louisville Times editorlais; 7:30-9, Carl Zoeller's metodists.

WHB, Kansas City, Mo. (Central, 411), 2-3 p. m., ladles' hour program, Sweeney Radio trio; S-9, classical program from the studio; 9-10 danee music, Sweeney Radio orchestra.

WIP, Philadelphia, Pa. (Eastern, 509), 1 p. m., Karl Bonawitz, organist; 6:05, Ehrenzeller's concert orchestra, George Ehrenzeller; conductor; 7. Uncic Wip's bedtlmo stories; 8, WIP magazine of the air including talk on commerce, finance, music, Radio, the theater and city government; 11:05, Harvey Marburger and his Vaudeville orchestra from Cafe L'Aiglon.

WJAR, Providence, R. I. (Eastern, 360), 1:05 p. m., music; 7:30, musical program; 8, talk; 9, Eveready entertainers from WEAF.

WJAX, Cleveland, Ohio (Eastern, 390), 7:30 p. m., clection returns.

clection returns.

WMAQ, Chicago, Hi. (Central, 447.5), 4 p. iu., lecture, Ited Cross home nursing service; 4:30, program, Glenn Dillard Gunn school; 6, Chicago theater organ recital; 6:30, Hotel Lasalie orchestra; 8, Harry Hanson iterary editor; 8:20, Clara E. Laughlin, travel talk; 8:10, ten-minuto talks, Association of Commerce; 8:50, talk, United States Civil Service Commission; 9:15, program, faculty of the Cosmopolitan School of Music.

election returns.

WMC. Memphis, Tenn. (Contral, 500), 12:30 p. m., Noonday program. Skyline serenaders; 8:30, election returns, Bernard and Robinson; 11, Earnest F. Hawke, plpe organist.

WNJ, Newkark, N. J. (Eastern 233), 10:30-12:30, p. m. WAY, Newrick, N. J. (Eastern 233), 10:39-12:30, p. m., Frank Dally and his Meadow Brook orthestra.

WOAM, Omaha, Nebr. (Contral, 526), 6 p. m., "Advice to Lovelorn," Tynthin Grey; 6:25 dinner program trasmitted from WOAW's studie in the May Soed & Nursery company's building. Shenandoah, Ia.; 9, orogram, courtesy of Kulghts of Columbus; 10:30, WOWL froile.

gram, courtesy of Kulghts of Columbus; 10:30, WOWL frolle.

WOO, Philadelphia, Pa. (Easlern, 509), 11 a. m., organ recital, Meary E. Vogt; 12:02 p. m., Wamamaker crystal tea room orchestra, Itobert E. Goulden, director; 5:15, Mary E. Vogt, organist.

WOR, New York, N. Y. (Eastern, 405), 2:30 p. m., Matildu Rosentranch, planist; 6:15, Halsey Miller and orchestra; 6:30-6:45, man in the moon storios; 7, Halsey Miller and orchestra; 6:30-6:45, man in the moon storios; 7, Halsey Miller and orchestra; Talk on Meat." Grace Vial Gray; 3-4 p. m., "Planning Your Winter Menus," Cora Betman; 7-8, Ralph Williams and His Rainho Garden orchestra; Excelsior quartet; 11-2. Ralph Williams and His Rainho Garden orchestra; Excelsior quartet; 11-2. Ralph Williams and His Rainho Skylarks; James Mitchell, barltono; Merrio Boyd Mitchell, soprano; Carl Linner, planist; Nubs Alien, contralto; Viola Graff, soprano; Edna Solomon, contralto.

WRC, Washington, D. C. (Eastern, 469), 6 p. m., children's hour, Poggy Albion; 7:30, election returns; 9:55, tline, weather.

WSA1, Cincinnati, Ohio (Central, 309), 7 p. m., Hotel Gibson orchestra; 7:30, chimes concert; 7:45, sleepy-hour stories, Ethel Knapp Behrman; 8, Gibson orchestra; 9, special program, Cincinnati College of Music faculty; 9:50, popular songs, Hughes & Axtman.

WTAY, Oak Park, III. (Central, 283), 6:45-7:45 p. m., Glenn Bruco bedtime story teller; Sandy Meek, bari-

Music faculty; 9:50, popular songs, Hughes & Axtman.
WTAY, Oak Park, III. (Central, 283), 6:45-7:45 p. m.,
Glenn Bruco bedtline story teller; Sandy Meek, baritone; Raynor Dalheim & company orchestra; 9-9:45,
10:15-11:15, Guyon's Paradiso Ballroom orchestra.
WWJ, Detroit Mich. (Eastern, 5i7), 8 a. m., settling-up exercises, R. J. Horton; 9:30, talk, women's editor,
Detroit News; 9:45, Fred Shaw, pianist and songster;
12 m., musical program; 3 p. m., Detroit News orchestra; 8:30, Detroit News orchestra.

Additional Programs

(Received Too Late for Classification)

Wednesday, October 29

WEBH, Chicago, III. (Central, 370), 7-8 p. m., fifteen minute talk, Dr. R. Edgar Tulloss; Edgewater Beach Oriole orchestra; everyday songs, Edgar A. Guest; musical bits, Riviera theater; 9-10, Margaret Wertz, contralto; Marie Kelly, reader; Langdon brothers, Hawallan guitarists; twenty minute talk, Dutton Clark; Edgewater Beach Oriole orchestra; 11-12, Marle Kelly, reader; The Three Musketeers, soloist; Edna Solomon, contralto; Roso Mary Hughes, soprano; Edgewater Beach Orlole orchestra.

Thursday, October 30

WEBH, Chicago, III. (Central, 370), 7-8 p. m., fifteen mlnute talk, Mary E. Markley; Edgewater Beach Orlole orchestra; Otto Moore, barltone; musical bits, Rivlera theator; 9-10, Edgewater Beach Oriole orchestra; Banjo club, University of Chicago; 11-12, Harry Davls, baritone; Edgewater Beach Orlole orchestra; songs, Collins and Stept; Edgewater Beach Hotel late

Friday, October 31

WEBH, Chicago, III. (Centrai, 370), 7-8 p.m., Edgewater Beach Oriole orchestra; Helen Snyder, soprano; musical bits, Balaban and Katz; 9-10, dance selections, Edgewater Beach Oriole orchestra; Frederick Agard, tenor; musical bits, Riviera theater; Rita McFawn, soprano; 11-12, Edgewater Beach Oriole orchestra; Winter Garden Four; Edgewater Beach trlo, basic according plane

Saturday, November 1

WEBH, Chicago, Hi. (Central, 370), 7-8 p. m., Edgewater Beach Oriolo orchestra; Radlo Sunday School lesson, Dr. Herbert W. Virgin; Dean Romick, planist; musical bits, Riviera theater; 9-10, Edgewater Beach Oriolo orchestra; Marlo Kelly, reader; Langdon brothers, Hawalian guitarists; William H. Hunt, Yellow, Red and Orange tales; musical bits, Riviera theater; 11-12, Edgewater Beach Oriolo orchestra; Marie Kolly, reader; Langdon brothers, Hawalian guitarists; Nick Lucas, songs; Edgewater Beach Hotel trin.

Sunday, November 2

WEBH, Chicago, III. (Central, 370), 5-6 p. m., twilight musicale; 7-9, artists' program.

Monday, November 2

KYW, Chicago, III. (Central, 536), 6:30, 7, 8 a. m., physical exercises, director, Y. M. C. A.; 9:30, news, market reports; II:35, table talk, Anna J. Peterson; 6:02-6:18 p. m., news, financial, final markets; 6:35-7, bedtimo story, Uncle Bob.

Tuesday, November 4

Tuesday, November 4

KYW, Chicago, III. (Central, 536), 6:30, 7, 8 a. m., physical exercises, director, Y. M. C. A.; 9:30, news, market reports; 10:30, farm and home service; 11:35, table talk, Anna J. Peterson; 2:35-1, afternoon frolic; 4, "Bringing tho World to America," editors of Our World; 6:02-6:18, news, market reports; 6:35-7. Uncle Bob's bedtime story; 7-7:30, dinner concert, Congress hotel, Joska DeBabary's orchestra, Coon Sanders' original Nighthawks; 7:30-7:45, "Around the Town," stage revue; 8-8:20, musical program; Louise Navigato, soprano; Nathan Gold, tenor; Myrtle E. Nelson, accompanist; Henrietta Nolan, violinist; Blanche E. Robinson, pianist; Salllo Menkes, accompanist; 8:20-8:50, American Farm Bureau federation; 8:50-9:30, musical program; 10-11:30, at home program, Sanders' Original Nighthawks.

Experimental Circuit

The accompanying illustration is that of an experimental hook-up and is not exactly suitable for the novice to tackle. The circuit has given excellent results for it is equal to a detector and two stages of audio frequency using a UV-200 as a detector and two UV-201s for the ampli-

The grid condenser is mica but a paper one will suffice. It should be .00025 mfd. Pound, Winnipeg, Canada. or about that capacity. The grid leak can be variable and it should be separate from the condenser, but if a non-variable leak is used it should be 4 or 5 megohms. The variometer L1 should not have more than 25 feet of wire, 15 feet being preferable. meter? How about the spring contact The variometer L2 can be of any good standard make.

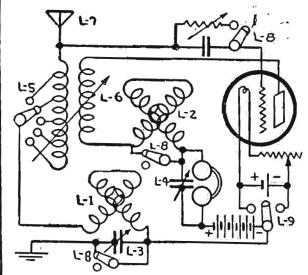
The variable condenser L3 is 43 plates or .001 mfd., but a 23-plate or .0005 mfd. may be used. This condenser may be placed in the aerial lead as well as the Keep the terminals bright and clean. ground. The other variable condenser L4 is .001 mfd. or higher. It can be made higher by the addition of a .0005 mfd, fixed condenser.

The parts L5 and L6 represent a variocoupler primary and secondary. The pri-insulating bushings.

mary should have about 60 turns and it need not be finely tapped. The secondary may have to be rewound if it has not enough wire on it, from 30 to 60 turns.

The rheostat is one of 10 ohms. Try the rheostat in both the negative and positive side.

The aerial, L7, is made up of 10 wires about 12 feet long. The length is optional. The switches L8 have switch levers and contact points. In L9 three points are



used so that the lever will not short the A battery.

The B battery is variable from 221/4 volts to 90 volts.

The set is operated the same as an ordinary set, but a sound, either a whistle or a knocking, is encountered. At the edge of this the signal is the loudest. The sound should be fairly shrill. It can be made so by using the tickler plate variometer, the rheostat or phone condenser, or by adjusting the plate voltage.-Harris

Remove Corrosion on Parts

Look over your rheostat carefully, Is there any green on it or on the potentioarms on your tube sockets where the binding post screws go through? That is an occasional source of trouble. Then down at the storage battery. Keep the top dry. Keep water up over the plates. Disconnect the clips and scrape off all the corrosion. If any binding posts go through wood see that they are insulated. If the battery leads go through wood, unless the leads are rubber covered, put in

THE MASTER OF RADIO

Dyne Kit and a few standard Radio parts, procurable of any dealer, is superior in every way to the conventional super-heterodyne or any of its modifications. It is a simple, quick job to put it together. It tunes on only two dials. It is extremely selective-you can get far distant stations and tune out your local stations. Each station can be located by turning the dials to the point where that station came in before. Distortion is reduced to minimum. You really have to hear music on the SUPER HILCO-DYNE to know how true every note sounds. Static is reduced to a minimum. Coast to coast reception was obtained this summer using no antenna but merely the "ground." It requires only a 7x28 inch panel. Operates on storage battery or dry cell tubes. Completely carries wave range of from 90 to 600 meters. Does not re-radiate.

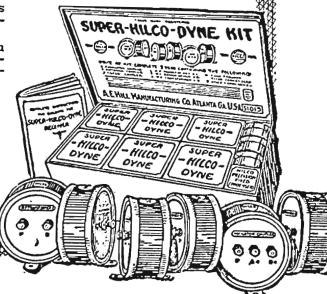
The perfection of this set is obtained by innovations in circuit and by using only balanced and exactly rated apparatus that has been thoroughly tested in our own testing laboratory.

For a total of approximately \$75.00, which includes the price of the kit, you can build a set that will be a constant source of pleasure to yourself and a source of wonder to your friends who have not already built the SUPER HILCO-DYNE.

GUARANTEE the SUPER HILCO-DYNE KIT, in every particular, the same as we do each and every one of our scientifically constructed Radio parts.

Go to your dealer, and have him tell you the wonderful results obtained by his customers who have already built the SUPER-HILCO-DYNE.

A.E. Hill Mfg. Co. Atlanta, Ga.



KIT INCLUDES

- 1 Hilco Oscillator Coupler
- 1 Hilco Antenna Coupler
- 1 Hilco Filter Coupler
- 3 Hilco Intermediate Frequency Transformers
- 5 Hilco Precision Fixed Condensers
- 3 Hilco Handykans
- 1 Instruction booklet which completely explains this exceptional circuit and contains complete blueprints. Price separate from set, \$1.

Batteries, Their Use, Abuse, Care and Upkeep

Part I—Power Necessary to Operate Receiving Set

By William Fenwick

BATTERIES have, until very recently, enjoyed great popularity. Obviously, this is directly due to the advent of Radio, for every vacuum tube receiving outfit-requires at least two batteries, result in person if a discharged battery that he to be allowed to go below 1.180 as this denotes that the battery is fairly well discharged; operating a battery in this condition will operate be allowed to go below 1.180 as this denotes storage battery, but like all other Radio operating a battery in this condition will be proposed by the person of a discharged battery the best of course their order of the person of the per namely, the A, or filament battery, and the same will happen if a discharged battery solodyne) principle which make use of just the plates and will destroy them. an A battery. Although several combinations have appeared from time to time should always be kept about ½ inch the source of power supply by the introduction of transformers, rectifying systems, etc., few have succeeded in com-

pletely eliminating the A. C. hum.

Batteries may well be classed among the three things that have made Radio possible as we know it today, the others of which are vacuum tubes and reproducers. Many have devoted their time to explaining and describing the operation of all these, but few have told the portion of the plates above the solution beginner how to get the most out of his batteries, how to become economical and saving. Therefore, it is the writer's aim battery will be lost; i. e., it will need to give the novice a few pointers in this regard.

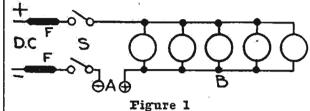
The Storage A Battery

The A battery, which supplies the filament current, if of the accumulator type, should be taken constant care of, as it is, Always keep the top of the battery in a sense, a very delicate part of the and the terminals dry, clean, and tight. equipment of any station.

Wherever a storage battery is in use, a hydrometer should also be kept handy if the owner wishes to take proper care of months. The hydrometer is such a necessity that it would be better if manufacturers were to include them with each them from being eaten away. battery, but as this is not the case, one should be purchased with the battery.

should be made at least once a week, once every two years.

utilizing the house lighting current as above the plates. By not doing so the



will not generate current, consequently part of the ampere-hour capacity of the recharging oftener. Pure distilled water must be added now and then to maintain this level, but under no consideration should acid be added, for it is the water only that evaporates.

Never let any dirt or other foreign matter fall into a cell. Do not allow a green, gray, or yellow substance to form on the terminals as this will corrode them. of it and make it last for years instead Be sure you have the clips on all batteries coated with a thin layer of vaseline, as it affords better contact and prevents

During the course of time the electrolyte becomes weak, and also a certain To make the test, insert the hydrometer amount of sediment accumulates at the in the filling holes of the battery and draw bottom of each cell. This paste must be up enough of the solution so that the removed before it piles up high enough glass indicator inside of the instrument to make contact with the plates as it will will float. Where the liquid crosses the short-circuit them. Hence it is advisable scale on the indicator, the reading is taken, to put the battery in the hands of some and must be between 1.250 and 1.300 when reliable person and have it thoroughly the battery is fully charged. This test cleaned and completely overhauled about

the best of course, their only disadvantage B, or plate battery, with the exception is left standing for any period of time being the price, which is higher than only of circuits based on the unidyne (or as it will cause extreme sulphation of that of the ordinary accumulator. Few beginners, indeed, are in a position to pay the price for a reliable battery and battery-charger merely to light the filament of their vacuum tube. Naturally they look around for some other cheaper means of rectifying the alternating current.

The one who has his home supplied with direct current is very much in luck, for all that is necessary for him to do, is connect the battery to the lighting circuit and insert a resistance. The wiring diagram is shown in Figure 1. A is where the battery to be charged is placed; B is a bank of 5 or 6 100-watt lamps, either right. After getting a reading, mark the carbon or tungsten; S is a double pole, single throw knife switch, and F is the fuses. Great care should be taken when making the connections that the positive pole of the battery connects to the positive of the circuit, and that the negative of the battery connects to the negative of the circuit. Failure to do this may re-

sult in the battery being further discharged due to the wrong direction of current flow which will ruin it.

Polarity Indicators

To find the polarity of the lighting circuit, it is best to use a polarity indicator, which may be obtained in any electrical supply store, while for the battery, if the terminals are not marked, any of the following methods are feasible. Cut a potato in half and insert the two battery leads. A green formation will be noticed around the positive lead.

Put a teaspoonful of salt in a glass of water and place both leads in, being careful they do not come too close together. Bubbles will collect on the negative wire under water.

A correct reading can only be taken off a D. C. voltmeter when it is connected connecting posts on the battery.

Alternating Current Battery Charger

Now that we have described how easily batteries may be charged with direct current, let us turn to the less fortunate fan who has only alternating current at his disposal. As this is injurious to the

Continued on page 28)



Just ONE Dial to turn to get coast to coast range. Just ONE Dial to adjust to get perfect tone reception. Just ONE Dial to tune to get the utmost in selectivity.

Here—at last—is a five tube tuned radio frequency Receiver with a decidedly different and distinctive simplicity of design. It is a beautiful set -beautifully made,—and with its simple **ONE** Dial Control it will do anything any other five tube set will do,—and do it easier, quicker and better.

The Mohawk Tunes Out Local Stations

And Brings in Distant Ones Easy

Just ONE Dial to turn on the MOHAWK, and as you turn it you tune in station after station covering the complete range of radiocasting wave lengths. It cuts out the nearby stations with ease and brings in the distant ones clear and distinct. You can operate it with an acrial of any length,—inside or outside,—without making adjustments and it will give satisfactory results under varying conditions.

The Mohawk 5-Tube Receiver

Built in a distinctive period type walnut cabinet, here is a Radio set which will instantly appeal to the artistic taste of the most critical. Yet its beauty is not "only skin deep." The quality goes clear through. If you want the last word in Radio Receiving Sets, don't fail to see

the MOHAWK,—hear it, and try it, before you buy. You might pay more for a Radio set,—but you cannot buy a better one than the MO-HAWK.

Ask your dealer about MOHAWK. If he -does not have it, accept no substitute: Write us. Descriptive circular sent FREE: on request.

MOHAWK ELECTRIC CORPORATION

2224 Diversey Boulevard CHICAGO, ILL.

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Music of the Stars Whistle of a Bullet Can Be Heard—Why Not Planets?

POWERFUL American Radio stations, public and private, have been listening lately in the hope of catching signals from Mars. No conclusive method has been received, but some of the listeners have fancied that they have caught snatches of some strange code, such as night have been sent through millions of miles of empty space from intelligent beings on another planet. Some have had their attention excited by bits of faint sounds like music, coming out of nowhere and not attributed to any known earthly broadcasting station.

This straining of the ears heavenward is at least a harmless pastime, and is the thing that is most needed to us earthlings. And if poetic tradition has any basis, the listeners are likely to catch melody than unmusical code. The music of the spheres is one of the most ancient of human fancies.

It would be worth building a very elaborate receiving set to hear the morning stars singing together or the planets roaring out a celestial chorus.

According to some authorities, every planet has a distinctive note. And why not? A bullet whistles. So does a baseball. Perhaps some of the Radio astronomers can tell soon what note is sounded by Mars, as he swings around his big circle. And what note does the Earth play, in the cosmic tone?

Precursor of the Radiophan First Person in Tuning Out on Record

THERE was a certain person who, being deaf, used to go to church and hear the sermon through the aid of an ear appliance. It was noticeable that she always wore the complacent expression of a spiritualized soul who was content, no matter how tedious the sermon or how verbose the speaker. Later it was learned that the listener had a little lever on the ear amplifier and when she became tired of listening she turned off the receiver and heard nothing.

Little did this person know that this was the precursor of the Radiophan. For the chief charm of listening to the Radio is that when you begin to get bored all that you have to do is to turn it off. Anyone who attends lectures or goes to hear a campaign speech may be bored to distraction with no descent escape. Further, if the speaker is irritating one must suffer in silence because heckling is almost unknown in this country and exercised only by the rowdy or rooter.

The speaker has the satisfaction that he does not know he is speaking to an unappreciated public. He can speak as long as he pleases and not know that thousands are forsaking his talk for a program being sent out by another station.

Eye and Ear Satisfaction Science Tells Us Eye Comes First, Ear Next

In THE opinion of one of the motion picture magnates Radio will never dwarf, eclipse or obliterate the motion picture. Some owners of amusement houses view with alarm the growth of Radio. Their fears are groundless for two reasons, scientific and human

Necessarily the eye in the primitive man first served to pass impressions to the sluggish brain of the caveman. Next in the scale of development the ear carried other messages to the brain. Being creatures of instinct and retaining part of the impulses of our ancestors, we of today must rely most upon the eye for education rather than upon the ear.

The demand for eye satisfaction is slacked in pictures. But pictures only satisfy up to a certain point and motion pictures completely satisfy.

The ear is satisfied with music, gossip and Radio. So much for science. The eye has the advantage in that pictures speak a universal language. At present Radio cannot do that. The eye understands in every land. Radio is local in appeal unless there is a language unversally taught.

RADIO INDI-GEST

WOS

Lines written apropos to the announcement made from Radio station WOS that night programs would be discentinued.

ŧ

Well, my dear Mr. Witten,
No language that's written
Can tell you how badly we feel;
That your wonderful station
Pride and joy of the nation,
Will its mirth and its music conceal.

No mortal supposes
When Jefferson closes,
That listening will be much the same.
For Louis and Bryan
We'll ever be cryin'
And Witten the man of great fame.

We joined in the fun
Over Witten's new son,
And smiled when Snodgrass was playing.
Now in dire distress
We sigh for WOS
From station to station we're straying.

That Capitol dome
It brought to our home
Its voices were blithesome and gay.
On nights that were dreary
It was gladsome and cheery,
Drove worry and dull care away.

Now, please remember
In June or December,
Every thought, every wish, every prayer;
We hope and we yearn
Your station's return
To that vacant place now in the "air."

JAMES ROAN.

One o' Them Dang Announcers, Dern It!

Things had come to a serious pass. Mr. Doe realized it well enough. If he hadn't, the rest of his family would have made him.

For quite a while Ethel Doe had been a rabid Radiophan. Her boudoir smelled like anything but what a young lady's boudoir should. Her vocabulary sounded Checko-slovenlyish: consisting for the most part of such stuff as PWX, WDAF, etc. Then she was always highly technical and expensive. Truly all of that was bad enough.

But now there seemed to be something more serious that would happen every night now, that it was summer. Mr. Doe resolved not to let it continue and called Ethel to the library for a conference.

"My dear," he said, "confide in your dad. What's the trouble."

She averred consistently and stubbornly that there

was naught.
"Then," he demanded, "why is it, after you spend an hour or so with a soldering iron and a mess of wires, you listen and cry, 'I'm so glad, there's Static.'"

"I think it's darn foolish to go on over somebody you can't see. Who is this guy Static?" 5XV

S'all Right. You're Elected

We are a bunch of Radiophans, And Kansas is our home— Where corn is figured by the quart And not by the bushels grown

We are enemies of Morpheus And pray for a late sunrise— For WHB to transmit all night, While we never close our eyes.

Many a night it is almost dawn Before our beds we seek— It makes our wives get very sore, And grouchy for a week.

We seek admission to the "Bugs,"
And hope to make the grade;
We sure expect to do it, too,
If our signals do not fade.
P. S. ROY.

Mrs. Partington Speaks Out

Dear Indi: Mizz Partington reads in Digest where it says "Hoover gives fans square deal" but there ain't nothin' funny about that, for the Hired Hand, Lambdin



Kay, Paul Green, Powel Crosley and some more square folks was down to Washington to back hlm up and see Walter Johnson pitch ball. She says she knows Hoover is O. K. because he is a Civilized Engineer, and they have to be square. She says she heard Heinz 57 varieties last night and President Coolidge was one of the 57 in a business speech. Secretary Weeks, he was talking politics, and Bob LaFollette was hollering pretty loud, at Chicago. The Hired Hand left Washington right after the 12th inning and got to WSB for

late Transcontinental Radlowl entertainment that helps the Atlanta Journal "Cover Dixic like the dew." and he gave Lambdin Kay some illustrations and examples on transmission of Radio Truth, while Grace and Ed. McConnell furnished the entertainment. The Hired Hand is stopping off at Pensacola to help his friend Daniels catch fish and to coach him on the truthful announcing about the big one that got away. Lambdin Kay keeps WSB way out in front, so to please his audience last night he picked up KDKA's short wave transmission of President Coolidge's speech, jazzed it up to 429 meters and spread it all over Dixie and in perfect style just like KDKA on 326.

SIGNING OFF.

Speaking from Experience



Condensed By DIELECTRIC

I'm going to take this space to give a word of praise to the excellent spirit existing between two of Cincinnati's Radiocasters, WSAI and WHM, both using the same wave length, something had to be done about the arrangement of time. They not only co-operate in that with the best feeling between them, but show unsual courtesy in tipping off the listener as to the other's feature following their own sign off.

A good deal is done to acquaint the listener in with some of the mysteries attending the whole Radiocast process; explaining what must take place at the transmitting end and how to get the most at the receiving end. KDKA has offered splendid informative talks on the subject of Radio as delivered by Mr. Ware. These are worth hearing.

Possibly you didn't know why you bought Sun-Kist oranges, Sun-Maid raisins, etc., until a speaker at WLS informed everyone of the co-operative organizations which are doing the trick for fruits; yes, and tobacco. Such talks are worth while. They show what is going on among the farmers in a business way and it enlightens the other farmers as well as the city dwellers.

WEEI, the new Edison station in Boston, has much to commend it to the listeners in. Its programs are well directed and the quality of transmission is all that could be desired. While a soprano (a rarity on any program) was filling the mike, I listened critically to the piano to find that instrument beautifully recorded in my ear muffs from deep bass to high treble, with the singing tone perfectly preserved.

We all are likely prejudiced in favor of some one of the many orchestras on the air, but certainly few listeners find better performances of popular music than is afforded through WGN, presenting Jack Chapman's players. This station is giving very good numbers, in the main, mixing its programs well and comes through in good volume.

Another orchestra worthy of mention is that of the Detroit News. You can count on carefully prepared programs well rendered from WWJ.

How about the World Series? Not much business going on where anybody could get at a receiver during those exciting games! Graham McNamee kept a fairly smooth line of descriptive talk going until the eighth inning of the final game, then events got him—and us—so wound up it was out of the question to keep calm. He deserves a lot of credit for making each play a perfect picture in the minds of listeners.

Have you heard Danny Cook's orchestra? Try them out some time at Station WTAS. I think you'll like them as I do.

Did you hear Miss Virginia Thompson at KDKA? She is a soprano, yes. Most of her songs were in French, and I'm hear to tell you, who didn't hear the lady, that her French diction was fascinating, vocalizing entirely adequate and interpretation of a high order. Encore.

WRC gave an evening's entertainment, but felt that wasn't sufficient, so called for aid. The aid came from Station WJZ, with several numbers by the Hotel Biltmore orchestra handed to fans tuned to the Washington station. It was good. The music didn't lose in transit.

Eight Tube Super-Heterodyne Receiver

Part IV-Vernier Condensers and Tuning

By Harry J. Marx

THE problem of a convenient vernier construction for controlling the variable condensers, that at the same time would not introduce losses and body capacity effects, was not one easily solved. Whenever the rotor shaft projects through the panel and a dial is mounted on that shaft the effect of hand capacity becomes noticeable. Vernier dials with metal gearing only increase the effect.

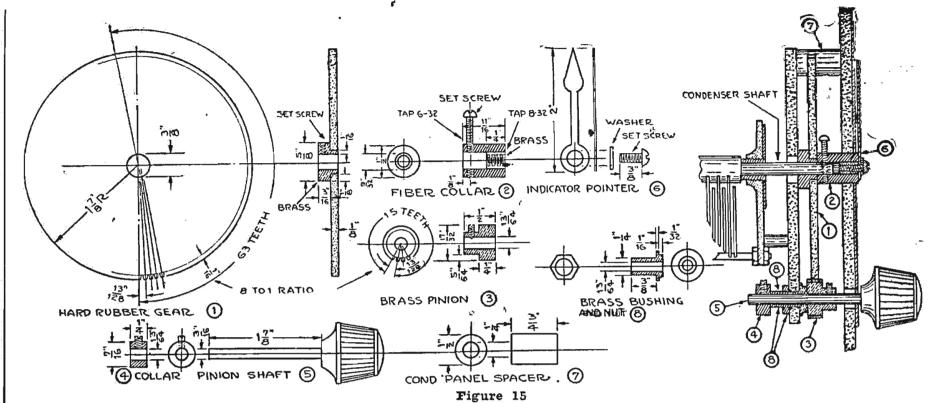
In order to eliminate all metal shafting that is electrically connected to the circuit the design illustrated in Figure 15

was developed.

The condenser is first mounted on a subpanel detailed in Figure 14 (left side). A hard rubber gcar, detail 1 Figure 15, is mounted on the condenser shaft. The shaft still projects 1/4 inch beyond the gear. On this projection is mounted the fiber collar assembly, detail 2 of Figure 15. This collar projects through the panel and the indicator pointer is fastened on the end.

Four hard rubber spacers, detail 7, are used to mount the assembly to the front panel. Use four flat head 6-32 brass machine screws about 11/2 inches long. The small brass bushing and nut (detail 8) is mounted on the subpanel in the hole in the center of the bottom end. A small and is mounted on the pinion shaft tapped in the panel. (detail 5).

Two collars with setscrews (detail 4)



brass pinion (detail 3) engages the gear chine screws after the holes have been | smaller of the two strips is held on the | is lined with copper foil. The left side

Binding Post Sub Panels

Figure 14 gives the dimensions of the are used to hold the pinion shaft in posi- two small sub-panels on which the bind-

one side against the oscillator box by means of a flat brass strip. The one end of this strip is held in place by the center screw that fastens'the back plate to the

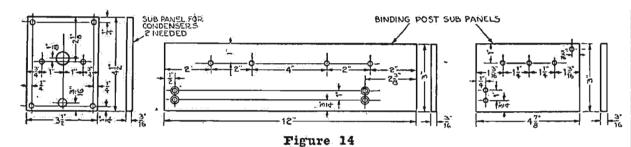
The Cabinet

The dimensions of the cabinct are given in Figure 18. This is a standard size and can be purchased or made at home. Figure 17 shows how the sides are slotted so the entire set slides into place without the addition of any screws. This permits accessibility to the set at any time without using tools to take it all

The rear and right side of this cabinet

is covered by the oscillator box. For further shielding the top can also be covered on the inside. This shielding must be properly electrically connected. A flexible connection is illustrated in Figure 18, this has a forked terminal at the free end which should be clamped under one of the cover screws of the oscillator box. This gives a final shielding arrangement that is completely grounded and shuts out all possible interference effects.

Connections If the N tubes are used, then the Λ battery should be about 9 to 12 volts. (Continued on page 22)



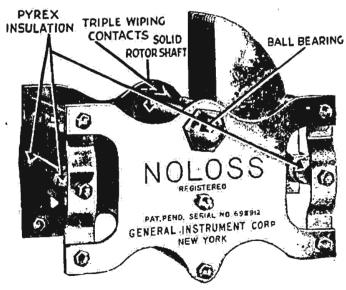
tion as shown in the assembly cross-ing posts are mounted. The proper section on the right side of Figure 15.

identification for the posts is indicated in The graduated plate shown in Figure Figure 6 of Part III of this series. Brass 16 is fastened to the panel by means of langles are used to hold these connection four round head nickel plated 4-36 ma- panels in place on the base panel. The

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SUPER-HETERODYNE

(Continued from page 21)

The rheostat should not be turned further than a total voltage reading of \$.25 across all the tube filaments. In this series connection arrangement only one tube can possibly blow in case of an overflow of current. The B battery should consist of a 2214 and a 45-volt unit. The negative terminal on both is connected to the A-B post. Then the B+ of each is

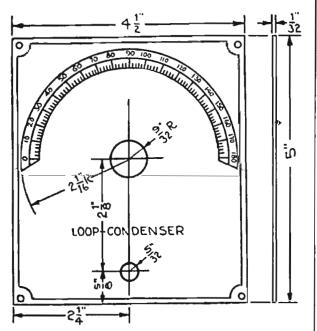


Figure 16

connected as called for in the circuit diagram Figure 1 Part I.

If A tubes are used a six volt storage battery is required. Figures 3 and 4 in Part II indicate 22½ and 45 volts for B battery voltages-this, however, can be increased to 45 and 90 for the A type of tube.

Loop Connections

Regardless of the type of tubes used, the circuit is consistent for loop connections. The loop should be one with about 16 turns wound in a single layer spaced 1 inch apart on a square frame, 30 inches on each side. A tap is made at the exact center, which connects to the center hinding post marked ground. This can be grounded or not, as desired, depending on which method gives the best results. Grounding has the effect of slightly broadening the tuning of the loop circuit.

tional rheostat and a potentiometer are added. Rheostat controls hardly require explanation at this stage of the game with the possible exception of the suggestion that in super-heterodyne circuits the tube filament current should not be turned any higher than necessary. High filament current always introduces tube noises and with a multi-tube set this soon increases to unpleasant proportions. The filament current consumption will be ample enough without trying to increase it, not saying anything about the plate current required.

When used, the potentiometer is entirely a volume and quality control. The knob should be turned from the positive filament side toward the negative until a slight squeal or rushing sound is heard.

This indicates the tubes are going into oscillation. The potentiometer should be sel just before this point, so turn it back to the positive side until the squeal or rushing sound stops, and keep it in that position. After reception has been tuned in any readjustments can be made for improvement of volume and quality.

The condenser control on the left takes care of the oscillator circuit tuning. The second one tunes the loop circuit. The oscillator circuit has two frequencies which, combined with the input frequency, produce the resultant beat frequency. There is then an upper and lower oscillator setting for each wave length. This is advantageous where two stations interfere with one another, since one of the two oscillator adjustments will be without the interfering signal.

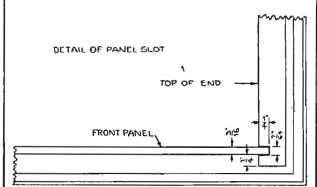


Figure 17

Of the two controls the oscillator control will be found most critical. The best procedure for beginning is to set With the first circuit, there are two the loop tuning at about 90 and then variable condenser controls and a rheo- rotate the oscillator control back and stat. With the second circuit an addi- forth for reception. If nothing is heard

Figure 18

change the loop setting to about 95 and easy to estimate the approximate postrepeat. Keep this up until reception is heard.

When a station is tuned in keep a record of the loop control setting and each wave length and facilitating the also the two settings of the oscillator control. Log all these various wave length settings and it will then become

tions of the controls for any station desired. Later a set of three curves can be plotted giving the exact settings for quick adjustment of controls for tuning in any station.

(CONCLUSION.)



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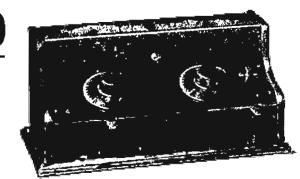
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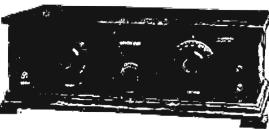
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Helpful Hints to Get the Most from Radio

Chapter VII—Sockets and Rheostats

By Thomas W. Benson

IN THIS series of articles set opera-tion will be told in so simple a manner that the uninitiated can follow instructions and get the most out of reception, whether or not he knows anything about electricity or its application to broadcasting and reception. The series consists of thirteen chapters, of which the six next will be:

Chapter VIII-Grid Leaks and Bias-Chapter IX-Jacks and Switches. Chapter X-Amplifying the Signals. Chapter XI-Care of Radio Bat-

Chapter XII-Telephones and Loud Speakers.

Chapter XIII-Hints on Tuning.

100 often a socket is considered simply as an arrangement to mount a vacuum tube and make connection to the tube terminals. This would be very true were the tube an electrical device operating on low frequency currents but when a device must carry currents with frequencies ranging up to a million cycles per second there are many other factors that enter into the design than the method of making connection to the tube prongs.

The first requirement of a socket is that it should be a good insulator. For this service we have no better material capacity between them. Therefore every differently makes necessary the placing than bakelite or the similar substances derived from phenol which means the socket should be of the moulded type. Porcelain is likewise excellent for the purpose, but the difficulty with this material is that it cannot be worked as ac- have a comparative low frequency but curately and the sockets are not uniform

We learned previously that bakelite is a poor substance to have near conductors carrying high frequency currents but a are many sockets having the appearance of moulded bakelite but a simple test is

Capacity Effects in Sockets

instantly. Other materials used in the contact springs should preferably be moulded sockets usually make themselves flat. With this construction only the edge apparent by their distinctive odor when of the springs act as condenser plates and the capacity is kept down.

Mention might be made here of the The next thing a socket should be ex- practice of using adapters to mount the amined for is its capacity effect. As C-299 and UV-199 tubes in standard stated in previous chapters any two con- sockets. The fact that the contacts of

MOULDED MATERIAL OF REINFORCED AT SLOT HIGH INSULATING VALUE FIT TUBE SNUGLY FLAT PHOSPHOR **BRONZE SPRINGS** LAMINATED WIDE SPACING SOLID AT BETWEEN TERMINALS SCREW HOLES

Features that go to make an efficient socket.

ductors placed close together will have the different types of tube are arranged socket will have a capacity effect between the metal parts imbedded in it. Such capacity effects are not so important in sockets used in audio frequency stages because the currents dealt with for Radio frequency amplification the capacities present are very important. The use of metal shells is to be condemned.

True the base of the tube is metal compromise must be made in this case cased but the metal shell of the socket to obtain its high insulating value. There can be eliminated and thus reduce the capacity between the terminals of the socket. The interterminal capacity of a to touch a hot soldering to the base on socket will depend upon the design of the the underside and the odor of formalde- contacts and their proximity. The ter-

of the contact springs in the adapter in such a way that the capacities are greatly increased. This offsets entirely the real benefit of using the small tubes with their low inter element capacity. Always use the proper socket for the tube

Contact with Tube Prongs

That a socket must make good contact with the tube prongs is almost self evident. Many manufacturers have gone to an extreme in this direction and built sockets with high capacity values, although the contacting members are very efficient from the standpoint of current carrying ability.

The simplest arrangement is the best.

hyde will be noticed. Anyone who has | minals should be widely spaced to | Laminated flat springs are entirely satisdrilled a bakelite panel will recognize it separate them as much as possible and factory if certain points are observed. The tube prongs are usually rounded on the ends. If these are flattened on the bottom by rubbing the prongs with a fine file they make a good contact with flat springs and the connections offer no resistance to the flow of current. The springs of course should be of phosphor bronze which resists tarnish and retains its resiliency.

Sockets for dry battery tubes should be mounted so as to absorb vibration. While this is not so important with the larger tubes it often assists in eliminating disturbing noises due to tube vibration. Avoid the use of sockets that use the contact springs to form a resilent mount because they increase the capacity of the socket. Soft rubber pads under the sockets is the best and simplest means to give the proper resiliency to the socket.

Finally the socket should be mechanically strong. It should be reinforced where the pin on the tube shell latches in and have solid sections for the mounting screws to prevent breakage. These socket details may not seem important but the expert Radio man always keeps in mind that it's the elimination of the tiny losses in a set that makes it efficient and in the present day multitube sets socket losses play a large part in

Function of Rheostats

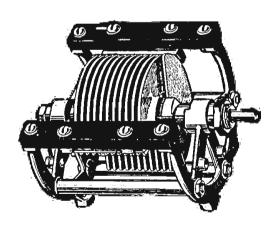
And so with rheostats. They function simply to control the filament brilliancy but the operation of the tube depends upon the electronic emission from the filament for its operation. There are two chief uses of the rheostat that determine the design. When used to control the detector it should permit of accurate control of the filament current while with amplifiers the necessity for accurate control is not as great.

Of the two chief types of rheostats, namely, carbon and resistance wire rheostats, the former is preferable for detector tube control, the latter for amplifier tube. When the wire type is fitted

(Continued on page 24)



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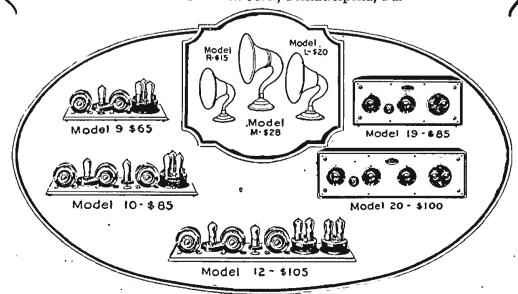
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BACK

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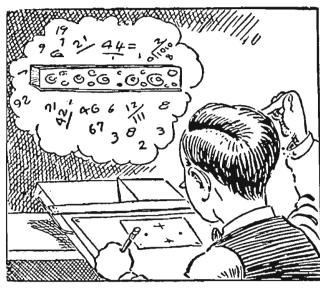
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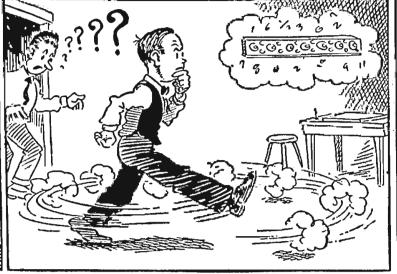
THINK

THE ANTENNA BROTHERS

Spir L. and Lew P.

It Can't Be Done









GET MOST FROM RADIO

(Continued from page 23) with a vernier winding they can be used satisfactorily with detector tubes.

The advent of the dry cell tube requiring a high resistance rheostat has eleminated the necessity for vernier attachments because the fine wire gives a vernier control over the whole range. The fact that these tubes are all hard tubes makes the filament control less critical than with the soft detector tubes. In selecting a rheostat for a certain purpose these factors should all be considered. For soft detector tubes the carbon type is unquestionably the best. Where a hard detector tube is used or dry cell tubes are employed a wire wound rheostat is entirely satisfactory.

Calculating Wire Resistance

It is possible to calculate nicely the resistance of a rheostat to use with a given tube or given number of tubes but the writer believes the best method is to follow the tube manufacturers instructions in this respect when a single tube is used. Where more than one tube is used on one rheostat the following rule will give the proper rheostat resistance. Divide the resistance of the rheostat recommended for one tube by the number quotient is the resistance of the rheostat | Editor's Note.)

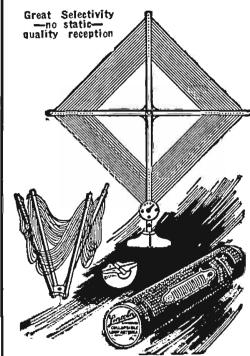
to use. If none of the exact resistance is obtainable take the next highest resistance that can be purchased. As a rule the detector tube should be on a separate rheostat and the amplifiers controlled separately, that is, all the Radio frequency tubes on one rheostat and the audio frequency on another.

To reduce the number of controls on the panel of a Radio set recourse is had to the so called automatic rheostats. These consist of a fine wire sealed in a vacuum which is connected in series with the tube filament. Their action depends on the fact that the resistance of certain alloys increases rapidly with a rise in temperature. Therefore, should the current through the tube exceed the proper amount the wire heats up and the increase in resistance reduces the current through the tube. As the storage battery falls off in voltage, the current is reduced and the wire cools slightly, passes more current, and keeps the current constant. Such control is entirely satisfactory for audio frequency, and Radio frequency amplification under certain conditions, but is not recommended for the latter purpose.

(In the operation of a receiving set jacks and switches are used and the number required will depend on the hookup. These parts will be described in the of tubes to be controlled at once and the following chapter by Mr. Benson.-

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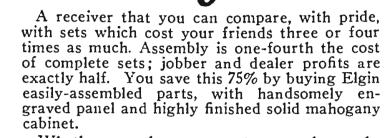
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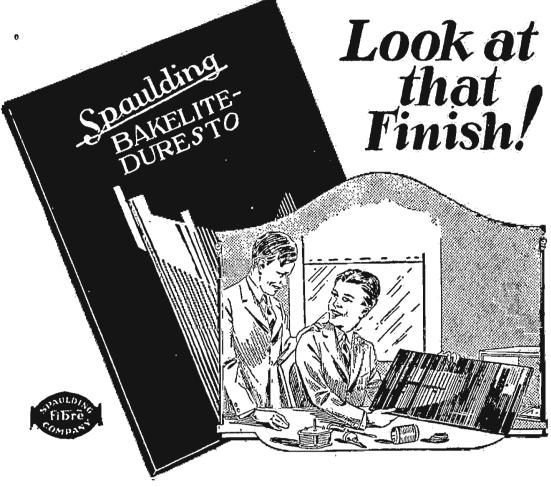
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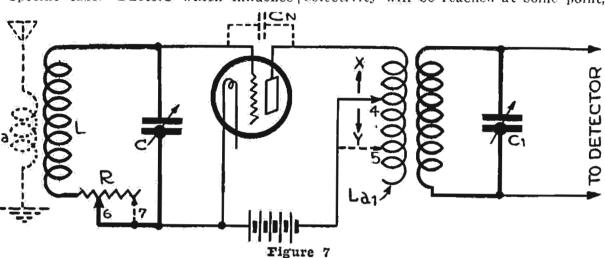
Secrets of Selectivity and Regeneration

Part III—How Resistance Impairs Selectivity

By William W. Harper

this series.

HE importance of regeneration in resistance, R, of the tuning circuit LC paragraph. This new value may be de- This follows because of the reduction in obtaining maximum selectivity was to be of a value as indicated at point 6, noted by point 7 on the resistance R. With the amplitude of the field of L1 as the emphasized in the first article of we find the locus of critical regeneration this increase in the effective resistance resistance is increased; necessitating at some point, such as 4 on the plate coil of circuit LC, the condition of critical greater coupling (more turns in La1) to In the second article, it was shown La1. That is, if a station is tuned in how regeneration occurs in a coupled any- on such an amplifier it will be found longer hold. Apparently, with the increase This leads us to the conclusion that pllfier circuit and the theory given for that the maximum response and greatest of R the regeneration coming back the greater the resistance of the tuning a specific case. Factors which influence selectivity will be reached at some point,



It is the purpose of this article to explain how the selectivity of a receiver using a coupled Radio frequency amplifier may be greatly impaired by resistance, Cn will follow. Sliding the tap in the even though the resistance is effectively reduced by regenerative action.

In the fundamental drawing of Figure 7, This circuit corresponds to the circuits of the preceding articles.

of the effect of resistance on the selectivity of a system of this order, it is feasible to picture the inherent resistance of the tuning circuits LC and L1C1 symbolically by R and R1 respectively. The plate coil, La1, is also depicted as being variable by

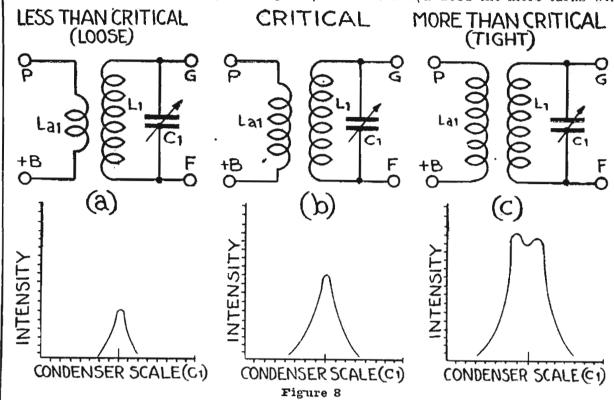
the degree of regeneration were also pre- 4, as we vary the number of turns in sented. coil in the direction of X will reduce the number of turns and a decrease in the reaction current or regeneration through opposite direction, indicated by Y will increase the regeneration as well as the signal strength and selectivity; these a regenerative amplifier circuit is shown. factors reaching their maximum values at point 4. As soon as this point is passed the amplifier sustains an undesir-To gain a more definite understanding able oscillation. Therefore, the region of the coil from point 4 to the free end is of no use in telephonic reception.

The effect of resistance in the tuning circuits upon the number of turns in the plate coil, La1, is obvious.

Supposing the tuning circuit LC, due to inefficient condenser or coil, has a greater Assuming the natural high frequency resistance than assumed in the previous

noted by point 7 on the resistance R. With the amplitude of the field of L1 as the regeneration at point 4 on La1 will no retain the same regenerative state.

through Cn is insufficient to give complete circuits LC and L1C1 the more turns will

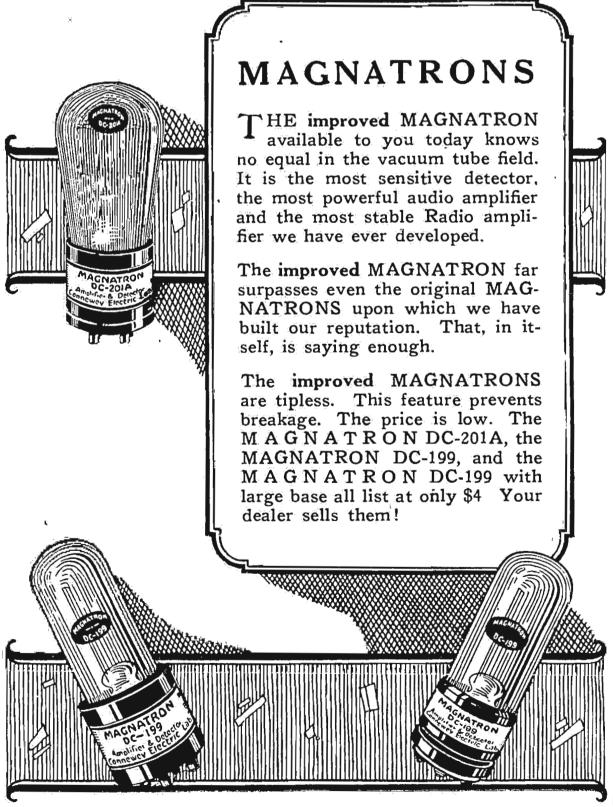


compensation. We must then proceed as the necessary in La1 to give critical regenbefore and increase the number of turns eration. in La1 so as to increase this resistance reducing agent, regeneration. Finally, some point, as 5, will be reached where the circuit again is in a state of critical regeneration.

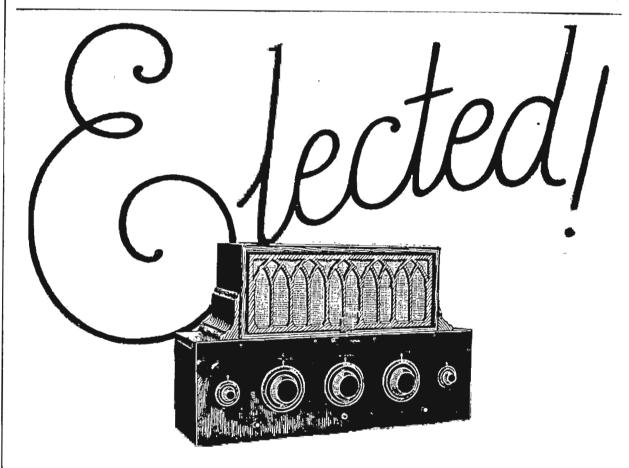
The effect of the resistance, R1, of the tuning circuit L1C1 has the same influence on the regenerative condition.

We must then consider the influence of the number of turns in the plate coil upon the selectivity.

The reader will note that throughout these articles the term "critical coupling" has been used and undoubtedly the defini-(Continued on page 26)



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SELECTIVITY SECRETS

(Continued from page 25) tion previously given was not well under-

In the second article it was stated that

the extent of the coupling between La1 and L1 should approximately satisfy the condition of both critical regeneration and critical coupling.

It has just been shown that the locus of critical regeneration (in respect to the number of turns on La1) varies with circuit resistance. Therefore the degree of coupling between La1 and L1 will depend upon the point where critical regeneration is attained.

To emphasize the effect of these factors upon the selectivity, a brief review of the theory of coupled circuits is in order.

In the diagrams of Figure 8, three distinct coupling conditions are depicted for the transformer coupling La1-L1. The secondary, L1, is contant in value in all cases and is tuned by the condenser C1. The primary may have any value, depending upon the circuit conditions.

With only a few turns in the primary, La1, as indicated in Figure 8 (A), a pling, any further attempt to increase the Radio frequency current in the primary secondary current by increasing the num-

the latter is tuned to resonance, as illus- production of two maximas in the sec- as the coupling does not exceed the crittrated by the resonance curve to the ondary resonance curve. This is shown ical value. If this value is exceeded an right. This is equivalent to very loose diagramically in (C) of Figure 8. This coupling. A coupling condition of this is the condition we must avoid. If the kind would exist if the tuning circuit LC circuit resistances are excessive it will had an abnormally low resistance, thereby be necessary to use a large number of necessitating only a few turns in the turns in Lal to gain the state of critical plate coil to secure sufficient regenera- regeneration, and this will cause a restion to overcome the resistance. Good selectivity is obvious from the sharp peak of the resonance curve.

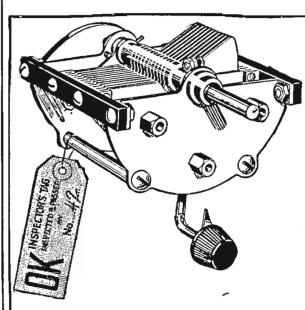
A greater amplitude of current can be obtained by increasing the number of turns on La1 without altering the degree of selectivity. Increasing the number of plate coil turns one by one, we finally reach the condition of critical coupling. Critical coupling, in this case, may be defined as the greatest number of turns used in La1 without losing a secondary resonance characteristic having one sharp peak of maximum amplitude. This condition is shown in (B) of Figure 8. If critical regeneration occurs also at this coupling we have theoretically the ideal condition; having both maximum transfer of energy and maximum selectivity.

After reaching the point of critical cou-

will give a current in the secondary, when | ber of plate coil turns will result in the cuit to a signal in the primary as long onance condition as shown.

RADIO DIGEST—Illustrated

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13	plate-Cap.	.00025	\$5.50
.18	plate—Cap.	.00035	5.75
25	plate—Cap.	.0005	6.00
45	plate—Cap.	.001	7. 00
]	Prices withou	ut Vernier	\$1.00 less.

Write us direct if your dealer does not carry Continental Lo Loss.

Gardiner & Hepburn, Inc. **P**hiladelphia

Sales Dept., 611 Widener Bidg.

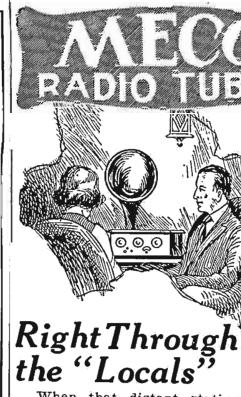
Factory-2100 Washington Ave.

CONDENSER

incoming signal will be received with two maximas of intensity as the tuning condenser C1 is rotated: We may therefore expect to have inferior selectivity.

Similar conditions of coupling also exist between the antenna coil La1 and the secondary L.

(Continued on page 28)



When that distant station comes in while "locals" are going full blast, you appreciate that improvement in the construction of MECO TUBES that produces maximum volume without impairing its clear, distinct tones. Their longer life and new list price of \$4 makes Meco Tubes more economical. A trial will convince you.

Your dealer has MECO TUBES or can get them for you from recognized radio job-



MECO TUBES are con structed to operate in every radio receiving set, whether audio-frequency. radio-frequency, regenerative or reflex action.

The Latest and Greatest Achievement in Battery Chargers

PFANSTIEHL RADIO CO.

Make Your Selection Carefully

from among only a few of the better receivers. Consider among these the Pfanstiehl Model 7 receiver. You will always appreciate the suggestion.

1. Matchless reproduction

Ofanstiehl
Model 7

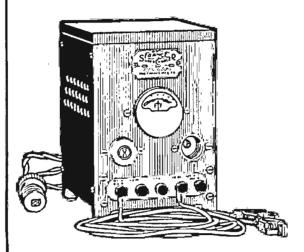
2. Extreme selectivity

3. Unusual simplicity

4. Simplest tuning

Your dealer will be pleased to demonstrate these features.

made possible by the Pfanstiehl Station Selector.



Highland Park

THE FRANCE MFG. CO. 10321 BEREA ROAD CLEVELAND, OHIO U. S.A.

Offices and Stocks conveniently located throughout the United States and Canada.

The latest development, by L. E. France, pioneer inventor and creator of the successful F-F Battery Chargers, embodying a new application of the push-pull principle, eliminating all possibility of sparking contacts.

Illinois

No bulbs, No acids, No fumes, No sticking contacts, No noise, No critical adjustments. The France Super-Charger is truly the battery charger supreme. No effort has been spared to make the Super-Charger the highest attainment in battery chargers.

It economically charges 2, 4 or 6 volt radio or automobile batteries at 5 or 7 ampere rate, also 120 volts of B battery IN SERIES at a desired varying rate—an exclusive feature. No wires to change before charging. Simple. Quick.

Price of Super-Charger \$22.00. \$23.00 West of the Rockies.

Write for literature and name of nearest dealer.

JOBBERS AND DEALERS - Be prepared to reap the harvest of profits sure to come on this device. Write for literature and prices today.



NEAT FIT K. D. CABINETS

Made in a variety of sizes, sold knocked down, easily set up. Holes bored for every screw. No other cabinets offer such unusual

vaiues		su	CII	unus	uai
Panel			deep) \$1	1.80
Panel	7x12"	7"	dee) 2	2.00
Panel	7x14"	7"	deci) 2	2.25
Panel			deep		.30
Panol	7x18"	7"	deci		.40
Pancl			deer		.50
Panel		7"	deci		.60
Panel			deer		.70
Pancl		7"	deer		.80
Other	sizes	carr	ied :	ln sto	ck.



Table No. 31 — Substantial table 15"x31"x29".
Packed 1 cach in carton.



CABINET No. 37

Exceptional design — com-partment 10"x11"x29" for batteries, etc., and shelf for instruments 7"x11"x29" overall measurement 1134"x 32"x37". Set up, complete, packed in \$11.50 carton

Away with the mussy Radio set! House it neatly in a M-B-G Radio Cabinet. The best value to be found. Large ones—small ones—a variety of styles. All made of Oregon Fir. Selected for its perfect grain. They are protecting thousands of home-made sets the country over. Radio fans are quick to sense their unusual

Order To-day

Choose your style—from the display at your radio dealer—or if you wish send direct to us. We will send it to you promptly. FREE with every cabinet comes complete and fascinating instruction on how to stain to harmonize with any color scheme or furniture. You finish M-B-G Cabinets to sult your taste-that makes them especially convenient.

EVERY M-B-G RADIO CABINET IS GUARANTEED TO GIVE SATISFACTION OR MONEY WILL BE CHEERFULLY REFUNDED.



EXPRESS BODY CORPORATION

Radio Cabinet Dept. 43 Lake St., Crystal Lake, Ill.

CABINET No. 29 Battery compartment 10"x11"x29". Open back with shelf compartment for B battery. Paneled front to conceal batteries. Overall measurements 11½"x 32"x29". Set up complete in carton. \$7.50



Homemade Coil in Distance Hook-Up

DX Signals Picked Up Through Local Stations

For those who are not able to own an expensive set the hook-up illustrated herewith will give good reception if carefully built in a set, of best parts obtain-

WORKSHOP KINKS EARN A DOLLAR—

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

RADIO KINKS DEPARTMENT Radio Digest,

510 North Dearborn St., Chicago

able. The coil is homemade, wound on a tube 5 inches in diameter and using number 24 gauge wire tapped as shown.

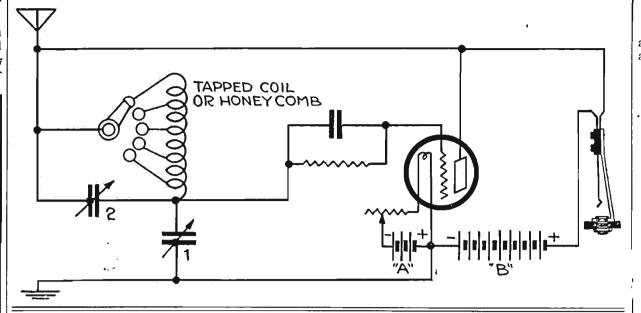
The condenser number 1, which has 43 plates, is used for tuning in stations, and number 2, which has the same number of plates as number 1, is used for tuning out interference, and is also used for finer tuning.

The grid leak was made of an old rheostat with the wire taken off and a heavy coat of India ink used in place of the wire.

I use the set with a dry cell tube, however better results may be obtained with a regular 6 volt tube. With the set I use two steps of audio frequency amplification.—C. H. Lytton.

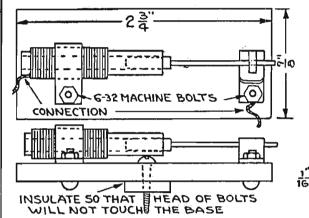
Often that static you hear is nothing more or less than a dying "B" battery. A small portable voltmeter will come in handy to test your batteries.

CIRCUIT USED WITH AMPLIFICATION



Simple Homemade Neutrodons

The regular type of neutrodons consist of very few parts and these can be purchased by the fan and put together. The parts necessary are as follows:



inches long.

1 piece of number 26 or 22 gauge copper wire.

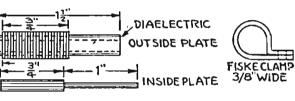
1 piece of hard rubber 234 inches long.

% inch wide and 4 inch thick.

The glass tube should have as thin a wall as possible. It can be cut into pieces 11/2 inches long by filing a groove around the outside with a three cornered file and then snapping it off with your

Wind the bare wire tightly around the tube until it forms a sleeve ¾ inch long and then cover it with solder. When it cools it will fit the tube tightly.

To make the inside plate of the condenser take a piece of heavy wire 34 inch long which will just slide inside the



1 glass tube 1/4 inch inside diameter, 6 | glass tube and solder it to a piece of round buss wire 1 inch long.

> The glass tube may be purchased from a drug store and the other parts may be procured at your electrical dealer.—H. F. Watson, Philadelphia, Pa.

The "Goode"



Le Ton d'argent



QUARTER AMPERE

GUARANTEED SATISFACTORY

All "GOODE" Tubes Sold Direct to the Consumer-No Dealer Profits ONE-"Goode" Detector-Amplifier \$2.39 THREE--"Goode"

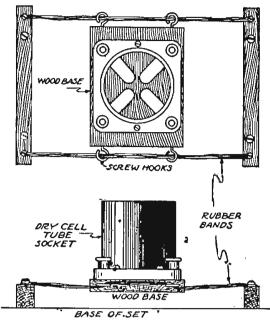
(All postage prepaid)
The "Goode" Two-o-One A Tube amplifies or detects. It is a quarter ampere, five volts, standard base silvered tube. Send express or postal money order or New York draft to—

The Goode Tube Corporation

OWENSBORO - - KENTUCKY

Flexible Socket Base Made of Rubber Bands

One way to get maximum results from a dry cell tube is to mount the socket on a flexible base. The illustration shows



a simple way to make such a base. It is suspended on ordinary rubber bands .-Joseph S. Ott, Chicago, Ill.

Keep spaces between turns even on spider web coils.

RADIO CABINETS "From the Lumber to You"

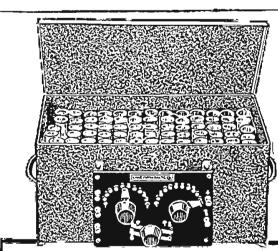
PRICES-Cash with order, prepaid east of Missouri River; west, add 15 cents to quoted price. Send Post Office or Express Money Order. Imitation

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7x10x7	\$ 3.00	
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	2.00	
7x24x7	5.25	
7x26x7	6.05	10.00
7x28x8	7.25	
7x27x9	7.25	
7x40x10	11.25	18.00
Special Sizes	The state of the s	
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Will not warp or crack. Made of No. I wood finished in either Mahogany or Walnut, bright or rubbed finish to match the finest of furniture. Manufacturers' and Dealers' Liberal Discounts sent upon request.

Each

THE PERKINS - CAMPBELL CO. (Established 1879)
410-440 New Street, CINCINNATI, O.
(References: Dun or Bradstreet's)



Non-Acid Storage

Makes a wonderful improvement in your radio set. Gives it more life and pep. Makes listening in a real pleasure. Gives a clearer reception than you have ever experienced. Brings in more etations louder and clearer, takes the guesswork out of distance reception.

Life of Battery Unlimited LITTLE OR NO REPAIRS EVER NECESSARY No deterioration—easiest, quickest to charge—will operate a 3 tube set continually for over 50 hrs. Ordinary use one to four months without recharging.

PANEL SWITCHES Gives Instantand

A great and necessary improvement on batteries. Gives instantly correct voltage at all times and perfect reception. Allows for charging in two equal parts.
Comes in handsome
indeetructible case,
\$25 At your dealer's or
direct. 150 v. \$37.50. Attractive Proposition to Dealers and Jobbers. LANEMFG.CO., Dept. 12 2941 W. Lake St., CHICAGO

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National Radio Exposition

(CO-OPERATIVE)

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An advance showing of the latest developments in the Radio and Phono - Radio Industries

Under the Auspices of

RADIO TRADE ASSOCIATIONS OF SOUTHERN CALIFORNIA

For Space Reservations apply to: Second Annual National Radio Exposition 603-604 Commercial Exchange Bldg. Los Angeles, Calif.

"Profit Sharing with Exhibitors"

HOW TO OPERATE SET

(Continued from page 11)

Every NR-5 is very carefully tested and the "capacity coupling" between the grid and plate circuits is carefully neu-Absolutely no adjustment tralized. should ever be made in the neutralizing condensers and they should never be tampered with, regardless of the advice of any local expert.

Changing vacuum tubes in the receiver does not affect the neutralization inasniuch as there is so much fixed coupling between the grid and plate circuits of each vacuum tube that any slight variation in the capacity between the grid and plate of the vacuum tubes is an insignificant percentage of the total amount of fixed coupling in the receiver.

SELECTIVITY SECRETS

(Continued from page 26)

The layman, after reading this qualitative data, will probably be interested in hearing about something more definite. The question, "How many turns should I use in the plate coil?" will come into his mind. Unfortunately, it is practically battery if applied directly, it must be impossible to give any quantitative information about the circuits of tuned regenerative amplifiers. The circuit constants vary with resistance, tube characteristics, and electromagnetic and electro-static coupling phenomena.

It has just been shown how the value of the plate coil is practically dependent upon the circuit resistance and in a previous article the effect of the coupling to the secondary upon this factor was also discussed.

Conclusions

The easiest and most accurate way to arrive at the correct number of plate coil turns is to put on more turns than necessary, so that the amplifier oscillates over the complete condenser scale, and then take them off one by one until the am-





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

World Storage "B" Battery

(12 CELLS-24 VOLTS)
To ten million homee with Radio Sets-and to countless millions of prospective huyers—this WORLD Storage "B" Battery brings a new co.coption of battery economy and performance. Here is a battery that pays for itself in a few weeks—will last for years and can be recharged at a negligible cost. And you save \$2.00 by ordering now.

A Superior Battery Solid Rubber Case Has heavy duty 21.8 in. x 1 in. x 1.4 in. plates and plenty of acid circulation. Extra heavy glass jurn allow ready observation of charge end prevent leakage and seepage of current. It holds its charge, while idle, at constant voltage. You will find this battery a boon to long distance reception. It does nawny with a great many noises so often blamed on "static." Mail your order today.

SEND NO MONEY

Just state number of batteries wanted and we will ship day order is received. EXTRA OFFER: 4 batteries in series 196 volts), \$13.00. Pay Expressman after examining batteries. 5 per cent oiscount for cash in full with order. Send your order NOW and save \$2.00.

WORLD BATTERY COMPANY
Makers of the famous World Radio "A" Storage Battery 1219 S. Wabash Ave., Dept. 76 Chicago, Ill. BAVE \$2.00 BY ORDERING NOW!

has been completely finished and connected to the antenna and ground. The cuit. antenna circuit also has an influence upon the regenerative condition, and consequently the number of plate coll turns, is practically constant. This subject will be taken up in a future article.

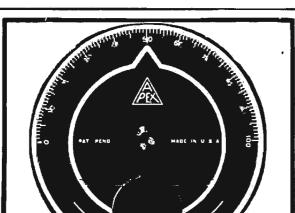
Regarding critical coupling, there is no criterion the layman may go by in reaching this condition. It is at least safe to say that critical coupling will be approximately attained if the losses and circuit resistance are kept low by using efficient coils and condensers, as well as careful design.

(The effect of stray couplings upon the conditions of regeneration and selectivity will be presented in the next article .-Editor's Note.)

CARE OF BATTERIES

(Continued from page 19)

rectified first. As I have said, manufactured chargers are rather expensive, therefore it is not uncommon amongst amateurs to build



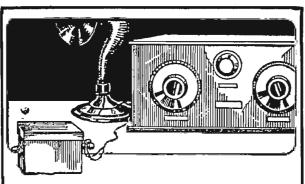
Apex Vernier Dial

Do not bother with geared condensers, requiring many holes in the panel and careful lineup of pinion shafts, when this marvelous instrument provides the fine adjustment for tuning in distant stations. Ratio 10 to 1—quickly applied to any shaft. For sale by all good radio dealers. If nnable to obtain, fill in coupon and enclose \$2.50 for nickle finish or \$3.50 for Gold Plated finish.



Coast To Coast On An 18-Inch Loop Assemble Your Own 7 Tube Super-Heterodyne

Streat.... City State.....



A New Charm to Radio

For more than a year Morrison engineers have worked to perfect the Toner for the 1924 market.

"Clears up Radio," that is what the Toner actually does. Attach the Toner to your set-then you will understand. Never before did you really hear radio in its best form. Its performance is little short of miraculous.

Gives the Third Step of Audio Frequency

With a Toner you can add another Tube for three steps of Audio Frequency—Greater Volume and Purer Tones.

So new that many dealers are not yet supplied you can have order filled immediately from factory. \$10 List. "Money-back guarantee."

> Send for descriptive booklet showing hook-up.

MORRISON LABORATORIES, Inc. 243 E. Jefferson Ave. Detroit, Michigan

plifier no longer oscillates. You may feel their own. The main types used are the after Radiocasts each night, as he can let certain, in this way, that the number of chemical rectifier and the gas rectifier. his battery stand for a couple of days plate coil turns is correct for the circuit Undoubtedly the latter is better than any resistance present. This process should other capable of being homemade, but in- the impulse to try to listen to a singobviously be carried out after the receiver cidently it costs more, for a step-down song from some station or other across transformer must be included in the cir- the continent.

The chemical rectifier, or as it is usually called, the electrolytic rectifier, has as its chief disadvantage, the passage of a very but for any certain installation its effect small amount of current; less than one ampere. But taking into consideration the cost of constructing one, it is an ideal charger for the amateur who isn't trailing

To Each Purchaser World Battery

A 24-Volt "B" Storage Battery positively given FREE with each purchase of a WORLD "A" Storage Battery. The WORLD Battery is famous for its gnaranteed quality and service. Backed by years of Successful Mannfacture and Thousands of Satisfied Users. You save 50%...

Prices That Save and Satisfy Auto Batteries Radio Batteries 6-Volt. 11 Plate \$12.25

6-Volt, 11 Plate \$12.25 6-Volt, 13 Plate 14.25 6-Volt, 120 Amps. 12.50 6-Volt, 120 Amps. 14.50 6-Volt, 140 Amps. 16.00 Shipment Express C. O. D. subject to examination.

5 per cent discount for each in full with order.

2-Yr. Guarantee Bond in Writing With Each World Storage Battery roves satisfectory World performance. Mell this ad with our name end address—we willship battery day order lare-slyod; and give you your choice of "B" Storage Battery or a andsome nickle finish Auto Spotlite, FREE. Write TODAY.

WORLD BATTERY COMPANY WORLD BATTERY COMPANY

60 E. Roosevelt Road Dept. L. CHICAGO, ILL.

This FREE "B" Storage Battery takes the place of dry coil
"B" batteries. Can be recharged and will last indefinitely.
To be sold retail for \$6.00. It is the only bettery of its kind
equipped with solid rubber case—and inentance against acld
and leakage. Taka advantage of this romarkable introductory
offer NOW. (To those who prefor it, we will send FREE a
handsome nickel finish Anto Spetilte, instead of the "B" Battery. Be enre to epecify which is wanted.)

GIVEN FREE To introduce



every two weeks or so, without getting

(In the following article by Mr. William Fenwick he will tell you how to make an electrolytic rectifier which he has used for more than a year and has given uniform results. It charges batteries at low cost. -Editor's Note.)



PREMIER Microstat

THE SLIDING SCALE **VERNIER** RHEOSTAT

FINE TUNING MADE EASY

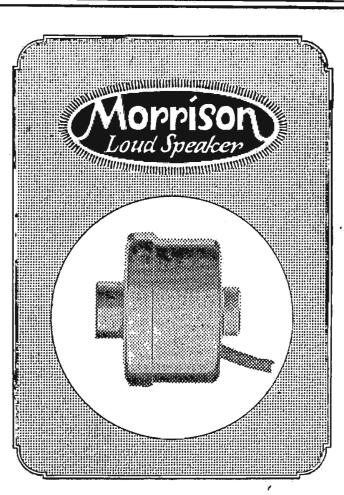
Premier "MICROSTAT" is a wonder for tuning in the distant stations. Stands alone in its fineness of adjustment and minute control. Two resistor units-one six ohms and one forty ohms—connected in parallel. Vernier adjustment on high resistor. Noiseless in operation, Insures freedom from sputtering and scratching. Premier "DUOSTAT" combines two rheostats in one. Provides all necessary control of two tubes with one panel mounting. Premier Double Disconnect Potentiometer is the last word in plate current control. Its special feature, a double break switch, automatically disconnects "A" and "B" batteries when lever is off. Prevents battery waste and tube burn out danger.

All three above instruments are typical in design. Each requires only one hole in panel. Bakelito moulded. Silver etched dials. Many other superior features. All one price, \$2.50 each.

Write for Free Bulletin No. 94 showing complete line of Premier Quality Radio Parts. Ask your dealer if he has Premier free hook-ups. If not, send his name and

Premier Electric Company

PREMIER Quality Radio Parts



Now \$5 List

A Radio Achievement

The famous Morrison Unit (Model C) that sold for \$10 is now \$5.00. This enormous reduction marks a step forward in the great radio industry.

Exactly the same unit in every respect—except the price. You, the radio fan, are profiting by standardized and improved production methods. Such is the Morrison policy.

Morrison is the unit you need, for either phonograph or horn, to reproduce all the tones truly and with plenty of volume.

Your dealer can supply you. Or send your order to factory every Unit still carries the money-back guarantee.

Our new 2-color booklets are ready—send for yours

MORRISON LABORATORIES, Inc.

343 E. Jefferson Avenue

Detroit, Michigan

Questions and Answers

Wave Length

(08053) BIW, Tomah, Wis. In connection with the Radio end of our business, we sometimes have questions asked of us which we are not able to answer correctly. Last evening a question was asked us by one of the high school Radio club members which we wish to ask of you, and would appreciate an early reply by letter as much in detail as you can do consistently. The question is, "How are Radio waves measured? How do they arrive at their calculations?"

A .- A broadcasting station throws out power into space when it is operating. This power varies during one cycle from a certain positive quantity through zero to the same quantity but minus. If these variations occur 1,000,000 times during every second, the station is said to be working at 1,000,000 cycle frequency. These power impulses travel through space at the rate of 300,000,000 meters. or at about 186,000 miles per second. If a station is operating at 1,000,000 cycles per second the power impulses will have traveled 300 meters during the cycle, when we state that the wave length of the station is 300 meters.

We see thus that fundamentally the measurement is in frequencies. For example, antenna oscillating at 1,000,000 cycles per second—in other words, charging and discharging at that rate.

A wave leaving the antenna and traveling at that speed per second will be approximately 977 feet, or 300 meters away from the antenna before it again discharges. The term "wave length" is employed to designate the distance between the crest of each wave. For simplicity this could also be designated as "cycles" per second, but as the figures involved are so large the convenience of expressing in "wave length" is obvious.

Magnetic Rectifier

(08157) VG, New Haven, Conn. How could I make a magnetic rectifier which will deliver sufficient current to charge an A battery with 6 volts at 5 amperes per hour with an input of 110 volts 60 cycles A. C.?

Set-O-Six Radio Socket Wrench \$125 A solidly-built wrench for every radio need. Reaches and fits every round and hexagon nut on any set; works with a fast, screw-driver turn. Compact, light, and handy. If your dealer cannot supply you

order from us

THE PERRY-FAY COMPANY

Screw Machine Products

ELYRIA, OHIO



The new FAHNESTOCK Display Case Will stimulate your sales of Fahnestock Radio Products. 14 of the most popular styles and sizes are included. Shows the purchaser instantly the correct piece for his set. A constant invitation to buy Fahnestock Products. Dealers are offered 200% profit on each case, an unusual offer on standard nuerchandise.

Contents Retail for \$51.50

Refills will be supplied at the regular 100 lot prices, shown in catalogue, which comes with case, less discount shown on enclosed sheet. Send check for money order, today.

FAHNESTOCK ELEC. CO LONG ISLAND CITY NEW YORK

I have a chemical rectifier which requires a resistance of 500 watts. Can I make one?

Is there any possible way with which I can use A. C. 110 volts, 60 cycles, for the filament lighting and plate voltage of a two-stage amplifier and detector outfit? If possible, send me complete diagrams.

A .- Cost and difficulty of constructing a magnetic rectifier in consideration of purchase price makes it prohibitive. For that reason we have not given consideration to publishing such details as you re-

An electric iron will serve adequately as esistance unit for your rectifier.

It is not feasible to use A. C. supply for operation of tubes in receiver, due to the hum. This disturbance is of sufficient proportion to drown out signals. New devices, however, on the market are making possible the satisfactory use of A. C. for A and B supply.

> Erla precision parts get the best out of Erla

SUPEREFLEX

circuits; most powerful, tube for tube. Ask for Bulletin 24.

Electrical Research Laboratories, Chicago

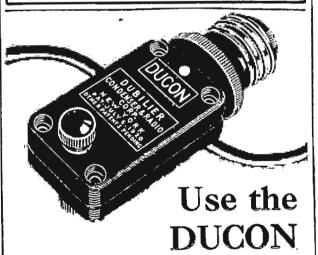


Radio Batteries -they last longer

Conspicuous for vitality and endurance -the right batteries by test and proof for every radio use.

NATIONAL CARBON CO., INC. Headquarters for Radio Battery Information San Francisco New York

CANADIAN NATIONAL CARBON CO., LIMITED Factory and Offices: Toronto, Ontario



No antenna-just screw the Ducon into your electric light socket and tune in. A great saving in expense and labor-and great results with your set.

PRICE \$1.50

Sold on a 5 day trial basis by all reliable dealers

Transformers

(07944) VG. New Haven, Conn. How could I make a step-up transformer which will take 110 volts 60 cycles A. C. which is the house current of our city? I would like to get sufficient current for the plate voltage for a 10 watt transmitting set, with taps at 6 volts for the filaments and a tap at half the plate current so I can use 5 watt tube alone.

Please tell me if this is possible? it is possible send complete information so I can build one.

A .- We are advising in your inquiry that it is quite impracticable to attempt to use the same transformer for plate and filament supply for transmitter as the voltage drop in filament circuit is quite high when plate circuit is connected.



SPECIAL COCKADAY (rear slot not included in

	other ca	binets)	
Oak or	Walnut	Oak or	Walnut
Mahogany	or	Mahogany	or
Size Finish	Mahogany	Size Finish	Mahogany
7x10x8\$3.60	\$4.50	7x36x8\$8,00	\$10.00
7x12x83.80	4.75	7x40x8 9.00	11.25
7x14x8, 4.00	5,00	7x27x9 6.45	
7x18x8 4.59	5 5.70	8x36x8 8.90	
7x21x8 5.00	6.25	8x40x810.60	13.25
7x24x85.4	6.75	8x26x8 6.45	8.00
7x26x8 5.7	7,20	Cockaday	
7x30x8 6.9	8.60	9" deep 6.90	8.60
Mounting boa	rds 25c, at	ovo 30" panel	50c.
Nicely moulde			

Nicely moulded top and base. Adam Brown Ma-hogany and Dark Oak finished with Dul'ont var-nishes carefully hand rubbed. Accurately made of best kiln dried lumber and well packed. WRITE FOR BOOKLET offering best values in

radio furniture.
TERMS—CASH WITH ORDER OR C. O. D.

Corbett Cabinet Mfg. Company 5323 N. Carlisle St. PHILADELPHIA, PA. 1415 East St. PITTSBURGH, PA.

Pages 12 and 13

of the Shamrock Booklet tell you how to build the

Two Variometer Circuit

Write today for the Shamrock Booklet telling you how to build this set and nine others. Full directions simply told.

Mail coupon to-day

SHAMROCK MANUFACTURING CO., Dept. 25-B, Market St., Newark, N. J.

I enclose 10 cents (U. S. stamps or coin) for copy "Shamrock Radio Builder's Guide Book," taining diagrams and complete instructions for building 10 inexpensive sets.

STAR-ITE CRYSTAL Because many people have had good results with the STAR-ITE CRYSTAL

used as a detector with non-regenerative tube

used as a detector with non-regenerative tube sets, we have had a great many letters from radio folks who seem to be of the impression that this is the—as yet unperfected—OSCIL-LATING CRYSTAL, of which so much has been said in the radio press.

Wo have secured oscillation with crystals in a luboratory fashion, but would not attempt to sell the STAR-ITE to take the place of amplifying tubes.

We do say that the STAR-ITE is the absolute pinnaele of perfection as a crystal to be used in a REFLEX Set, or a CRYSTAL Set, and as a detector in many nongenerative tube sets, and are glad to support our belief by making if extremely easy to try one for yourself.

port our belief by making it extremely easy to try one for yourself.

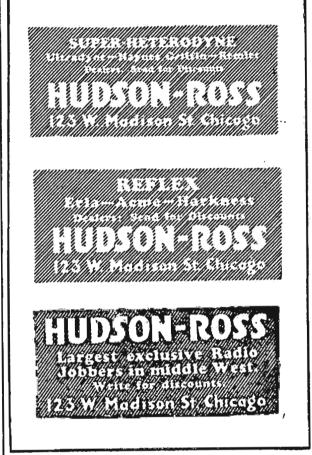
As this crystal is a new one put out by an old firm in the crystal business your dealer may not have it, but try to get him to order one for you, on our money back guarantee. If he does not wish to do so send us his name with a \$1.00 bill at our risk, and we will send you one with the understanding that you may return it, and we will refund you the \$1.00 at any time within 30 days.

Gold Cat Whisker in Each Package

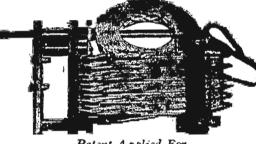
Star Crystal C

We are recommending transformer core of 14 by 14-inch square. Primary of both transformers to have 400 turns of No. 18 dcc. wirc. Secondary of filament transformer to have 40 turns of No. 12 dcc. Secondary of plate transformer to have 2,000 turns of No. 26 dcc.

To prevent scratching of the panel by a dial set close to it, put a soft felt pad between the dial and panel. The result is only prevention of scratching, but lack of any noise in turning the dial.



LOW-LOSS TUNERS



Patent Applied For

The Globe Low-Loss Tuner is designed to give maximum efficiency. All metal parts entirely eliminated. Less than 1½ ozs. of insulating material. Anti-capacity windings.

Suitable for use in all standard hook-ups. Special unit for the **SUPERDYNE** circuit.

Circular on Request. Dealers and Jobbers Write.

Globe Radio Equipment Co. Distributing Division, 162 W. 34th St., N. Y. C.



Greater distance. Clearer tone. Reduced losses. less noiso are the results of a good outside aerial. Efficient, long-distance sets, including ships at sea, use the best possible aerial to get results. Eagle Radio Towers take the place of costly or unsightly masts.

ADJUSTABLE TO FIT ANY TYPE OF ROOF
Two screws qulekly adjust hase to fit single, double slope or flat roof. Additional height added by fitting standard pipe to top. I pesigned and built by experienced engineers. Strong, hollow tube construction, grey finish; 10 inch golden eagle at top—it's a beauty.

QUICKLY AND EASILY ERECTED
Towers are shipped knocked down. complete with instructions. Weight only 50 ibs. Boy can assemble in half an hour.

SEND NO MONEY

Just pay expressman \$14.85 for one tower, \$26.00 for two, plus transportation. If not satisfied, return to us in ten days and your money less transportation, will be refunded. May we send one on approval together with our plan whereby you can get ONE TOWER FREE?

J.R.BURRELLCO. J.R.BURRELLCO.

356 Folsom Place, Dept. 10 Milwaukee. Wis-

On Our Money Back Guarantee

The Reader's View

Reflex Whistle

In your May 3 issue, Questions and Answers column, I noted question (08004) S. T., Sanitorium, Colo., regarding a reflex whistle. Having had considerable experience with sets of this type, I would like to make a suggestion. I think his trouble is due either to exhausted B batteries causing low voltage or partial rectification by the crystal, or if using A. C. battery it may be caused by an incorrect grid bias. I had the same experience with my reflex and found when I renewed my B batteries it disappeared.-Roy Smith, Detroit, Mich.

DX on Two Tube Circuit

Thanks for the circuit you published in the Digest sometime ago. It is the circuit that one of your Radiophans

A Super Antenna. Great volume. Easily and cheaply made. Less wire. Directions 50 cents. Eugene A. Rhea, Garden City,

SCIENTIFIC FIXED CRYSTAL DETECTOR BEST BY TEST Price, \$1.50

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Specially designed coil which cannot react on other parts of circuit. Gives astounding results with four tube Acme Reflex—eliminates all trouble from local stations. With other circuits, gives self-stabilized radio frequency amplification. Easy to install. Sure-fire performance. Hundreds already in use

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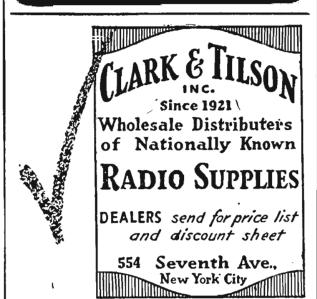
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sent in to you who's firm name is Ton-kawa Plumbing company of Tonkawa, Okla.

I followed your diagram except that I added another stage of audio frequency and 90 volts on the plate. It can't be beat for yolume, selectivity and DX re
BIG money selling new to play with. Well, I took the chance and I might state that it is well worth playing with, providing good parts are used.—Harry E. Stein, Mount Kisco, N. Y.

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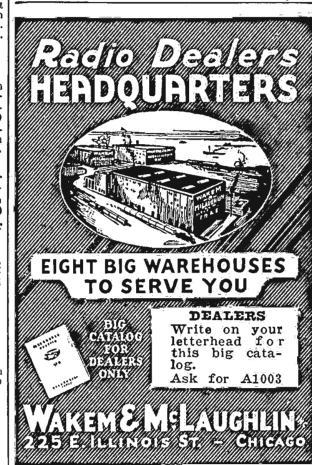
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Radiophone Broadcasting Stations

Corrected Every Week-Part III

FIND MISTAKES AND YOU'LL GET DOLLAR

NE DOLLAR will be paid to the Radiophan reader of Radio Digest submitting the most errors in any one station's listing in the Directory of Radiophone Stations, which appears in five parts, serially continuously, on page 31 Letters must reach Radio Digest's office not later than one week from date of issue corrected. Readers are not limited to correcting one station, but such corrections must be verified by the stations themselves, and NOT by comparison to other socalled accurate Radiocasting directorie or lists. Turn in corrections for as many stations as you can find—if you can find errors! Use separate sheet of paper for each station submitted and place name and address on each sheet. In case of tie, duplicate awards will be made.

NOTE.—The third part of the schedule list appears below. The fourth part which consists of the remainder of the list will appear next week.

of the list will appear next week.

WCBG, Paducah, Miss. 268 meters. 10 watts. Howard S. Williams. Slogan, "Will Christ Be Glorified?"
Daily 7:30 pm, sermon. Sun, 3 pm, 7:15, service. Central. (Portable, moves often.)

WCBH, Oxford, Miss. 242 meters. 20 watts. U. of Mississippi. Announcer, W. L. Kennon.

WCBJ, Jennings, La. 244 meters, 10 watts. J. C. Mans.

WCBK, St. Petersburg, Fia. 266 meters. 500 watts. E. Richard Huli. Mon, Thurs, 7-8 pm. Tues, 8-8:15 pm. Sun, 8-10 pm. Eastern.

WCBL, Houlton, Me. 280 meters. 100 watts. Northern Radio Mfg. Co. Announcer, Lee J. Bell. Slogan, "Call of the North." Wed, 7:30-10 pm. Sun, 10:30 am, 7 pm. Eastern.

WCBM, Baltimore, Md. 229 meters. 250 watts. Charles Schwarz. Announcer, C. L. Brunner. Tues, Thurs, 10 pm-1 am. Sat, 9:30-12 mid. Sun, 8:30-10:30 pm. Eastern.

10. pm-1 am. Sat, 9:30-12 mid. Sun, 8:30-10:30 pm. Eastern.

WCBO, Memphis, Tenn, 250 meters. 20 watts. The Radio Shop, Inc. Wed, Sun, 8:30 pm. Central.

WCBQ, Nashville, Tenn. 236 meters. 100 watts. First Baptist church. Announcer, R. G. Monahan.

WCBR, Boston, Mass. 246 meters. 5 watts. Charles H. Messter. (Portable.)

WCBT, Worcester, Mass. 238 meters. 250 watts. Clark University, Collegiate Dept.

WCBU, Arnold, Pa. 254 meters. 50 watts. Arnold Wireless Supply Co. Announcer, F. J. Ambrose. Slogan, "The Little 50 Watt Station in a 50 Kilowatt town," Daily ex Sun, 5:30-6:15 pm, music. Wed, 7:30-8:30 pm. Sat, 12 midnight, test program. Sun, 9-10 pm. Eastern.

WCBV, Tullahoma, Tenn. 252 meters. 10 watts. Tullahoma Radio Club. Tburs, educational program. Sun, religious.

WCBW, Macon, Ga. 226 meters. 20 watts. Maitland Soloman and G. P. Rankin, Jr. Irregular schedule. WCBX, Newark, N. J. 233 meters. 100 watts. The Radio Shop. Tues, Wed, Fri, 6-6:30 pm; 7:30-10:30.

Eastern.

WCBY, Buck Hill Falls, Pa. 268 meters. 10 watts.
Forks Electric Shop. Announcer, Hugh Kemper.

WCBZ, Chicago Heights, Ill. 248 meters. 50 watts.
Coopotelli Brothers Music House. Announcer, John King. Slogan, "Where the Lincoln and Dixle Highways Meet." Mon, Fri, 8:30-10:30 pm, program. Central

ways Meet." Mon, Fri, 8:30-10:30 pm, program. Central.

WCCO, Minneapolis-St. Paul, Minn. 417 meters. 500 watts. Washburn Crosley Co. Daily ex Sun, 9:30 am, 9:40, reports, weather; 10:30, markets; 10:45, home service; 11:30, markets; 1:30 pm, markets, weather; 2, woman's hour; 2:30, music; 4, magazine; 4:30, markets; 5:30, children's hour; 6, sport hour; 6:30, dinner concert. Wed, 9 pm, concert. Wed, Thurs, Fri, 7:30 pm, lecture hour. Thurs, Fri, Sat, Sun, Mon, 8 pm, talks, music. Thurs, Sat, 10 pm, dance music. Fri, 11 pm, dance. Sat, 8:30 pm, music. Mon, 8:15 pm, organ. Central.

WCK, St. Louis, Mo. 360 meters. 100 watts. Stix, Baer & Fuller Dry Goods Co. Daily, 12-12:30 pm, 3-3:30. Mon, Wed, Fri, 7-8 pm. Tues. 8-9 pm. Sun, 9-11 pm. Wed, 11:30-1 am. Central.

WCX, Detroit, Micb. 517 meters. 500 watts. The Detroit Free Press. Announcer, C. D. Tomy. Ciub, 'Red Appie Club." Daily ex Sun, 2 pm, news; 2:15, stock reports; 2:50. weather, markets; 4:15, 6, music.

Red Apple Club." Daily ex Sun, 2 pm, news; 2:15, stock reports; 2:50, weather, markets; 4:15, 6, music. Daily ex Sat, Sun, 8:30-10 pm, alternate weeks, concert. Tues, 10-12 pm, club. Sun, 10:30 am, 7:15 pm, church services. Eastern.

WDAE, Tampa, Fla. 360 meters. 250 watts. Tampa Daily Times. Announcer, McDonald Thompson. Daily, 12:30 pm, 5, 7:30. Thurs, 8-10 pm. Central.

WDAF, Kansas City, Mo. 411 meters. 500 watts. Kansas City Star. Announcer, Leo Figuretrials.

WDAF, Kansas City, Mo. 411 meters. 500 watts. Kansas City Star. Announcer, Leo Fitzpatrick. Club, "Nighthawks." Dally ex Sun, 3:30-4:30 pm, music; 5:50, markets, weather; 6-7, educational, bedtime story, music; 11:45, Nighthawks. Mon, Wed, Fri, 8-9:30 pm, concert. Sun, 4-5 pm, music. Central. WDAG, Amarillo, Tex. 263 meters. 100 watts. J Laurence Martin. Tucs. Thurs, 8-9:30 pm, music. Central. WDAH, El Paso, Tex. 268 meters. 50 watts. Trinity Methodist Church South. Mon, Wed, Thurs, Fri, 7:30 pm, concert. Sun, 11 am. Mountain. WDAR, Philadelphia, Pa. 395 meters. 500 watts. Lit Bros. Announcer, Harry E. Ehrhart. Club, "Monning Glory." Daily ex Sun, 11:45-12:55 pm, music; 2-3 pm, 4:30-6, music, talks; 7:30-8 pm, Dream Daddy. Mon, Wed, 8-10 pm, entertainment. Fri, 8-10:50, entertainment; 1 am, Club. Eastern. WDAU, New Bedford, Mass. 360 meters. 100 watts. Slocum & Kilburn.

WDAU, New Bedford, Mass. 360 meters. 100 watts. Slocum & Kilburn.
WDAY, Fargo, N. D. 244 meters. 50 watts. Radio Equip. Corp. "Slogan, "The Biggest Little City In the World." Daily ex Sun, 10 am, 11-12:30 pm, markets, news; 2, markets; 5, music, news. Tues, Thurs, Sat, 7:30 pm, entertainment. Sun, 10:30 am, church service; 5 pm, concert. Central.
WDBB, Taunton, Mass. 229 meters. 10 watts. A. H. Waite & Co.

Waite & Co.
WDBC, Lancaster, Pa. 258 meters. 50 watts. Kirk
Johnson & Co., Inc. Mon, Tues, Thurs, 8 pm.

Eastern. WDBD, Martinsburg, W. Va. 268 meters. 5 watts. H. E. Burns. Announcer, R. W. Etris. Tues, Thurs, Sat. 9-10:30 pm, talks, music, dance orchestra. Eastern. WDBF, Youngstown, Ohio, 246 meters. 50 watts. Rob-

G. Phillips. H, Worcester, Mass. 268 meters. ert G. Philips.

WDBH, Worcester, Mass. 268 meters. 100 watts.

C. T. Sherer Co. Announcer, Chester Gaylord. Slogan,

"The Voice from the Heart of the Commonwealth."

Daily ex Sun, 11:30-12:30 pm. music, reports; 4-4:30,
music, stocks. Mon, Wed, Fri. 8 pm. music. Eastern.

WDBI, St. Petersburg, Fia. 226-300 meters. 10 watts.

Itadio Specialty Co., Inc. Announcer, M. H. Bewik.

Hadio Specialty Co., Inc. Announcer, M. H. Bewik, Irregular programs.

WDBJ, Roanoke, Va. 229 meters. 50 watts, Richardson Wayland Eiec. Corp. Announcer, Charles E. Stone. Slogan, "The Magle City of the Old Dominion." Daily ex Sun, 12-1 pm, music; 5:30-6:45, music, news, weather. Wed, Sat, 9 pm, concert. Eastern.

WDBN, Bangor, Me. 254 meters. 10 watts, Maine Electric Light & Power Co. Announcer, Paul Watson.

"Bangor Radio Club." Daily 3-5 pm, 8-10. Eastern.
WDBO, Winter Park, Fla. 240 meters. 50 watts. Roilins College, Inc.
WDBP, Superior, Wis. 261 meters. 50 watts. Superior State Normai School.
WDBQ, Salem, N. J. 234 meters. 100 watts. Storage Battery Morton Radio Supply Co. Mon, 7:30-9 pm. Thurs, 8:15-8:45 pm, organ. Sun, 7:30 pm, church services. Eastern.

Thurs, 8:15-8:45 pm, organ. Sun, 7:30 pm, church services. Eastern.

WDBR, Boston, Mass. 256 meters. 100 watts. Tremont Temple Baptist Church. Announcer, Raymond B. Meader. Fri, 7:30-8:30 pm. Sun, 10:30 am; 6:45 pm, church services. Eastern.

WDBS, Dayton, Ohio. 283 meters. 150 watts. S. M. K. Radio Corp. Announcer, Robert Eweil. Slogan, "Watch Dayton's Broadcasting Station." Tues, Thurs, Sat, 8-10 pm. Sat, 11:45-12:30 am, dance music. Central. WDBT, Hattlesburg, Miss. 236 meters. 10 watts. Taylor's Book Store. Announcer, W. P. Sprague. Slogan, "Hattlesburg, the Hub of South Mississippi." WDBW, Columbia, Tenn. 268 meters. 20 watts. The Radio Den. Announcer, F. O. Draughon. Slogan, "Tbe Dimple of the Universe." Daily ex Sun, 1 pm, markets. Tues, Thurs, Sat, 8-9 pm, music. Central.

pm, markets. Tues, Inuis, Sav, Central.

WDBX, New York, N. Y. 233 meters. 5 watts. The Dyckman Radio Shop. Mon, Thurs, Sat, evening program. Announcer, Gene Delmar.

WDBY Chicago, Ill. 258 meters. 500 watts. North Shore Congregational church. Wed, 8-9:30 pm. Sun, 11-12:30 pm; 3:30-5, 7:45-9:30. Central.

WDBZ, Kingston, N. Y. 233 meters. 5 watts. Boy Scouts

WDBY Chicago, Ill. 258 meters. 500 watts. North Shore Congregational church. Wed, 8-9:30 pm. Sun, 11-12:30 pm; 3:30-5, 7:45-9:30. Central.
WDBZ, Kingston, N. Y. 233 meters. 5 watts. Boy Scotts of America.
WDM, Washington, D. C. 234 meters. 50 watts. Church of the Covenant. Sun, 11 am, church service; 8 pm, church service. Eastern.
WDZ, Tuscola, Ill. 218 meters. 100 watts. James L. Bush. Daily ex Sun, 9:30 am, 10, 10:30, 11, 11:30, 12 m, 12:30 pm, 1, 1:15, Chicago Board of Trade quotations. Central.
WEAA, Flint, Mich. 280 meters. 100 watts. Frank D. Fallain. Slogan, "The Vehicle City." Daily ex Sun, 7:15 pm, police broadcasts, music. Eastern.
WEAF, New York City, N. Y. 492 meters. 1000 watts. A. T. & T. Co. Slogan, "The Voice to the Millions." Daily ex Sun, 4-5 pm. Mon, Tues, Wed, Thurs, Frl, 11-12 m. Wed, Frl, 6-10 pm. Thurs, Sat, 6-12 pm. Sun, 2-5:30 pm; 7:20-10:15. Eastern. WEAH, Wichita, Kan, 280 meters. 50 watts. Wichita Board of Trade. Daily ex Sun, 10 am, 11, 12, 1, 2 pm, markets. Tues, Frl, 8-10 pm, music. Central. WEAI, Ithaca, N. Y. 286 meters. 500 watts. Cornell Univ. Irregular.
WEAI, Vermillon, S. D. 283 meters. 200 watts. Univ. of S. D. Announcer, C. S. Barrett. Wed, 8-8:30 pm, music. Athletics. Central. WEAM, North Pisinfield. N. J. 286 meters. 150 watts. Borough of N. Plainfield. Announcer, G. Buttfield. Mon, 8-10:30 pm, concert, talks. Eastern. WEAN, Providence, R. I. 273 meters. 100 watts. Shepard Co. Announcer, R. Foster Reynolds. Daily ex Sun, 12-1 pm, 4-5, music, reports, weather, concert. Wed, 10:45 pm, organ. Mon, Tues, Wed, Fri, 8-10 pm, pm, concert, calks. Eastern. WEAN, Providence, R. I. 273 meters. 100 watts. Shepard Co. Announcer, Kenset, Eastern. WEAN, Providence, R. I. 273 meters. 100 watts. Shepard Co. Announcer, George L. Barnett. Daily ex Sun, 12-1 pm, 4-5, music, reports, weather, concert. Wed, 10:45 pm, organ. Mon, Tues, Wed, Fri, 8-10, concert. Sat, 9-11 pm, dance music. Sun, 0:45-11:30 am, 7:30-8:45 pm, fusic, proports, weather, Mon, 19:45-11:30 am, 7:30-8:45 pm, fusic, pm, 19

Eastern.
WEBC, Superior, Wis. 242 meters. 10 watts. Walter Cecil Bridges.
WEBD, Anderson, Indiana. 246 meters. 10 watts. Elec. Equip. & Service Co. Announcer, F. R. Fulwider.

Equip. & Service Co. Announcer, F. R. Fulwider.
WEBE, Cambridge, Ohio. 248 meters. Roy W. Waller.
Fri, 7:30-9 pm, markets, music. Eastern.
WEBH, Chicago, Iil. 370 meters. 1000 watts. Announcer, Robert Boniel. Edgewater Beach Hotel Co. Chicago Evening Post. Daily ex Sun, Mon, 7-8 pm; 9-10, 11-12. Sun, 7-9 pm. Central.
WEBI, Salisbury, Md. 242 meters. 15 watts. Walter H. Gibbons.

Gibbons.

WEBJ, New York, N. Y. 273 meters. 500 watts. Third Avenue Railway company. Announcer, H. A. Bruno. Tues, Fri, 7-9 pm. Eastern.

WEBK, Grand Rapids, Mich. 261 meters. 20 watts. Grand Rapids Radio Co.

WEBL, (Portable Station). 226 meters. 100 watts. Radio Corp. of Amer.

WEBD, Hamilton Obio. 250 meters. 5 watts. Radlo

WEBO, Hamilton, Ohio. 250 meters. 5 watts. Radlo Co. Announcer, Harry W. Fahrlander. Fri, 7-8 pm. Sun, 2-4 pm. Central.

Sun, 2-4 pm. Central.

WEBP, New Orleans, La. 280 meters. 50 watts. E.

Budd Peddicord. New Orleans Public Service, Inc.

WEBQ, Harrisburg, Ill. 226 meters. 10 watts. Tate

WEBR, Buffalo, N. Y. 240 meters. 15 watts. H. H. Howell.

WEBT, Dayton, Ohio. 270 meters. 5 watts. The Dayton Coop. Industrial School.

WEBU, Deland, Fla. 258 meters. 5 watts. Deland Piano & Music Co.

WEBW, Beloit, Wis. 283 meters. 500 watts. Beloit

College.

WEEI, Boston, Mass. 303 meters. 500 watts. Edison Elec. Illuminating Co. Announcer, C. R. Emery. Daily ex Sat, Sun, 7-12 mldnight. Sun, 4 pm, organ; 7:20, from New York. Tues, Thurs, Fri, 9 pm, program from WEAF. Eastern.

WEV, Houston, Tex, 263 meters. 100 watts. Hurlburt-

Still Elec. Co. WEW, St. Louis, Mo. 280 meters. 100 watts.

Still Elec. Co.

WEW, St. Louis, Mo. 280 meters. 100 watts. St.
Louis Univ. Announcer, G. E. Rueppel. Dally ex
Sun, 9 am, 10, 2, 5 pm, reports. Sun, Tues, Thurs,
7 pm, lectures, muslc. Central.

WFAA, Dallas, Tex. 476 meters. 500 watts. Dallas News and Dallas Journal. Slogan, "Working for
Ait Alike." Dally, 10:30 am, reports; 12:30-1 pm,
address; 2:30-3:30, reports, news; 5:30, bedtime
story; 6:45-7, sports, news; 8:30-9:30, concert, weather
(silent Wed). Tues, Thurs, Sat, 11-12 pm, muslc.
Sun. 6-7 pm, Bibie class; 9-11 pm, muslc. Central.

WFAB, Syracuse, N. Y. 234 meters. 100 watts. C. F.
Wocse. Announcer, William F. Boone.

WFAM, St. Cloud, Minn. 273 meters. 10 watts. St.
Cloud Dally Times. Announcer, Otto A. Rupp. Daily
cx Sun, 4:35 pm, markets. Central.

WFAN, Hutchinson, Minn. 286 meters. 100 watts.
Hutchinson Elec. Service Co. Announcer, E. R. Dennis.
Slogan, "Gateway to the Ten Thousand Lakes of Minn.,
Located in the Heart of the Great Butter Belt." Dally

Siogan, "Gateway to the Ten Thousand Lakes of Minn., Located in the Heart of the Great Butter Belt." Daily

Located in the Heart of the Great Butter Bett. Daily 11:55 am-12:30 pm, program, news, tlme, weather. Tues, 8-10 pm, program. Special hours. Central. WFAV, Lincoln, Neb. 275 meters. 500 watts. Univ. of Nebr. Announcer, R. A. Cushman. Slogan, "The Home of the Cornhuskers." Daily ex Sun, 10 am, 12:40 pm, weather, news, road reports. Central. WFBB, Eureka, Ill. 240 meters. 50 watts. Eureka Sun, Central. Eureka

colloge.

WFBG, Altoona, Pa. 261 moters. 100 watts. The Wm.
F. Gable Co. Announcer, Roy F. Thompson. Slogan,
"The Original Gateway to the West." Daily ex Sun,

12-1 pm, music; 1-1:15, organ; 4:30, markets; 4:30-5, organ; 6-7, dinner concert; 7-7:30, lecture; 7:45-8, orchestra; 8:15-8:30, orchestra; 8:30-10:45, concert. Tues, Sat, 11:45-1 am. Fri, 4 pm, children's concert. Sun, 10:30 am, 4 pm, 7:30, services; 10, music.

Eastern.

WFBH, New York, N. Y. 273 meters. 500 watts. Con WFBH, New York, N. Y. 273 meters. 500 watts. Concourse Radio Corp. Daily ex Sun, 11-12 m., music, entertainment; 12 m., orchestra; 2-6 pm, orchestra. entertainment. Wed, Thurs, Sat, 7 pm. Thurs, Sat, 11:30 pm. Sat, 10 am, children's hour. Sun, 9 am, church service; 5-7:30 pm, entertainment. Eastern. WFBI, Camden, N. J. 236 mctcrs. 100 watts. Galvin Radio Supply Co.
WFBJ, Collegeville, Minn. 236 meters. 50 watts. St. John's university.

WFBJ, Collegeville, Minn. 236 meters. 50 watts. St. John's university.
WFI, Philadelpbia, Pa. 395 meters. 500 watts. Strawbridge & Clothier. Announcer, John Vandersloot. Daily ex Sun, 10:15 am, reports; /1 pm, orchestra; 1:50, reports; 3-4:30, concert; 6:30-7, orchestra; 7:30 pm, children's hour. Tues, 8, concert. Thurs, 8 pm. Boy Scouts meeting; 8:30, concert. Sat, 8 pm. concert. Sun, 4:30 pm, chapel. Eastern.
WGAL, Lancaster, Pa. 248 meters. 10 watts. Lancaster Elec. Supply & Construction Co. Slogan, "World's Gardens at Lancaster." Mon, Wed, Fri, 7:30-9 pm, concert, iecture. Mon, Fri, 5:45-6:30 pm, dinner concert, organ. Wed, 11-1 am, frolic, organ. Eastern.
WGAN, Pensacola, Fia. 360 meters. 50 watts. Cecil

WGAN, Pensacola, Fia. 360 meters. 50 watts. Cecil E. Lloyd. 1rregular schedule.
WGAQ, Shreveport, La. 263 meters. 300 watts. W. G. Patterson. Mon, 9-12 midnight, dance music. Wed,

Sat. 8-9 pm, music; 10-12, dance. Central.

WGAW, Aitoona, Pa. 261 meters. 100 watts. Ernest C.

Albright. Siogan, "The Home of the World's Largest
Railroad Shops." Wed, 9 pm. Sun, 10:45 am; 7:30

WGAW, Altoona, Pa. 261 meters. 100 watts. Etnest C. Albright. Slogan, "The Home of the World's Largest Railroad Shops." Wed, 9 pm. Sun, 10:45 am; 7:30 pm. Eastern.

WGAZ, South Bend, Ind. 275 meters. 250 watts. South Bend Tribune. Announcer, Rudolph H. Hoist. Mon, Wed, Fri, 7-9 pm, concert. Central.

WGBS, New York, N. Y. 316 meters. 500 watts. Gimbel Brothers.

WGI, Medford Hillside, Mass. 360 meters. 500 watts. Am. Radlo & Research Corp. Slogan, "Amrad, the Voice of the Air." Daily ex Sun, 7:30-10 pm. Daily ex Sat, Sun, 12 m-1 pm, concert. Daily ex Sun, Mon, 6:30-7 pm, stocks; 7, Big Brother Club. Sun, 4-5 pm. 8:30-10. Eastern.

WGL, Philadelphia, Pa. 360 meters, 500 watts. Thos. F. J. Howlett. Irregular schedule.

WGN, Chicago, Ill. 370 meters. 10:00 watts. Chicago Tribune. Announcer, Sen Kaney. Daily ex Sun, 9:35 am, 10:01, 10:31, 11:01, 11:31, 12:01, 12:31 pm, 1:01, 1:25, Chicago Board of Trade; 1:40, luncheon concert; 3:15. Chicago Stock exchange; 6, markets, baseball; 6:30, dinner concert. Daily ex Sun, Mon, 8:30, program; 10:30, pews, weather, orchestra music. Sun, 5-6 pm, organ; 9:15-10, music. Central.

WGR, Buffalo, N. Y. 319 meters. 750 watts. Federal Telephone Mfg. Corp. Announcer, Otto Becker. Slogan, "Key City of Industry." Daily, 10:45 am, weather; 12 m, reports; 12:30, organ music. Daily ex Sat, Sun, 12:30 pm, 2:30. Daily ex Sun, 6:30, music; 7:30, news; Mon, Wed, Fri, 9-11 pm, concert; 11-1 am, orchestra. Sun, 3 pm, yesper services; 7:15, organ; 7:30, church service. Eastern.

WGY, Schenectady, N. Y. 380 meters. 1000 watts. General Elec. Co. Announcer, Kolin Hager. Daily ex Sun, 11:55 am, time; 12:30 pm, stock markets; 12:50, weather. Daily ex Sat, Sun, 12:40 pm, fruit, vegetable reports; 6, stocks; 6:10, markets; 6:15, sports, news. Mon. Tues, Thurs, Fri, 2 pm, woman's hour; 7:45 pm. Mon, 6:20 pm, sports. Tues, Thurs, 6:30-7 pm, dinner program; 11:20, organ. Wed, 6:30 pm, stories. Fri, 6:30 pm, children's stories; 7, Sunday School lesson; 10:30, late program. 2nd and last Monday, 7:15 pm, agr

of Wis. Mon, Wed, FTI, 1320 pm, master, Central.

WHAA, Iowa City, Ia. 484 meters. 500 watts. Univ. of Iowa. Announcer, Dean W. G. Raymond. Tues 8-9:30 pm. Sun, 9-9:30 pm; 4, pm, once each month. Wed, 9:15-9:45 am. Mon, Tues, Wed, Thurs, Fri, 12:30-1 pm. Occasionally Thurs, 7-9:30 pm; Sat, 7:30-9 pm. Central.

12:30-1 pm. Occasionally Thurs, 7-9:30 pm; Sat, 7:30-9 pm. Central.

WHAD, Milwaukee, Wis. 280 meters. 100 watts. Marquette Univ. Daily 11 am, weather. Wed, 9 pm, health, reports. Central.

WHAG, Cincinnati, O. 222 meters. 100 watts. Univ. of Cincinnati. Dept. of Elec. Eng. Announcer, W. C. Osterbrock. No definite schedule.

WHAK, Clarksburg, W. Va. 258 meters. 15 watts. Roberts Hdwe. Co. Discontinued temporarily.

WHAM, Rochester, N. Y. 283 meters. 100 watts. Univ. of Rochester. Rochester Times-Union, Democrat and Chronicle. Daily ex Sun, 3:30-4 pm, 5-6, 6:55, 7-7:30. Sat, 10:45 pm-12:30 am, dance music. Sun, 3:15, Radio Chapel. Eastern.

WHAR, Atlantic City, N. J. 275 meters. 200 watts.

WHAR. Atlantic City, N. J. 275 meters. 200 watts. Seaside House. Announcer, E. Dennisen. Daily, 2-3 pm. music; 7:30-8, news, markets; 8-9, music. Eastern. WHAS, Louisville, Ky. 400 meters. 500 watts. Courier-Journal and Louisville Times Co. Announcer, Credo Harris. Daily ex Sun, 4-5 pm, 7:30-9. Sun, 9:57-10-45 cm, 4-5 pm, church service. Mon night silent. 10:45 am, 4-5 pm, church service. Mon night, silent.

Central.

WHAV, Wilmington, Del. 360 meters. 100 watts. Wilmington Elec. Spec. Co. Slogan, "The First Broadcasting Station of the First City of the First State."

Wed, Sun, 9 pm. Eastern. WHAZ, Troy, N. Y. 380 meters, 500 watts. Rensselaer Polytechnic Inst. Announcer, Rutherford Hayner. Slogan, "Transcontinental and International Broadasting Station Located at the Oldest College of Engineering."

Station Located at the Oldest College of Engineering."
Club, R. P. I. students. Mon, 9-11 pm, concert, educational talks, features. Second Monday of month, 12-1:30 am, test program. Special Monday of month 12-1:30 am, test program. Eastern.

WHB, Kansas City, Mo. 411 meters. 500 watts. Sweeney Auto & Electric School. Announcer, John T. Schilling. Slogan, "Heart of America." Daily ex Sun, 8:25 am, 9:25, 10:25, 11:20, 12:15, 12:20, 12:35, 1:25, markets, weather stocks. Daily ex Sat, Sun, 3-3:05, pm, weather; 3:05-3:20, grain. Mon, Wed, Fri, 7-8 pm. Sun, Tues, Thurs, 8-9:30 pm. Tues, Thurs, 10:30-11:30. Central.

WHK, Cleveland, O. 283 meters. 150 watts. Radiovox Company, Winton Hotel. Announcer, Ralph M. Rolan. Daily ex Sun, 12:30-1:30 pm, luncheon concert; 6-7:30, concert, news, sport review. Thurs, 7-12 midnight,

Daily ex Sun, 12:30-1:30 pm, luncheon concert; 6-7:30, concert, news, sport review. Thurs, 7-12 midnight, Cleveland Press program. Fri, 8-12, concert. Sat, 8-12 midnight, Rainbow club. Sun, 8-9 pm, chapel; 9-10, music; 10-12, concert. Eastern.

WHN, New York, N. Y. 360 meters. 500 watts. Loew's Stato Broadcasting Station. Announcer, N. T. Grandlund. Slogan, "The Voice of the Great White Way." Daily ex Sun, 9:30-11 am, 12-1 pm, 2:15-3:15, 3:45-5:30. 6-7:30. Mon. Wed. Sat. 7:30-12 Thes Thurs

Daily ex Sun, 9:30-11 am, 12-1 pm, 2:15-3:15, 3:45-5:30, 6-7:30. Mon, Wed, Sat, 7:30-12. Tues, Thurs, Frl, 9:30-12. Sun, 3-6 pm, 9:30-12. Eastern.

WHO, Des Moines, Ia. 526 meters. 500 watts. Bankers Life Co. Announcer, N. Dean Cole. Daily ex Sun, 9:45-10:15 am, 12 m, 2 pm, markets, weather. Mon, Wed, Frl, Sun, 7:30-9 pm, concert. Mon, 11:15-12 midnight, organ. Central.

WIAB, Rockford, Ill. 252 meters. 50 watts. Art Johnson's garage.

WIAC, Galveston, Tex. 360 meters. 100 watts. Galveston Tribune.

WIAD, Philadelphia, Pa. 254 meters 100 watts. Howard R. Miller. Tucs, 9 pm. Eastern.

WIAK, Omaha, Neb. 278 meters. 250 watts. Daily Journal-Stockman. Announcer, Wm. Kotera. Daily ex Sun, 7:45 am, 9:10, 10:20, 12 m, 1:30 pm, 3:50,

Journal-Stockman. Announcer, Wm. Rotera. Daily ex Sun. 7:45 am, 9:10, 10:20, 12 m, 1:30 pm, 3:50, markets, weather. Central.

WIAS, Burlington, Ia. 283 meters. 100 watts. Home Elec. Co. Announcer, Harry H. Waugh. Slogan, "Burlington, on the Misslssippi." Tues, 8-9 pm, concert. Thurs, 7-8 pm, concert. Sat, 10:30-11 pm, organ. Sun, 10:30 am, church services. Central.

WIK, McKeesport, Pa. 234 meters. 100 watts. K & L Electic Co.

Electric Co.

WIL, Washington, D. C. 360 meters. 5 watts. Continental Elec. Supply Co. Discontinued temporarily.

WIP, Philadelphia, Pa. 509 meters. 500 watts. Glmbel Bros. Announcer, E. A. Davles. Slogan, "Watch

Its Progress." Daily ex Sun, 1-2 pm, 3-4:30, 6-6:45, music; 6:45, markets, 7-7:30 pm, bedtime stories. Tues, Thurs, Sat, 8-12 pm, concert. Sun, 11 am, 1:30 pm, 4:30-6:30, 9:30-12 mid, church services, concert. Eastern.

pm, 4:30-6:30, 9:30-12 mid, church services, concert. Eastern.

WJAB, Lincoln, Nebr. 229 meters. 100 watts. American Elec. Co. Announcer, W. L. Edmondson. Daily 3 pm. Mon, Wed, Fri, 7:30 pm, music. Fri, 10:30 pm. Central.

WJAD, Waco, Tex. 360 meters 150 watts. Jackson's Radio Engineering Lab. Daily ex Sun, 4-4:30 pm, news. music. Mon, Fri, 8-9, concert. Sun, 11-12 am, church service. Sun, 7:30-8:30 pm. Central.

WJAG, Norfolk, Nebr. 283 meters. 250 watts. Norfolk Daily News. Announcer, Karl Stefan. Slogan, "The World's Greatest Country Daily, and Home of Printer's Dev'i." Daily ex Sun, 12:15 pm, reports; 5. Sun, 3:30-6 pm, music. Central.

WJAM, Cedar Rapids, Ia. 268 meters. 20 watts. D. M. Perham. Daily ex Sun, 9 am, 10:30, 12:30 pm, markets, reports. .Tues, Thurs, Sat, 6-6:30 pm, children's hour; 7:30-8:30, music; 9-12. Sun, 2:45 pm, music. Central.

WJAN, Peoria, 1il. 280 meters. 100 watts. Peoria Star. Slogan, "The Grandview City of Illinois." Discontinued temporarily.

WJAO, Topeka, Kan. 360 meters. 100 watts. Capper

WJAN, Peoria, 1il. 280 meters. 100 watts. Peoria Star. Slogan, "The Grandview City of Illinois." Discontinued temporarily.

WJAQ, Topeka, Kan. 360 meters. 100 watts. Capper Publications. Off the air temporarily.

WJAR, Providence, R. I. 360 meters. 500 watts. The Outlet Co. Announcer, J. A. Reilly. Slogan, "The Southern Gateway of New England." Daily ex Sun, 1:05-2:15 pm, weather, reports, music; 7, weather. Mon, Wed, Fri, 10 am, household hints; 10:45, style talk. Mon, Tues, 8 pm, music, talks. Tues, 7:30 pm, basebail; 7:35, music. Wed, Fri, 7:30 pm, New York studio. Fri, 10:45 pm, orchestra. Sat, 7:05 pm, baseball; 7:10, music. Sun, 7:20-9:15 pm, Capitoi theater, N. Y.; 9:15-10:15, Skinner organ, N. Y.

Eastern.

WJAS, Pittsburgh, Pa. 286 meters. 500 watts. Pittsburgh Radio Supply House. Pickering's Studio. Announcer, Johnny Mack. Slogan, "World's Jolliest Aerlai Station." Daily ex Sun, 7:30-11, concert.

nouncer, Johnny Mack. Slogan, "World's Joiliest Aerial Station." Daily ex Sun, 7:30-11, concert. Enstern.

WJAX, Cleveland, O. 390 meters. 500 watts. Union Trust Co. Announcer, E. G. Johnson. Slogan. "The Wave from Lake Erie." Daily ex Sat pm and Sun, 9:30-10:10 am, women's program; 10:10-10:45, 2:05-2:45 pm, 3:05-3:45. financial reports, news. Tues, 7:30-10 pm; Thurs, 8-10:30 pm, entertainment. First Sat of the montb, 12-3:30 am, "Night Caps." Eastern. WJAZ, Chicago, III. 268 meters. 20 watts. Chicago Radio Laboratory.

WJD, Granville, O. 229 meters. 10 watts. Denison Univ. Announcer, Richard H. Howe. Fri, Sat, 5-6 pm, music, educational lectures. Athletics. Eastern. WJJD, Mooseheart, Ill. 278 meters. 500 watts. Mooseheart Radio Station. Announcer, Jack Nelson. Dally ex Sun, 3-4 pm, 7-8, 9-9:30. Central.

WJY, New York City. 405 meters. 500 watts. R. C. A. Announcer, Milton J. Cross. Tues, Thurs, Fri, 7:30-11:30 pm, concert. Sun. 8:15-10:30 pm. Eastern.

WJZ, New York, N. Y. 455 meters. 500 watts. R. C. A. Announcer, Milton J. Cross. Daily ex Sun, 10-11 am, 1-2 pm, 4-6, entertainment; 7-11:30 pm. special program. Sun, 11 am-1 pm, cburch services; 2:30-5 pm, 7-10:30 pm. Eastern.

WKAA. Cedar Rapids, Ia. 278 meters. 50 watts. H. F. Paar, Announcer. Mon, Wed, Fri, 5-5:30 pm, 9-12, Sun, 10:30 am, 4:30, 7:30, church services. Central. WKAP. East Providence, R. I. 240 meters. 20 watts. Charles Looff.

WKAF, Wichita Falls, Tex. 360 meters, 100 watts.

WKAD. East Providence, R. I. 240 meters. 20 watts. Charles Looff.

WKAF, Wichita Falls, Tex. 360 meters. 100 watts. W. S. Radio Supply Co.

WKAN, Montgomery, Ala, 226 meters. 15 watts. United Battery Service Co. Wed, Fri, 8:30-9:30 pm, music, news. Sun, programs. Central.

WKAQ, San Juan, Porto Rico. 360 meters. 500 watts. Radio Corp. of Porto Rico. Announcer, Joaquim Agusty. Slogan, "The Island of Enchantment, Where the World's Best Coffee Grows." Tues, 9-10:30 pm, orchestra, music. Wcd, 8-9:30 pm, band; Thurs, 8:30-10 pm, music. Intercolonial.

WKAR, East Lansing, Mich. 280 meters. 500 watts. Mich. Agri. College.

WKAV, Laconia, N. H. 254 meters, 50 watts. Laconia Radio Club.

WKAV, Laconia, N. H. 254 meters, 50 watts. Laconia Radio Club.

WKBF, Providence, R. I. 286 meters. 500 watts. Dutee W. Flint, Inc. Announcer, George Spink. Slogan, "Quality First." Tues, 9-10:30 pm. Thurs, 8:30 pm, talks. Sun, 10 am, 5 pm. Eastern.

WKY, Oklahoma City, Okla. 360 meters. 100 watts. WKY Radio Shop. Mon, 9-10:30 pm. Thurs, 9:30-11 pm, concert. Daily ex Sun, 7-7:30, sports. Sun, 11 am, 7 pm, church service. Central.

WLAH, Syracuse, N. Y. 234 meters. 100 watts. Samuel Woodworth. No regular schedule.

WLAH, Tulsa, Okla. 360 meters. 100 watts. Naylor Elec. Co. Temporarily discontinued.

WLAP, Louisville, Ky. 286 meters. 20 watts. W. V.

WLAL, Tulsa, Okla. 360 meters. 100 watts. Naylor Elec. Co. Temporarily discontinued.

WLAP, Louisville, Ky. 286 meters. 20 watts. W. V. Jordon. Tues, Fri, 9:20-10 pm. Central.

WLAX, Greencastle, Ind. 231 meters. 10 watts. Greencastle Community Broadcasting Station. Announcer, C. W. Otis. Tues, Thurs, 8 pm. Sun, 7:45 pm, church services. Central.

WLBL, Stevens Point, Wis. 278 meters. 500 watts. Wisconsin Dept. of Markets. Slogan, "Wisconsin, Land of Beautiful Lakes." Daily ex Sun, 8:45 am, 9:45, 10:45, 11:45, 12:30 pm, 1:45, markets; 2, news. Wed, 8 pm, music. Central.

WLS, Chicago, Ili. 345 meters. 500 watts. Sears, Roebuck & Co. Announcer, George D. Hay. Daily ex Sun,

Wed. 8 pm, music. Central.

WLS, Chicago, Ili. 345 meters. 500 watts. Sears, Roebuck & Co. Announcer, George D. Hay. Daily ex Sun, 12-1 pm, farm program. Tues, Thurs, 6:30-1 am. Wed, Fri, 6:30-11 pm. Sat, 8-12 midnight, barn dance. Sun, 6:30-8 pm. Central.

WLW, Cincinnati. O. 423 meters. 500 watts. The Crosley Radio Corp. Announcer, Fred Smith. Daily ex Sun, 11 am, 1:30 pm; daily ex Sat, Sun, 3, 4, reports. Mon, Wed, 8-10 pm, entertaintment. Tues, Thurs, 10-12 pm, music. Sun, 9:30 am, S. S. services; 11, 7:45 pm, church services; 9, orchestra. Central.

WMAC, Cazenovia, N. Y. 261 meters. 100 watts. C. B. Meredith. No definite schedule.

WMAF, South Dartmouth, Mass. 363 meters. 500 watts. Round Hills Radio Corp. Slogan, "The Voice from 'Way Down East."

WMAH, Lincoln, Neb. 254 meters. 100 watts. General Supply Co. Club, "Lincoln Hoot Owls." Mon, Thurs, 8 pm. Sat. 12, midnite owi program, music. Central. WMAK, Lockport, N. Y. 273 meters. 500 watts. Lockport Board of Commerce.

WMAN, Columbus, O. 283 meters. 50 watts. First Baptist church. Announcer, Dr. D. F. Ritterhouse. Sun, 10:30-12 m, 7:30-9 pm, church services. Eastern. WMAQ, Chicago, Ill. 448 meters. 500 watts. The Chicago Daily News. Announcer, Røbert Whitney. Mon, Tues, Wed, Thurs, Fri, 4-7 pm. Daily ex Sun, 12-3 pm. Daily ex Sun, Mon, 8-10 pm. Central. WMAY, Auburn, Ala. 250 meters. 500 watts. Alabama Polytechnic Institute. Irregular schedule.

WMAY, St. Louis, Mo. 280 meters. 100 watts. Kingshighway Presbyterian church. Announcer, Owen W. Patt. Slogan, "May Every By-Way Hear Kingshighway Presbyterian church. Announcer, Owen W. Patt. Slogan, "May Every By-Way Hear Kingshighway Presbyterian church. Announcer, Owen W.

highway Presbyterian church. Announcer, Owen W. Patt. Slogan, "May Every By-Way Hear Kingshighway." Sun, 11 am, 8 pm. Contral.

WMAZ, Macon Ga. 261 meters. 100 watts. Mercer

university.
WMC, Memphis, Tenn. 500 meters. 500 watts. The Coumercial Appeal. Announcer, G. L. Dearing Slogan, "Station WMC, Memphis." "Down in Dixie." Club, "Midnlght Frolic," Daily ex Sun, 9:45 au, 12:30, "Station WMC, Memphis." "Down in Dixle." Club, "Midnlght Frolic." Daily ex Sun, 9:45 and, 12:30, weather, markets, music. 3, closing markets. Daily ex Sun, Wed, 8:30 pm, program. Tues. Frl, 11 pm, Midnight frolic. Sun, 11 am, church service. Central. WMH, Cincinnati, Ohio. 309 meters. 500 watts. Ainsworth-Gates Radio Co. Hotel Alms. Announcer, Arthur R. Ainsworth. Slogan, "The Station on the Hill." Mon, Wed, Thurs, 8-10 pm. Sat, 10-12 pm. Central.

Central.

WNAC, Boston, Mass. 278 meters. 100 watts. Shepard Stores. Announcer, John J. Fanning. Dally ex Sun, 12-2 pm, 3-4, 8-10. Mon. Wed, Fri, 6-7:30 pm. Sat, 6:30-7:30 pm. Sun, 11-12 m., church services: 3-4 pm, concert; 7:30-9:30, church and concert. Eastern. (Note—The fourth part of the directory will appear

noxt week.)



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