Wiring of Grand Prix Eight Tube Super-Het; Six Tube Fireside Drilling Layouts; Life Story of Bert Davis; Fiddlin' John Carson; WSM and WQJ Pictures

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

Vol. XV

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SATURDAY, NOVEMBER 7, 1925

GIVE 17-YEAR

RANT NEW TUBE PATENT

GIVE SHUBERT PLAY OVER RADIO AT LAST

'STUDENT PRINCE' IS FIRST OF THEIRS TO GO ON AIR

Other Productions of Same Firm May Be Heard if Box Office Gains Thereby

NEW YORK.—Messrs. J. J. and Lee Shubert will find a more welcome place in the hearts of thousands of Radio fans following the WJZ and WGY broadcast last Sunday evening of "The Student Prince," a Shubert production and New York's favorite operetta.

It is a history-making event that such prominent theatrical producers as the

It is a history-making event that such prominent theatrical producers as the Shuberts have now made available a Radio interpretation of one of their productions, thus giving a delightful stimulant to microphone programs. After being withheld from Radio for over a year, other Shubert productions may follow

(Continued on page 2)

Beautiful to look upon and beautiful to hear is Thora Martins, former artist at WHT, the Mid Continent Broadcasting chain, Chicago station. Here she is smiling, below, as her voice smiles over the mike.



twice a week, on Monday and Friday nights, during the children's hour from 7:30 to 8 o'clock, eastern time.

RADIO REPORTERS CHECK RECEIVING

Station WHT Maintains Staff of Expert Receptionists Scattered Over Country

CHICAGO .- A staff of Radio reporters, CHICAGO.—A staff of Radio reporters, or expert receptionists, located in every large city, is being organized by Station WHT through its engineering research départment, in charge of Chief Engineer Reeve O. Strock, for compilation of technical data to aid in correcting faulty transmission and to insure uniform faulty transmission and to insure uniform nant broadcasting range of the station.

Each WHT reporter forwards a weekly report to the research department.

GIVE NEW TUBE PATENT

(Continued from page 1)

United States patent office. This tube was invented by Dr. Irving Langmuir, assistant director of the General Electric research laboratory, in 1912, but because of contests the patent was not granted until now.



Irving Langmuir

The tube is characterized by its hard, constant vacuum, by its freedom from visible discharge and other gaseous effects when B voltages from 30 to 135 are applied, and by its steadiness and reliability in operation. It can be made in large sizes operating with 50,-000 volts and upwards, as well as in the smaller sizes such as are used in the ordinary home Radio receiving sets.

Prior to Dr. Langmuir's invention Radio and X-ray

tubes were of what is now known as the soft variety, that is they glowed and acted erratically and unreliably except when used on exceedingly low voltages. Dr. Langmuir's invention, by removing this severe voltage restriction, has made possible practical Radio.

Patent Long in Coming
The patent application has had an eventful career. Following his invention of the new tube in 1912, Dr. Langmuir spent months in thoroughly testing the spent months in thoroughly testing the invention. He filed his application in the patent office in Washington in 1913 and made the invention known to the world by papers read before scientific societies and by descriptions of the tube in scientific and popular publications. The new tubes were used for Radio work by the French army early in the war and were soon in regular use in Radio and X-ray work in this country.

The patent application, however, did not enjoy such immediate success. The patent office examiner passed the application for issue in 1916, but this action was revoked before the patent was issued in order to permit another person who

in order to permit another person who had in the meantime applied for a patent on this invention to contest Dr. muir's right to a patent in what is called an interference proceeding.

Patent Is Contested

Patent Is Contested
On the declaration of the interference
Dr. Langmuir's opponent attempted to
show that the invention was not patentable. On account of the unusual importance of the invention the patent office
departed from its usual practice and permitted elaborate testimony to be taken
on the question of patentability, including even testimony, taken in England,
on behalf of Langmuir's opponent of a
world-famous British scientist.

After the United States went into the
war the secretary of navy requested the
commissioner of patents to suspend proceedings because the full time of both
parties was required upon war work of
great importance to the government.

After the war testimony was resumed,

After the war testimony was resumed, and the merit of the invention was eventually sustained by the patent office, after an attack for which there are few precedents in vigor or in skill. There-upon the contest became one to deter-mine whether Dr. Langnuir or the later applicant was the first inventor, and more testimony had to be taken by both parties to establish their dates of invention. The examiner of interferences adjudged Dr. Langmuir the first inventor. On appeal to the Examiners-in-chief the decision was again in favor of Dr. Langmuir.
Goes Through Courts

On further appeal, the assistant com-nissioner held in favor of the later appli-cant. But on still further appeal to the cant. But on still further appeal to the court of appeals of the District of Columbia, the assistant commissioner was reversed and the court, agreeing with the examiner of intereferences and the examiners-in-chief, found that Dr. Langmuir was the prior inventor. The appeals, though diligently prosecuted, were not terminated until June, 1925.

Dr. Langmuir is a world-known scientist and inventor.

The application of Dr. Langmuir's vacuum tube invention to X-ray tubes was the invention of Dr. William D. Coolidge, another world-known scientist-inventor working in the research labora-tory of the General Electric company at Schenectady. The Coolidge X-ray tube, cmbodying the inventions of Dr. Langmuir and Dr. Coolidge, is now in operation in all hospitals and X-ray laboratories.

SHUBERTS GO ON AIR

(Continued from page 1)

the path in the other into millions of homes. The broadcasting of "The Student Prince" is regarded by the Shuberts as Radio's "trial run" and the results obtained, reflected in public opinion and box office effect, will determine how the wind blows for the morrow.

PATRIOTIC PROGRAM FOR ARMISTICE DAY

MANY STATIONS PLAN BIG **CEREMONIES FOR NOV. 11**

Ten Bands to Play Over WOR—Bugle Calls from WEAF—Play from WHT

ADIO really began as a world institution immediately after the guns on the Western front were silenced by the armistice of November 11, 1918. From the chaos of barbarism brought on by the greatest war of modern history, sprung one of the most effective instruments for world peace ever known to history—Radio. Hence it is fitting that many programs on Armistice Day should

be planned for observance of the occasion. Nearly every American station and some in Canada will have Radio services some time during the day. Among the stations sending out advance notices of Armistice Day programs are WOR, WEAF, WHT, CKNC, WEEI, WLW, WBZ, WIP, CNRO, WLS and KGW. WRC, WGY and WJZ will be linked for a special program. Others are preparing features that will be announced over the air.

Big Newark Celebration.
In the East, WOR, Newark, will mike the largest military gathering of the day when it picks up the ceremony in the town of Montclair, N. J., where the townspeople will dedicate a marble shaft to the memory of those who made the supreme sacrifice.

The ceremony which is attracting nation-wide attention will be attended by high officials of the Army and Navy, as well as leaders in political, civil and industrial life. One of the impressive fea-tures of the program will be band selections by the combined musical units of at least ten army posts of the Second

corps area.

More than a quarter of a million people are expected to attend the ceremon and participate in the singing of the "Battle Hymn of the Republic," said to be a favorite with the men overseas dur-ing the war. They will be accompanied by the combined efforts of the bands, numbering nearly 1,000 musicians.

Taps from WEAF

From New York city, Station WEAF will broadcast a special memorial pro-gram arranged by the League of Remembrance. The program starts at 10:35 eastern time in the morning and ends in two minutes of silence at eleven o'clock, the hour that meant so much to the boys in the trenches seven years ago. Preceding the two minutes of silence, Captain Chester Matheson, solo cornetist of the Salvation Army band, will sound the bugle call "Assembly" and at 11:02 will close the ceremony with "Taps."

American Legion posts all over the American Legion posts all over the county have been notified to tune in on WHT, Chicago, where Pat Barnes, chief announcer, will reproduce his famous wartime play which was written at the request of General Perishing to depict the true American spirit in France. This play, "A Buck on Leave," was shown all over the U. S. army area overseas and was then replayed in the principal cities in the United States. A special cast, selected and directed by the author, put on the Radio version.

CONTENTS

Radio Digest, Illustrated, Volume XV, Number 5, published Chicago, Illinois, November 7, 1825. Published weekly by Radio Digest Publishing Company, 510 N. Dearborn Street, Chicago, Illinois. Subscription rates, yearly, Five Dollars; Foreign Postage One Dollar additional; stugle copies Ten Cents. Entered as second class matter at the post office at Chicago, Illinois, under the Act of March 3, 1879.

All the Live News of Radio
Radio Made "Fiddlin' John" Carson Famous.
Bert Davis, the Roaming "Clown of the Air"
WSM, at Nashville, "We Shield Millions"
WQJ, "Surprise Station" of Rainbo Gardens
Operating and Trouble Shooting
Advance Programs for the Week
Evening at Home with the Listener In, a chart in eastern time, showing when to listen in for your favorite stations
Editorials, Indi-Gest and Condensed Dielectric
Interesting and Simple Explanation of Radio, Chapter II—The Ether, Wave Motion and Wave Lengths, by H. G. Tanner
Fireside: 6 Tube Set of Perfect Reception, Part II—Panel Drilling and Assembly, by Jacques Fournier
The Grand Prix Eight Tube Super-Heterodyne, Part III—The Wiring in 50 perations by James McDonald
An Economical Three Tube Set; Other Kinks
Questions and Answers
Directory of Radiophone Broadcasting Stations, Part VI

Looking Ahead

nat Makes Them Popular-the Lullaby Boys of WLS? Ford and Glenn are great applause drawers. Their audience includes babes in the cradles and elders in easy chairs. See next issue for a full page picture of this famous team.

Opera Stars You Have Heard on Sunday Night will be pictured in a full-page group next week. The six Atwater Keut-WEAF chain concerts, which will have then been given, are milestones in the path of musical progress of broadcasting. You'll want to frame this picture.

CYL, Mexico City, Is Different. So different is this Mexican exponent of broadcasting that it will pay you to learn Spanish so as to appreciate CYL fully. See and read about CYL next week.

The Eight Tube Grand Prix Super-Het will receive its finishing touches next issue when Mr. McDonald tells how to adjust, tune and operate it.

Six Tubes of Perfect Reproduction and exceptional selectivity are contained in the "Fireside." Wiring instructions, in detail like those given for the Grand Prix this week, will be outlined next issue.

Operating and Trouble Shooting, of course, will be a study of another standard receiver.

The Advance Programs for the broadcasters are being increased in length and number. Their handiness is being improved, thanks to suggestions from subscribers, until this section of each week's Radio Digest is most important to good listening. By the way, did you notice Part VI of the broadcasting station directory on page 31? Every station is listed in order of wave length.

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.	er Radio Digest, Dearborn St., , Illineis.			
(Six.	find enclosed check Foreign) for One Digest, Illustrated.	Year's		
Address				
City		st	ate	

WJZ COLLEGE GIVES EXTENSIVE COURSES

NEW YORK UNIVERSITY TO MIKE IMPORTANT TALKS

Philosophy, Pyschology, Pure Sciences and the Latin Classics on Schedule for Winter

NEW YORK.—New York university, pioneer in Radio education, opened the third year of its "Air College" October 19, broadcasting directly from classrooms in Washington square here, through Station WJZ, Radio Corporation of America. Outstanding features of the "Air College" for 1925-26, as announced by the bureau of broadcasting, include a course in Greek and Roman classics and their influence on modern life, and a systematic program of lectures following standard university practice.

Pioneer Will Participate

The first semester of the "Air College" will consist of fourteen weeks of lectures by seven members of New York university faculty. They include Dr. Herman H. Horne, the first university professor

The Horne, the first university professor to broadcast directly from his classroom, and who was featured during the opening year of the "Air College."

New York university will go on the air at Station WJZ from 6:30 until 7 o'clock this year, instead of from 8 until 1. :15, the time formerly set for the "Air

8:15, the time formerly set for the "Air College."

Philosophy Monday Evenings
Professor Charles Gray Shaw will deliver lectures on philosophy on the following Monday evenings:
November 9, "The Problem of Beauty, Not the Beauty Shoppe"; November 16, "The Problem of Religion or Would You Believe It?"; November 23, "The Philosophy of Radio."
Professor Herman H. Horne will con-

Professor Herman H. Horne will continue the series with the following:
November 30, "Who Is the Patriot?";

November 30, "Who Is the Patriot?"; December 7, "How to Be Happy"; December 14, "Do All Things Change?"; December 21, "What Is Pragmatism?"; December 28, "Is Consciousness Behavior?"; January 4, "Is Man Free?" January 11, "Is Man Immortal?"; January 18, "Who Is God?"

Pure Sciences on Tuesday Evenings Professor H. Horton Sheldon's Tuesday lectures on the pure sciences will include:

include:

November 3, "Inside the Atom"; November 10, "The Nature of Sound and of Light"; November 17, "The X-Ray":
November 24, "Ultra-Violet and Polarized Light"; December 1, "Light and Color"; December 8, "Heat and Temperature"; December 15, "Resonance and Radio Reception"; December 22, "The Nature of Energy"; December 29, "Sound, the Voice and Musical Instruments."

Professor James E. Lough will speak conclude the series with physics lectures on January 5, 12 and 19, 1926.

Psychology on Wednesday Evenings

Psychology on Wednesday Evenings
Professor James E. Lough will speak
psychology, his subjects including:
November 4, "Mental Levels and the

November 4, "Mental Levels and the Limits of Ability at Each Level"; November 11, "Mental Ability and Skills Necessary for Success in Various Professions"; November 18, "Psychology of Advertising"; November 25, "Psychology of Selling"; December 2, "Psychology of Management"; December 9, "Psychology of Study"; December 16, "Character and the Unconscious"; December 23, "Character and Physique"; December 30, "Control of Emotions"; January 6, "The Use and Misuse of Memory"; January 13, "Individual Differences and Adjustments"; January 30, "The Mind of the Future."

Greek and Roman Classics

Professor Ralph V. D. Magoffin will

Professor Ralph V. D. Magoffin will take up the Greek and Roman classics on Thursdays under the following

take up the Greek and Roman classion on Thursdays under the following headings:

November 5, "The Value of Greek and Latin for Culture and Discipline"; November 12, "How Much Greek Can Be Learned Over the Radio?"; November 19, "Greek and Roman History in Their Relation to Modern Times;" November 26, "Roman Architecture, Science and Engineering"; December 3, "The Poetry and Philosophy of Greece"; December 10, "Roman Writers of Comedy"; December 17, "Greek and Roman Life and Manners"; December 24, "Greek and Roman Money and What It Tells"; December 31, "The Roman Epic"; January 7, "The Greek Theater and Modern Representations of Greek Plays"; January 14, "A Glance at the Caesars"; January 21, "Greek and Roman Literature as an Influence on Subsequent Literatures." fluence on Subsequent Literatures."

Our Economic Organization

Our Economic Organization

Professor Reid L. McClung on Fridays will deliver the following lectures in the economic course:

November 6, "Market Price Making"; November 13, "Money"; November 20, "Banking"; November 27, "Business Cycle"; December 4, "Foreign Trade"; December 11, "Tariff Problems"; December 18, "The Trust Problem"; December 25, "The Labor Problem"; January 1, "The Railroad Problem"; January 3, "Immigration"; January 15, "Taxation"; January 22, "Social Unrest."

'PHONOGRAPH GIRL' **LAUDS RADIO AS AID**

AILEEN STANLEY PRAISES **BROADCASTING ABROAD**

Stage and Record Companies First Opposed Her Part in Air Programs; Different Now

LONDON.—Aileen Stanley, "the Phonograph Girl," who has just arrived here from America, declared emphatically in an interview that Radio was unharmful financially to the stage as a whole or to the drawing power of individual artists. "On this question of whether Radio lessens the pulling power of the stage or hurts the sale of phonograph records," she declared, "I would like to put my little 'no,' or rather a great big 'NO!"

"I have broadcast in almost every large city in the states, and I was really one of the first to make that same experiment about five years ago. At that time the theatrical managers and phonograph recording concerns were very much opposed to Redie they said it but weid it but the precording to the state of the said to the said the procedure of the said they are a said to the said the said the procedure of the said they are said the said they are said recording concerns were very much opposed to Radio; they said it kept people out of the theater and hurt the sale of records. At last they gave me permission to broadcast as an experiment, and it proved the best exploitation I have ever had.

ever had.

Sale of Records Inoreases

"The sale of my records increased by leaps and bounds, and as for my drawing power at the theater, that also was increased, and in regard to those new friends of the air who came to the theater (and they did come) it seemed as though I could pick them out from the stage. There is a staunch bond of friendship between the artist of the microphone and his silent audience of the air.

air.
"I am not a bit sorry I got on the band
of progress. I give wagon alongside of progress. three hearty cheers for Radio."

CATCHES WGY TEST SIGNALS ON RECORD

SCHENECTADY, N. Y.—Requests of WGY for reports on reception of its superpower signals brought many unusual reports. Many listeners submitted curves and detailed reception records that are of special value to the General Electric engineers. H. N. Elwell, an experimenter of Norfolk, Mass., recorded both the 50- and 2½-kilowatt transmissions on dictaphone records and sent them to WGY where they may be rebroadcast later.

McNAMEE'S LETTERS **REQUIRE NO ADDRESS**

EW YORK.—Among the thousands of letters received by Graham McNamee, 1925 gold cup winner, following the broadcasting of the World's Series, one of the most interesting from the point of view of novelty was the one that a western fan addressed to him by pasting his picture, clipped from Radio Digest, on the outside of the envelope. Although there was neither name or address, the letter reached the King of the Air at WEAF.

NEW YORK-PARIS STAR ON WEAF



Above, May Peterson, lyric soprano of the Metropolitan Opera of New York and the Opera Comique of Paris, recently heard in recital over the WRAF chain in the Atwater Kent series. Miss Peterson, made her operatic debut in Vichy, France, joining the Metropolitan company on her return to America. She is the daughter of an American clergyman and a cerdit to the United States from a musical standpoint. Left, Fanny Schnitger Martin, outstanding young contralto, who sings from WOC on November 7. Right, Norinne Gibbons, heard regularly from WKRC on the Post-Wurlitzer Monday night popular hour, which has won the dials of music lovers by the high quality of the programs presented.

TEACH ASTRONOMY BY **NOVEL RADIO METHOD**

Canadian Station CKY Broadcasts Weekly Star Talks

WINNIPEG .- Love sick swains and maidens who are want to gaze long and tenderly at the summer stars may combine a bit of science with their romanc-ing if they will tune in on Station CKY, here on Friday nights and listen to the

One important constellation is discussed from this station each week and at the conclusion of the talk a group of figures is broadcast, which when plotted on squared paper, will represent the constellation for the next week's talk

Instead of using the Greek alphabet, as true astronomers do, English letters are used to designate the stars on the "graph." A feature of the charts being broadcast by CKY is the fact that each constellation is shown as it will appear to the night following the broadcast and at a time likely to be convenient for observation.

Those who have the inclination and who happen to live near here are permitted to view the heavens through a telescope by arrangement with the station. Parties are being arranged in groups of ten and "graph" system.

New Stations

Florida's land boom is accompanied by Florida's land boom is accompanied by the building of new broadcasting stations. Clearwater, Fla., is to have a 500-watt broadcaster. This station, owned by the George H. Bowles Developments, will be heard under the call WGHB. The wave is 266 meters. Another 500-watt station has been added to Iowa's quota. KSO is the Clarinda, Iowa, station operated by A. A. Berry Seed company. 242 meters is the wave.

Other stations licensed last week are Other stations licensed last week are: KFYD, Muscatine, Iowa, 250 watts, 256 meters; WBT, Charlotte, N. C., 250 watts, 275 meters; WABI, Bangor, Maine, 100 watts, 240 meters; WMAL, Washington, D. C., 15 watts, 212.6 meters; WWAO, Houghton, Mich., 250 watts, 263 meters; KFOJ, 10 watts, 242 meters.

The Toulouse, France, station known as Radio-Toulouse, has altered its wave length from 273 to 432 meters, as it was found that the previous wave led to interference with various other stations.

no charge is made for the privilege. Squared paper is furnished to the students by the station and in the future CKY intends to broadcast many other interesting diagrams in addition to the astronomical charts by means of the

Old KPO Still Heard; Is KFPG, Hollywood

Veteran 'Frisco Transmitter Is Moved Down Coast

LOS ANGELES,-A good transmitter, LOS ANGELES.—A good transmitter, like a good word, seems to go on forever. Those fans within the range of the old 500-watt set of KPO and who regretted its passing will be glad to know this old reliable of transmitters has been sold to station KFPG, K. M. Turner Radio corporation of Hollywood, Calif.

KFPG has been on the air sometimes as a class A station on 100 watts power, 238 meters, but recently switched over to the 500-watt set. KPO's old set was first rebuilt to a standard Western Electric set and it comes on the air again under the new call of KFPG with a bass note range down to 16 cycles.

This makes the fifth first-class station in Hollywood.

Bar Sopranos from Mike of Station WBBM as Unsuited

CHICAGO.-Soprano voices have been parred from the programs of Station WBBM here.

An order that no more sopranos be booked and that those now singing in-termittently before the station's microphone be dropped, was issued to the program staff by Charlie Garland, program Radio.'

UNION CALLS STRIKE AGAINST KHJ PLANT

MUSICIANS BOYCOTT RADIO WITHOUT GIVING NOTICE

Daggett Says Action Is Unwarranted, but Will Not Affect Pro-grams in Any Way

LOS ANGELES.—Labor has made another raid on Radio! All members of the Musicians' Protective association, lodge No. 47, Los Angeles, by order of its board of directors, have been notified that giving service over Station KHJ on or after October 15, will subject the offender to fine or suspension fine or suspension.

The Los Angeles Times, operating KHJ. was not notified of this decision by the union, the information coming to them union, the information coming to them when musicians who had received the notices, called to apologize for the action of their governing union. So far it cannot be found out what basis the musicians' union thought it had in calling this boycott on KHJ, other than the fact that the Los Angeles Times has always fought for an open shop in Los Angeles and for an open shop in Los Angeles, and for years has been labor's bitterest enemy in the southwest.

KHJ Only One Hit
Other Los Angeles stations are not effected, KHJ being singled out alone.

fected, KHJ being singled out alone.

"Uncle" John Daggett, director of KHJ, in a statement made just prior to leaving on the Hawaiian trip with the Los Angeles chamber of commmerce, said:

"Most of the musicians effected are not in sympathy with this action, and in fact, have told us they are opposed to it, but are forced to accede or lose the privileges of union membership. For them we sympathize, but KHJ does not intend to submit to any action of this nature, unwarranted and unAmerican as it is, and we will expect relief through the courts, based on the fact that this order is in restraint of trade and in violation of the

based on the fact that this order is in restraint of trade and in violation of the laws of the United States.

"The order will in no way effect the programs from KHJ as Los Angeles is plentifully supplied with musical talent of all kinds, only a portion of which claims membership in the Musicians' union. We expect to fight this out to a finish to determine whether or not a broadcast station must submit to domination by a small group of men not musicion. tion by a small group of men, not musi-cians themselves, who want to tell us how we must run our station.



The fight between the union and KHJ has long been brewing. Not long ago the union demanded that the men playing in Leighton's cafeteria orchestra be paid an additional 35 per cent because they were broadcasting at the same time they played in the dining room of the cafeteria. The same request was made of Art Hickman's Biltmore hotel concert orchestra but as the latter was playing art Hickman's bittmore note: concert orchestra hut as the latter was playing its half hour for Radio only the hotel management took the orchestra off the air. Leighton's paid the increase and stayed on and later received order to instayed on and later received order to in-crease the players' rate to 50 per cent additional because they were on the air one hour instead of half hour.

Public opinion seems to be strongly against such domineering and unfair action against KHJ and thousands of letters have been received stating they are for the station in this fight.

director. Garland said the action was taken "because soprano voices have proved unsuitable and unentertaining for

Radio Made "Fiddlin' John Carson" Famous

ADIO made me. Until I began to play over WSB, more than two years ago, just a few people in and around Atlanta knew me, but now my wife thinks she's a widow most of the time because I stay away from home so much playing around over this part of the coun-try," says John Carson, Blue Ridge moun-taineer fiddler and eight times champion

Fiddlin' John was born and "jerked up" in the moonshine fastnesses of Fannin couny in the heart of the Blue Ridge mountains. He has been fiddling since he was big enough to hold the instrument under his chin, and his mountain cabin was the scene of many a jolly party with young John occupying the spotlight and supplying the music for the festivities.

Those days seem far past, and today as he nears the 60-year mile post, Fiddlin' John is one of the most famous and one of the most popular Radio entertainers in these United States.

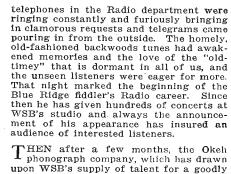
One of the most interesting memories in the vari-colored career of the Fannin county virtuoso, is the fiddling contest at county virtuoso, is the fiddling contest at which the mountain boy outfiddled Governor Bob Taylor of Tennessee. This contest was the big event of the year. "Fiddlin' Bob," as he was popularly known, was recognized for his skill with the fiddle, and few had ever been found who were near enough his equal to make a competition interesting.

BUT on this momentous occasion, a D new adversary was discovered. A hardy mountaineer was entered in the contest, who was the pride and hope of his friends who had come along with him to lend any moral support they could. The contest went on and it was a thrilling batcontest went on and it was a thrilling bat-tle between the two favorites—Gov. Bob Taylor, and the unknown mountaineer. Then the finish and young Carson was de-clared winner and thereafter became known as Fiddlin' John, while Governor Taylor was so edlighted with the young fellow's playing that right there on the spot, he bestowed his fiddle on the proud victor.

After that it was but a step to other things. The Old Fiddlers' convention, at which Dixie's champion is determined, is which Dixie's champion is determined, is a yearly event in Atlanta, and to this came Fiddlin' John, fresh from his first victory. And against hundreds of seasoned exponents of old time fiddling, John was declared champion of Dixie. Not only that but eight times he won, the longest period of time any one man has ever been known to hold the Dixie championship.

Then after awhile came Radio and Fid-

Then after awhile came Radio, and Fiddlin' John came up to the Atlanta Journal's broadcasting station to play on a program. He made an instant hit, and before the concert was half finished the



THEN after a few months, the Okeh phonograph company, which has drawn upon WSB's supply of talent for a goodly amount of material, recognized in Fiddlin' John Carson a valuable attraction, and without loss of time, contracted with him for a series of his characteristic native airs, and sent him to New York city to record them on the waxen discs. John remembers vividly his trip, which was his first, to Broadway, where he says he walked all day and never saw a soui he knew.

walked all day and never saw a soul he knew.

In between times, the Dixie champion is kept busy filling engagements in various parts of Tennessee, the Carolinas, and Georgia. County fairs, country dances, city entertainments, banquets; in fact, practically every conceivable kind of engagements. practically every conceivable kind of entertainment seeks his services. On his almost too infrequent return trips to At-

FIDDLIN' John's greatest experience was his debut behind the footlights. I his debut behind the footlights. The Lyric theater, one of Atlanta's biggest and most popular playhouses, was to give "Mrs. Wiggs of the Cabbage Patch." To make the play true to form, a real honest-to-goodness, backwoods fiddler and a dancer were needed, so Manager Monty Salmon, who is a real Radio fan, immediately fastened on Fiddlin' John Carson as the one to fill the required role. He then suited the action to the word, got as the one to fill the required role. He then suited the action to the word, got in touch with WSB, and landed the mountaineer fiddler, and his young daughter, who is an expert buck and wing dancer. Reports and box office receipts testified at the end of the week, to the tremendous drawing power of the popular Radio entertainer and all parties, most of all, Fiddlin' John, declared themselves more than satisfied with the results.

Below, "Fiddlin John's" wistful look was probably brought on by a flash back in his mind to the days spent in his mountain cabin.



Bert Davis, the Roaming "Clown of the Air"



SM, "We Shield Millions," the 1,000-watt broadcasting station of the National Life and Accident Insurance company, Nashville, Tenn., which was dedicated with a magnificent continuous program Monday, October 5, 1925, which lasted from 7 p. m., till after 2 a. m., is the completed dream of the big insurance company executives who, when planning the erection of the National's beautiful home building, included in their plans the erection of one of the finest broadcasting stations in the

Following the completion of the National building first steps were taken toward the building of the powerful station and Vice-President Edwin W. Craig was commissioned with the task of gathering together the best ideas of the Radio stations then successfully broadcasting and incorporating them in the station that Nashville can boast of as one of the very finest in America.

As there were no exclusive class B wave lengths obtainable, through the courtesy and cooperation of Station WOAN, Lawrenceburg, Tenn., which was operating on 282.8 meters, arrangement was made by which Station WSM could divide time on the air. WSM subsequently operates for the present every Monday, Wednesday and Saturday from 6:30 to 7:30 p. m., with dinner music from one of the hotels, and from 10 to 11 with a studio concert, and on Sunday alternates with morning services from the First Presbyterian church one week, and the night service the next week.

An interesting point about WSM is the fact that, although the studio is situated on the top floor of the National building in the heart of Nashville, the transmitter and towers are located at an especially selected site some two miles distant from the business district. Here Thomas L. Parkes, engineer, and his bride of three months

live and take care of the main portion of the equipment.

Jack DeWitt, operator, is stationed in the control room, which adjoins the studio, and operates the speech-input system. Three special lines connect the studio and control room, with the transmitting room. One is for regular programs, one for emergency programs and one a private telephone line between the

Right, famous Radio stars, guests at WSM. Lower, left to right: Bonnie Barnhardt; Lambdin Kay, WSB; Leo Fitzpatrick, WJR; George D. Hay, WLS; Edwin Craig. Top, Mrs. Leo Fitzpatrick; Bill Craig, WSM; Jack Keefe; Major Walter Van Nostrand.

two technicians. WSM's studio is beautiful, with walls and ceiling draped in rich wine-colored velvet, a fitting setting for the handsome ebony Steinway grand piano. Floor lamps, a gorgeous crystal chandelier, and a lovely announcer's table, complete what is surely one of the most beautiful studios in the country. WSM's director is Miss Bonnie Barnhardt, nationally

known as the "Lady o' the Radio," who was formerly connected with Station WSB, Atlanta Journal, Atlanta, Ga., in the capacity of program director, bedtime story teller, staff musician and editorial writer. She is now executive head of the big Nashville station and also essays the jobs of program director and Radio editor. Jack Keefe, popular Nashvillian, is WSM's announcer and studio director, and is likewise a splendid entertainer.

One of the biggest features which marked WSM's debut into the Radio world was the daily broadcast of the play-by-play detail of the World Series. Every Saturday afternoon WSM also gives its vast daylight circle a minute account of the Vanderbilt football games, broadcast direct from the stadium. This feature is tremendously popular with Radio fans and congratulatory messages by the thousand pour into the station.

nie Barnhardt comes on with her famous "Hello Kiddies," and tells WSM little folk and grown-ups all about Peter Rabbit, and Reddy Fox, and all the other little creatures of the Green Forest

priate attractions feature the children's period, which comes during the intermission of the dinner hour from 6:30 to 7:30 each evening WSM is on the air. Reports from practically every state in the Union, and Canada and Cuba, were received on WSM's inaugural

Detroit, Mich., the "Merry Old Chief" formerly of the Kansas City Nighthawks; George D. Hay, the "Solemn Old Judge" of WLS, Sears-Roebuck, Chicago; Major D. B. Carson, commissioner of navigation of Washington D. C. gation, of Washington, D. C., and Major Walter Van Nos-trand, supervisor of Radio of the fourth district, Atlanta, Ga.

were in full charge of WSM's inaugural program and alternated at the microphone, giving the Radio audience tuned in for the inaugural broadcast, a bill of superlative entertainment.



WQJ, "Surprise Station" of Rainbo Gardens



How Can We Improve Radio Broadcasting?

THE National Association of Broad-casters is doing more work than any other one agency to improve Radio in all its branches. It is working on definite projects which will tend to wards bringing relief to Radio and understanding between those in the broadcast world. Frank W. Elliott, vice president and general management of the Balman cast world. Frank W. Elliott, vice president and general manager of the Palmer School of Chiropractic, owners of Station WOC at Davenport, Iowa, was elected president of the national organization at the recent fall meeting. At the same time Powel Crosley, president of the Crosley Radio Corporation, which owns and operates Superstation WLW at Cincinnati, was elected one of the two vice presidents of the same group. Radio Digest has communicated with these two gentlemen and it presents their views on gentlemen and it presents their views on the question, "How Can We Improve Ra-dio Broadcasting?" herewith.

By Frank W. Elliott General Manager Palmer School, WOC President National Association of Broadcasters

RADIO can be improved if we start RADIO can be improved if we start now. There is a place for the small station of limited power. Its functions should be purely local in character and should be of good quality and well managed. It should serve that community with programs local, and at times other than during the general broadcasting hours. Preferably, daytime and early evenings. Superpower stations will not fill the gap of small stations well managed in this respect.

EXPERIENCE has shown that programs of scheduled events, which are designed for an eye and ear entertainment cannot be successfully broadcast as a general rule, but future programs and the better class programs of today are all built especially for Radio, and the future will bring forth a class of entertainment built especially for kadio, and the future will bring forth a class of entertainment made entirely for the ear. Great progress has thus far been accomplished by many of the better grade stations. Of course, it is folly to contemplate any form of censorship in an industry hardly out of its swaddling clothes. out of its swaddling clothes.

THOSE who desire to broadcast, should pay the expense connected with same, whether it be the station owner, or the advertiser who desires to make use of a suitable and convenient station. It can scarcely be argued, or contended, that any station has ever been erected for other than advertising, or goodwill to the station owners, so that one form of toll business is no different than the other, business is no different than the other, except that in the so-called toll arrangement a greater variety of approach is made to the public in the way of entertainment, and I believe is being accepted by the listening public to their entire satisfaction. It may be that we will have two classes of stations, those of superpower, and those in net work systems. Such an arrangement would certainly give the greatest possible distribution of entertainment material to our listeners. entertainment material to our listeners and would by the very nature of the vast-ness of the audience compel the highest class of entertainment.

THERE should be a decided stand taken by and supported by the government and endorsed by the people of the United States, to put a stop to the licensing of every station who makes application for some station who makes application for the station who makes application who mak licensing of every station who makes application for same. There is a practical limit to the number of stations that can be assigned to the limited number of wave bands, and that limit should never be increased. It is unfair to the public, and unfair to the business interests who spend their good money to provide a free service to the public, that such a plan be further carried on. Any plan which does not take into consideration the factors of location, priority and ability to serve would be unwise, both from a standpoint of the government and the Radio listening public.

THE department of commerce is the most important department dealing with the business welfare of this nation. I hope that no political influence will be permitted to enter into the efficiency of that department, and trust that legislation will only be directed to giving the department the necessary latitude to cope with an ever changing situation. I am not in favor of control by other than government agencies, but favor the attitude THE department of commerce is the ernment agencies, but favor the attitude adopted by the present administration in seeking the advise and counsel of all interested.

AS stated in five, all the legislation AS stated in five, all the legislation that is needed at the present time is a broadening of the powers of the department of commerce, so that their decision when adopted can be enforced.

MY investigation into the Radio section of the department of commerce has led me to believe that a larger appropriation should be granted to



Dr. Frank W. Elliott

derpaid derpaid for the demands made upon them. This feature should be recom-mended to congress for consideration.

YOUR eighth question cannot be answered, or put into effect without proper consideration of number seven, for the reason that the department is handicapped by lack of funds and equipment necessary to police the air, and insist upon stations maintaining their assigned fragmency. sist upon stations assigned frequency.

AFTER proper allocation of wave lengths are made for the existing stations, there will be no need for separate allocation for entertainment. Super-power broadcasting stations and those rate allocation for entertainment. Superpower broadcasting stations and those using increased power (five kilowatts or more) should be given sufficient separation to work efficiently at all times. Greater power than five kilowatts causes little or no disturbance when proper bands are assigned.

THE CLOWN OF THE AIR

(Continued from page 5)

fully making a bow he entered the ball and waved a flag through a hole to signal that he was ready.

that he was ready.

The assistants gave the ball a shove and it rushed down the incline with its human burden. But instead of looping the loop the ball jumped the incline and rolled down hill into a river half mile away. When assistance arrived the young performer was nearly drowned.

So Bert Davis left the circus.

We next find him, still in the callowness.

We next find him, still in the callowness we next and alm, still in the callowness of youth, riding horses on the big circuit tracks and frequently doing what the Prince of Wales has been doing ever since the war. Davis took his quota of spills and then left the tracks to become an

From then on until the movies sounded the tocsin on the blood and thunder of the "ten-twent-thirt" melodramas, Bert played character parts in "opery" houses all over the country. He left the stage of drama to grace that of vaudeville in the winter and in the summer he followed the dusty trails with carnival caravans.

But Radio was springing into importance in the world of amusement and the ever progressive entertainer heard the call of the microphone. In March 1923, he forsook the old favorite haunts of the big top, the footlights, and the flaming torches, and went on the air. He is there today, nightly delighting thousands of people with his amusing dialogues and

be heard regularly, because regularity is the one thing that bothers Davis the least. The old trouping urge is with him yet. This week he may be heard from WQJ, Chicago and next week one of the eastern stations may be his stage. His Radio equipped automobile is his private car and his route list may be found in the program pages now and then.

As the minstrels of old, Bert Davis department, owing to unusual demands roams the country in search of those made upon it. Its small personnel, like needing and wanting a bit of good entermany governing departments, are untainment. All the world is his stage. roams the country in search of those

SUGGESTED QUESTIONS

SUGGESTED QUESTIONS

What is the future of the small station? Daylight broadcasting? Relay night broadcasting? Or will that be unnecessary on account of the superpower stations? Will the small station be forced off the air by program competition? What type of programs (include various classes) are destined for the future? Of entertainment programs, what kind would you consider the best? What of the "continuity" or "presentation" program? Are you opposed to state and federal censorship of Radio programs? Why? Will toll stations be the answer to "Who's to pay?" We must consider that large business enterprises, who operate their own stations, are really doing toll advertising on an exclusive scale, unless these big firms allow a certain part of their time on the air to be the sole survivor of the American system? What about taxing Radio manufacturers, or by a public receiving license fee as in England?

Shall broadcasting stations be limited in number by some licensing plan based on priority and ability to serve, or some similar device? The Kintner plan has been proposed as a means of limitation. What is your opinion of this plan? Do you favor appointment of an unbiased, non-partisan broadcasting control board, in which the public, the broadcasters, the Radio industry and the government shall be represented, which board shall have the power vested to settle all differences pertaining to broadcasting and the interpretation of present or future Radio legislation? What should this inolude?

The Radio section of the department of commorce last year was given \$125.000 with which to work. The department, according to an estimate, employs 70 persons. Trips of supervisors and their assistants all over the country must come out of this appropriation as well as the 70 salaries. No money is left for instruments—the most necessary equipment for the supervisor. Does the department need more money. If the government wishes to reduce taxes, why not apportion the inspection oosts wholly or parity, to the warious stations? The hor

By Powel Crosley, Jr. President Crosley Radio Corporation Vice-President National Association of Broadcasters

THE small station activities will THE small station activities will undoubtedly be confined to a more and more restricted area as time goes on. It will serve its local community in daylight as well as at night. The small station, as a rule, cannot afford to prepare the type of programs that a large station can deliver, so that its audience, in all probability, will be more restricted. I feel that no one has a desire to eliminate the small station, but a fundamental law governs such things—the survival of law governs such things—the survival of the fittest. A station depends upon good will as a reason for its existence. With a constantly diminishing audience who prefer to tune to better programs, its value becomes smaller. Its owners are the only ones who can judge when its value ceases to justify its existence.

PROGRAMS must always be designed to please all classes of people. The popular type of programs are best; not necessarily jazz, but popular as differentiated from classical. As public appreciation for better music grows, a larger percentage of people will prefer classical music. Undoubtedly Radio has educated thousands in the appreciation of better music. I do not believe in any form of state or federal censorship of Radio programs. The public should be the judge. Programs must be designed to satisfy the greater portion of the public. Poor programs, undesirable programs, will not create good will, therefore, no Radio station can present them.

I DO not believe in any method of taxing Radio manufacturers or taxing the public. I believe that good will alone is sufficient to maintain a broadcasting station. I am heartily in favor of a broadcasting station dividing its expense with others who will contribute for a certain amount of time. This service provides better programs and reduces the cost to the owner of the station.

BROADCASTING stations should be limited by some licensing plan based priority and ability to serve. We have torches, and went on the air. He is there today, nightly delighting thousands of people with his amusing dialogues and clever comic song variations.

Bert Davis is one of the few that can take a song and put in original variations that make it better than it was originally. It is impossible to tell you were he can be been a regularly because required to the stations of the stations who have been and are now serving. have been and are now serving.

I FEEL that it is necessary to have some control of the air vested in proper persons who are capable of acturatelling the situation.

IT IS essential that some laws be opassed governing Radio now. The department of commerce has done a good work, but they are lacking in authority to properly control the situation; unless something is done the already chaotic condition of Radio will become much



Powel Crosley, Jr.

worse. We need improvement in present conditions very badly, and the prevention of things going from bad to worse.

T FEEL that whoever has charge of the control of broadcasting—whether it be the department of commerce or some new especially created department—should have ample money to do its work, also proper instruments and equipment should be furnished. There is no department of the government which is closer in touch with the real public welfare and service, and that ex-I FEEL that whoever has charge or which is closer in touch with the real public welfare and service, and that expense should not be stinted. The government can well afford to appropriate the necessary amount of money, not only to the proper control of broadcasting stations, but, if it ever becomes necessary, to the actual expense of broadcasting. This money should come from general taxation rather than from any form of special tax.

I AM thoroughly in favor of using I AM thoroughly in favor of using an oscillating crystal to hold a station on its assigned frequency. We have been using one for some months now; few stations have them. The Radio inspectors are not even equipped with any accurate form of frequency measurements. Every station should be equipped so that its wave length will not vary.

THE idea of allocating certain wave bands to international superpower broadcasting stations is excellent, but until superpower is developed further is not essential.

WQJ, RAINBO GARDENS

(Continued from page 7)

It is in this room that the popular Sat-urday afternoon Koffee Klatsches are

urday afternoon Koffee Klatsches are held.

Although the writer has been invited to attend a Koffee Klatsch by one of the charming hostesses, insomuch as he is of the other sex, and has been told that he will be the only one of his kind in the dining room, a second hand description will have to suffice here.

This Saturday afternoon feature was instigated by the ever-active Jerry Sullivan shortly after the station's birth. The Koffee Klatsch is a musical program for the ladies. Memberships to the Klatsch are open to listeners, who upon request, are mailed invitations to one of the public affairs, held in Mann's Rainbo Gardens Radio room. Three hundred women are invited weekly and coffee and cake is served to these guests of the Calumet Baking Powder company and the Rainbo Gardens Station WQJ.

Jerry Sullivan, composer of many songs, also has an array of exclusive artists around him including Bert Davis the

also has an array of exclusive artists around him, including Bert Davis, the Melodians, Clarence Theders, the West Melodians, Clarence Theders, the west Brothers, Clement Laskowski, Maria Dne-prova, the Fontella trio and Hal Lansing,

According to Jerry Sullivan, WQJ can truthfully be called the "surprise station of the air," because you never know what is going to happen. The consensus of opinion of the listeners who have written the station thousands of letters is that the station thousands of letters is that they tune in and stay tuned until the station signs off with Jerry singing:

"So, dont go away-this much I have to say Just set your dial—and stay a while— With WQJ—-Chi-C. W-go.

NEWS BRIEFS FROM THE BROADCASTERS

U. S. ARMY BAND REGULAR OVER WRZ, WJZ, WGY

Trumbull of KYW to Travel-KHJ's Uncle John Home Again—CKY's Announcer at WQJ

Those who appreciate good band music will hearken to the announcement that the will hearken to the announcement that the United States Army band is to broadcast concerts every Thursday night at 8:15 p. m., eastern time, through WRC, WJZ and WGY. Captain J. S. Standard is the leader of the army band which, in official circles, is known as Pershing's Own.

Wishing to visit some of the distant wishing to visit some of the distant points that his voice has reached during his two years of service at the KYW microphone in Chicago, Chief Announcer Logan (Steve) Trumbull, recently signed off and left for an extended journey through the West and possibly the South Seas.

Mr. Trumbull will devote much of his spare time to playwriting, an art in which he has had quite a bit of success.

Uncle John Daggett and the party of KHJ musicians who were selected by the L. A. chamber of commerce to accompany them on their Hawalian trip, returned last week in time to attend the Halloween party given for the kiddies at KHJ, Los

The Radio Digest Silver Cup Canadian

DIXIE PAPPY LEAVES VAUDEVILLE BEHIND



The vaudeville stage lost another of its popular artists when Eddie Malle, known to thousands of patrons of the two-a-day shows as "Dixie Pappy," forsook the foothights to become announcer at Station WCAU, of the Universal Broadcasting company, Philadelphia.

ARTISTS OF NOTE NEXT OVER CHAIN

John Powell, Pianist, Eva Gauthier, Soprano, Give Sixth Atwater Kent Program

NEW YORK .-- John Powell, celebrated NEW YORK.—John Powell, celebrated pianist, and Eva Gauthier, soprano, will be the distinguished artists in the sixth "Atwater Kent Radio Hour" to be presented on Sunday, November 8. at 9:15 p. m., eastern standard time, from the studio of WEAF. Their joint program will be proadcast by WEAF New York N. W. WEAF. Their joint program will be broadcast by WEAF, New York, N. Y., WEEL Boston, Mass., WCAP, Washing-Boston, Mass.

WEEI, Boston, Mass., WCAP, Washington, D. C., WJAR, Providence, R. I., WGR, Buffalo, N.Y., WCAE, Pittsburgh, Pa., WSAI, Cincinnati, Ohio, WWJ, Detroit, Mich., WOC. Davenport, Iowa, WCCO, St. Paul-Minneapolis, Minn., WTAG, Worcester, Mass., KSD. St. Louis, Mo., and WFI, Philadelphia, Pa.

In this series of concerts, Reinald Werrenrath, American baritone, Toscha Seidel, Russian violinist, Mme. Louise Homer, Metropolitan contralto, Salvatore de Stefano, Italian harpist, Olga Samaroff, pianist, and May Peterson, Metropolitan soprano, Mary Lewis, Metropolitan soprano, Mary Lewis, Metropolitan soprano, and Paul Kochanski, violinist, have entertained the Radio audience. ist, have entertained the Radio audience

JACK TELLS MIKE ABOUT WILLS



announcer, D. R. P. Coats of CKY, Winnipeg, visited Chicago last week and was heard from WHT, WLS and WQJ.

WAHG, Richmond Hill, N. Y., plans an unusual series of great artist recitals. Famous organists will be heard at this station Friday nights. The first artist to be heard was Chandler Goldthwaite, who played last week.

"The Merry Old Chief" of the Jewett Jesters immediately found himself in a friendly locality when he started to confriendly locality when he started to conduct the Jester program, Monday, October 12. These informal Radio parties are conducted every Monday, Wednesday and Saturday by the Merry Old Chief from 11:30 p. m., to 1 a. m., eastern time. His policy in these entertainments is the same as that which prevailed in the old Night-hawks at Kansas City.

A musical novelty written for Radio, "Fun in a Schoolroom," will be presented by KGO, Tuesday, November 10, on the latter part of the evening program. Carl Anderson will direct the production. The comedy drama, "Her Temporary Husband," will be broadcast in its original stage form, Thursday evening, November 12.

Hugo Riesenfeld and his orchestra are once again the Sunday afternoon feature at WJZ, New York. These concerts which are given at 12:30 p. m., eastern time, are given from the Rivoli theater, which is particularly adapted to Radio transmis-

Fans listening in to KFAB, Lincoln, Nebr., were given a special treat during the dinner hour music Monday, October 26, at this station. Members of the Duncan sisters, Topsy and Eva show, including Marvel and Thelma White, Kentucky quartet, and the Old Fashioned Girls, appeared before the microphone.

Another new attraction has been added Another new attraction has been added to the daily program of Station KPO. Three talented young vocalists, Art Kahn, Dick Dunn and Harold Couden have been formed into a trio named the "Twilight Boys," and are appearing regularly during the children's hour. Children's songs are the specialty of the group.

KFNF AIDS STUDY OF **AIR USING BALLOONS**

SHENANDOAH STATION AS-SISTS RUBBER COMPANY

Liberates 300 Gas Bags in Tests to Learn More of Directional Air Currents

SHENANDOAH, Iowa.—Three hundred sounding balloons, ranging in sizes from two to three feet in diameter and inflated with hydrogen gas, were liberated from Shenandoah, Iowa, on November 3. This marked the beginning of an experiment arranged by the B. F. Goodrich Rubber company in cooperation with the Henry Field Seed company's station here, KFNF.

The purpose of the experiment is two-fold. First to study the directional features of different atmospheric levels for aeronautical information and second to study these currents with respect to their possible influence upon Radio broadcast reception.

To Gauge All Levels

The balloons used in the experiment are of the same type government meteorological experts use in taking altitude of atmospheric conditions. were inflated at varying pressures pre-determined to gauge the altitude at which each balloon was to travel.

each balloon was to travel.

Tags attached to the balloons give specific instructions. These instructions, together with the announcements that have been and will be broadcast daily from KFNF, are expected to obtain full cooperation of those persons who find the balloons. The report of location and time of finding the balloons is important.

The return of these tags will enable

The return of these tags will enable the completion of records which can be studied by both Radio and aeronautical

ater in Philadelphia. Another WLIT quartet, the Adelphi Melody four, competed against the Pennsylvania male quartet for final honors.

Western composers who have striven Western composers who have striven without success for recognition, will be given an opportunity to have their works introduced to the public through Radio, it was announced recently by Marshall W. Giselman, KPO organist. Mr. Giselman, at his Sunday recital over KPO, will play from manuscript one new number during each of his programs, together with a short outline of the new composer's life The Pennsylvania male quartet, a regular WLIT feature, has just been chosen the winner of the "Barber Shop Ballad" quartet contest conducted by Keith's the-

WHAT DO THE BIG TERMS MEAN? ASK A TECHNICIAN

By James H. Galbraith WHAT is all this talk about "phase difference," "high frequency resistance," "straight line frequency," and so forth that we hear Radio engineers discuss and advertising copy-writers using and abusing to tell the pub-lic of the merits of their wares? Where do these terms originate and what do they

If you ask William W. Harper, consult-

if you ask william W. Harper, consulting engineer specializing in high frequency measurement, he'll tell you more than you can digest at once sitting.

"In the first place," says Mr. Harper, "it isn't properly 'straight line frequency.' It should be known as 'straight frequency thine.'"

I was trying to learn more of the science of Radio measurements and had decided to interview him at his well-equipped laboratory where the products of many firms are subjected to rigid tests for modifications and improvements in designs.

Queer looking instruments in orderly

arrangement were atop every bench.
"The reason the term 'straight line frequency' is a misnomer is easily evident. quency' is a misnomer is easily evident. A condenser is a device having electrical capacity. It has no property of frequency. It may have, however, a straight frequency line characteristic when employed to tune a coil having the correct electrical dimensions."

"And, incidentally," Mr. Harper continued, "the frequency line characteristics have no bearing whatsoever on the selectivity. It should be as low as possible. It is measured in ohms over

tivity a receiver has to offer. Selectivity | the frequency range which the receiver is really proportional to the quotient of the reactance over the resistance in the tuned circuits of the receiver, if that means anything to you."

The writer shook his head apologeti-

cally, but did not request a more simplified explanation. "And what is phase

difference?" he asked.

The measurer of such things had a ready answer. "Phase difference," he said, "is the numerical expression of the merit of various Radio components, such as coils, condensers, and the insulating materials employed. It enables the user to predict the degree of selectivity and responsiveness of a receiving set in which these parts are used. Many of the instruments you see here are employed to ascertain phase difference."

The writer asked if the term "power factor" wasn't somewhat like phase difference. "Yes,"

"Yes," replied Mr. Harper. "In fact, power factor is the expression of phase difference in percentage. Phase difference is an angular relation and is expressed in degrees. The power factor is probably more descriptive because it represents the

more descriptive occause it represents the amount of energy lost.
"One more question," the writer said.
"What do you mean by high frequency resistance?"

or component is expected to span.'

Thus closing his interview, the writer took his leave, deciding after all that perhaps there was something besides hokum in the large technical terms which many Radio writers, manufacturers and advertising copywriters will probably continue to use and misuse.



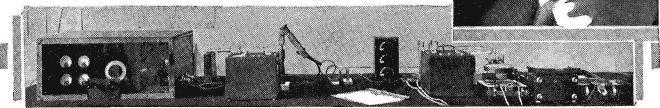


Photo shows high frequency measuring table, with equipment used in measuring the electrical efficiencies of Radio coils, condensers, and insulating materials (as bakelite and hard rubber). "Power Factor," or phase difference, are determined to indicate the merit of these components. Left, screened in, is a 20-watt radio frequency oscillator. Next to the right in order are a precision standard wave meter, a delivery coil, the latter coupled to a coil under test, a decade resistance box, standard variable air condenser, thermogalvanometer (with glass for reading), and several meters at right. The latter are not of the common variety but take peak vacuum tube voltage measurements. Right insert, William W. Harper, consulting engineer.

FOLLOWING SPORTS THROUGH MIKE

SERIES BROADCASTS WASTEFUL?—MAYBE!

ECONOMIC LOSS OF TIME QUESTION IN DOUBT

Many Work on Half Day Schedule So They Can Listen to Description of Ball Games

SCHENECTADY, N. Y .- Do the World Series baseball games result in economic waste? The correspondence of WGY during and following the 1925 baseball championship indicates a suspension of useful, productive effort from two to four o'clock every day of the series.

For example, housewives admitted that they limited the fall cleaning to half days and industrious, plodding farmers

days and industrious, plodding farmers reported that they abandoned fall plowing at noon to hear Graham McNamee's colorful description of a ball game.

The size of the Radio audience during the series is anybody's guess but no guess can be made on the basis of the number of Radio receiving sets for in city and country groups of from two to three people to two or three hundred listened to the output of single receivers.

Not a Total Loss

It is not just to charge the listening time of all people as a total loss, for Radio does permit some to continue with

dio does permit some to continue with their work without loss of interest in the subject broadcast. One housekeeper reported that she did all her mending during the baseball series but admitted that there were times when the needle would not behave.

Football Broadcasts

Saturday, November 7 Chicago-Illinois, KYW (535.

(370.2).

Harvard-Princeton, WBZ (333.1), WCAE (461.3), WCAP (468.5), WEAF (491.5), WGY (379.5), WJAR (305.9), WJZ (464.3), WSAI (325.9), WTAG (268), WTIC (475.9).

Iowa State College-Grinnell, WOI (270). Minnesota-Butler, WCCO (416.4). Montreal-Argonauts, CFCA (356). Montreal-Argonauts, CFCA (356).
Northwestern-Michigan, WBBM (226).
Ohio State-Indiana, WEAO (293.9).
Pennsylvania-Haverford, WIP (508.2)
Pittsburgh-W. and J., KDKA (309.1). St. Mary's-Multnomah, KGW (491.5). Washington-Stanford, KFOA (454.3). Wisconsin-Iowa, WSUI (483.6).

The work of the World Series announcer is best summed up by a Potsdam, N. Y., woman who wrote: that two women are doing their fall housecleaning on a half-day schedule, two farm women at that, he may be sure he is doing his job well."

"When a man can tell news, especially about the baseball game, so interestingly

Close Sayville Navy Station

WASHINGTON, D. C.—Announcement has been made by the navy department that the naval Radio station at Sayville, L. I., has been ordered decommissioned and its traffic routed through a new 20-kilowatt tube set at Arlington, Va. The Sayville station, taken over from the Germans during the war, handled the Navy traffic with San Juan and Porto Rico on an arc set.

Indians Follow Sports Through Microphone

Yakima Tribesmen Enjoy Broadcast of World's Series Games

PORTLAND, Ore.-Poor Lo has suc-

cumbed once more to the white man's inventions—this time the Radio.

During the recent World's Series a group of members of the Yakima tribe on the reservation across the Columbia river in central Washington listened in the broadeast returns of the contraction. to broadcast returns of the game. As Pittsburgh or Washington diamond gladi-

ators played to their satisfaction grunts of approval rose from their backers among the crowd.

Some of the members are not versed in the language of the white man so one, better trained than his fellow tribesmen took down the language of the whole down the language of the language men, took down the play-by-play description in shorthand and then translated it in intervals of silence to those who could understand only the Yakima jargon.

Several of the Indians, well versed in America's national game, kept intelligent box scores of each game, changing the figures accurately with each play.

New Baltimore Station to Have Unique Studio Staff

BALTIMORE, Md.—WBAL, the new Baltimore station recently built by the Gas and Electric company here, has gathered together an unusually talented staff. Frederick R. Huber, director of broadcasting, has chosen Stanley W. Barnett of WOC for studio manager. Gustav Klemm, one of the program supervisors, is a native of Baltimore and conductor of the Park band. George Bolek, the other a fine baritone voice, is the announcer.

WOC GIVES FOOTBALL RESULTS OVER RADIO

Davenport Station Will Mike Playby-Play Results

DAVENPORT, Iowa.-Station the Palmer School of Chiropractic here, has received permission, experimentally, from the Associated Press to broadcast from the Associated Press to broadcast play-by-play reports of football games in cooperation with the Davenport Democrat and Leader. As the plays are received, on the A. P. wire behind the scoreboard at the office of the Democrat, they will be repeated by the WOC announcer into the microphone, and thus carried into the ether to football fans everywhere.

everywhere.
Inasmuch as Station WSUI, the State University of Iowa, on the same wave length as that used by WOC, will be broadcasting the game that will be played at Iowa City on November 7, WOC must perforce be silent on this date. The following, therefore, are the dates of the games which WOC will broadcast: November 14—lowa at Minnesota.

November 21-Iowa at Southern Cali-

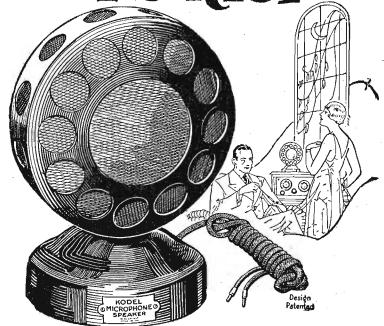
fornia.

The kick-off is scheduled in each case for 2:00 p. m.

Dedicate New WBBM Studio with Big Surprise Program

CHICAGO.—WBBM, Atlass Brothers station here, opened a new studio last week which will divide air time with the Broadmoor hotel and Stewart-Warner studios. The North Side Realty company is sponsoring the studio which is located at 77 West Washington street. The openof the Park band. George Bolek, the other program director, is also a well-known musician. James E. Wilkinson, who has a fine haritone voice is the appearances, gave a riotous evening's program.

Loud Speake Sensation.



The KODEL MICROPHONE Loud Speaker

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

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

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

Write for descriptive literature

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

T takes only one-third as long to charge your batteries as it did with last year's slow 2-ampere chargers. The new 5-ampere GOLD SEAL HOMCHARGER charges 150% faster --- fully charges the average battery OVERNIGHT!

The new 5-ampere GOLD SEAL HOMCHARGER charges A or B batteries - · is trouble-proof, shock-proof, fire-proof; there are no bulbs to break, no acids to spill, no extras to buy.

Any radio dealer can show you the new 5-ampere GOLD SEAL HOMCHARGER—or can get it for you

THE KODEL RADIO CORPORATION Owners of Station WKRC. 509 EAST PEARL STREET CINCINNATI, OHIO

The New 5 Ampere GOLD SEAL HOMCHARGER



OPERATING AND TROUBLE SHOOTING

OPERATING and Trouble Shooting, is a Radio Digest feature the purpose of which is to give practical information on the operation, care and cure of simple troubles in every kind of receiver. Standard Radio receivers of wide distribution and use are studied from the standpoint of instructions for installing and connecting, tuning and operating, and remedying little difficulties. The suggestions below, if executed faithfully, will make winter broadcast listening yield all there is to yield to the reader and give your set a fair chance to show its worth.

For the Owner of Super-Zenith VII, VIII, IX and X

THE panel and apparatus of Super-Zenith II form the basis around which the other three models in the Zenith line are built so the following data on this set will be found of equal value to the owner of the larger models.
Super-Zenith VII is probably the largest

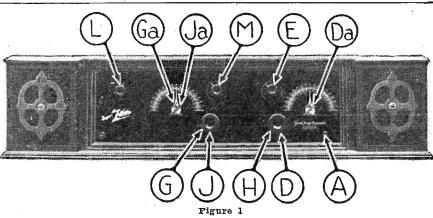
cabinet receiver on the market, as the apparatus has not been crowded together and there are large compartments at each end for the batteries. This set is a tuned radio frequency receiver, incorporating two stages of radio frequency amplifica-tion, a detector and three stages of am-plification at audio frequencies. Much interest has been aroused in Radio circles in this set as it is the first time that a receiver has appeared for use by the Radio public in which variable coupling in the R.F. transformers has been tried.

The unique and different factors are not all within the cabinet as inspection of figure 1 will show. At the right end of the panel there is an engraved scale which indicates the settings of the pointer Da, which settings are controlled by the knob identified by the letter D. The usual construction is to have a large dial which can be turned by means of a smaller vernier knob, but in this case all control of Da is done through the knob D. The other tun-ing control is the indicator Ga and Ja, the setting of which is varied by the knob GJ

The rear view of this panel is shown in figure 2, and study of this illustration will show the reason for the peculiar identification lettering of the controls. The variable condenser D is on the shaft of the D. Behind knob D on the front of the panel will be found a knurled disc which is the control H, by which the capacity of the small condenser H as shown in the rear view, may be varied. The two con-densers G and J in figure 2 are controlled through cords by the knob GJ, the set-tings for which are shown by the pointer Ga-Ja: thus two condensers are controlled simultaneously by means of a single knob

Figure 3 is presented for those who are familiar with schematic wiring diagrams and the various parts used and shown in figure 1 and 2 may be readily found in figure 3. For control of efficiency of the first tube, a variable high resistance unit is in serted in the plate circuit of the first tube serted in the plate circuit of the first tube and identified by the letter E. M is the rheostat by which the brilliancy of the detector tube can be varied, while L is a stage control switch which permits of ready change from one to two or three stages of audio frequency amplification. Considering now figure 3 it will be noted that signals come into the primary of the fixed coupler C and the turns in use in the primary can be varied by means in the primary can be varied by means of the different connections to binding post B.

A small loading coil is shown at A which may be cut in or out by the switch identified as A. The secondary of coupler U is coupled to tube V by means of the tuned R.F. transformer F. The primary of



condenser G and is rotated with respect to the secondary simultaneously with con-denser C. Tighter coupling between primary and secondary is possible at higher wave lengths than can be used at lower wave lengths, and this primary is adjusted so that its position approaches a right angle with respect to the secondary as the rotor plates of condenser G are turned out of the stator plates. Signals then go to tube V and then to transformer I in which the same feature of variable coupling is found as is used in transformer F. Transformer I feeds into the detector tube W. The grid leak for this detector tube may be identified in figures 2 and 3 by the letter K.

There are no rheostats in this set for any of the amplifier tubes as fixed ballast resistances are employed to keep the voltage supplied the filaments of the amplifier tubes at the correct value. The three stages of audio frequency amplification appear at the right end of figure 2, the tube sockets X, Y and Z being the first, second and third stages respectively, while transformers N, O and P are used in that order.

A jack, not shown in figure 3, is furnished, allowing the use of head phones for tuning. The method of changing from phones to loud speaker is entirely automatic, merely removing the phone plug

transformer F is attached to the shaft of puts the loud speaker into operation, plugging in the phones puts them into operation and disconnects the loud speaker. Switch L is used to increase and decrease the amplification as desired. This is an improvement over the old plug and jack system employed in the majority of other Radio receivers. Until one has become thoroughly accustomed to the set it is suggested that head phones be used in tuning the receiver. After the operator has had sufficient experience in tuning, the majority of stations may be tuned in di-rectly in the loud speaker.

Knobs D and GJ are the two tuning con-cols. By their use the desired station is tuned in. Low wave stations transmitting on 200 to 300 meter waves will be found on 200 to 300 meter waves will be found on the lower left hand side of the scale, stations of higher wave lengths will be found as the pointers are advanced to the right. It will also be noticed that controls D and GJ will have practically the same setting when tuning in a station. For example, if a station is being received with pointer Da at 65 on the scale Ga-Da with pointer Da at 65 on the scale, Ga-Da will likewise be at approximately 65.

Control E, the resistance, will necessitate a little practice before its use is thoroughly understood. It should be turned to at which point it should be turned back until the sound just disappears. In other (Continued on page 12)

Why Radio Digest specifies Aero Coils in the new "FIRESIDE" set

Here is the answer to SELECTIVITY with VOLUME in tuned radio frequency receivers

It is easy to obtain selectivity obtain selectivity
with most any
kind of parts, at
the expense of
power. The problem has been to
obtain selectivity
and volume; selectivity to tune
out powerful locals—and, power
to bring in distant stations loud
and clear when
the locals are
tuned out.

HOW IT IS
DONE
The answer is, 1

The answer is, reduce the high frequency resistance and distributed capacity of the coils used for amplification at radio frequencies—and tune the coils with condensers of approximately the same resistance!

The amazing selectivity, the way the "Fireside" tunes the most powerful locals in and out on a "knife's edge"; the tremendous volume with which this wonder set brings in the most distant stations, and the bellike clear tone of the receiver are due primarily to the ideal characteristics of the Aero Colls comprising the radio frequency amplifier!

Recause of their 95% air dielectric

Because of their 95% air dielectric and their patented construction which



The Kit you need for the "FIRESIDE"

ings to be entirely "dopeless" and evenly airspaced, the Aero Coils used in the "Fireside" Coils used in the "Fireside" have a lower high frequency resist-ance and dis-tributed capacity than any other type of induc-tance ever de-vised. Laboratory test shows that **red. Laboratory test shows that Aero Coils should be more selective and more power-prove that they are! No. TRF-120-Price \$12.00

Obtain a set of Aero Coils from your dealer or direct from the factory. The Kit you need for the "Flreside" is TRF-120. The price is \$12.00.

permits the wind-

Other Aero Coil Units

R. F. Regenerative No. RFR-110 List \$11.00 3 Circuit Tuner No. CT-80 List \$ 8.00 Wave Trap Unit
No. WT-40 . . . List \$ 4.00 Oscillator No. QS-55 List \$ 5.50

AERO PRODUCTS, INC.

217 No. Desplaines St., Chicago



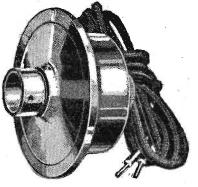
BIG PRICE REDUCTION



THE FORD of LOUD SPEAKERS \$6⁵⁰

Fultone Loud Speaker has conclusively proven to the radio world that a reproducer could be made and sold at \$6.50 which would handle music or speech in volume as perfectly as any speaker at any price. The horn is solid, non-ringing and wide-throated enough to handle the powerful reproduction from superherterodyne or reflex. The adjustable diaphragm permits matching Fultone to any receiver and "B" battery voltage.

Either speaker or unit will be shipped on a satisfaction or money back hasis on receipt of price in money order or currency. The coupon is provided for your convenience in ordering if your dealer eannot supply you.



This unit is the secret behind the unparalleled success of Fultone Speaker.

15 laminations of steel.

Use on Your Phonograph
25c

Its large diaphragm and bobbins of fine wire are protected from injury by a heavy nickel-plated case through the back of which adjustment is made by means of a special key. The pole pieces are not made from a solld piece of iron but are assembled from 15 laminations of carefully chosen steel.

Ise on Your Phonograph

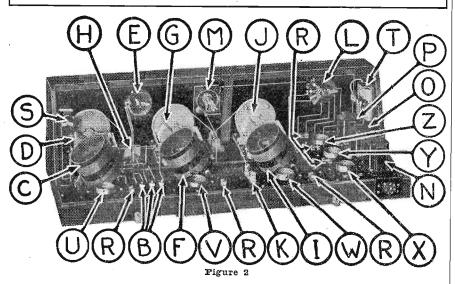
paralleled success of Fultone Speaker.

The wire are protected from injury by a heavy nickel-plated case through the wire are protected from injury by a heavy nickel-plated case through the wire are protected from injury by a heavy nickel-plated case through the wire are protected from injury by a heavy nickel-plated case through the wire are protected from injury by a heavy nickel-plated case through the wire are protected from injury by a heavy nickel-plated case through the wire are protected from injury by a heavy nickel-plated case through the wire are protected from injury by a heavy nickel-plated case through the back of which adjustment is made by means of a special key. The pole pieces are not made from a solld piece of iron but are assembled from the injury by a heavy nickel-plated case through the back of which adjustment is made by means of iron but are assembled from the injury by a heavy nickel-plated case through the back of which adjustment is made by means of a special key. The pole piece of iron but are assembled from the injury by a heavy nickel-plated case through the wire are protected from injury by a heavy nickel-plated case through the wire are protected from injury by a heavy nickel-plated case through the wire are protected from injury by a heavy nickel-plated case through the back of which all the latest through the injury nickel-plated case through the back of which all the latest through the back of which all the latest through

Trade Mark

LOUD SPEAKER UNIT \$<u>300</u>

OPERATING AND TROUBLE SHOOTING



(Continued from page 11)

words, it should be kept as far to the right as possible without causing distorted signals. The operator can readily recognize this point when a station is tuned in, by turning the control E completely to the right and then bringing it back until a point is reached where the signal is perfectly clear.

To tune, start with D and GJ at zero on their respective scales and the vernier H midway between its left and right hand stopping points. Move GJ slowly to the right and simulaneously swing D pendulumwise to the right, that is, swing it back and forth slowly over a range of three degrees on either side of the position maintained by GJ. The proximity of a station broadcasting at the time, will be indicated by a hissing or rushing sound as D passes a particular point. Adjust GJ and D to the loudest point of the sound, then release D and operate GJ and the vernier knob H simultaneously as follows: Move vernier H slowly back and forth, at the same time moving GJ slowly back and forth over a range about one division on either side of the point where the loudest signals are heard. This should clear up the reception. In the event that it does not, controls GJ and D should be slightly readjusted and the vernier H operated as before. This will bring in the station

clearly, and the readings on the scale may be marked down on a log card for future reference. Should it be desired to retune a station at a future time, it is only necessary to place the pointers at the positions on the scales indicated by the log card and then adjust the vernier H

then adjust the vernier H.

To get the utmost out of the receiver the following readjustments may be made after the station has been tuned in as outlined above. Turn control E completely to the right and then gradually bring it back to the point where the voice of music clears up. The best suggestion for using this control is to keep it as far as possible to the right without impairing the quality of the program being received.

After a station is tuned in, remove the headphone plug from the jack in the lower left hand corner of the panel, whereupon the signal will be heard in the loud speaker which has been connected to two posts marked "loud speaker" at the rear left-hand corner of the sub base, inside the set. Should more volume be desired, turn switch L to position 2, while turning it to point 3 will further increase the volume.

Considering now, the analysis of the set which formed the first part of this article, and considering also, the tuning procedure just concluded, it should be clear that one is endeavoring to bring three tuned cir-

(Continued on page 24)

Real Progress in Radio

Emphatically Yes!

Radio IS marching forward, this season as before. But it is marching in a new direction.

Quality of Reception.

That is the big, new theme. And the new Jewett Receiver is its inspiration.

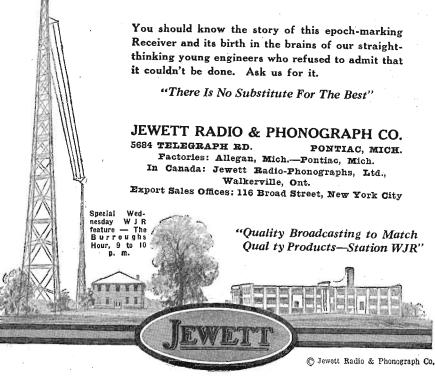
At last Radio commands a Receiver that is truly a Musical Instrument, by a manufacturer of experience in the musical instrument field.

Mere words cannot describe this new Jewett Quality of Reception. You must hear and understand.

So just visit an authorized Jewett Dealer and let him prove to you that here is a new kind of Radio—so different from the old as to create new standards and ideals.

For the first time, B-Battery current and resulting distortion have been completely barred from the speaker circuit.





ADVANCE PROGRAMS FOR THE WEEK



Edythe Crowder, coloratura soprano, is one of the most pleasing of the younger art-ists at **KWKH**, Shreveport, La. She has become a permanent member of the staff and will be glad to receive requests.

Saturday, November 7

	Headline	rs Today	
Eastern	Central	Mountain	Pacific
8:10 p. m.	7:10 p. m.	6:10 p. m.	5 : i0- թ. ma,
WJZ (455) ?		_	
WLS (344.6) National Bar	n danee.	
8:30	7:30	6:30	5:30
W1P (508.2)	Surprise prog	ram.	
	8:30		6:30
KYW (536)	Congress class	ie.	
WLW (422.3	3) Hawaiian St	rains.	0.15
	8:15		6:15
	9) The Red M		~
10	9		,
	6) Fanny Schi	nitger Martin	8:10
11:10	10:10	9:10	
	"The Serenade		ra. 9
			3
KYW (536)	Congress Carr	IIVai.	II n m
4 %. M.	Syncopation	for West Cos	et P. III.
W D DM (220	i) Symboliation	101 11 021 000	4 D V 4

Saturday, silent night for: CFAC, CFCA, CHIC, CNRA, CNRC, CNRE, CNRM, CNRR, CNRT, CNRV, CNRW, KFAU, KFDM, KFMQ, KFMX, KFRU, KLDS, KMA, KOB, KSAC, KTAB, SWSC, WBAP, WBZ, WCAU, WCX, WEBJ, WGCP, WHAD, WHAZ, WHB, WHO, WHO, WIP, WIAR, WLWL, WKAQ, WOAI, WOS, WSMB, WSUI, WTAG, WTIC, WWJ.

Eastern Time Stations

Eastern Time Stations

CFCA, Toronto, Can. (356), 2:15 p. m., Rugby game, Montreal vs. Argonauls.

CKNC, Toronto, Can. (355), 8 p. m., Charles E. Bodley and his dance orchestra; Elsie White, soprano; Bob Harvey, tenor; James Brown, tenor.

CNRO, Ottawa, Can. (435), 8 p. m., Chateau Laurier concert orchestra; 9, 8t. James United church cholr; Chateau Laurier dance orchestra.

KDKA, Pittsburgh, Pa. (309.1), 6:15 p. m., dinner concert, Westinghouse band, T. J. Vastine, conductor, 7:30, children's period; 8:30, Westinghouse band concert, T. J. Vastine, conductor.

WHG, Richmond Hill, N. Y. (315.6), 12-12:55 p. m., musical program.

WBZ, Springfield, Mass. (333.1), 3 p. m., play-by-play Harvard-Princeton football game.

WCAE, Pittsburgh, Pa. (461.3), 3 p. m., Harvard-Princeton game; 6:30, dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 8, philharmonic concert.

WCAP, Washington, D. C. (468.5), 1:45 p. m., Harvard vs. Princeton football game.

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

WEAF, New York, N. Y. (491.5), 1:45-3 p. m., Harvard-Princeton football game; 4-5, Elmer Grosso and his orchestra; 6-7, dinner music, Waldorf-Astoria; 7-11, musical program; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra, 6-7, dinner music, Waldorf-Astoria; 7-11, musical program; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra, 6-7, dinner woncert orchestra, 6-7, dinner woncert orchestra, 6-7, dinner woncert orchestra, 6-7, dinner woncert waldorf-Astoria; 7-11, musical program; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra, 6-7, dinner woncert, Waldorf-Astoria; 7-11, musical program; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra, 6-7, dinner woncert orchestra, 6-7, dinner woncert waldorf-Astoria; 7-11, musical program; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra, 6-7, dinner woncert orchestra, 6-7, dinner woncert waldorf-Astoria; 7-11, musical program; 11-12, Vincent Lopez and his Hotel Pennsylvania orchestra.

nis Hotel Pennsylvania orchestra.

WEAR, Cleveland, Ohio (389.4), 7 p. m., Hotel Statler concert orchestra, Maurice Spitalny, director.

WEEI, Boston, Mass. (348.6), 8 p. m., Dolk Eisenbourg and his State theater orchestra; 9, Dok Eisenbourg and his orchestra; 10, Δmerican House Marimba band and orchestra.

his orchestra; 10, American House Marimba band and orchestra.

WGBU, Fulford-by-the-Sea, Fia. (278), 6:30-7:30 p. m., Theresa Horn, planist; 10-12, Miami Dally Tab musical melanue; 12-1, Blue Steele's orchestra.

WGBS, New York, N. Y. (31-5, 6), 8-6-30 p. m., Uncle Geebee; 6:30-7, Vincent Sorey's orchestra; 7-7:15, dance lessons, Arthur Murray; 8:40-9:10, Magyar ensemble; Gaspar Sante, tenor; 9:30-10:30, program, Warner's theater; 10:30-11:30, Arrowhead Inn orchestra.

WGCP, New York, N. Y. (315-6), 3-2:15 p. m., Henry Rogers, planist; 3:15-3:30, Henrietta Cross and Maurice Abrahams; 3:30-3:45, Ukulete Lon Hayes; 3:45-4, Rust and Henrichsen, banjoists; 4-4:15, Johanna Cohen, ukulete, songs; 4:15-5:15, Richard Cheatham's Club Basha orchestra.

WGR, Buffalo, N. Y. (319), 1:45 p. m., jointly with WEAF, intercollegiate football game, Harvard vs. Princeton, at Princeton, at Princeton, at Princeton football game; 9:30, Hotel Ten Eyek dance orchestra.

WHAR, Atlantic City, N. J. (275), 7:30 p. m., lecture

Princeton 100tball game; 9:30, Housi Tell Eyek datics orchestra.

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

WIP, Philadelphia, Pa. (508.2), 1 p. m., organ reeltal, Germantown theater; 3, University of Pennsylvania vs. Haverford college; 6:05, Benjamin Franklin concert orchestra, W. Irving Oppenheim, director; 7, Uncle Wirsbedtline story; 8, "Environment a Big Factor in Health and Disease," Prof. Louis Gerschenfeld; 8:15, sports corner, Dr. Francis D'Ellsou; 8:30, surprise program, Metropolitan Opera house; 10:05, danco music, Benjamin Franklin, dance orchestra, Howard Lanin, director.

WHAR Prayldence, R. I. (305.9), 1:45 p. m., Harvard-

Miar, Providence, R. I. (305.9), 1:45 p. in., Harvard-Princeton game; 8:20, Philharmonic orchestra, William

WIAR, Providence, R. I. (305.9), 1:45 p. m., Harvard-Princeton game; 8:20, Philharmonic orchestra, William Mengelberg.

WIR. Defroit, Mich. (517), 2:30 p. m., St. Louis university-University of Debroit; 7, Jean Goldkette's Petite symphony orchestra; 9, Jean Goldkette's Serenaders; 10, Jean Goldkette's Victor Recording orchestra; 11:30, Jewett Jesters.

WIZ. New York, N. Y. (455), 2:15 p. m., Harvard-Princeton football game; 5, Hotel Lorraine dance orchestra; 7, Bernhard Levitow's Hotel Commodore dinner orchestra; 8:10, The Texans, Sanchez and Milstead, popular songs; 8:30, Sherry's dance orchestra; 9, Gertrude Hopkins, harpist; 9:15, announced; 9:30, Gertrude Hopkins; 9:45, announced; 11, Jacques Green and his Club Deauville orchestra, Clark's Hawaiians.

WMCA, New York, N. Y. (340.7), 6-6:30 p. m., Olcott Vail and his Hotel McAlpin string ensemble; 6:30-6:45, Milton Nawmeyer; 8:30-8:45, Robert S. Chree, barttone; 9-9:15, Julius Steiner, tenor; 9:30-9:45, Kathryn Hegeman, soprano; Ralph W. Brown, pianist; 10:15-10:30, Eva Giles, soprano; 10:39-10:15, Edward Morris, pianist; 10:45-11, Patrick O'Commor and Thomas Halloram, flutists; 11-12, Ernle Golden and his Hotel McAlpin orchestra.

WNYC, New York, N. Y. (326), 7-7:30 p. m., dance program; 7:30-7:35, police alarms; 7:35-8, dance program; 9-9:15, violin recital; 9:30-9:45, police quarter; 10:10-10:30, letture service, board of education.

WOR, Newark, N. J. (405.2), 3:15-4 p. m.; Zili's

tion.

WOR, Nowark, N. J. (405.2), 3:15-4 p. m.; Zil's Gentral Park Casino orchestra; 6:15-6:17, "Words O'ten Mispronounced;" 6:17-7, dinner music, Hotel Shelton; 7:15-7:39, sports talk, Bill Wathey; 7:30-

High Lights of the Week

ANNY Schnitger Martin, one of RANNY Schnitger Martin, one of the outstanding younger contractors in the oratorio and concert field is booked to sing at WOC, Davenport, Saturday evening, Novem-Davenport, Saturday evening, November 7. Miss Martin has a beautiful voice with an unusual range. For fans who enjoy a bit of light opera now and then the program given by the Bicycle Playing Card sextet at WSAI will sound inviting. The sextet will give selections from the "Red Mill."

Walter Damrosch, a recognized leader in the orchestral world, will be heard from WJZ, New York, Sunday, He will give a notable performance of the Kreutzer sonata. The Atwater Kent artists this week are Eva Gauthier, soprano, and John Powell,

Fathers and sons will have their annual meeting at WHAZ this Monday. Other members of the family are invited to tune in. The Mozart male quartet is a popular feature at WCAE, Pittsburgh. WBAP offers a high class vaudeville show from the Majestic theater.

Alumni of the U. of Michigan are enjoying the programs broadcast twice a month by WJR, Detroit, direct from the college campus. Although many of the features are educational, there will be novelty programs spongored by the students grams sponsored by the students. The next meeting will be held Tuesday, November 10. The "First African Suite," by Barcroft will be the opening number played by the Formica concert orchestra Tuesday at WLW, Cincinnati. This suite is an interest-ing musical illustration of African life. WLW hopes to reach African listeners.

Armistice Day begins with taps by WEAF. All the Radio stations on the air Wednesday morning will stand by during the two minutes of silence. Even the ether will participate in this breathless hush which marks the ending of the World War. WOR will broadcast the large military meetings gathered to dedicate the Montclair, N. J., marble shaft in memory of fallen soldiers. In the evening many stations will observe the day with martial music by military bands.

One of the dramatic offerings of the week is "Her Temporary Hus-band," by the KGO players. One of the attractive players to be heard Thursday, may be found on page 17. James Francis Cooke, editor of "The Etude" goes on the air this week from WIP with the first "Etude Period." This hour will appeal to young music students.

It is not recorded in the annuals of broadcasting that anyone has ever seen witches in the air, but WTIC, Hartford, promises that there will be no rest for the superstitious on Friday the 13th. The program will be given entirely by the staff. No one else will be present except a few spirits, evil or otherwise, who crowd into places on such occasions. The program begins at 8:30 p. m., eastern time, and is called "Hoodoo Night." Deane H. Dickason, official lecturer of the Canadian Pacific World Cruises, will talk on "Round the World in Sixty Minutes" at KOA, Denver this same evening. Mr. Dickason has interviewed Mussolini, the late Dr. Sun Yat-sen of China, Ghandi, Sir Rabindranath Tagore and the Maharajah of Rajoutana.

8:30, Van's collegians; 10:30-11, Eddie Elkins Ciro orchestra.

**WPG. Atlantie City. N. J. (298.8), 1:30 p. m., Hotel Morton musie, J. Leonard Lewis, director; 6:45, request organ selections, Arthur. Brook; 7, Hotel Traymore music; 8, program announced; 8:30, Chalfonte-Haddon Hall evening concert; dance music. May be a subject of the contraction of the contestra; 6:40, Chalfonte-Haddon Hall evening concert; dance music. May be a subject of the contestra; 7, Hotel Washington orchestra; 8, Bible takk; 8:15, musical program; 10:30, Crandall's Saturday Nighters; 12, Colonial Room orchestra, Shoreham hotel. WREO, Lansing, Mich. (285.5), 10-12 midnight, special of accompanist; 7:10, may be a subject of the contestra; 12, Colonial Room orchestra, Shoreham hotel. WREO, Lansing, Mich. (285.5), 10-12 midnight, special of accompanist; 10:20 p. m., Morested 1:20:50 p. m., Jules Kiein's Hotel Statler orchestra; 12; 0:30 p. m., Miscelland, Contest of Statler orchestra; 12; 0:30 p. m., play-by-play foobball roturns; 5:30-9:30, Sebmoller and Mueller musical program.

Recentral Time Stations

KFAB, Lincoln, Nebr. (340.7), 2:30 p. m., play-by-play foobball roturns; 5:30-9:30, Sebmoller and Mueller musical program.

Recentral Time Stations

KFAB, Lincoln, Nebr. (340.7), 2:30 p. m., play-by-play foobball roturns; 5:30-9:30, Sebmoller and Mueller musical program.

Recentral Time Stations

KFAB, Lincoln, Nebr. (340.7), 2:30 p. m., play-by-play floobball roturns; 5:30-9:30, Sebmoller and Mueller musical program.

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Recentral Time Stations

KFAB, Lincoln, Nebr. (340.

Robinson; 7:30-9, mixed vocal and instrumental concert, Arthur Findling, baritone.

WHT. Chicago, III. (399.8), 6 p. m., classical program; Grayling's string trio; Jean Carlson, soprano; Eleanor Kaplan, violinist; W. Dyckman, baritone; Eleanor Kaplan, violinist; W. Dyckman, baritone; Eleanor Kaplan, violinist; W. Dyckman, baritone; Edwin Kemp, tenor; Al Carney, organist; (238), 7:45-9:15, musical features; (399.8), 9:30, Jelke entertainers; Kitchen Kienzer Klassics, Harry Langdon, harmonica soloist; Marie Wright, soprano; Golden trio; Oscar Heather, tenor; Al Carney, organist; 12, Pat Barnes and Al Carney.

WiBO, Chicago, III. (226), 6-8 p. m., James Luchansky, tenor; Dorothy Dillow, seprano; Helen Ginsberg, soprano; Charlotte Edwards, contratio.

WLIB, Eigin, III. (302.8), 7-8 p. m., dinner concert; Drake concert ensemble; Blackstone string quintet; 9-10, Fred Hamm's orchestra; organ recital; 10-11, Jack Chapman's and the Blackstone hotel dance orchestras; Jazza artists; 1-2 a. m., Jack Chapman's and the Blackstone hotel dance orchestras; jazza artists; 1-2, a. m., Jack Chapman's and the Blackstone hotel dance orchestras; jazza witisty, 1-2, 12, 145 p. m., Junior R. F. D. Roundup program; 7, Juliaby time, Ford and Glenn; 7:15, National Barn dance; Ralph Emerson, organist; Grace Wilson, contraito; Barn dance fiddlers; Tony Corcoran, baritone; Nubs Allan, contraito; Ondance music; 11-12, Joe Bren's Minstrel company.

WLW, Cincinnati, Ohio (422.3), 7 p. m., organ concert, Johanna Grosse, musical surprises; 7:30, football results; 7:40, Sekatary Hawkins; 8, Crosley community singing; 8:30, Hawaiian strains, South Sea seronaders, Charles Ditzel, director.

WMAQ, Chicago, III. (257), 7-8 p. m., Trianon duo; Beatrice Teller, Preston Graves, Jean St. Anne; 9-11, Trianon orchestra; Nwodlawn theater orchestra; 7, Gilbert Jaffy and the Sandman; 6, Riatho orchestra; 7, Gilbert Jaffy and the Sandman; 6, Riatho orchestra; 7, Gilbert Jaffy and the Sandman; 6, Riatho orchestra; 7, Gilbert Jaffy and the Sandman; 6, Riatho orch

Paul Vipperman is the tenor who entertains every Sunday afternoon from 1 to 2 p. m., central time, at WOC, Davenport, Ia. His voice is well adapted to broadcasting and he understands his

derstands his

microphone.

musical program, Faunie Schnitger-Martin, contraito;
11s. LeClaire hotel orchestra; Peter MacArthur, bari11s. Lect. Le

Mountain Time Stations

KFWA, Ogden, Utah (261), 5-6 p. m., Ogden Radio dealers program; 9-12, dance music, Olie Reeves and his orchestra.

KFWA, Ogden, Utah (261), 5-6 p. m., Ogden Radio dealers program; 9-12, dance music, Olie Reeves and his orchestra.

KOA, Denver, Colo. (322.4), 12:15 p. m., Rialto theater musicale; 9, orchestra music program.

"Pacific Time Stations

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

KFPG, Hollywood, Calif. (238), 9-9:30 a. m., Dad King's family circle; 8-9 p. m., Maggie O'Shea, The Blarney Girl and her vaudeville entertainers; 9-10, Ben Sears' Old-Timers frolic and dance.

KFWB, Hollywood, Calif. (252), 6:30-7 p. in., program sponsored by E. P. Jones, builder, featuring Bill Hatch and Ray Kellogg; 7-7-30, microphone brevitles; 7:45, Dr. Marshutz in an Exe-O-Logue talk; 8-10, program, John Wright, The Right Tallor, with John Wright orchestra, Georgia Starke, soprano, Billy Wilson and his uke, Fred Rogers' Hawalians; 10-11, Warner Bros. frolic.

KGO, Oakland, Calif. (361.2), 11:30 a. m.-1 p. innecessing starke, 8:10, National Carbon company program; The Serenade' coniec open; orchestral accompaniment, Vinton LuFerrera; "The Recruiting Office, connect with music; 10-12, Hotel St. Francls dance program.

KGW, Portland, Ore. (491.5), 2:30 p. m., football game, St. Mary's College of Oakland vs. Multnomah Amateur Athletic club; Rose city trio; 10-12, dance music, Multnomah botel.

KHJ, Los Angeles, Calif. (405.2), 6-6:30 p. m.
Leighton's Areade cafeteria orchestra, Jack Cron-

Leighton's Arcade cafeteria orchestra, Jack Cron-shuw, leader; 6:30-7:30, history story, Prof. Hertzog, Eugenia Caldwell, dialect readings, Dolly Wright and Henrietta Poland, readings; 8-10, program, Fred El. Schreiner, arranged by J. Howard Johnson, 10-11:30, Art Hickman's Bittnore hotel dance orches-tra, Frank Ellis, leader; 11:30-2 a. m., Lost Angeis

11:30-Art Edits, leader; 11:30-2 a. m., Lost Angels of KHJ.
KIR, Seattle, Wash. (384.4), 1:15-2 p. m., organ re eltal; 2-2:15, home helps, Bernice Redington; 8:30-10, L. C. Warner company.
KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurltzer pipe organ studio, Town Tattler; 6:15, travel talk, W. F. Adler; 6:30-7, Atwater Kent Radio orchestra. Paul Finstein, leader; 7, talk on insectifie, H. W. McSpadden; 7:15, church announcements; 7:30-8, Wurltizer pipe organ studio; 8-10, KNX feature program; 10-11, Ray West's Cocomut Grove dance orchestra from Ambassador hotel; 11-2 a. m., Hollywood Night with some famous people of Hollywood.

(Continued on page 14)



"Too much mustard?" Not at all. Just enough is taken to keep these three pianists, Joe Zimmerman (left), Ted Snyder, and Sid Cohen (right), peppy. Tune in any night for WAHG, Richmond Hill, N. Y., and you can see how it works.

FANNY SCHNITGER MARTIN AT WOC



atherine Jackson is one of the west past's premier harpists. She is a popular guest at KHJ, Los Angeles.

Saturday, November 7

(Continued from page 13)

KPO. San Francisca, Calif. (428.3), 1-2 p. m., Rudy Seiger's Fairmont hotel orchestra; 2:30, studio pro-gram; 0:309, Palace hotel concert orchestra, Cyrus Trobbe, director; 6:35-7:30, Waldemar Lind and the States Restaurant orchestra; 8-12, Cabirla Cafe or-chestra, Jack Coakloy, director.

Sunday, November 8

•	Headline	rs Today	
Eastern	Centra1	Mountain	Pacific
	5 p. m.		3 p. nr.
	7) Roemer's		-
8	7	6	5
		ay Evening cl	ub.
	4) Fireslde		
	7:30		5:30
WCAU (277.	6) Bonwit Te	ller concert.	
	alter Damro	sch	
9	_8	7	6
	Fontella tric		
	8:15		6:15
	5) Atwater B	ent hour.	_
10	9	8	7
	B) Classical h		
	9:30		7:30
WFAA (475.	9) MacDowell	Sisters.	

Sunday, silent night for: CHIC, CKNC, CNRA, CNRC, CNRE, CNRM, CNRO, CNRR, CNRT, CNRV, CNRW, KFAB, KFAM, KFA, KFA, KFA, KBB, KSAC, KWSC, WAHG, WBAP, WGAU, WGX, WOAF, WEBJ, WFI, WGBS, WGCP, WHAD, WHAS, WJR, WAQ, WLIT, WMC, WOK, WOO, WOR, WORD, WRC, WSAI, WSMB, WTAM, WTIC.

Eastern Time Stations

Eastern Time Stations

KDKA, Pittsburgh, Pa. (309.1), 19-45 a. m., church service; 4 pm., Dr. Charles Heinroth, organist; 4:45, vesper, services; 6:39, Pittsburgh Athletic association; 7:43, church service.

WBZ, Springfield, Mass. (333.1) 0:55 a. m., services, 8outh Congregational church, Rev. James Gordon Gilkey, pastor; Prof. Wilson P. Moog, organist; 2 voice choir; quartet; 8:39, special musical program, Steinway Hall, W3Z; Walter Diminsel, pianist-conductor; violin rectial, Paul Kocianiskl.

WCAE, Pittsburgh, Pa. (461.3), 8:43 p. m., Dr. S. P. Cadman; 6:39, William Penn hotel; 7:29, Capitol theater gang; 9:15, Atwater Kent.

WCAP, Washington, D. C. (468.5), 11 a. m., New York Avenue Presbyterlan church; 4 p. m., services, Washington Cathedral, Rev. Henry Lubeck; 7:29-9:15, Capitol theater; 9:15-10:15, Atwater Kent Radio hour. WCAU, Philadelphia, Pa. (277-6), 5 p. m., Mrs. Paul Jones, soprano; Kathryn O'Royle, planist; 5:15, Undenominational Radio church service, John W. Stockwell; 5:35, "The Thirty-fourth Rook," Rev. John Stockwell; 5:35, Teetlal; 5:45, "Gottling," John Stockwell; 5:30, Hotel Pennsylvania concert orchestra; 8:39, 8. Bonwit Teller concert; 10:15-11, Jaffe's Colleglans. WCX, Dotroit, Mich. (517), 10:30 a. m., services, Greater New York, N. Y. (491.5), 3-3:45 p. m., services, Greater New York Federation of churches; 3:43-5:30, men's conference, Bedford branch, Y. M. C. A., 7:20-9:15, "Capitol Gang," Capitol theater; 9:15-10:15, Atwater Kent Radio hour, John Powell, Eva Gauthier, Soprano.

Gauthier, soprano.

WEAR, Cleveland, Ohio (389.4), 3:30 p. m., Goodyear concert orchestra; 7-8, Park theater orchestra; 8-9, Fireside hour; 9-10, studio program.

Fireside hour; 9-10, studio program,
WFEI, Boston, Mass. (348.6), 10:50 a.m., morning
service, Old South church, Rev. George A. Gordon;
3:15 p. m., Men's conference, Dr. S. Parkes Cadman;
7:20, Major Bowes and his Capitol theater family;
9:15, Alwater Kent hour.
WGBS. New York, N. Y. (345.6), 3:30-4:30 p. m., pro-

gram, Warner's theater.

WGBU, Futford-by-the-Sea, Fla. (278), 9-11 p. m., sacred program.

sacred program.

WGR, Buffalo, N. Y. (319), 3 p. m., vesper service,
Rev. Dr. Don D. Tullis, secretary Buffalo Council of
Churches, speaker; 7:45, Central Presbyterian church
service; 9:15-10:15, jointly with WEAF, Atwater Ken
fadio artists, featuring Eva Gauthier, soprano, and
folin Powell nightless.

Radio artists, featuring Eva Gauthier, soprano, and John Powell, planist.

WGY, Schencetady, N. Y. (279.5), 9:45 a. m., First Church of Christ, scientist: Elmer Petter, reader: Mabel Gorton, readre; 12:20 p. m., Rivoli theater orchestra, Dr. Hugo Riesenfeld, conductor, WJZ; 7; Carillon program, Park Avenue Baptist church, WJZ.

7:30. Hotel Pennsylvania orchestra, WJZ; 8, vocalist, WJZ; 8:39. Steinway series, WJZ. WIP, Philadelphia, Pa. (508.2), 7:15 p. m., evening service, Holy Tributy church, Rev. Floyd W. Tomkins, rechar; 9:30, Ben Stadans and his WIP Little symmetric graphs.

rector; 9:30, Ben Stadans and fils will latter symphony orchestra.
WHAR, Atlantic City, N. J. (275), 2:15 p. m., Seastic hotel trio; 2:45, sermon, H. A. Durrell; 7:50, Chelsea Baptist church; 9, Seastde hotel trio; 11:15, Strand theater organ recttal.
WHN, New York, N. Y. (361.2), 1-1:30 p. m., Lexington organ recttal; 2:30-3:30, Christian Endeavor program; 5-5:30, Roseland dance orchestra; 7:30-10, services, Calvary Baptist church; 10-45-11, Janssen'; Hofbrau orchestra; 12-12:30, Club Richman enteratiners.

WIAR, Previdence, R. I. (305.9), 7:20 p. m., Capttol theater gang; 9:15, WEAFF Atwater Kent hour.
WIR, Detreit, Mich. (517), 8:30 p. m., Merry Old Chief, Jowett Jesters.
WLWL, New York, N. Y. (288.3), 8 p. m., talks on literature; special talks.
WMCA, New York, N. Y. (340.7), 6-7 p. m., Roemer's Homers; 7-7:30, Ernie Golden and his Hotel Mc-Alpin orchestra; 7:35-8, Olcott Vail and his Hotel Mc-Alpin string ensemble.

Albin orchestra; 7:35-8, Olcott Vall and his Hotel McAlpin string ensemble.

WREO, Lansing, Mich. (285.5), 10 a. m., chimes, Belfry Plymouth Congregational church; 10:30, church services, Plymouth Congregational church; 7, Central M. E. church, Rev. Frank Kingdon, pastor.

WTAG, Worcester, Mass. (268), 3:45-5:30 p. m., Men's conference, Dr. S. Parkes Cadman; Gloria trumpeters: George Betts, chime soloist; 7:20-9:15, Major Bowes and the Capitol theater gang, WEAF; 9:15-10:15, WEAF Atwater Kent hour.

Central Time Stations

KFAB, Lincoln, Nebr. (340.7), 4-5 p. m., vesper serv-KFDM, Beaumont, Texas (315.6), 8-9 p. m., sacred pro-

gram. KFMX, Northfield, Minn. (337), 7-8 p. m., college ves-

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

KFNF, Shenandoah, Iowa (266), 10:45 a. m., morning worship, M. E. church; 2:30 p. m., Golden Rule song service; 3, Wheeler Evangelists; 6:30, Gold Rule circle; 7:30, Christlan church services; KLDS, Independence, Mo. (440,9), 11 a. m., Stone church services; sermon, Apostle John F. Garver; 6:30 p. m., vesper service; Walnut Park quartet; Minnic Scott Dobson, director; sermon, U. W. Greene; 9, ladies' quartet; Mrs. John Wattlins, soprano; Mrs. J. Gault, soprano; Mrs. M. Siegtried, contralto; Madge Kueffer, contralto; sermon, Balph W. Farreli; George Miller, pianist; Lillian Greene, violinist; "Shakespeare and Religion;" Robert Miller, organist. KMA, Shenandoah, la. (252), 4-6 p. m., vesper services

tes. (PRC, Houston, Tox. (296.9), 10:45 a. m., services, First Methodist church, Rev. A. Frank Smith; 7:30 p. m., evening service, First Methodist church; 10, Ray Mullins' orchestra. (SD, St. Louis, Mo. (545.1), 6:15 p. m., WEAF chair (KHS, Hot Springs National Park, Ark. (374.8), 11 a. m., services, First Presbyterian church; 9:10 p. m., classical hour, New Arlington hotel 10-piece nesemble; 10:11:30, Phil Baxter and his singing orchestra.

tra.

KYW, Chicago, Ill. (535.4), 11 a.m., Central church
2:30, chapel; 5, concert hour, Edwin, Harper; 7-9:1'
p. m., Chicago Sunday evening club, Imperial mais
quartet; "Some Old Letters," Ciliford W. Barnes
7:40, Stanley Martin, organist; 8, "The New Age,"
Dr. Lynn Harold Hough.

WBAP, Fort Worth, Tex. (475.9), 11 a.m., First
Methodist church; 12:30, comic section, Uncle Billy
5-6 Glenwood Church of Christ; 11, Shelly Lee Alley's orchestra.

3-6 Glenwood Church of Christ; 11, Shelly Lee Alley's orchestra.

WBBM, Chicago, III. (226), 4-6 p. m., Harold Anderson, Merry Garden orchestra; Charlie Garland, Maurlee Sliverman, Burdette Cleveland; Blue Dueces, Zeigler sisters; 8-10, Frances lagram, contralto; Merry Garden orchestra; Wendell Weigert, violinist; Jean St. Anne, baritone; Christian Grim, accompanist; Ted Coleman, cellist; Joseph Raeiff, concert pianist; 12-2, Nutty club request feature.

WBBR, New York, N. Y. (272.6), 10 a. m., Watchtower orchestra; 10:20, Fred Twaroschk, tenor; 10:30, "Glad Tudinas for All People," W. N. Woodworth; 11, Fred Twaroschk, tenor, Watchtower orchestra; 9 p. m., 1, 13, S. A. cholar singers; 9:10, violin duets; 10:16, 1, B. S. A. chora singers.

WGBD, Zion, III. (344.6), 8 p. m., Chester Bagg, baritone; Mary Swoet, soprane; William C. Dunn, euphonium soloist; Paul Stewart, cornetist; Erwin Rondall, pianist.

WCCO, Minneanolis-St. Paul, Minn. (416.4), 11 a. m.,

tone; Mary speed, in Stewart, cornected, nium soloist; Paul Stewart, cornected, planist.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 11 a. m., Westminster Presbyterian church; 4:10 p. m., House of Hope Presbyterian church; 8:15, Atwater Kent

WEBH, Chicago, III. (370.2), 5-6 p. m., twilight

mosicale; 7-9, artist program. 9-6 p. m., twillight mosicale; 7-9, artist program. WEBW, Beloit, Wis. (268), 4:30 p. m., vesper service WFAA, Dallas, Fexas (475.9), 3-4 p. m., Sunday bour for farmers; 6:30-7:30, Bible class, Dr. William M Anderson; sospel song; 7:30-8-30, City Temple service, Dr. B. P. Fullerton; 9:30-11, MacDowell Sisters' string music recital.

string music rectail.

WGN, Chicago, III. (379.2), 12 m., comies for the WGN, Chicago, Lyon & Healy organ rectal; 3:30, Chicago nusical college concert; 9, Drake concert engago musical college concert; 9, Drake concert cago musical college concert; 9, Drake concert en-semble. WHAD, Milwaukee, Wis. (278), 6-7 p. m., Arthur

sembles.

WHAD, Milwaukee, Wis. (278), 6-7 p. m., Arthur Richter. organist.

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

WHB, Kansas City, Mo. (365.6), 9:40 a. m., Linwood Blvd. Christian church; 11-12:15 p. m., All Souls Unitarian church; 8-9, Lutheran services; 11:15-1, Linwood theater.

WHO, Des Moines, lowa (526), 11 a. m., church service; 7:30-9 p. m., Reese-Hughes orchestra.

WHT, Chicago, III. (399.8), 2:15 p. m., Fellowship program; 2:50, services, Chicago Gospel dabernacle; 5:39, Young Women's council; 6:30, concert, Tabernacle band; choir; sermon, Paul Rader; 9:30, request program; 10:30, Paul Rader and chapel staff.

WHSO, Chicago, III. (326), 2-4 p. m., classical concert; 6-8, studle program; 10-12, popular program; Ted Florito and Dan Russo orchestra organ recital; 10-11, lack Chapman's and the Blackstone hotel dance orchestra; lazz, artists; 1-2 a. m., Radph Emerson, organist; 7-7:55; WLS Little Brown clurch in the Vale; Little Brown church choir.

organist; 7-7:55. WLS Little Brown church in the Vale; Little Brown church choir.

WLW, Cincinnati, Ohio (422.3), 9:30 a. m., school, cditorial staff of Sunday School Publications of Methodist Book concern; 11, services, Seventh Presphyterian church, Jesse Halsey, minister, Armistice Day service; 7 p. m., services, Eiomaus Luthoran Evangelical church, E. P. Dannenfeldt, pastor; 8, H. & S. Pogue concert, Walter Esberger, director, soloists; Arthur Dondero, violinist, Arthur Bowen, cellist, John Elect, trombone, WMBB, Chicago, 111. (250), 3-5 p. m., Woodlawn the ater. orchestra: Addian Madamba, Earl Smith, Walter Duffey; 9-11, Trianon orchestra, Woodlawn theater orchestra: Stella Stanley, Bab Wilson.

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

WOAW, Omaha, Nebr. (526), 9 a. na., chapel service.

WOC. Davenport, lowa (483.6), 6:30-7 p. m., "The Power of Vision," Rev. W. E. Slaght; 8:15-9:15. Atwater Kent Radio artists; 9:45-11:55, Palmer Little symphony.

WOK. Chreage, III. (217.3), 6:30-8:30 p. m., WOK

tle symphony. WOK. Chicago, III. (217.3), 6:30-8:30 p. m., WOK mixed quartet, WOK string trio.

WORD, Batavia, III. (275), 10 a. m., hymns and sacred songs; 10:13, Bible lecture, L. M. Smith; 10:45, sacred ducts and solos; 9 p. m. I. B. S. A. choral singers; 9:15, Bible lecture; 9:49, sacred mustcal program, John T. Bead, director.

WOS, Jefferson City, Mo. (440.9), 9:30 a. m., Christian church; 7:30, Episcopal church.

WO, Chicago, III. (447.5), 9:39 a. m., People's church; 3-4 p. m., Margot Hayes, contraito; Melora Walker, violinist; Lenora Alivater, contraito; Miliam Bresters, tenor; Saida A. Ballantine, accompanist; 8-10, Madeline Ruff, planist; Everett G. Mitchell, bartione; Maria Dneprova, Russian soprano; Gertrude Hardeman, contraito; Fontella trio; Muriel Keneally, soprano.

WSAI, Cincinnati, Ohio (326), 2:45 p. m., talk, Dr. S. Parkes Cadman; 7:45, chimes, Rohert Badgley; 8, sermonette, Rev. William Patterson; 8:15, Alwater Kent Radio hour, Eva Gauthier, soprano; John Powell, pianist; 9:15, Union Central Life Insurance concert orchestra.

cert orehestra. WSB, Atlanta, Ga. (428.3), 5 p. m., Church of God

program, WSM, Nashville, Tenn. (282.8), 3-4:45 p. m., Nashville symphony orchestra; 7:30, sorvices, First Presbyterian church service, WSUI, lowa City, lowa (483.6), 12-12:30 p. m., famaliar hymans, Mrs. Lottle Volkiner.

Mountain Time Stations

COA, Denver, Colo. (322.4), 11 a. m., First Baptist church services; 3 p. m., organ recital. Clarence Reynolds; 7:45, services, First Baptist church.

olds; 7:45, services, First Baptist church.

Pacific Time Stations

KFPG, Hollywood, Calif. (238), 8-9 p. m., KFPG concert hour, Turner orchestra, Georgia Starke, coloratura soprano.

KFWB, Hollywood, Calif. (252), 9-11 p. m., late news and Warner Bros. movie frolie with Joe Martin's Famous Stadio Six orchestra; Roy-Al saxophone sextette; Parks Sisters, vocal duets; Charles Beauchamp, tenor.

KGO, Oakland, Calif. (361.2), 11 a. m., service, Trinity Episcopal church, Charles P. Deems, rector; Trinity Episcopal church, Charles P. Deems, rector; Riddehamel, conducting; Arthur S. Garbett; Mine Elfrieda Wynne, guest artist; 7:45, Trinity Episcopal church services, artist; 7:45, Trinity Episcopal church services, present and the services of the s

Rhodehamel, conducting; Arthur S. Garbett; Mme Elifrieda Wynne, guest artist; 7:45, Trinity Episcopal church services.

KGW. Portland, Ore. (491.5), 10:35 a. m., First Presbyterian church; 7:30-9, First Church of Christ, Scientist.

KHJ. Los Angeles, Calif. (405.2), 6:30-7 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 7.7:30 organ rectal, Arthur Blakely, organist; 8-18, program, Martin Music Company, arrayed by J. Howard Johnson with John Martin, concert panist; Ruth Pits, soprano.

KIR, Seattle, W. M. (384.4), 11 a. m., First M. E. church; 7:15-7:30 p. m., Mrs. Montgomery Lynch, and Concert panist; 7:39-9, First M. E. church; 9-10:30, Puggs Sound Savings & Loan association orchestra.

KNK, Hollywood, Calif. (336.9), 7-8 p. m., First Predyterian Church of Hollywood, Rev. Stewart P. MacLennan, pastor; 8-9, Ambassador Hotel concert orchestra; Dosef Rosenfeld, director; 9-10:30, program, Everly Hills Nurseries, Calino, Luboviski Tio; Misha Gegna, 'cello; Raquel Nieto, soprano. KPO, San Francisco, Calif. (428.3), 9:45 a. m., church service; 6:35-7:30, Palace hotel concert orchestra; 8:30-60, Rudy Seiger's Falirnont hotel orchestra; 8:30-60, Rudy Seiger's Falirnont hotel orchestra. KTAB, Oakland, Calif. (249.0), 9:45 a. m., Bible lecture, Prof. Linsty; 11, church service; 7:45 p. m., church service; 9:30-11, concert.

Monday, November 9

Headliners Today

Pacific 6 p. m.

Monday silent night for: CNRA, CNRC, CNRE, CNRM, CNRO, CNRR, CNRV, CNRW, CNRT, KFDM, KFMQ, KFMX, KFRU, KHJ, KLDS, KTCL, KYW, WBBM, WCBD, WEBH, WEBJ, WENR, WFI, WGBS, WGES, WGN, WHAS, WHT, WIP, WJJD, WKAQ, WLIB, WLS, WLLVL, WMAQ, WMBB, WOC, WORD, WQJ, WRC, WREO.

Eastern Time Stations

Eastern Time Stations

CKNC, Toronto, Can. (357), 8-10 p. m., Armistice day pragrau; CKNC Little symphony orchestra, Charles E. Bodley, director; Madeline Bell, soprano; Lawrence Defoe, tenor; Edgar Smilth, bass; Dwight Wilson, haritone; 10-12, Charles Bodley and his dance orchestra; Elsie Addison, contralio; Irone Jenks, Frank Welsman, pianists.

KDKA, Pittsburgh, Pa. (309.1), 6:15 p. m., dinner concert; 7:45, "International Art," Homer Saint-Gaudens; 9, Spear's happy home hour.

WAHG, Richmond Hill, N. Y. (315.6), 12-12:55 p. m., musical program; 7:30-7:45, Hon. Maurice E. Connolly; 7:45-8:15, Synchrophase trio; 8:15-8:30, Edgar M. Groen, baritone; 8:39-8:45, Von der Heide and La Ruffa, banjo and plano; 8:45-9, Horace J. Taylor, reader; 9-9:15, Joe Zimmerman, planist; 9:15-9:30, Synchrophase trio; 9:39-9:45, Edgar M. Gruen; 9:45-9:55, Joe Zimmerman; 9:55-10, time signals and weather report; 10-10:15, Von der Heide and La Ruffa; 10:15-11:15, Glenn C. Smith's Paramount orchestra.

WBZ, Springfield, Mass. (333.1), 8:30 p. m., organ recital; Margaret Tighe; 7:05, "The Psychology of Understanding People," Abraham Myerson; 7:30, Capriolite lateter orchestra; 8, concert program, Edward Boyle's Copley Plaza orchestra; 8:30, Elsa Evans, dramatic soprano; Veronica Lamere, pianist; 9, Aleppo Drum Corps or Shriner's band concert; 9:39, Aleppo Drum Corps or Shriner's band concert; 9:39, dine theater; 6:30, dinner concert, William Penn hotel; 7:45, address, American Red Cross; 8, Nixon orchestra; 9, Mozart male quartet; 11, Loew's Aldius theater.

WCAP, Washington, D. C. (468.5), 7:30-8:30 p. m., program; 8:20-8:46, Abollo chorus; 8:45-9. Tower

orchestra; 9, Mozart mane quartet, 11, 10-18 or theator.

WCAP, Washington, D. C. (468.5), 7:30-8:30 p. m. program; 8:20-8:45, Apollo chorus; 8:45-9, Tower health talk; 9-10, A. & P. Gypsies; 10-11, WEAF Grand opera company.

WGAU, Philadelphia, Pa. (277.6), 8 p. m., theater chat, Stan Lee; 8:10, Carolyn Thomas, soprano; Ella Jaquette Kratz, planist; 9, Amsterdam girl; 9:10, Danny Dougherty, song hits; 9:30, Delaware County Serenaders; 10, songs, Freedman and Travaline stongs; 10:15, James Loughrey, tenor.

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

WEAF, New York, N. Y. (491.5), 4-5 p. m., musteal program; 6-7, dinner music. Waldorf-Astoria; 7-10:30, James Kraucer, planist; Tower health talk; music, A. and P. Gypsies; "Your Hour"; 10:30-11:30, Ben Bernie and hix Hotel Roosevett orchestra. WEAR, Cleveland, Ohio (389.4), 7-8 p. m., Allen theater orchestra.

WEAR Cleveland, Ohio (389.4), 7-8 p. m., Allen theater orchestra.
WEE!, Boston. Mass. (348.6), 10:45 a. m., "The Christmas Plun Pudding"; 2 p. m., Happy Hawkins and his orchestra; 3, A. J. Philpost; 7, Big Brother club; 7:45, Level A. Dennett, violinist; 8, Anonymous

orchestra; 8:45, health talk, WEAF; 9, WEAF
A. and P. Gypsies; 10, American House Marlinba
and orchestra.
WGES, New York, N. Y. (315.6), 6-6:30 p. m., Uncle
Geebee; 6:30-7:30, Premier club orchestra.
WGEU, Fulford-by-the-Sea Fia. (278), 6:30-7:30 p. m.,
Blue Steele's Fulford-by-the-Sea orchestra; 10-1, Blue
Steele's Fulford-by-the-Sea orchestra; 10-1, Blue
Steele's Fulford-by-the-Sea orchestra;
WGCP, New York, N. Y. (315.6), 3-3:15 p. m., Kva
Rothenberg, planologue; 3:15-4:15, Andy Pendleton's
band; 4:15-4:30, Joe Ross, harmonica; 4:30-5, Uncle
Robert and his pals; 5-5:15, Shirley Herman, songs;
7-8, Dominion Ginger Ale orchestra; 8-8:15, Slivio
de Rienzo, piunits; 8:15-8:30, Ukuele Lon Hayes;
8:30-8:40, Gertrude Guarente, planist; 8:40-9, Bod
Ward and the three litible Wards; 9-10, Strickland's
orchestra; 10-11, Radio Shack hour; 11-11:30, Club
Ritz orchestra; 11:30-12, Club Rodeo entortainers,
12-2:30, Comile's orchestra.
WGHP, Detroit, Mich. (270), 8 p. m., WGHP little
symphony.

symphony.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's alternoon program; 6:30-7:30, Olympic dance orchestra; 8:30-9. Dutch Master's program; 9-10, Allen Saxophone band, Joseph B. Allen, director and soloist; 10-11, Howard Hartell and associate artists in a popular program; 11-1 a. m., Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

WGY, Schenectady, N. Y. (279.5), 2 p. m., mosie; "Cooking Lesson—Fruit Cakes," Jessie Lane; "Buying Our Food," Irene Nehrling; 2:30, Asia cutting Our Food," Irene Nehrling; 2:30, Asia cutter orchestra; 7. WGY, program for farmers; 7:45, WGY orchestra; Emeline Bates, sopramo; George Ackorley, cornetist; Literary Appreciation series, Wildemer.

WHAR, Atlantic City, N. J. (275), 2 p. m. Sessiede.

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

WHAR, Atlantic City, N. J. (275), 2 p. m., SeasIde hotel trio; 7:30, fashion review, Hilda Burch; 8, SeasIde hotel trio; 7:30, fashion review, Hilda Burch; 8, SeasIde hotel trio; Toy, N. Y. (379.5), 9 p. m., father and son night program; 10:30, King jazz dance music. WHA, New York, N. Y. (361.2), 6:30-6:40 p. m., Leslie McLeod, tener; 6:40-7, Sunshine talk, Billy B. Van; 7-7:30, Mardboro State trio; 7:30-8, Swanee dub orchestra; 8-8:05, talk, H. B. Shontz; 8:95-8:30, Roseland dance orchestra; 8:30-9, Guardian city or the state of the state of the state of the state or the state of th

9:39-10, male quartet; 10:10-10:30, lecture service, board of education.

WOR, Newark, N. J. (405.2), 3:45-4 p. m., talk, Charm Magazine; 6:15-6:17, "Words Often Mispronounced;" 6:17-6:10mer music, Hotel Shelton; 7:15-7:30, sports talk, Bill Wathey; 7:30-8:30. Eddie Elkins Ciro orchestra; 8:30-9:30. At Reid's hour; 10:15-11, Archie Slater's Palais D'Or orchestra; 11-12, Janesen's New Hofbrun Haus orchestra.

WTAG. Worcester, Mass. (268), 10:30 a. m., chat; 10:45, talk, Marjorle Woocman, nurse; 12:105-2 p. m., inncheon music, WTAG trio, Harry Smith, director; 7:15. Twinkle Twinkle story teller; 8, concert program.

gram.

WTIC, Hartford, Conn. (475.9), 6:30 p. m. Emil Helinberge's Hotel Bond trio; 7:45, "Good Factories and Farns." Prof. Hill; 8, dinner music.

WWJ. Detroit, Mich. (352.7), 9:30 a. m., tonight's dinner, woman's editor; 12:95 Jules Klein's Hottl. Statler orchestra; 3, Detroit News orchestra; 6, dinner concert; 8, Detroit News orchestra, A. and P. Gypsies.

Central Time Stations

Central Time Stations

KFAB, Lincoln, Neb. (340.7), 3:15-3:45 p. m., matince musical; 8:30-10:30, Jack Marshall, planist; Mart Grauenhorst, banjoist; Ed Ellingson, tenor; Lenhart's orchestra; Belshaw's orchestra.

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

KFVE, University City, Mo. (240), 8:30 p. m., popular music, Bunswick-Balke-Collender company; Orchestra Romaine.

KMA, Shenandoah, Ia. (252), 11:30 a. m.-12:30 p. m., electra Romaine.

KMA, Shenandoah, Ia. (252), 11:30 a. m.-12:30 p. m., Earl May; musical saw solos, J. A. Showers; 6-7. Pollyamna stories, Mrs. D. Nickols; popular musical numbers; 9-11, How Do You Do, Boys, Grady and Doe; Farnham trio.

KPRC, Houston, Tex. (296.9), 12 noon, Frank Tilon, pianist; 5:30 p. m., Uncle Judi's kiddies' hour 7:30, Records' Bamblers, Pierre Records; 8:30, J. G. Blaffer, lyric soprano; Hu T. Huffmaster, planist; of Columbus band, W. J. Hartz, director.

KSAC, Manhattan, Kan, (340.7), 12:35 p. m., "Shelter for Cows and Milkers," James W. Linn; "Smite Sorghum Smut," D. It. Forter; 4:30-5, second year English literature; 6:35, book review, current events; (Continued on page 15)



Deane H. Dickason, official lecturer of the Canadian Pacific World Cruises, will give a talk, "Eound the World in Sixty Minutes," at KOA, Denver, Friday evening.

WALTER DAMROSCH AT WJZ SUNDAY

Monday, November 9

(Continued from page 14)

6:50, "General Psychology," P. R. Brainard; 7-7:15, "Marketing Kansas Wheat to Best Advantage," R. M. Green; 7:15, "Control of Corn Insects," J. W. McColloch.

KSD. St. Louis, Mo. (545.1), 6:45 p. m. Abergh's concert ensemble; 9, program; 10, Dutch Masters

concert ensemble; 9, program; 10, Dutch Masters clear hour, Max Steindel string quartet.
KTHS, Hot Springs National Park, Ark. (374.8), 9; 35 p. m., New Arilngton hotel orchestra; 9:45-10, Louis Culp, organist; 10-11, Rainbow Garden 553

KYW, Chicago, 4II. (535.4), 11:35 a. m., table talk, Mrs. Anna J. Peterson; 1-2, Joska DeBabary's or-

chestra.

WBAP, Fort Worth, Tex. (475.9), 12:05 p. m., John
B. Lane, old-time fiddler; 6-6:30, Fred Cahoon's
Texus hotel orchestra; 7:39-8:30, Northern Texus
Truction company; 9:30, Ward's Trail Blazers; 11-12,
Assistic thester.

Traction company; 9:30, Ward's Trail Blazers; 11-12, Majestic theater.

WBBR, New York, N. Y. (272.6), 3 p. m., Irene Kleinpeter, soprano; 8:25, Carl Park, violinist; 8:55, Carl Park, violinist.

WCGO, Minocapolis-St. Paul, Minn. (416.4), 10:45 p. n., "The Gold Medal Christmas Plum Pudding," Betty Crocker; 12 m., Donuldson's orchestra; 2:30 p. m., alternoon concert; 4, Readers' club, Mrs. Walter Stevens; 5:30, children's hour; 6:45, F. & R. Family; 7:45, poultry raising's 8, Gordon Cooke ensemble; Ashwin Blrnbach, soprano; 9, classical concert.

semble; Ashwin Blimbach, sopraine; 9, classical concert.

WDAF, Kansas City, Mo. (365.6), 3:30-4:30 p. m., Star's Radlo orchestra; 6-7, C. M. Ragon, reader; Tell-Me-a-Story Lady; Trianon ensemble; 8-10, Around the Town; 11:45-1 a. m., Plantation players; Ted Meyn, organist; Eddle Kuln's Kansas City Athletic club orchestra; Earl Coleman's orchestra. WGN, Chicago, III. (370.2), 12:40 p. m., Drako concert onsemble, Blackstone string quintet; 2:30, Lyon & Healy; 3, rockiug chair time, Drake concert ensemble, Blackstone string quintet; 3:30 tea time music, Marshall Fields tea room orchestra; 5:30, Skeezix time, member National Kindergarten and Elemenatry college; 6:30, Drake concert ensemble, Blackstone string quintet.

WHAD, Milwaukoe, Wis. (278), 6-7 p. m., Bill Bennings Milwaukoe, Wis. (278), 6-7 p. m., Bill Bennings Milwaukoe, Wis. (278), 4-5 p. m., oencert, ensemble, Blackstone string quintet.

WHAS, Louisville, Ky. (399.8), 4-5 p. m., oencert, ensemble, Blackstone string quintet.

WHAS, Louisville, Ky. (399.8), 4-5 p. m., oencert, ensemble, Blackstone string for the string str

orchestra.

WHO, Des Moines, Iowa (526), 7:30-8 p. m., Drake university conservatory of music; 8-9, faculty members, Drake conservatory of music; 11-12, dance

WHO. Des Moines, Iowa (526), 7:39-8 p. in., Drake university conservatory of music; 8-9, faculty members, Drake conservatory of music; 11-12, dance music.

WIAD, Waso, Tex. (352.7), 8:30-10 p. m., musical program, Wilma Shaffer, director.

WLS, Chicago, Ill. (344.6), 12 noon, WLS studio trio. WLW, Cincinnati, Ohio (422.3), 7:39 a. m., morning exercises, William Stradman, Y. M. C. A., 7:35, morning devotions, suspices Parkway Y. M. C. A., 9, Closley elementary school program musical appreciation lesson, supervision of Sarah Y. Cline, Cincinnati College of Music; 9:10, "A Visit to a Russian Peasant VIIIago," Dr. Homer L. Morris; 9:20, Agricultural primer prepared by J. W. Schwamb, Bureau of Agricultural extension, Purdue university, "What Is a Pig?" 9:25, calistenthics, Y. M. C. A., 12:15 p. m., noonday service, Rev. Geo. H. Kase, 4, student recital, pupils from class of Leo Stoffregen; 4:15, "Some Scienthic Truths," M. V. Whitere; 6:30, special theatrical feature; 7, concert from Hotel Gibson, Robert Visconti, director; 7:30, theatrical review; 8, the Chuchmati Times Star concert, William J. Kopp, director; soloist, Howard Hafford, Lenor; zylophone, J. Perrin.

WMAQ, Chicago, Ill. (447.5), 12:45 p. m., Radio farm school; 2, Shut-in program; 4, mothers in council; 4:30, fads and fancies, Dorothy Aldis; 4:45. Glenn Dillard Gum school of music; 5:15, Tonsy-Turvy thac; 6, Chicago theater organ rectait; 6:30, thotel LaSalle orchestra; 6:30, Family Altar league.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., program, George Lattrell, director.

WOAL, San Anlonio, Tex. (394.5), 3 p. m., wal Mc-

Gorge Intirell, director.

WOAI. San Anionio, Tex. (394.5), 3 p. m., musical program.

WOAW. Omaha, Neb. (526), 5:40 p. m., Val Me-Laughill, the Sandman; 6, Phyllis Griswold, organist; 6:25, popular song period; 8:50, Randali's Royal Fontenelle orchestra; 9, Skeen trio, Thelma Skeen, tolinist.

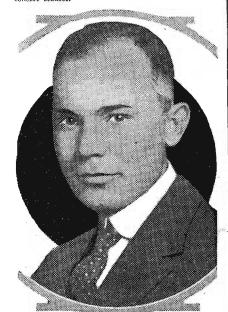
WOC, Davenport, Ia. (483.6), 12:15-12:25 p. m., "Hog Day," Prof. John M. Evverd.

WOK, Chicago, Ill. (217.3), 12-2 p. m., Sandy Meck, tenor; Harry Sosnik, planist; Busks Kennedy, organist; Bob Mokreis, planist; Gus C. Edwards and his orchestra: 6-1. Jinmy Walson, baritone; Paul Small, tenor; Jinmy Cairns, tenor; Herman Shnako, violinist; Harriet Lee, contralto; WOK string trio; WOK male quartet; Charles Lord, tenor; Henry Syler, tenor; Jack Keyes, bartlone; Norman Bartlett, bass; Harry Sosnik, planist; Sandy Meck, tenor; Gus C. Edwards and his orchestra.

WOS, Jefferson City, Mo. (440.9), 8 p. m., old-fashloned song, Christian college.

WQI, Chicago, Ill. (447.5), 11-12 m., "Baking Talk," Cleve Carney; "Preparing and Cooking Corned Beef," J. P. Harding, Jr.; 3-4 p. m., "Potatoes a Plenty," Helen Harrington Downing.

WSAI, Cincinnati, Ohio (326) 10-12 midulght, WSAI concert studios.



Louis Mecker, a member of the literary staff of the Kansas City Star, gives the book talks every Thursday night at 6 p.m. central time at WDAF.

WSM, Nashville, Tenn. (282.8), 6:30-7 p. m., Beasley Smith's orchestra; 7, bedtime story, Bonnto Barnhardt; 7:30-9, weekly community program, First Presbyterian church; 10-11, studio concort, Nashville Shriners.

WSOE, Milwankee, Wis. (246), 2 p. m., cooking chats, Prudence Penny; 5:30, twilight hour, children's stories, Aust Happy; Laurine Ladvix, "soprono Elmor Inrice, pianist; 6:30, "Hog Raising," F. B. Hansen; 9, Send a Candygram frolic; Alexander and his Briar Cliff orchestia; Erving R. Erving barting; Jna Rac, child soprano; Van Buren's Hawaiians; Victor Maves, planist; Marguerite Kolka, soprano; Colwarder, James and Cliff orchestia; Erving R. Erving barting; Jna Rac, child soprano; Van Buren's Hawaiians; Victor Maves, planist; Marguerite Kolka, soprano; Colwarder, James and Jame

y trio; 8-9, concert. , Scattle, Wash. (384.4), 1:15 p. m., organ recital; , Scattle, Wash. (384.4), 1:15 p. m., organ recital; 2:15, home helps; Eernice Redington; 7-8:30, Sears-sebuck & company; 8:30-10, Post-Intelligencer stu-o program; 10-11, Gordon Kilbourne and his or-

chestra.
KLX, Oakland, Calif. (508), 8-9 p. m., Mona Motor
Oil company; 9-10:30, Lake Merritt Ducks; special

Oil company; 3-10:30, Lake Morritt Ducks; speelal guest hight.

KNX. hollywood, Calif. (336.9), 5:30-6:15 p. m., Warlitzer pipe organ studio, Town Tattler; 6:15. Travel talk, W. F. Alder; 6:30-7, Atwater Kent Radlo orchestra, Paul Finsteln, leader; 7-750, Mutal Moiors mirth contest; 7:30-8, program, Columbia Ouffitting company; 8-9, program, L. W. Stockwoll company; 9-10, program, Ward Gas Floor Heater company; 10-11, Goodrich Silvertown Cord dance orchestra, Lilyan May Challenger, contrality; 11-12, Ray Wost's Coccanut Grove dance orchestra from Ambassador hotel.

Wost's Coccanut Grove dance orchestra from Ambassador lottel.

KPO, San Francisco, Calif. (428.3), 1-2 p. m., Rudy
Setizer's Fairmont hotel orchestra; 2:30-3:30, Hawaitan and popular music, Veina Truett, guitarist;
Leanor Nelson, ukulele soloist; Harry George, banjoist; 6:40-7, Waldemar Lind and the States Restaurant orchestra; 7-7:30, Rudy Setger's Fairmont hotel
orchestra; 8-8:45. Uda Waldrop, organist: 9-10,
father and son program; 10-11, Waldemar Lind and
the States Restaurant orchestra.

KTAB. Oakland, Calif. (240), 4-5 p. m., women's club
notes; 8-10, Western States Life Insurance company.

KWSC, Pullman, Wash. (348.6), 7:30-9 p. m., Mabelle
Carstens, reader; Erlene Loffler, planist; Dorothy
Hutchinson, vocalist; Clarice Shattuck, saxophonist;
"Early Electric Ploneers." R. D. Stoan.

Tuesday, November 10

	Headlin	ers Today	
		Mountain	Pacific
		6 p.m.	5 p. m.
WLW (422.3)			
WTIC (475.9)) Travelers	symphonic orch	estra.
8:15	7:15	6:15	5:15
WIP (508.2)	Armistico	Night program.	
9	8	7	6
WJR (517) M			
WNYC (526)			
9:30	8:30	7:30	6;30
WBZ (333.1)		hour.	-
10	. <u>9</u>	. 8	1
KTHS (374.8	Symphon	ic jazz.	
WJZ (455) "	rne Grane	q Tour.	8
H KTHS (374.8			U
11:10	10:10	9:10	8:10
		the Schooltoom"	novelty.
12:30	11:30	10:30	9:30
		Bridge feature.	

Tuesday, silent night for: CFCA, CHIC, CKNC, CNRC, CNRE, CNRM, CNRO, CNRW, CNRT, KFAU, KFRU, KFWA, KOB, KUOM, KWSC, WAHA, WHAT, WARR, WOGP, WHAD, WHAT, WKAG, WLIT, WOR, WSM, WSMB, WSUI, WTAM.

Eastern Time Stations Lastern l'ime Stations

KDKA. Pittsburgh, Pa. (309.1), 6:15 p. m., KDKA
Little symphony orchestra: 7:45, "Relativity," Dr. L.
P. Sieg; 8, world cruise, Ross H. Skluner: KDKA
Little symphony orchestra: 9, KDKA Little symphony
orchestra; Smithfield Methodist. Episcopal church quar-

1:35, concert, Grand theater. Richmond Hill, N. Y. (315.6), 12-12:55 p. m., musical program.

WBZ, Springfield, Mass. (333.1), 6:30 p. m., Leo Reisman's Hotel Lenox ensemble; 7:05, announced; 8, Mrs. J. R. Fausey, soprano; 8:15, special theatrical program, Charles B. Hector's orchestra, vaudeville; 9:30, Alandale hour, minstrels, William Mackay, di-

rector.

WCAE, Pittsburgh, Pa. (461.3), 3 p. m., Loew's Aldine theater; 6:30, dlnner concert, William Penn

dine theater; 6:30 dinner concert, William Penn hotel; 7:15. Uncle Kaybe; 7:30 Davis Saxophone octet; 8, program from New York; 8:30, Gold Dust Twins; 9 Evereidy hou; 10, Grand opera.

WCAU, Philadelphia, Pa. (27.6), 7:30 p. m., recital, N. Snellenburg and company; Pauline Waters, oprano; Charles and company; Pauline Waters, oprano; S. Bartram cuarter; Kashryn O'Boyle, pianist; 9, Does the American Make a Better Psychologist than the Euronean? Rev. John Stockwell; 9:10-gist and his Earl 5:17.6 p. m., dinner concert, Walderf-Astoria; 7:7:10, Florene Johnson, control of the Water Stock of the Columbia University; 7:30-8. Davis saxophone octet; 8-8:10, talk, Dudley F. Fowler; 8:10-8:30, Ross Gorman and his Earl Carroll Vanities orchestra: 8:30-

9, Gold Dust Twins; 9-10, "Eveready Hour;" 10-10:30, auction bridge instruction, United States Playing Card company; 10:30-11, Vincent Lopez and his orchestra; 11-12, Meyer Davis Lido-Venice orchestra; WEAR, Cleveland, Ohio (389-4), 7-8 p. m., Vincent Percy, organ recital; 8-9, Stewart-Warner artists; 9-10, State vaudeville and music; 10-11, Melody how, Al Dister's orchestra.
WEBJ, New York, N. Y. (272.6), 7-7:30 p. m., Dau Barnett's orchestra; 7:45-8, Milton Yokeman, tenor; Norman Hennefeld, accompanist, 3-8:15, falk, G. T. Geer; 8:15-8:30, Kathryn Connolly, soprano, 8:30-8:45, Rudolph Joskowitz, violinist; Norman Heuneleld, accompanist, WEEL, Boston, Mass. (348.6), 2 p. m., Joe Rhnes and orchestra; George Jov and Nell Cantor; 3:15, "Books and Plays," Sherwin Cook; 7, Big Brothor club; 7:45, Harvard observatory talk; 8, WEAF, Ross Gorman's orchestra; 8:30, Gold Dust Twins; 9, WEAF Eveready hour; 10, auction bridge, WEAF, WGBS, New York, N. Y. (315.6), 6-6:30 p. m., Uncle Geebee; 6:30-7:30, Boys' club program; 8-9, Y. M. H. C. vocational forum.
WGBU, Fulford-by-the-8ea, Fla. (278), 6:30-7:30 p. m., Blue Steele's orchestra; 10-1, Blue Steele's orchestra; Theresa Horn, pianist.
WGCP, New York, N. Y. (315.6), 9-3:315-30, Silvio de Rienzo, planist; 3:30-3:45, Isabelle Henderson, soprano; 4-4-15, Leslie McLeod, tenor; 4:15-4:45, studio program; 4:43-5-5, Vincent Moore, tenor. WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afformore nurserum; 6:30-7:30, Nove, Loney, Hord

band.

WGR, Buffale, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 6:30-7:30, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director; S-11, jointly wlth WEAF, Including Gold Dust Twins, Eveready hour, U. S. Playing Card company and Earl Carroll's theater.

Twins, Eveready hour, U.S. Playing Card company and Earl Carroll's theater.

W.GY, Schenectady, N. Y. (279.5), 2 p. m., music; one-act play, "Charming Leander," WGY Matinee playors; 2:30, organ rectal Stephen E. Beisclair; 6:30, dinner program, Hotel Van Curler orchestra; 7:30, "Vater Supply Engineering," Prof. Warren Taylor; 7:45, program, Stephen St. John Plectrum club; 10, "The Grand Tour-Holland," WJZ; 10:30, W. Spencer Tupman's Hotel Maydower orchestra; WRC.

WHAR. Atlantic City, N. J. (275), 2 p. m., Seaside hotel trlo; 7:30, book review, Mrs. James Lord; 8, Scaalde hotel trlo; 11:15, Strand theater organ recital, WHN, New York, N. Y. (381-2), 12:30-1 p. m. Lexington organ recital; 2-3:15, overture and vaudeville Loew's State theater; 3:15-4:30, Lexington orchestra; 4:30-5, Cncle Robert and his puls; 7-7:30, lecland orchestra; 7:30-8, Will Oakland's Charbeau Shanley; 11-11:30, Caravan club orchestra; 11:30-12, Rodeo club orchestra; 7:20-8, Will Oakland's Charbeau Shanley; 11-11:30, Caravan club orchestra; 11:30-12, Rodeo club orchestra; 11:30-13, Rodeo club orchestra; 11:30-14, Rodeo club orchestra; 11:30-15, Rodeo club orches

MacArthur, Admiral Scales, Colonel Clarence P. Franklin; Captain Richard V. Laneaster; 10:05, Emo's Weekly Movie broadcast, Eli M. Orowitz; 10:30, Club Pagoda orchestra.

Weekly Movie broadcast, Eli M. Orowitz; 10:30, Club Pagoda orchestra.

WAR, Providence, R. 1. (305.9), 1:05 p. m., Providence Biltmore hotel orchestra; 7:30, Lloyds orchestra; 8:30, WEAF Gold Dust twins; 9, Eveready hour.

WIR, Detroit, Mich. (517), 7 p. m.. Jean Goldkette's Petite symphony orchestra; 9, "Michigan" night.

WLWL, New York, N. Y. (288.3), 8 p. m., services, sermon, benediction; Paulist choristers.

WMCA, New York, N. Y. (340.7), 6-6:30 p. m., Olcott Vail and his Hotel McAlpin string ensemble; 6:30-7, Frank Gelbias Red Lion inn orchestra; 7:15-8, Jack Wilbur's personalities; 8-8:30, Hettle E. Matthews, sopranc; Fred A. Senimens, baritone; 9-9:15, Minnie Well, planist; 9:30-9:45, Catherine Harvey, sopranc; 1:12, Ernie Golden and his Hotel McAlpin orchestra. WNYC, New York, N. Y. (526), 7:7:10 p. m., market high spots; 7:10-7:30, the Canadians; 8:30-3:35, polica labrus; 7:35-8, 30, songs; 8:30-8:45, New York zither trlo; 8:45-9, songs; 9-11, dinner to Hon Charles E. Hughes, Hotel Astor.

WGR. Newark, N. 1. (405.2), 3-3:45 p. m., Clifford Lodge orchestra; 6:15-6:17, "Words Often Mispronounced"; 6:17-6:30, sports talk: Bill Wathey; 6:30-7, Man in Moon; 7-7:30, dinner music, Hotel Shelton.

WTAG, Worcester, Mass. (268, 10:20 a. m., Radio chat; 10:45, nonsical program; 12:05-2 p. m., luncheon music, WTAG trio. Harry Smith. director; 5:15, Twinkle Twinkle story teller; 8-8:30, Ross Comman and his Euri Carroll Vanities orchestra, WEAF, Sudo, yocal selections. Long and Broad; 9-10, WEAF Everendy hour; 10-10-30, program announced; 10:30, yocal selections. Long and Broad; 9-10, WEAF Everendy hour; 10-10-30, program announced; 10:30, yocal selections. Long and Broad; 9-10, WEAF Everendy hour; 10-10-30, program announced; 10:30, yocal selections. Long and Broad; 9-10, WEAF, Everendy hour; 10-10-30, program announced; 10:30, yocal selections.

Central Time Stations
FAB. Lincoln, Neb. (340.7), 8:15-8:45 p. m., matinee
nusical; 5:30-6:30, Little symphony, Bolshaw's
orchestra; 8:30-10:30, University of Nebraska musical

program. KFDM, Beaumont, Texas (315.6), 8-10 p. m., musical

program.

KFMX. Northfield, Minn. (337), 10-10:30 p. m., plano lesson, Frederick L. Lawrenco.

KFNF, Shenandoah, lowa (266), 7 p. m., concert, Inton, Nebraska, artists, Alda Taylor, director.

KFVE, University City, Mo. (240), 8:30 p. m., studio entertainers.

Whiten, Nebraska, artists Alda Taylor, director.

KFVE. University City, Mo. (240), 8:30 p. m., studio entertainers.

KLDS, Independence, Mo. (240), 8:30 p. m., lecture centres series, M. A. Etzenhauser; 8:15. classical program, Alma Nash School of fretted instruments.

KMA, Shenandoah, Ia. (252), 11:30 a. m.-12:30 p. m., R. F. D. program; garden, flower and orchard talks, Earl E. May; music: 6-7. May Flower orchestra; June and Jiu Taylor; Bobbic Ross; 9-11, May's Mandolin Musicians, Harry Day, director.

KPRC, Houston, Tex. (296.9), 12 noon, talks and music; 5:30 p. m., Uncle Judd's kiddies' hour; 7:30, Billie Mack and his orchestra; 8:30, vocal concert.

KSAC, Manhattan, Kan. (340,7), 12:35 p. m., readings; 12:10, "Routing the Rats;" Roy Moore; 12:58, "Tho Water Ration for Winter," James W. Linng; 4:30-5, program for women's clubs; 6:35, better speech and eliquette; 6:30, community organization, Walter Burr; 7, "Feeding Practices and Appliances," J. H. McAdams; 7:15, "Cetting Ready for 1926 Spray Problems," W. F. Pickett.

KSD, St. Louis, Mo. (545.1), 6:55 p. m., WEAF chain. KTHS, Hot Springs National Park, Ark. (374.8), 10-115 a. m. college night, 153rd infantry band.

KYW, Chicago, III. (535.4), 11:35 a. m., table talk, Mrs. Anma J. Peterson; 1-2 p. m. Coon-Sanders Original Nighthawks; 2:35-4, studio concert; 6:35-7, children's bedtime story; 7-7:30, Congress hotel; 8-9, Louis Mechan, tenor; Catherine Sutherland, soprano; Paul Hyland, banjoist; 9-10, concert; 10-11:30, evening at home; 1 a. m., Coon-Sanders original nighthawks.

Paul Hyland, banjoist; 9-10, concert; 10-11:30, evening at home; 1 a. m., Coon-Sanders original night-hawks.

WBAP, Fort Worth, Tex. (475.9), 12:05-12:30 p. m., Ward's Trail Blazers; 6-6:30, Fred Cahoon's Texas hotel orchestra; 7:30-8:30, concert, School of Gospel music; 9:30-10:45, Euterpean club.

WBBM, Chieago, ill. (226), 8-9 p. m., Merry Carden orchestra; 9-10, WIBBM string quartet; Harold Anderson accordionist, Merry Garden orchestra; Stewart-Warner string quartet; Leona Hayes, harpist; Lew Bussell, tenor; Manhattan quartet, Carl Newcomer, saxophonist; J. L. Bishop, bartione; Hire trio, musical glasses; Mrs. Athol Heath, pianist.

WCCO, Minneapolis St. Paul, Minn. (446.4), 12 m., Dick Long's Dayton trio; 2 p. m., the world of books, Mrs. A. Bellows; 5:30, children's hour; 6:15, Emme Long's Golden Pheasant orchestra; 7:30, WEAF, WDAF, Kansas City, Mo. (365.6), 5:30-4:30 p. m., Star's string trio; 6-7, plane tuning in number or the Duo-Art; plane lesson, Maudellen Littfield; Tell-Me-a-



Esther Healy Dowd, pianist, is a frequent visitor at WTAM, Cleveland. She might almost be called a member of the staff.

Story Lady; Trianon ensemble; 11:45-1, Plantation players; Earl Coleman's orchestra; Eddle Kuhn's Kansas City Athletic club orchestra; Johnnie Campbell's Kansas City club orchestra; Johnnie Campbell's Kansas City club orchestra; WEBH, Chicago, III. (370.2), 7-8 p. m., Oriole orchestra; Lydla Lochner, contralto; Uptown theater; 9-10. Oriole orchestra; songs, Paul Small; 11-1 a. m., Oriole orchestra; Sandy Meek, tenor; Harry Sosniek, accompanist; Jack Penewell, twin gultarist; songs, Paul Small.

panist; Jack Penewell, twin gultarist; songs, Paul Small.

WGES, Oak Park, HI. (250), 5-7 p. m., Lydla Wertei, soprano; Miles Sullivan players, one-act playlet; Stentrom sisters, vocal due; Tiffin theater organ and orchestra; 3-9, Helen Frahm, soprano; Tiffin orchestra; 11-1 a. m., Serenaders orchestra; quartet; Remington Welsh, organist, Sandy McTadish, Scotch comechan; Erwin Schmidt and his own songs; Jack Goodwin, tenor. WGN, Chicago, Ill. (370.2), 12:40 p. m., Drake concert ensemble, Blackstone string quintet; 2:30, artist series, Lyon & Healy; 3:30, tea time music, Marshall Fields tea room orchestra; 6:30-7, Drake concert ensemble, Blackstone string quintet; 8-9, WGN string trio; 10-11, Jack Chapman's and the Blackstone hotel dance orchestra.

WHAO, Louisville, Ky, (399.8), 4-5 p. m., Bill Benning's Milwaukee Athletic chb orchestra.

WHAS, Louisville, Ky, (399.8), 4-5 p. m., Harry S. Currie's Misle Box; children's stories, Elemor Huber; readings; 7:30-0, Eddie Rosson and his orchestra.

WHB, Kansas City, Mo. (365.5), 7-7:30 p. m., organ

Huber; readings; 7:30-9. Eddle Rosson and his orchestra.

WHB. Kansas City, Mo. (365.5), 7-7:30 p. m., organ concert, Morrell Moore; 8-9:30, Maurice Beaubon, bass; Edith Willis, accompanist; Gene Buell, piano accordionist; Geary School of dancing.

WHO. Des Moines, lowa (326), 7:30-8 p. m., Raleigh guintet; 8-9. Rankers Life trio; 11-12, Fankers Life Little symphonic orchestra.

WHT, Chicago, III. (399.8), 6-7:30 p. m., classical program; Gravithg's string trio; Eleanor Glimour, seprano; Helen Raum, pianist; John Clark, baritone; Oscar Heather, tenor; Al Carney, organist; Lottis period; (238), 7:45-9:15, musical features; (339.8), 9:30, Jelke entertainers; Kitchen Klenzor Klassfes; Larry Shay, tenor; U. S. L., program; Al Carney, organist; Lottis with the content of the conte

one Al Carney.

W180. Chicago, III. (226), 6-8 p. m., classical dinner concert: string trio, artists; 12-2 a. m., midnight

man AI Carney.
W180. Chicago. III. (226). 6-8 p. m., classical dinner concert: string trio, artists; 12-2 a. m., midmight jamborce.
W180. Elgin, III. (302.8), 7-8 p. m., dinner concert. Drake concert ensemble; Blackstone string outlifet; 9-10, Fred Hanni's orthestra: organ reetlat; 10-11, Jack Chapman's and the Blackstone hotel dance orchestra; jazz attists; 1-2 a. m., Chapman's orthestra; and Blackstone hotel dance orchestra; jazz.
W18. Chicago. III. (344.6), 12 moon, Ferd and Glenn; 6:30 p. m., Ralph Emerson, organist; 7, kullaby time. Ford and Glenn; 7:15-7:55. W18. trio.
W1.W. Cincinnati, Ohio (422.3), 7:30 a. m., healthful exercises, William Stradunan, Y. M. C. A., 7:45, morning devotions, auspices Parkway Y. M. C. A., 9. Crosley elementary school program, musteal appreciation, Sarah Y. Cline, College of Music; 9:10. "The Fossit Plant Which Makes Up Our Coal." Dr. Hobart Hoskins, Asst. Prof. Biology, University of Cincinnut, 9:20; agricultural extension, Purdue university, "Why Do Framers Raise Pigs?" 9:25. Calisting, Parkway Y. M. C. A.; 12:15, organ recital, Petronella Trimbur; 4, French lesson, Madame Ida Telmpidis, talk, Rev. Ralph Schmidt, Ft. Thomas; 6:30, pupils from class of Arnold Schweder; 7, the Trirdyn trio, Wm. Stoess, violin, Arthur Knecht, cello, Rosemary Stoess, piano; 7:30 Marguerile Thorue pianlste, Dorothy Marle Evans, soprano; 8, second in a series of oldfluine reviews, Crostey Surnt Corkers, 9, the Formica Insulation program, Formica concert orchestra. Why Stoess, director; 8:30 p. nn., Radio farm, school; 2, Shut-in, program; 4, "Household arts," Elizabeth Hiller; 4:45, Columbia school of music; 6. Chicago theater organ recital; 8:10 p. nn., Tranon duestals, Clara E. Laughlin; 8 University of Chicago lecture; 9:20, program, Machumay studies, WMS, Chicago, 111, (475.5), 12:45 p. nn., Radio farm, school; 2, Shut-in, program, Formica concert orchestra; Billie Allem Hoff, Ed Hines, Harol orchestra; Billie Allem Hoff, Ed Hines, Harol orchestra; Billie Allem Hoff, Ed Hines, Harol orchestra;

orchestra; Billie Allen Hoff, Ed Hines, Harold Stokes.

WOAI, San Antonio, Texas (394.5), 8:30-9:30 p. u., musleal program, Beghart Mexican players.

WOAW, Omaha, Neb. (526), 5:40 p. m., Val McLaughlin, the Sandman; 6, classical; 6:30, Ed Myers and Peony Park orchestra; 9, deluxe program; 12, Rilalto Alarm.

WOC, Davenport, 1a, (483.6), 12:15-12:25 p. m., "Poultry Day—Feeding Hens Grains and Mashes." Prof. A. G. Phillips; 7:30-8, Evercady hour; 8-9. bridge games; 9:30-10:30, Crescent orchestra.

WOK, Chieago, Ill. (217.3), 12-2 p. m., Banks Kennedy, organist; Marianne Powell Babcock, soprano: Thomas B. Stephenson, tenor; Marie Dneprova. soprano; Bob Mokreis, planist; WOK male quartel; Gus C. Edwards and his orchestra; 5:30-7, Geneviced Barry Burnhum, soprano; Clement Laskowskit, tenor; Bob Mokreis, planist; Banks Kennedy, organist; WOK string trio; Gus C. Edwards and his orchestra; 10-1, Bill Hay, bass; Harriet Lee, contralto; (Continued on page 16)

STATIONS OBSERVE ARMISTICE DA

tra. WGHP, Detroit, Mich. (270), 8 p. m., WGHP little

WGHP, Detreit, Mich. (270), 8 p. m., WGHP little symphony.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 7:7:30, Murray Whiteman's serenaders; 9-11, jointly with WEAF, Including Waterman's "Points of Progress" and the Ipana Troubadours; 11-1, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director.

WGY, Schenectady, N. Y. (279-5), 6:30 p. m., program for children; 6:45, Albany Strand theater orchestra; Julius Boxhorn, conductor; Ployd Waltors, organist; 7:30, book of knowledge program; 9, Armistice program; Army School band, WRC: General Summerall, speaker; Father Francis P. Duffy, speaker.

WHN, New York, N. Y. (361-2), 2:15-2:45 p. m., Jimmy Clarke's entertainers; 7-7:30, Cohestra; 11:31:30, Sliver Slipper orchestra; 11:30-12, Swance club orchestra; 10-10:30, Club Richman entertainers; 12:30-1, Ted Lewis and his orchestra.

WIP, Philadelphia, P2. (508.2), 10:30 p. m., special reducing exercises, Dr. Francis D'Elixcu; 1 p. m., Gimbel tea room orchestra; 3, Kuttz vocal studios, Flora Ripka, planist; 6:05, Benjamin Franklin concert orchestra.

Index to Popular Concerts

T ABULATED below is a time table of the stations giving popular concerts this week. Stations are divided into the four different standard times in use. The hours are given in the kind of time in use at each listed station. By using this table as an index and referring to the complete programs below, full information will be obtained.

Popular

Eastern Time Stations

Saturday, November 7: 8:30, WGBS; 45, WEAF; 9, WEAF, WGBS, VNYC; 9:30, WGBS; 10, WREO; 30, WEAF, WRC; 10:45, WEAF.

Monday, November 9: 7:30, WHN; 7:45, WAHG; 8, WGBS; 8:30, WOR; 8:45, WAHG; 9, WCAU, WEAF, WGR, WOO; 9:15, WAHG; 9:30, WGR, WHAZ; 10, WGR, WMCA; 11, WLIT; 11:30, WHN; 12, WAHG; 1, WAHG.

Tuesday, November 10: 7, WMCA; 8, WEAR; 8:30, WMCA; 9, WBZ, WEAR; 11, WHN; 11:30, WHN.

WEAR; 11, WHN; 11:30, WHN.

Wednesday, November 11: 7:30,
WAHG, WEEI, WHN; 7:45, WAHG;
8, WAHG, WEBJ, WEEI, WGCP,
WMCA; 8:15, WAHG, WGCP; 8:30,
WEBJ, WGCP; 9, WEBJ, WGCP,
WNYC; 9:30, WAHG; 9:45, WAHG,
WCAU; 10, WGCP; 11, WHN.

Thursday, November 12: 7:30,
WEAF; 8, WCAE, WCTS, WEAF,
WFI, WMCA; 8:15, WBZ; 9:30,
WCAU; 10, WHN, WNYC; 10:20,
WBZ.

Friday, November 13: 7:30, WEEI, 7:45, WAHG, WGY; 8, WGCP, WJR; 8:30, WEEI, WGCP, WHN; 9, WGR; 9:15, WBZ, WGCP; 9:30, WAHG, WHN; 9:45, WGCP; 10, WLIT; 10:30, WHN, WLIT; 11:30, WHN, WTIC.

Central Time Stations

Central Time Stations

Saturday, November 7: 6:30, WFAA;
7:20, WLS: 7:30, WMBB; 8, WBBM,
WENR, WLS, WMAQ; 8:30, WGN,
WLS: 9, KPRC, WBBM, WENR,
WGN, WMBB; 9:30, WEBH; 10,
KFVE, WBBM, WMBB, WOK, WQJ;
10:30, WEBH; 11, KOIL, WBBM,
WLS, WOAW, WOK, WQJ; 11:30,
WEBH; 11:45, WDAF; 12, WBBM,
WEBH; 11:45, WDAF; 12, WBBM,
WEBH, WENR, WOK, WQJ, WSAI;
12:30, WBBM, WEBH, WENR, WOK,
WQJ, WSAI: 12:30, WDAF, WOK,
WQJ; 1, WBBM, WENR, WQJ,
Sunday, November 8: 7:30, KOIL: 8

Sunday, November 8: 7:30, KOIL; 8, WBBM; 9, WBBM; 10:15, KTHS; 11, KTHS; 12, WBBM.

Monday, November 9: 6, WBBM; 6:30, WFAA, WOAW; 6:45, WCCO; 8:30, KFAB, WOK; 9, WMBB, WOK; 9:25, KTHS; 9:30, KFAB; 10, KFAB, KFVE, WMBB, WOK; 10:30, WHT; 11, KOIL, WHO, WOK; 11:45, WDAF; 12, WHT, WOK.

Tuesday, November 10: 6, WOAW; 7:30, KPRC, WBAP; 8, WBBM, WSB; 9, WBBM, WMBB, WOAW; 10,

Tuesday, November 10

(Continued from page 15)

(Continued from page 15)

Herman Sinaiko, violinist; Banks Kennedy, organist; West Town Harmony Boys; WOK male quartet; Jack Keyss, barltone; Norman Bartlett, bass; Charles Lord, tenor; Henry Byler, tenor; Gus C. Edwards and his orchestra; WOK string trio.

W21, Chicago, Ill. (447.5), 11-12 m., "Hats for the Early Trip South," Mrs. Lillian Russell; "Penny Wise, Pound Foolish," Adah H. Hess; "Interior Decorating," June Dunham; 3-4 p. m., "Steamed Foods," Helen Harrington Downing; "Avoid These Foot Troubles, Dr. Frank Furch; 7-8, Rainbo Gardens orchestra; Kenneth Sterling, bartione; Fontella Lansing; Everett George Opic; June Lee, comedienne; Bert Davis, Clown of the Air; Merrill Carder; WIII Rossiter; 1-2, Ginger hour.

WSAI, Cincinnatt, Ohio (326), 7:45 p. m., chimes, Robert Badgley; S. Eveready hour; 9-9:30, Radio Auction bridge games; 9:30, music.

WSM, Nashville, Tenn. (282.3), 6:30-8 p. m., Francis Craig's orchestra; bedtime story, Bonnie Barrhardt; 10-11, Armistice Day program, Mary Cornella Malone, concert soprane; Dalsy Hoffman, concert planlst.

WSOE, Milwaukee, Wis. (246), 5:30 p. m., S. O., S. club; Cousin Howard; Elmer Inthe, piants; 7:30, musical musings, Miss Mercury; 8:45, Philm Phancise, Peggy Patton; 9, classical program, Pederation of Women's Clubs.

WSUI, Iowa (483.6), 12-12:30 p. m., Geradion Mary Cornella Malone, Peggy Patton; 9, classical program, Pederation of Women's Clubs.

musical musings, Miss Mercury, musical musings, Miss Mercury, Peggy Patton; 9. classical program, Federation of Women's Clubs.

WSUI, lowa City, Iowa (483.6), 12-12:30 p. m., Geraldine Mars, planist; "The Development of Personality," Roland Travis.

Time Stations

sonality," Roland Travis.

Mountain Time Stations

CNRR, Regina, Can. (356), 8 p. m., Grace Newman mandolin club; Al Urquhart, banjoist.

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

KOA, Denver, Cole. (322.4), 12:15 p. m., Rialto theater miscale; 3:15, relaxing and corrective exercises; 3:30, matinee for housewives; 4, cullnary hints; 4:15, fashion review; 8:30, dinner concert, Herbert White and his Silver State orchestra; 7:30, concert.

fashion review; 8:30, dinner concert, Herbert White and his Silver State orchestra; 7:30, concert.

Pacific Time Stations

KFOA, Seattle, Wash. (454.3), 6:45-8:15 p. m., Rhodes Department store; 8:30, program; 9:30-11:30, Eddie Harkness and his orchestra.

KFFO, Hollywood, Calif. (238), 5-6 p. m., home hour with Mammy Simmons, Marioric Rose Hayes, Margaret Bond; 6-7, dinner music: 7-7:30, history and astronomy; 8-10, KFFG concert hour with Turner orchestra. Trom Mitchell, bartione: 10-11, dance music. KFWB, Hollywood, Calif. (252), 5-6 p. m., children's hour, Bib Brother of KFWB; 9:30-7, program, E. P. Janes, builder; 7, talk by Dr. W. I. Schuster; 7:15-7:30, microphone brevitles; 7:30-8, program, The Elmer R. Sly company; 8-9, program, H. K. Kellogg Co., makor of "PEP"; 9-10, program, H. L. Crockett, Hudson-Essex dealer with Way Watts and ukulele; Elite trio, Deane Moore and others; 10-11, Warner Brothers frolie.

KGO, Oakland, Calif. (361.2), 11:30 a. m.-1 p. m. luncheon concert; 4-5:30, concert orchestra. Hotel St. Francis, Vinton LaPerrera conducting; "As a Woman Thinketh," Louise Landis; 6-7, dinner con-

KFVE, WBBM, WHT, WMBB, WOK, WQJ; 10:15, WSB; 10:30, WGN: 11, KOIL, WBBM, WFAA, WMC, WOK, WQJ; 11:45, WDAF; 12, WFAA, WHT, WOAW, WOK, WQJ; 1, WQJ.

Wednesday, November 11: 7, KFNF, WLS; 7:30, KOIL, WBAP, WHO; 8, WBBM; 8:30, KFAB, WHO; 9, KPRC, WBBM, WHO WMBB; 9:30, KFAB, WBAP; 10, KFAB, KFVE, KYW, WMBB, WOK, WQJ; 10:30, KYAB, WGN, WHT; 10:45, WSB; 11, KYW, WGN, WQJ, WSAI; 11:45, WDAF; 12, KYW, WBBM, WHT, WOK, WQJ; 1, WBBM, WOK, WQJ.

Thursday, November 12: 6:30,

WBBM, WOK, WQJ.

Thursday, November 12: 6:30, WFAA; 7, WOC, WSAI; 7:30, WBAP; 8, WBBM, WHAD; 9, KMA, WBBM, WHAD, WMBB; 9:30, KTHS; 10, KMA, KYW, WBBM, WMBB, WOK, WQJ; 10:03, WLW; 10:30, WGN, WHT; 10:45, WSAI; 11, KOIL, WBBM, WFAA, WOC, WOK, WQJ; 11:20, WLW; 11:45, WDAF; 12, WHT, WOK; 12:15, WLW, WQJ; 1, WQJ.

Friday, November 13: 6:30, WFAA.

WOK; 12:15, WLW, WQJ; 1, WQJ.

Friday, November 13: 6:30, WFAA;
8, WBBM, WLS, WOC; 9, WBBM,
WDAF, WHAD, WOAW; 9:45, WLS;
10, KFVE, KYW, WOK, WQJ; 10:30,
KYW, WGN, WHT; 10:45, WSAI; 11,
KOIL, WMC, WOK, WQJ; 11:30,
KYW; 11:45, WDAF; 12, WHT, WOK,
WQJ; 1, WQJ.

Mountain Time Stations

Wednesday, November 11: 10, KFWA

Friday, November 13: 10, KFWA.

Pacific Time Stations

Saturday, November 7: 8, KFWB, KNX; 9, KNX, KPO; 10, KFWB; 11, KNX; 11:30; KHJ, KTCL; 12, KNX; 12:30, KHJ; 1, KNX; 1:30, KHJ.

Sunday, November 8: 8, KHJ; 9, KFWB; 10, KFWB.

Monday, November 9: 9, KNX; 10, KFWB; 11, KFWB; 12, KFWB.

Tuesday, November 10: 8, KFWB, KNX; 9, KNX, KPO; 10, KFWB, KNX; 11, KFWB.

Wednesday, November 11: 8, KGW, KPO; 9, KFWB, KNX; 10, KNX; 11, KFWB; 11, KNX.

Thursday, November 12: 8, KHJ; 9, KHJ, KTAB; 10, KFWB, KHJ; 11, KNX.

Friday, November 13: 8, KFWB; 9, KFWB, KHJ, KNX; 10, KFWB, KNX; 12, KFWB, KNX; 1, KNX.

cert. Sherman, Clay and company; 8. "Radio Breezes," K. C. B.; 8:10, California (martet; Margaret Vogel, cellist; Coleman Cox, the business philosopher; Catherine Brown, pianist; Mille M. Anderson, contratter plano duet, Kasparu Hagan and Richard A. Nictols; musical nuvelty, "Fun in the Schoolroom': 9:30, auction bridge feature.

Key, Portland, Ore. (49.15), 12:30-1:30 p. m., Rose City the; 7:45-8, talk, Oregon Banker's association; 8-9, "Sound Investments;" auction bridge lessons; "Style" talk, concert trio; 9:10, General Cord or chestra; 10-12, Indian Grill.

KHJ, Los Angeles, Calif. (405.2), 6:6:30 p. m., Leighton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6:30-7:30, history story. Prof. Hertzog: weekly visit Queen Titania and Sandman from Pairyland, Chas. Lesile Hill, readings, Louis F. Klein, Ruto-harp and harmonica; 7:30, talk on dogs. H. M. Robertson: 8-10, program, Broadway Department store; arranged by J. Howard Johnson; 10-11, Art Hickman's Biltinore hotel dance orchestra, Frank Ellis, leader.

KJR, Seattle, Wash. (384.4), 10 a. m., musical prohome helps, Bernice Redington, 7:30-8, Bon Marche program, Mis. Clara Hartle; 1:15, organ recital; 2-2:15, story lady. Anne Heetderks; 8:30-10, Puget Sound Savings & Loma association orchestra.

KNX, Hollyweod, Calif. (336.9), 5:30-6:15 p. m., Wurllkere pipe organ studio. Town Tattler: 6:15. tray.

Sound Savings & Loan association orchestra.
KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m.,
Wurlitzer pipe organ studio. Town Tattler; 6:15, travel
talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra, Paul Finstein, leader; 7-7:45, bon Clark and
his La Monica dance orchestra; 7:45, talk on health.
Dr. Robt. T. Williams; 8-9, program, Zinke's Rebottoming company; 9-10, KNX feature program; 1012, movie night at the Ambassador, Ray West's Coccanut Grove dance orchestra; 6:45, Waldemar
Lind and the States Restaurant orchestra; 7-7:30,
Rudy Seiger's Fairmont hotel orchestra; 6:45, Waldemar
Lind and the States Restaurant orchestra; 7-7:30,
Rudy Seiger's Fairmont hotel orchestra; 7-10, Mona
Motor Oil company, Mona Motor Oil trio; 10-11,
Jack Coakley's Cabirians.
KTAB, Oakland, Calif. (240), 8-10 p. m., program,
Mutual Stores.

Wednesday, November 11

Eastern Central Mountain 8 p. m. 7 p. m. 6 p. m. WBZ (333.1) Armistice Day program, 8:30 7:30 WEAF (491.5) Pooley period. WHAS (399.8) Kentucky Night Owls, 9 WLW (422.3) Armistice Day program. WGY (279.5) Armistice Day program.	Headlir	ers Today	
8 p. m. 7 p. m. 6 p. m. 5 p. m. WBZ (333.1) Armistice Day program, 8:30 7:30 6:30 WEAF (491.5) Pooley period. WHAS (399.8) Kentucky Night Owls. 9 WLW (422.3) Armistice Day program. WGY (279.5) Armistice Day program.	Eastern Central	Mountain	Pacific
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	WGY (279 5) Armistice	Day program.	
	9:30 8:30	7:30	6:30
WEBJ (272.6) Roth trio.	WEBJ (272.6) Roth trl-	0.	0.00
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KOA (322.4) Armistice Day program.	KOA (322.4) Armistice	Day program.	-
10:40 9:40 8:40 7:40			
KTHS (374.8) American Legion program.	KTHS (374.8) American		
11 10 9 8			8
WEEI (348.6) Armistice Day program.	WEEt (348.6) Armistice	Day program.	
KGW (491.5) Armistice Day program.	MGW (431.3) Armisuce	Day program.	



gram; 7:30, U. S. Army band, WCAP; 9, Waterman's Points of Progress; 10, musical program. WJR, Detroit, Mich. (517), 7 p. m., Jean Goldkette's Petite symphony orchestra; 9, Burroughs hour; 11:30, Jewett Jesters.

WKAQ, San Juan, P. R. (340.7), 7-9 p. m., municipal band, Prof. Manuel Tizol, director.

WKAU, San Juan, P. H. (340.7), 7-9 p. m., municipal band, Prof. Manuel Tizol, director.

WMCA, New York, N. Y. (340.7), 6;6:30 p. m., Olcott Vail and his string ensemble; 6:30-7:30, Ernle Golden and his Rotel McAlpin ordinstra; 8-9, services, Northminister church; 9-9:15, Joseph Wetzel, tenor; 9:30-9:45, talk, Frank G. Wadswort; 10-11, Andy Asciutto's Paragon orderta; 11-11:30, Hofbrau Haus; 11:30-12, Juck Smith stra; 11-11:30, Hofbrau Haus; 11:30-12, Juck Smith strain reduction of 6:30-7, clementary Spanish lessons; 7-7:30, advanced Spanish lessons; 7:30-7:35, police alarms; 7:35-8, dance program; 8-10, 10-10:30, and factor of education.

WOR, Newark, N. J. (405.2), 6:15-6:17 p. m., "Words Often Mispronounced;" 6:17-7, dinner music, Hotel Shelton; 7:15-7:30, sports talk, Bill Wathey; 7:30-8, Vincent Lopez orchestra; 8:30-8:45, San Slogel, mandolin virtuoso; 11-12, Zit's Central Park Casino orchestra.

WTAG, Worcester, Mass. (268), 10:30 a. m., chat;

dolin virtuoso; 11-12, Zit's Central Park Casino orchestra,
WTA6, Worcester, Mass. (268), 10:30 a. m., chat;
10:43, housewives talk, Lydia Flanders; 12:05-2 p. m.,
luncheon music, WTA6, trio, Harry Smith; 7:15,
Twinkle Twinkle story teller; 8, Spanish lesson, Mrs.
De LaParra; 8:15, concert program.
WTIG, Hartford, Conn. (475.9), 6:30 p. m., Hotel
Bond trio; 10, Bill Tasillo's orchestra.
WWJ, Detroit, Mich. (352.7), 9:30 a. m., tonight's dinner; 12:05 p. m., Jules Klein's Hotel Statler orchestra; 3, Detroit News orchestra; 6, dinner concert; 8, News orchestra; 9, program from WEAF.

Central Time Stations

Central Time Stations
CNRW, Winnipeg, Can. (384.4), 8 p. m., Fort Garry
hotel musical program; 8:30, farmers' agricultural service talk; 8:40, Fort Garry trio; Mrs. J. H. Waugh,
contratio; Miss 'Verinder, pianist; 10, Al Kilgour;
supper-dance program, Fort Garry hotel,
KFAB, Lincein, Neb. (340.7), 3:15-3:15 p. m., matinee musical; 5:30-6:30, Belshaw's orchestra, Bulck
Little symphony, 8:30-10:30, Lincoln Syncopators;
Mrs. Brokema, planist and vocalist; Anna Brokema,
violinist; Gladys Soller, vocal solos; patriotic foatures.

tures. KFMX, Northfield, Minn. (337), 9-10 p. m., musical

KFMA, Northneld, Minn. (337), 9-10 p. m., musical program.
KFNF, Shenandoah, Iowa (266). 7 p. m., concert, Omaha Concord club, Walter Roesig, director.
KFVE, University City, Mo. (240), 8:30 p. m., Paul and Jack Snyder.
KMA, Shenandoah, Iowa (252), 11:30 a. m.-12 p. m., R. F. D. program; garden, flower and orchard talks, Earl E. May; music; 6-7, dinner program; domestle science topics, Le Ona Teget, June Case; 9-11, familtar songs and music; chimes, William Howie; Bobbie Riddle, child singer and clog dancer; Gertrude May, director.
KPRC, Houston, Texas (296, 9), 12 noon, Lion's, glub, KPRC, Houston, Texas (296, 9), 12 noon, Lion's, glub, KPRC,

rector.

KPRC, Houston, Texas (296.9), 12 noon, Lion's club luncheon program; 5:30 p. m.. Uncle Judd's kiddles' hour; 7:30, Rice Institute student band, Lee Chatlam, director; 8:30, Eddle's Syncopators; 11, Seger Ellis, blues composer-planist.

Ellis, blues composer-planist.

KSAC, Manhattan, Kan. (340.7), 12:40 p. m. readings; "Wher System Helps," I. N. Chapman; 12:47, question box; 12:38, "Burn the Chinch Bug," J. W. McColloen; 4:30-5, football, basketball, basebull course; 6:50-7, "Educational Sociology," V. I. Stricktand; 7, "Electrical Refrigeration," R. G. Kloeffier; 7:15, "Present Day Economics in Power Production," J. P. Calderwood, KSD, St. Louis, Mo. (545.1), 7 p. m., Banjamin Rader's orehestra.

der's oreleastra.

KTHS, Hot Springs
9:40, Meyer-Davis
ensemble; 9:40-10:10, American 9:40, Meyer-Davis ensemble, 3.35 a. m., table talk, Leglon.
KYW, Chicago, III. (535.4), 1:35 a. m., table talk, Mrs. Anna J. Peterson; 12:05-1, nooday concert; 1-2, Congress hotel; 7-7:30, Congress hotel; 8-9, musical

DANCING

Central Time

Saturday, November 7:

8, Whr, Whix, Wpg:

8.30. Wfaa: 8.335, Wgy:

9, Webh, Weed: Wmbb,
Wnyc, Wree; 3:0, Kths,
Wor, Wre; 3:0, Kths,
Wor, Wre; 3:0, Kths,
Wor, Wre; 3:0, Kths,
Wor, Wgr, Wir, Wree,
Wan, Wir, Wkre, Wmea,
Wnye, Wor, Wgi, Wreo,
Wtan: 10:05, Wees:

10:30, Wand: 10:45,
Wis: 11, Kfpg, Kfwa,
Krwb, Kpo, Webh, Wfaa,
Wgbu, Who, Woe: 11:30,
Kfoa: 11:45, Wdaf: 12,
Kfwa, Kgo, Kgw, Knx,
Wgbu, Wjide,
Monday, November 9:

10, Kths, Wgbu, Wgep,
War, Wnye, Wpg: 10:15,
Wor: 10:30, Kfoa: Wgep,
Wfin: 10:30, Kfoa: Wgep,
Whi; 11, Kgw, Kull,
Wgbu, Wgep, Wgr, Whn,
Who; 11:45, Wdaf: 12,
Krnx, Kpo,
Wgby, Wger, Wgr, Whn,
Who; 11:45, Wdaf: 12,
Krnx, Kpo,
Wgby, Wger, Wgr, Whn,
Who; 11:45, Wdaf: 12,
Krnx, Kpo,
Wjide, Wgep, Wgr, Whn,
Who; 10:30, Kfoa: Myeb,
Wgly, 9:35, Wrye; 10:15,
Kths; 10:30, Kfoa: Myeb,
Whi; 10:30, Kfoa: Myeb,
Whi; 10:30, Kfoa: Myeb,
Wgly, Wgby, Wgr, Whn,
Who, War, Wgby, Wgr,
Whi, Wgby, Wgr, Whn,
Who, War, Wgby, Wgr,
10:30, Kfoa: Myeb,
Wgby, Wgp, Whn,
Wgby, Wgp, Whn,
Wgby, Wgp, Whn,
Wgby, Wgp, Whn,
Wgby, Wgp, Whn, Who,
Wgby, Wgp, Whn, Wge,
Whn, Who, Wgp, Whn, Who,
Wgby, Wgp, Whn, Who,
Wgby, Wgp, Whn, Wge,
Whn, Who, Wgp,
Whi, 9:35, Wnye;
10:30, Kths, Whn,
Wgby, Wgp, Whn, Wge,
Wgy, Wh, Wge,
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Wgy,

E DAY WITH MILITARY PROGRAMS



DANCING

DANCING
Central Time
Saturday, Növember 7:
8, Wjr. Wine. Wig;
8:30, Wfas: 8:35, Wgy;
9, Webh, Weei, Wighh,
Whye, Wreo; 9:10, Kths,
Wip; 9:30, Kths, Wgbs,
Wor, Wr; 4:9, Kfve,
Kfwa, Koa, Kho, Weaf,
Win, Wir, Wkre,
Win, Wir, Wkre,
Win, Wir, Wkre,
Win, Wir, Who,
Win, Wir, Wro,
Win, Wir, Wkre,
Wis, 11, Kfys, Kfve,
Kfwb, Kho, Webh, Wfau,
Kfwb, Kho, Webh, Wfau,
Kfwi, Ki, Ki, Wdaf; 12,
Kfoa; 11:45, Wdaf; 12,
Kfwa, Kgw, Kay,
Wgbu, Wijd

Kiva, Ku, Mayo, Ku, Ku, Kiva, Kiva, Ku, Wgbu, Wjid, Weet, Wahg, Monday, November 9:

S. Weep: 9, Weel, Wgh, William, Wor; 9:15, Wahg; 10, Kths, Webu, Wgp, 10:15, Wor; 10:30, Kroa, Wgen, Whn; 11-45, Kat, Kiva, Kiva, Wah, Mayo, Ma

program; 10-12:30, midnight revue; Coon-Sanders Orig-inal Nighthawks; Henri A. Keates, organist. WBAP, Fort Worth, Texas (475.9), 12:05 p. m., Dude Vance, planist; Gorald Stewart, banjoist; 6-6:30, Fred Cahoon's Texas hotel orchestra; 7:30-8:30, Panter Hawalian trio; 9:30-10:45, Fred Cahoon's Texas hotel ovchestra.

Hawalian tro; 9:30-10:45, Fred Cahoon's Texas hotel orchestra.

WBBM, Chicago, Ill. (226), 8-10 p. m., Sunset male quartet; Pert Davis; William Moln..re, tenor; Ted Coleman, eellist; Frances Ingram, contralto; Merry Garden orchestra; Burdette Cleveland, planist; 12-2, Harold Anderson, accordionist; Montmartre orchestra; Burdette Cleveland, planist; Charlie Garland, Nate Catdwell, Eddie Loftus, Uler and Farwell.

WCCO, Minneapolis-St. Paul, Minn. (416.4), 10:15 a. n., "Kitchen Text Your Working Methods," Betty Crocker; 2 p. m., woman's hour; 7, midweek church service, Tennile Baptist church; 8. WEAF; 10:05, Wallie Erickson's Collseum orchestra; 11:30, Eddie Dunstedter, organist.

WDAF: Kansas City, Mo. (365.6), 10:45 a. m., Betty

service, Temple Baptist church; 8. W⁡ 10:95, Wallie Erickson's Collseum orchestra; 11:30. Eddie Dunstedter, organist.

WDAF, Kansas City, Mo. (365:6), 10:45 a. m., Betty Crocker Gold Medal Flour home service talk; 3:30-4:30, Star's string trio: 6-7, address, speaker, Health Conservation association; address, Ralph E. Herrick; Tell-Me-a-Story Lady; Trianon ensemble; 8-10, Star's Radio string orchestra; 11:45-1. Plantation players; Eddie Kuhn's Kansas City Ahtletic club orchestra; Earl Coleman's orchestra; 11:45-1. Plantation players; Eddie Kuhn's Kansas City Ahtletic club orchestra; Earl Coleman's orchestra.

WEBH, Chicago, III. (370.2), 7-8 p. m., Orlole orchestra; Correll and Gosden; Robert York, tenor; 11-1, Oriole orchestra; Correll and Gosden; Robert York, tenor; Cricle orchestra. (Correll and Gosden; Robert York, tenor; Cricle orchestra. WEBS, Oak Park, III. (250), 5-7 p. m., Betty Bebb and Helen Cameron, vocal duo; McDevitt sisters; pinnists; Tffin theater organ and orchestra; 8-9, Ethel Glese, soprano; Ruth Kalthoff, contralto; Peter Mathews; basso; John Stamford, tenor; Tiffin theater organ and orchestra; 11-1 a. m., Philips twins, vocal duo and ukulele soloists; Tffin theater organ and orchestra; Serenaders; Morris Hoffman, tenor.

WGN, Chicago, III. (370.2), 12:40 p. m., Drake concert ensemble, Blackstone string quintet; 2:30, artist series Lyon & Healy; 3:30, tea time music, Marshall Fields tea room orchestra; 6:30, Drake concert ensemble, Blackstone string quintet; 2:30, artist series Lyon & Healy; 3:30, tea time music, Marshall Fields tea room orchestra; 6:30, Drake concert ensemble, Blackstone string quintet; 8-9, WGN Mring trio; 10-11, lack Chapman's and the Blackstone hotel dance orchestra.

WHAD, Milwaukee, Wis. (278), 6-7 p. m., Arthur Richter, organist; 8-10, Wisconsin Roof Garden orchestra.

Richter, organist; 8-10, Wisconsin Roof Garden orchestra.

WHAS, Louisville, Ky. (399.8), 4-5 p. m., Harry S. Currie's Music Box; readings; 7:30-9, Jake Seligman and his Kentucky Night Owls.

WHB Kanasa City, Mo. (365.6), 2-3 p. m., Morrell Moore, organist; 7-8, Milo Finley's trio; talk, John Burns.

WHO. Des Moines, lowa (526), 6:30-7:30 p. m., Reese-Hughes orchestra; 7:30-9, "La Boheme" trio; Dr. and Mrs. H. A. Hurd, Hawaiian guitarists; Kate Miller, whistler; 9-12, dance program.

WHT Chicago, III. (399.8), 6-7:30 p. m., classical program; Pauline Sachs, soprano; Oscar Heather, tenor; Helen Rauh, planist; Al Carney, organist; Grayling's string trio; (2:89, 7:45-9:15, musical features; (399.8), 9:30, request organ recital; Hickey and Johnson, harmony boys; Carl Strodel, barltone; Marie Wright, soprano; Lecta Laubs, soprano; Al Carney, organist; 12, Pat Barnes, "Your Hour Leque;" Al Carney, Pat Barnes, "Your Hour Leque;" Al Carney, UBB, Chicago, III. (226), 6-8 p. m., vocalists; 10-12, popular program; Ted Fiorite and Dan Russo orchostra.

popular program; Ted Fiorito and Dan Russo orchostra.

WLIB, Elgin, Ill. (302.8), 7-8 p. m., dinner concert, Drake concert ensemble; Blackstone string quintet; 9-10, Fred Hamm's orchestra; organ recital; 10-11, Jack Chapman's and the Blackstone hotel dance orchestra; jazz artists; 1-2 a. m., Chapman's orchestra; Blackstone hotel dance orchestra; juzz.

WLS, Chicago, Ill. (344.6), 12 moon, Ford and Glenn; 6:30 p. m., Ralph Emerson, organist; 7, Iullaby time, Ford and Glenn; 7:15, Mu Phi Epsilon concert; Olive Lacey, soprano; Fredericka Downing, contralto; Dorothy Bell, harpist; 7:45-8:15, WLS theater; trio, special patriotic program; 8:30, Armistice Day feature, Wallace Bruce Amsbury; 9:10, Charles and Katherine



Koraes; special Armistice program; 10:40, Ford and Glenn; 11:10-12, organ recital.

WLW, Cincinnati, Ohlo (422.3), 7:30 a. m., morning exercises, William Stradtman, Y. M. C. A.; 7:45, morning devotions, auspices Parkway Y. M. C. A.; 12:15, musical program, frene Downing and Mariory Hebestreit; 4, "Shut In" program, directed by Mr. and Mrs. Wm. Duning, co-operating with Settlement Schools and all other institutions, auspices Cincinual Exchange club; 7, Hotel Glbson concert, Robert Visconti, director: 7:30, National Radio Farm courcil; 8, special Armistice Day program, 10th Infanry band from Ft. Thomas, warrant officer E. G. Fisher, director; 8:30, Mrs. Harley Morrison, Gold Star mother; 9, "The World Court," Dr. Guy Tawney, Cincinnati Peace league; 9:10, musical program, Cincinnati Chapter of the American Red Cross; 9:30, Salvation Army band concert, Johanna Grosse.

WMAQ, Chicago, III. (447.5), 12:45 p. m., Radio farm school; 1, Chicago, Association of Commerce luncheon; 2, Shut-in program; 4, Cosmopolitan school of music; 4:30, Red Cross talk; 6, Chicago theater organ recital; 6:30, Georgene Faulkner, the story lady; 8, lecture, Northwestern university; 8:30, Indian musical program; 9, WMAQ players.

WMBB, Chicago, III. (250), 7-8 p. m., Trianon duo; Lillian Marsellies, Marie Caruso; 9-11, Trianon orchestra; Woodlawa theater orchestra; West Brothers & Lyerla trio; Billie Allen Hoff, Marquette banjo four.

WOAI, San Antonio, Texas (394.5), 3 p. m., musical program, Radio Trades association; 8:30-9:30, Army

four. WOAI, San Antonio, Texas (394.5), 3 p. m., musical program, Radio Trades association; 8:30-9:30, Army

WOAI, San Antonio, Texas (394.5), 3 p. m., musical program, Radio Trades association; 8:30-9:30, Army night musical program.
WOK, Chicago, III. (217.3), 12-2 p. m., Harold Morava, tenor; Jean Carlson, soprano; Banks Kennedy, organist; Bob Mokrejs, pianist; WOK male quartet; 5:30-7, Ed Kemp, tenor; Bryce Talbot, organist; 5:30-7, Ed Kemp, tenor; Bryce Talbot, organist; Bob Mokrejs, pianist; WOK string trio; Gus C. Edwards and his orchestra; 10-1, Ned Miller, lenor; Rita McPawn, soprano; Herman Sinaiko, violinist; Harriet Lee, contralto; Harold Morava, tenor; WOIK male quartet; Charles Lord, tenor; Henry Byler, tenor; Jack Keyes, baritone; Norman Bartlett, bass; Banks Kennedy, organist; WOK string trio; Gus C. Edwards and his orchestra.
WORD, Batavia, III. (275), 8 p. m., Webster hotel concert trio; 8:15, I. B. S. A. choral singers; 8:30, Bible lepture, Calvin H. Swingle.
WOS, Jefferson City, Mo. (440.9), 8 p. m., "Mathematics of Farming," E. A. Logan; orginal pompt. LeRoy H. Kelsey; Schell's orchestra; address, George A. Pickens.

mattes of Farming," E. A. Logan; orlethal poems, LeRoy H. Kelsey; Schell's orchestra; address, George A. Ptekens.

WJJ. Chicago, III. (447.5), 11 a. m., "The Runabout Child," Dr. Lena K. Sadler; "Have Your Pencils Ready," Frank Wendt, famous chef at Rainbo Sea Food Grotto; "Your Daughter-in-Law's Home Making," Adah H. Hess; 3-4 p. m., questions and answers, Helen Harrington Downing; "An Old-Fashioned Dinner in a New-Fashioned Way," Martha Logan; 7-8, dinner concert, Rainbo Gardens orchestra; Helen Holman, soprano; Clement Laskowski, tenor; Edith Day, whister; 10-1, Rainbo Skylarks; program, Daughters of the Veterans; Melodians; Esther Trostrud; Clarence Theders, tenor; Alma Adair, prima donna; Sandy Meek, Scotch tenor; Harry Sosnick, pianist; J. Edwin Peterson, bass; 1-2, Ginger hour WSAI, Cineinnati, Ohio (326), 7:45 p. m., art talk, Cincinnati Art club; 10, Congress Card string quartot. W30E, Milwaukee, Wis. (246), 3:30 p. m., special matinee program, Third Annual Wisconsin Radio Exposition; High School hand; soloists; Hiram C. Taylor, director; 5:30, Twillight hour, Aunt Julie, children's stories; Mrs. Eigel, planist; Van Buren's Hawdians; S:30, musical speciations; 9, novelty musical program, Milwaukee Radio Exposition; Leon Gricb, saw soloist; Charles Bennett, piano-accordionist; Hans Hubre, 2therist; Max Hagge, yodeler; ladies' quartet.
WSUI, towa City, lowa (483.6), 12 m., "Animals In a Drop of Water," Prof. Frank A. Straomsten; 7:45, College of the Air lectures.

high school band, Herman Trutner, Jr., director; 5:30, Mr. Fix-it; 6-7, dinner concert, Sherman, Clay and company studio.

KGW, Portland, Ore. (491.5), 12:30-1:30 p. m., Rose City, trio; 8-9, Armistice Day program, 7th infantry band; 10-11, Sherman, Clay and company studio.

KHJ, Los Angeles, Calif. (405.2), 6-6:30 p. m., Leighton's Arcade carteeria orchestra, Jaek Cronshaw, leader: 6:30-7:30, history story, Prof. Hertzog; Dick Winslow, juvenile reporter, Mickey MeBam, screen juvenile, Piggly Wiggly Girls string trio; 7:30-8, Univ. of Calif. Southern Branch glee club; 8, Dr. Mars Baumgardt, scientific lecturer; 8:30-10:30, program, F. B. Miller Hudson-Essex Co., arranged by J. Howard Johnson; 10:30-11:30, Art Hickman's Biltmore hotel dance orchestra, Frank Ellis, leader.

KIR, Seattle, Wash (384.4), 1:15 p. un. organ recital; 7-8:30, Sears-Roebuck and company studio program; 8:30-10, Post Intelligencer studio program.

KLX, Oakjand, Calif. (363), 8-0 p. un. Rug Harrison Danfortif Ad Schuster, Harry Noyes Pratt, Gerard Taillandier, Prof. E. R. DeOng; 9-10, special Armistice day program, American Leglon; 10-11, Harry Davis and his baltroom entertainers.

KNX, Hollywood, Calif. (3363), 5:30-6:15 p. m. Wurlitzer pipe organ studio, Town Tattler; 6:15, travel talk, W. F. Alder; 6:30-7. Alwater Kent Radio orchestra, Paul Finstein, leader; 7-8, Ambassador hotel concert orchestra, Josef Rosenfeld, leader; 8-0, "The Tragedy and Triumph of Gallipoli," by Dr. Arthur E. Hoare; 9-10, program with a kick, Hercules Gasoline company; 10-11, Elite dauce orchestra; 2:30-3:30, Hawaiian music, Duke Kamoku and bis Royal Hawaiians; 3:30, talk on fashions, Ninon; 6:45-7, Waldermar Lind and the States Restaurant orchestra; 1-8, Armistice Day; 8-9, Atwater Kent artists; 9-10, Goodrich Siivettown Cord orchestra; 10-11, Waldemar Lind and the States Restaurant orchestra; 17-8, Armistice Day; 8-9, Atwater Kent artists; 9-10, Goodrich Siivettown Cord orchestra; 10-11, Waldemar Lind and the States Restaurant orchestra; 17-8, Armistice Day; 8-

Mountain Time Stations

Mountain Time Stations

KFWA. Ogden, Utah (261), 5-6 p. m., Ogden Radie

Dealers program; 9-10, Lion Coal company, Ellis

Fuel company; 10-12, Olle Reeves and his orchestra.

KOA. Denver, Colo. (322.4), 6:30 p. m., dinner con
ner, Herbert Whito and his Silver State

orchestra; 7:30, Book of Knowledge; 8, summary

of votes cast by KOA's audience on recent jazz

vs. classical program; Armlstice day program, Denver

Council for World Peace; Unity church quartet;

memortal address, Morrison Shafroth; Walter Brinker,

bass; readings, Alvin B. Collins; Mrs. G. B. Kent,

soprano; "International Relations," Mary C. Brad
ford; KOA orchestra.

Ford; KOA orchestra.

Pacific Time Stations

(454.3), 6:45-8:15 p.

Pacific Time Stations

KFOA, Seattle, Wash. (454.3), 6.45-8:15 p. m., Hopper
Kelly company; 8:30-10, Times studio program.

KFPG, Hollywood, Calif. (238), 5-6 p. m., home hour
with Mammy Simmons and neighborhood children; 6-1,
dinner music; 7-7:30, history and astronomy lesson;
8-10, KFPG concert hour, Turner orchestra, Rondeau
male quartet; 10-11, dance music.

KFWB, Hollywood, Calif. (252), 5-6 p. m., children's
hour, Big Brother; 7-7:30, Mutual motors mirth contest; 8-9, program. Cheek-Neal Coffee comoany with
Maxwell House Ceffee string quartet; Ashley Ststers.

KGO, Oakland, Calif. (361.2), 11:30-1 p. m., Juncheon
concert; 3-4, Armistice Day program, Oakland Technical

Index to Farmers' Programs

Eastern

Farmer Dinner Concerts Daily Except Sunday

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

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

Daily Except Saturday and Sunday Refer to detailed programs for titles.

Eastern Time Stations

WEAR, 11:30. WGY, 7 p. m. (Monday only).

Central Time Stations

KFKX, 12:30.
KMA, 11:30-12:30.
KOIL, 8:50 (Monday only).
KSAC, 12:40-1:05; 7-7:30.
WCCO, 7:45 Monday and Friday.
WLS, 12-12:45; 9.
WOC, 12:15-12:25.
WSOE, 6:30 p. m. (Monday only).

Mountain Time Stations

KFAU, 4. KOA, 7:30, question box.

Markets and Weather Daily Except Sunday

Eastern	Central	Mountain	Pacific
9:30 a. m.	8:30 a.m.	7:30 a.m.	6:30 a. m
WOAW (52	.9) markets. 6) markets.		
9:45	8:45	7:45	6:45
KDKA (309	.1) livestock,	grain.	
10	9	. 8	7
WLS (345) WOS (440.9	livestock, marl) hogs.	cets, fruit.	
10:25	9:25	8:25	7:25
WWJ (352.7) weather.		
10:30	9:30	8:30	7:30
KPRC (296, KTCL (305,	.3) livestock, f 9) weather. 9) weather, she .9) markets.		
	9:45	8:45	7:45
WCCO (475.	9) markets.		
	10	9	8
WBAP (475 WEAR (389	.9) markets, q .4) weather. 9) weather, ho	uotations.	
11:15	10:15	9:15	8:15
WTAG (268) markets, wea	ther.	
11:30	10:30 ,	9:30	8:30
KFKX (288 WCCO (416.	.3) weather, fr 4) markets. .4) markets, w	uit, vegetable	es.

Thursday, November 12

Headliners Today

WIP (508.2) Etude period. 7 6

WEAF (491.5) Concert ensemble.
WMCA (340.7) Hardman hour of music.
9:30 8:30 7:30

WMC (499.7) Hawatian orebestra.
10 9 8 7

WBZ (333.1) Evening of opera.
WGR (319) American Hawatian quartet.
11 10 9 8

KGO (361.2) "Her Temporary Husband," conedy:

5:15

Eastern Contral Mountain 8 p. m. 7 p. m. 6 p. m. KPNF (266) Blue Grove entertainers. WEAR (389.4) R T L program. 8:15 7:15 6:15 WIP (508.2) Egude period. 7

12 noon 11 10

KDKA (309.1) weather, livestock, grain.

KPRC (286.9) weather.

WBAP (475.9) weather, cattle, grain.

WEAR (384.4) markets, weather.

Central

WGBU (278) weather.
WGAD (275) weather.
WHAD (275) weather, markets.
WUS (345) poultry, datry, hogs, sheep.
WOS (440.9) livestock, poultry, eggs, grain.
12:30 p.m. | 1:30 a.m. | 10:30 a.m. | 8:30 a.m.

Mountain

KFKX (288.3) livestock, fruit, vegetables, dairy. WEAR (384.4) markets, weather. WFAA (475.9) markets. I p. m. | 2 noon | 1 a. WBAP (475.9) markets. WHT (400) fruit, weather. WOS (440.9) livestock, weather.

1:30 p. m. 12:30 p. m. 11:30 a. m. 10:30 a. m. KTHS (374.8) markets, weather. WFAA (475.9) markets. WOAW (526) markets.

1:35 p. m. 12:35 p. m. 11:35 a. m. 10:35 a. m. KPO (428.3) butter, eggs, cheese, poultry.
1:45 p. m. 12:45 p. m. 11:45 a. m. 10:45 a. m.

KOA (322.4) weather, roads, livestock, poultry.
2 p. m. 1 p. m. 12 noon 11 a. m.
WOC (484) weather, grain, livestock, dairy.
WOS (440.9) grain.

VOS (440.9) grain.

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

WCCO (416.4) markets, weather.

WFAA (475.9) markets.

3 p. m. | 2 p. m. | 1 p. m. | 12 noon

WLS (345.9) livestock, grain, dairy, fruit, vegetables.

WOS (410.9) livestock, markets, grain.

3:30 | 2:30 | 1:30 | 12:30

KPO (428.3) weather. WFAA (475.9 markets. 2:50 WWJ (352.7) woather, markets.

KFKX (288.3) livestock, wool. WCCO (416.4) markets. 4:30 3:30 2:3 1:30 WEAR (389.4) markets, weather. WFAA (475.9) markets. 5:50 4:50 2:50

WDAF (365.6) markets, weather, road reports. WHAS (399.8) markets. 6 5 KFAU (278) markets, weather. W1P (508.2) weather. 5-30 4: KSAC (340,7) markets. 6:45 5:45 4:45

WIP (508.2) livestock, markets. 4:50 3:50 WHAD (275) markets. 4:15 KTCL (305.9) weather. 5

8
KFKX (288.3) markets.
KOA (322.4) sheep, markets, livestock, poultry. KJR (384.4) weather. WOC (384) weather.

WCCO (416.4) weather, grain.

Thursday, silent night for: CHIC. CKNC, CNRA. CNRE, CNRO, CNRR, CNRT, CNRV, CNRW, KFAB, KFAU, KFDM, KFMC, KFMX, KFOA, KFRU, KFVE, KFWA, KGW. KOA, KOB, KTCL, KWSC, PWE, WAFD, WAHAG, WCEE, WEBJ, WGCP, WHAD, WHAZ, WJJD, WLIT, WLWL, WOAI, WOR, WOS, WSM, WSUI, WTAM.

KDKA, Pittsburgh, Pa. (309.1), 6:15 p. m., KDKA Little symphony orchestra; 7:45, "The Conference of Loearno," Paul F. Shupp; 8, farm program; 8:30, "Johann Sebastlun Bach," Richard Kountz, KDKA Little symphony orchestra: Edith McDowell Palmer contraito; 9, KDKA Little symphony orchestra: Eldith McDowell Palmer, contraito; 11, midnight concert, Pittsburgh Post studio.

WAHG, Richmond Hill, N. Y. (315.6), 12-12:55 p. m., musical program.

wGHP, Detroit, Mich. (270), 10 p. m., midnight mariwGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 6:30-7:30, Vincent Lopez Hotel (Continued on page 18)

WLW TO TRY FOR AFRICA TUESDAY

Thursday, November 12

(Continued from page 17)

(Continued from page 17)

Statler dauce orchestra, Harold Gieser, director; 8-11, jointly with WEAF, including the Larkinites and the Goodrich Silvertown Cord orchestra.

WGY, Schenestady, N. Y. (279.5), 2 p. m. music; "Survey of Sociology." "The Recreation Center," "How to Cook Vegetables," Faith Fenton; 6:30, dinner program, Ten Eyek concent trict, 7:50, book chid, L. L. Hopkins; 7:45, William J. Dunn, baritone; S. "Earthquakes," Dr. Reginald Aldworth Day; 9:30, Royal hour, WJZ; 10:30, WGY orchestra; 11:30, organ recital, Stephen E. Boischirt.

WHAR, Atlantic City, N. J. (275), 2 p. m., Scaside hotel tric; 7:30, "What Does It Mean?" Dr. Henry Reik; 8, Seaside hotel tric; 7:30-1p. m., Lexington organ recital; 3:45-4:30, Lexington orchestra; 4:30-445, Miller, Piotti, Val songs and plano; 6:30-6:40, Leslie McLeod, tenor; 6:40-7, Sunshine talk, Billy B. Van; 7-7:30 leeland orchestra; 7:30-8, Cecil B. Kennedy's quintet; 8-8:30, Will Oakland's Chatcheau Shanley; 8:30-9, Guardian entertainers; 9:20, Jimmy Clarke and his entertainers; 10:30-11, Club Kentucky orchestra; 11-11:30, Caravan club creckestra; 11:30-12, Rodeo club orchestra; 12-12:30, Ted Lewis and bis orchestra, Pa. (508.2), 10 a. m., menu. Mrs.

chestra; 11:39-12, Rodeo club orchestra; 12-12:39, Ted Lewis and his orchestra.

WP, Philadelphia, Pa. (508.2), 10 a. m., menu. Mrs. Anna B. Scott: 1 p. m. Gimbel tea room orchestra: 3. Charlotto Rosenthal King, reader; James M. Clauson, barlone; Flora Kipka, pianist; 6:05, Pagoda cafe orchestra; 8, Sesqui centomial; talk, Hon. Harry A. Mackey; 8:15, Etude perlod, James Francis Cooke; 9, Lyrie trio, Ernestine Baker, soprano: Plorence Haenle, violinist; Dorothy Power, artist: Plora Ripka, planist; 10:05, Joe Ray and the California Night Hawks.

WJAR, Providence, R. 1, (305.9), 1:05, p. m., Joe McNamara and his Twin Elm orchestra; 8, musical program; 9, Hodson-Esses orchestra; 10, Goodrich Stivertown Cord orchestra: Service Symphony orchestra: 9, Jean Goldkette's Seronaders; 10, Jean Goldkette's Seronaders; 10, Jean Goldkette's Seronaders; 10, Jean Goldkette's Victor Recording Orchestra:

orchestra. WKAQ, San Juan, P. R. (340.7), 7:30-9 p. m., music,

WKAQ. San Juan, P. R. (340.7), 7:30-9 p. m., music, La Cafeteria.

MMCA, New York, N. Y. (340.7), 6-6:30 p. m., Olcott Vail and his Hotel McAlpin string ensemble; 6:30-6:45, Robert Soffer, planist; 7-7:30, Joe Chappelo's Sunnyside orchestra; 7:30-8, Lanson's orchestra; 8:30, "Hale and Hearty;" 8:30-8:45, Alexander Dellerson, baritone; 9-9:15, Alexander Dellerson; 10-15; 'How to Drive Automobiles, 'Harry T. Rainess; 11-12, Ernie Golden and his Hotel McAlpin orchestra; 11-12, Ernie Golden and his Hotel McAlpin orchestra; NNYC, New York, N. Y. (526), 7-7:10 p. m., market high spots; 7:10-7:30, dance program; 7:30-7:35, police alarns; 7:35-8, dance program; 8-9, studio program; 9-9:30, Allan trio; 9:45-10, song recital; 10:10-10:30, talk, Sydney N. Ussher; 10:35-11, Hotel St. George orchestra.

talk, Sydney N. Ussher; 10:35-11, Hotel St. George orchestra.

WOR. Newark. N. J. (405.2), 2:45-3 p. m., talk, Dr. George Watson; 6:15-6:17, "Words Often Mispronounced;" 6:17-7, dinner music, Hotel Shelton; 7:15-7:30, sports talk, Bill Wathey.

WTAG, Worcester, Mass. (268), 10:30 a. m., chat; 10:45, talk, Marjorie Woodman, nurse; 12:05-2 p. n., luncheon music, WTAG trio; 4:30, Indoor Sports isbb; 5:15, Twinkle Twinkle story teher; 8-23. Larktinities. WEAF; 8:30-9, Pop concert, WEAF; 9-10, WEAF concert ensemble; 10-11, Silvertown Cord orchestra, Joseph Knecht, director.

WTIC, Hartford, Conn. (475-9), 6:30 p. m., Hub restaurant trio; 7, dinner music; 7:30, "Diptheria," br. Willard Knowlton.

WMJ, Detroit, Mich. (352.7), 9:30 a. m., tonight's diner; 12:05 p. m., Jules Kiteli's Hotel Statler orchestra; 3, Detroit News orchestra; 6, dinner concert; 8, concert from WEAF.

Central Time Stations
KFNF, Shenandoah, Iowa (266), 7 p. m., Blue Grove entertainers.

entertalhers.

KLDS. Indopendence, Mo. (440.9), 8 p. m., lecture rourse series, M. A. Etzenhauser; 8:15, concert. Dorothy Clair, dramatic reader; Rozanne Clinton, violinist; Florence Campbell, planist.

KMA, Shenandoah, 1a. (252), 11:30 a. m.-12:30 p. m., R. P. D. program; garden, flower and orchard talks, Earl May; music; 6-7, music; 9-11, Delmonica Dreamers; Walter Nixon, blanist and director; E. J. Gottsch. soloist.

soloist.

KPRC, Houston, Tex. (296.9), 12 noon, program, 5:30
p. m., Unele Judd's kiddles' hour; 7:30, Blanchard's
dance orchestra, Claude Blanchard, leader; 8:30, nusicale: J. Moody Dawson, violinist: Samuel Francis,
tenor; Gertrude Worthington, violinist; Mildred Beard,
clanist

nlanist.

KSAC, Manhattan, Kan. (340.7), 12:35 p. m., readings; 12:40. Bovine tuberculosts, J. W. Lamb; 12:47, question box; 12:38, "Burn the Chinch Bug," J. W. McColloch: 4:30-5, community civies; 6:53, music and art talks; 6:50, bushess English, J. O. Faulkner; 7. "Dycing and Setting of Colors," L. McElmurry; 7:15, "The Influence of School Days," Jean S. Dobbs.

7:15. "The Influence of School Days," Jean S. Dobbs,
Dobbs,
Louis, Mo. (545.1), 6:35 p. m., WEAF chain,
KTHS. Hot Springs National Park, Ark. (374.8), 9:40 p. m., Louis Culp. organist; 9:40-10:30, Charles
Elliott. saxophonist; 10:39-11, symphonic jazz.
KYW, Chicago, III. (335.4), 11:35 a. m., table talk,
Mrs. Anna J. Peterson; 12:05-1 p. m., noon-day concert, Commonwealth Edison company; 6:35-7, children's bedtime story, Walter Wilson; 7-7:30, Congress hotel; 6-6:30, Edison company; 6:35-7, children's bedtime story, Walter Wilson; 7-7:30, Congress hotel;
7:33-7:53, American Farm Bureau federation; address,
G. L. Noble; "1925 Seed Crop;" 8-8:20, Twenty
Minutes of Good Reading," Rev. C. J. Pernin; 8:209:15, musical program; 9:20, "Armistice Means Meet
Half Way," John C. Cutting; 10-11:30, cerning at
home; 1, Insomala club.
WBAP, Fort Worth, Tex. (475.9), 12:05-12:30 p. m.,
Trall Elazers; 6-6:30, dinner music, Fred Cahoon's
Texas hotel orchestra: 7:30-8:30, Mrs. Charles Utermochlem, violinist; Mrs. G. B, Dickey, pianist; 9:3010:35, Samuel L. Ball School of Artistic piano playing.
WBBM, Chicago, III. (226), 8-9 p. m., know the world.

10:15; Saunuel L. Ball School of Artistic piano playing.

WBBM, Chicago, Ill. (226), 8-9 p. m., know the world program: 9-10. Stewart-Warner string quartet; Ziceter slaters; Montmartre; Faur Crows quartet; Leona Hayos, harplst; 10-12, Merry Garden orchestra.

WBBR, New York, N. Y. (272.6), 8 p. m., Watchtower instrumental trio: 8:10, Barbara Jonasch, soprano; 8:20, Sunday school lesson, S. M. Van Sipma; 8:30. Barbara Jonasch, soprano; 8:30, Watchtower instrumental trio.

WCBD, Zien, Ill. (344.6), 8 p. m., saxophone quintet; rocal trio; Mr. and Mrs. G. R. Sparrow, Mrs. Beatrlee Beem, Mrs. Pauline Brown.

WCCO, Minnetpolis-St. Paul, Minn. (416.4), 12 m., Donaldson's orchestra; 2 p. m., among the musicians. H. A. Bellows; 7, WEAF; 10:05, travel talk.

WDAF, Kansas City, Me. (365.6), 3:30-4:39 p. m., Star's Radio orchestra; 6-7, piano tuning in numberbook talk, Louis Mecker; Tell-Me-a-Story Lady: Trianon ensemble; 11:45-1, Carl Nordberg's Plantation players; Earl Coleman's Ambassador hotel orchestra players: Earl Coleman's Ambassador hotel orchestra; Eddie Kuhn's Kansas City Athletic club orchestra; Ted Meyn, organist.

Biddie Kuhn's Kansas City Athletic club orchestra; Ted Meyn. organist.
WEBH. Chicago, III. (370.2). 7-8 p. m. Oriole orchestra: rectial; 9-10. Oriole orchestra: Katherine Forbes, soprano; Reulah Ladon, violinist; 11-1 a. m. Oriole orchestra: stories. Wayne Myers: Paul Smail.
WGES. Oak Park, III. (250). 5-7 p. n.. Frederick Irving, basse; Rose Olech, soprano; Stenstrom sisters, vocalists; Miles Sullivan players; John Brown, planist; Wysenbeck trie; Timn theater organ and orchestra; 8-9, Remington Welsh, organist; Richard Dale, baritone; Ruth Kalthoff, mezzo soprano; Wyzenbeck trio.
WGN, Chicago, III. (370.2), 12:40 p. m., Drake concert ensemble, Blackstone string quintet; 2:30, Lyon & Healy; 6:30, Drake concert ensemble, Blackstone string quintet; 8-9. WGN string trio; 10, Jack Chapman's Blackstone bottel dance orchestras.
WHAD. Milwaukee. Wis. (228), 6-7 p. m., Bill Benning's Milwaukee Athletic club orchestra.

Index to Classical Concerts

T ABULATED below is a time table of the stations giving classical concerts this week. Stations are divided into the four different standard times in use. The hours are given in the kind of time in use at each listed station. By using this table as an index and referring to the complete programs below, full information will be obtained.

Classical

Eastern Time Stations

Saturday, November 7: 6, WCX, WEAF, WMCA, WREO; 6:17, WOR; 6:30, WCAE; 7, WEAR, WNYC, WRC; 7:15, WEAF; 7:35, WEAF; 8, WBBR, WNYC; 8:15, WRC; 8:30, WCAE; 8:40, WBBR; 9:30, WEAF; 10, WEAF

Sunday, November 8: 6, WCAU; 6:30, WCAE, WOR; 7, WEAR; 7:20, WCAE, WCTS, WEAF, WEEI, WWJ; 8, WBZ, WEAR, WGBS, WGCP; 9, WKAQ; 8:30, KDKA, WBZ, WGCP; 9, WBZ, WEAR, WGY, WHAR, WNYC; 9:15, WCAE, WEAF, WEEI; 9:20, WNYC; 9:45, WGCP; 10, WNYC; 11, WHN; 11:15, WHAR.

Monday, November 9: 6, WCX, WEAF, WMCA, WREO, WWJ; 6:05, WIP; 6:30, CFCA, WBZ, WCAE, WGY, WTIC; 7, WEAF, WEAR, WJR, WOO; 7:15, WEAF; 7:30, WEEI, WGY, WMCA; 8, WBBR, WBZ, WCAU, WCX, WHAR, WTIC; 8:15, WBZ, WHAZ, WNYC; 8:30, CHNC, KDKA, WBBR, WBZ, WGCP; 8:45, WEAF; 8:55, WBBR; 9, WBZ, WCAE, WEEI; 9:10, WLIT; 9:15, WGCP; 9:30, WBZ; 10, WEAF; 10:10, WEII; 10:30, KDKA; 10:40, WEEI; 11, WHN.

Tuesday. November 10: 6, WBZ.

11, WHN.

Tuesday, November 10: 6, WBZ, WCX, WEAF, WMCA, WREO, WWJ; 6:05, WIP; 6:17, WOR; 6:30, WCAE, WGY, WTIC; 7, WEAR, WEBJ, WGBS, WJR, WOR, WTIC, WWJ; 7:20, WTIC; 7:30, WCAU, WEAF, WOO; 7:45, WEBJ; 8, WBZ, WCAE, WCAU, WCX, WEAR, WEEI, WGR, WHAR, WRC, WTIC; 8:05, WNYC; 8:15, WEBJ; 8:30, KDKA, WBZ, WCAE, WCAE, WCAE, WCAE, WEAF, WEEI, WFI, WGR; 9:15, WREO; 9:30, WBZ, WHN, WRC, WTIC; 10, WCAE, WEAF, WHN, WRC, WTIC; 10, WCAE, WEAF, WHAR. 10:30, WGR; 11:15, WHAR.

Wednesday, November 11: 6, WCX, WEAF, WMCA, WREO, WWJ; 6:05, WIP; 6:30, WBZ, WCAE, WTIC; 6:45, WGY; 7, WEAR, WJR; 7:20, WTIC; 7:30, WEAF, WEEI; 8, WBZ, WCX, WEAF, WEEI, WKAQ, WMCA, WWJ; 8:05, WNYC; 8:15, WCAU, WOR; 8:30, KDKA, WBZ, WCAU, WOR; 8:30, KDKA, WBZ, WCAU, WEBJ; 9, WBZ, WCAU, WEBJ; 9, WBZ, WEAF, WGA, WOR; 9:15, WBZ, WCAU; 9:15, WBZ, WCAU; 9:10, WAZ, WCAU; 9:10, WAZ, WCAU; 9:10, WAZ, WCAU; WGR, WOR; 10, WEAF, WEEI, WGR, WNYC, WOO; 11, WCAE.

WNYC, WOO; 11, WCAE.

Thursday, November 12: 6, WBZ, WCX, WEAF, WMCA, WREO, WWJ; 6:05, WIP; 6:17, WOR; 6:30, WCAE, WGBS, WGY, WOR, WTIC; 7, WEAF, WEAR, WGBS, WJR, WWJ; 7:30, WCAU, WEEI, WHN, WRC; 7:45, WGY, WTIC; 8, WBBR, WBZ, WCAU, WCX, WEAR, WEEI, WGR, WGY, WHAR, WIP, WTIC; 8:15, WNYC; 8:30, KDKA, WBZ, WCTS, WEEI, WHN, WMCA, WREO; 8:40, WBBR; 8:45, WBZ; 9, WCAE, WCAU, WEAF, WEEI, WFI, WGR, WHAR, WNYC, WRC; 9:30, WREO; 10, WCAE, WCAU, WEAF, WEAR, WEAF, WEAR, WEAF, WEAR, WEEI, WGR, WGY; 10:15, KDKA; 11:30, WGY. 11:30, WGY.

Priday, November 13: 6, WCX, WMCA, WREO; WWJ; 6:05, WIP; 6:30, WBZ, WCAE; 7, WEBJ, WGY, WJR, WOR, WTIC; 7:30, WEEI, WTIC; 7:45, WEBJ; 8, WAHG, WBZ, WCAU, WCX, WEBJ, WEEI, WTIC; WWJ; 8:05, WNYC; 8:10, WHAR; 8:30, KDKA, WCAE, WEBJ; 8:45, WAHG, WBZ; 9, WBZ, WCAU, WEEI, WMCA, 9:30, WEEI; 10, WEEI, WNYC; 10:30, WGR, WGY; 11:15, WHAR.

Central Time Stations

Saturday, November 7: 6, KFAB, WENR, WMAQ, WOAW, WOK; 6:15, WCCO; 6:30, WGN; 7, KOIL, KSD, KYW, WGN, WMBB, WQJ; 7:30, WEBH, WHAS; 8, KFNF, KPRC, KYW; 8:15, WCCO; 8:30, KYW, KPRC, WFAA, WHAS, WMC; 9, WKRC, WMAQ, WOAW, WOC; 9:15, KPRC; 9:30, WOC.

Sunday, November 8: 6:30, KLDS, WHT; 6:45, WORD; 7, KYW, WLS, WORD; 7:30, WHO; 8, KFDM, KPRC, WCBD, WFAA, WGN, WQN, 8:30, WLW; 9, WQJ; 9:10, KTHS; 9:15, KLDS, WCCO, WHT; 9:25, KTHS; 9:30, WFAA, WOC; 10, KFVE, KTHS, WOC; 10:30, WHT; 11, WOC.

Monday, November 9: 6, KFAB, KMA, WHAD, WOAW, WOK; 6:30, WGN; 6:45, WOAW; 7, KFNF, WHT, WLW, WMBB; 7:30, KOIL, KPRC, WBAP, WHO; 8, KPRC, WHAD, WHO, WLW, WORD, WOS; 8:30, KPRC, WBAP, WFAA, WMC; WOAI; 9, KFKX, KMA, KPRC, KSD, KTHS, WHAD, WOAW; 9:30, KTHS; 9:45, KTHS; 10, KFKX, KMA, KTHS, WSAI; 11, WBAP, WSAI.

Tuesday, November 10: 6, KFAB, KMA, WHAD, WMAQ, WOK; 6:05, WCCO; 6:30, WFAA, WGN, WLW; 6:45, KSD; 7, KFNF, KYW, WHT, WLS, WMBB, WQJ; 7:30, KOIL; WCCO, WHAS, WHO, WOC; 7:45, WSAI; 8, KFDM, KLDS, KYW, WCBD, WCCO, WLW, WMAQ, WOC, WORD; 8:30, KPRC, WGN, WLW, WMC, WOAI, WORD; 8:45, KYW; 8:50, WMAQ; 9, KFDM, KFMQ, KMA, KPRC, KTHS, WCCO, WHAS, WLW, WOC, WSAI; 9:25, KTHS; 9:30, WBAP; 10, KMC, KYW, WSAI; 11, WHO.

Wednesday, November 11: 6, KMA, WHAD, WMAQ, WOK; 6:15, WLS; 6:30, KOIL, WGN, WHO; 7, KFNF, KPRC, KYW, WHT, WLW, WMBB, WQJ; 7:30, WHAD; 8, KPRC, KYW, WCCO, WDAF, WHAD, WMAQ, WOS, WORD; 8, KSD; 8:15, KOIL, WORD; 8:30, PWX, KPRC, WGN, WOAI; 9, KMA, WCCO, WHAD, WLS, WMAQ, WOC; 9, KTHS; 9:25, KTHS; 9:30, PWX; 9:45, KTHS; 10, KMA, KTHS, WLS, WLW, WOC, WSAI; 10:10, WSAI; 10:30, WLW; 11, WHAD, WLW; 11:30, WCCO, WLW; 11:45, WLW.

Thursday, November 12: 6, KMA, WHAD, WMAQ, WOAW, WOK; 6:30, WGN; 7, KYW, WHT, WLS, WLW, WMBB, WOAW, WQJ; 7:30, KFNF, KOIL, WHAD, WHO, WSAI; 8, KLDS, WBAP, WCBD, WCCO, WORD, WSAI, WSB; 8:20, KYW, WMAQ; 8:30, KPRC, WFAA, WGN, WHAD, WMC, WOAI; 8:35, WMAQ; 9, KPRC, KTHS, KYW, WCCO, WHAD, WOAW, WOC, WSAI; 9:10, KTHS; 9:30, WBAP; 9:45, KTHS; 10, WBAP; 10:40, WLW; 11, WHO.

Friday, November 13: 6. WHAD, WMAQ, WOAW, WOK; 6:15, WCCO; 6:30, WGN; 6:50, WMAQ; 7, KYW, WHT, WLS, WQJ; 7:30, KFNF, KOIL, KSD, KYW, WBAP, WHAD, WHO: 8, KFDM, WCCO, WDAF, WHAD, WMAQ, WSAI: 8:30, KFAB, WFAA, WGN, WHAD, WHO, WMAQ, WMC, WORD: 9, KFDM, KFKX, WHAD, WMAQ: 9:05, WCCO; 9:10, KTHS: 9:30, KFAB, KTHS, WBAP; 9:45, KTHS; 10, KFKX.

Mountain Time Stations Monday, November 9: 6:30, KOA; 8:10, KOA.

Tuesday, November 10: 6:30, KOA; 7:30, KOA.

Wednesday, November 11: 6:30, KOA; 8:10, KOA.

Thursday, November 12; 6:30, KOA;

Priday, November 13: 6:30, KOA; 8:10, KOA; 8:30-10:30, CNRE.

Pacific Time Stations

Saturday, November 7: 6, KFOA, KHJ; 6:30, KNX; 6:45, KFOA; 7, KNX; 7:30, KNX; 8:10, KGO; 8:15, KHJ.

Sunday, November 8: 6:30, KHJ; 6:35, KPO; 7, KHJ, KNX; 8, KHJ, KNX, KPO; 9, KHJ, KNX; 10, KNX.

Monday, November 9: 6, KFOA, KGO; 6:30, KNX; 6:45, KFOA; 7, KPO; 7:30, KNX; 8, KGW, KHJ; 9, KGW; 10, KHJ.

Tuesday, November 10: 6, KFOA, KGO, KHJ; 6:30, KNX; 6:45, KFOA; 7, KNX; 8, KGO, KHJ; 8:30, KFOA; 9, KGW, KPO. Wednesday, November 11: 6, KEOA, 8:30, KNX; 7. KNX; 8, KGO, KGW, KPO; 9, KGW, KPO.

Thursday, November 12; 6. KHJ; 6:30, KNX; 7, KNX; 8, KGO, KPO; 9, KGW, KPO.

Priday, November 13: 6, KFOA, KGO, KHJ; 6:15, KPO; 6:45, KFOA; 7:30, KNX; 8, KHJ, KNX, KPO; 9, KPO.

WHAS, Louisville, Ky. (399.8), 4-5 p. m., Harry S. Currie's Music Box; readings; 7:30-9, concert, Nellie Young and her Melody Men; International Sunday school lesson; welfare talk, WHB, Kansas City, Mo. (365.6), 2-3 p. m., ladies' hour programs. Sweenex Radio trio: 7-7:30, Morrell Moore, organist; 8-10, Shrine surenaders; Mrs. Fred L. Kammer. Who, Des Moines, Iowa (526), 7:30-8 p. m., Raleigh quintet; 8-9, Bankers Life Little symphonic orchestra: WHO, Des Moines, Iowa (526), 7:30-8 p. m., Classleal programs; Grayling's string trio; Wilkens and Martens, Melody Matds; John Clark, Daritone; Berniec Taylor, soprano; Helen Rath, planist; Al Carney, organist; (238), 7:45-9:15, musical features; (399.8), 9:30, Jelke entertainers; U. S. L. half hour of dance music; Kenneth Clark's Hawaiian trio; Howard Shershon, tenor; Al Carney, organist; Husk O'Hare's orchestra; 12, Pat Barnes, "Your Hour League"; Al Carney, WiBO, Chicago, III. (226), 6-8 p. m., vocalists; 12-2 a. m., midnight jamboree.
WJAZ, Chicago, III. (322.4), 10-12 midnight, Ramon string trio; Dr. Fery Lulek barttone; Ruth Ford, contrato; clumes; Chicago lyric trio; Martha D. Beck, Drake except excepted.

Wird of Chicage, iii. (226), 6-8 p. m., vocalists; 12-2

Wird of Chicage, iii. (226), 6-18 p. m., vocalists; 12-2

Wird of Chicage, iii. (322, 10-12 midnight, Ramon string tries, 140, 90-111. (322, 10-12 midnight, Ramon string tries, 140, 90-111. (322, 10-12 midnight, Ramon string tries, 140, 90-111. (302, 18), 7-8 p. m., dinnor concert. Drake concert ensemble: Blackstone hotel dance or chestras; jazza artists: 1-2 a. m., Chapman's crehestra; 13-11. Jack Chapman's and the Blackstone hotel dance or chestras; jazza artists: 1-2 a. m., Chapman's crehestra; Blackstone hotel dance or chestras; jazza artists: 1-2 a. m., Chapman's crehestra; Blackstone hotel dance or chestras; jazza artists: 1-2 a. m., Chapman's crehestra; Blackstone hotel dance or chestras; jazza artists: 1-2 a. m., Chapman's crehestra; Blackstone hotel dance or chestras; jazza artists: 1-2 a. m., Chapman's crehestra; Blackstone hotel dance or chestras; jazza artists: 1-2 a. m., Chapman's crehestra; Blackstone hotel dance or chestras; jazza artists: 1-2 a. m., Chapman's crehestra; jazza. WLS. Chicago, III. (344,6), 12 noon, WLS. Chicago, III. (322,4), 7:30 a. m., morning southers, WLS. Chicago, III. (322,4), 12 noon, WLS. Chicago, III. (323,4), 12 noon, WLS. Chicago, III. (324,5), 12 noon, WLS. Chicago, III. (324,5), 12 noon, WLS. Chicago, III. (325,6), 12 noon, WLS. Chicago, WLS. Chicago, III. (325,6), 12 noon, Nathalie Glimartin, soprano; Robert Rix, planist; Politary

WS0E Milwaukee, Wis. (246), 3:30 p. m. mattnee program, Milwaukee Radio show; 5:30, twilight hour; Victor Maves, planist; Jimmy the Boolblack, mouth-accordionist; 7:30. Milwaukee Radio show program; Croation Tamburlea orchestra; Anton Kezman, director; Eleaner Day, soprano; E. W. Day, barlione; Ann Bau-man, contraito; 8:45, "Automobile Trouble Shooting," Doc Otto.

Doc Otto.
WSUI, lowa City, lewa (483.6), 12 m., organ numbers,
Mrs. Preston C. Coast.

Mountain Time Stations

CNRC, Calgary, Can. (435.8), 9 p. m., Orpheus quartet. KFWA. Ogden, Utah (261), 5-6 p. m. Ogden Radie Dealets program.

KOA, Denver, Colo. (322.4), 5:15 p. m., Rindto theater musicale; 3:15, relaxing and corrective exercises; 3:30; matinec for housewives; 4, culinary hints; 4:15, fashion review; 6:30. dinner concert. Herbert White and his Silver State orchestra; 7:30, farm question box.

Pacific Time Stations

KFPG, Hollywood, Calif. (230), 5.6 p. m., home hour.

Mannay Simmons and pupils of Carter Weaver; 5-7.

dinner music; 7-7:30, history tesson; 3-10, KFPf
concert hour with Turner orchestra, N. M. Absself,
Spotch bartione; 10-11, dance music by remote con
troth

KFWB, Hollywood, Calif. (252), 6:30-7 p. m., program, E. P. Janes. bullder; 7-7:15, talk Dr. T. Floyd Brown, plastic surgeon; 7:15-7:30, microphone brevites; 8-9, program, Starr Plane company featuring Hollywood Rythmu Kings and Ina Mitchell Butler, sopnano, in arrangements Gennett records; 9-10, program, Don P. Smith, Inc., Diana-Moon orchestra; Sol Hoopil's Hawalian trio; 10-11, Warner Bros. frolic, featuring Charley Heh's Sunset Canyon Country Club orchestra.

teaturing Charley Hen's Sunset Canyon Country Club orchestra.

KGO, Oakland, Calif. (361.2), 10:40 a. m., classroom instruction, ninth grade; 11:30-1 p. m., luncheou concert; 5:30-6:30, "Friend to Boys," George Ludlow; book chai; 3, "Her Temporary Husband," 5-act comedy, Edward Paulton; KGO players, Wilda Wilson Church, director; Arion trio; 10-12, dance music, Ben Black's orchestra.

director; Arion trio; 10-12, dance music, Ben Bacca o orchestra.

KGW. Portland, Ore. (491.5), 12:30-1:30 p. m., Rose City trio; 7:35-8. Catholic Truib.

KHJ. Los Angeles, Calif. (405.2), 6-6:30 n. m., Leighton's Arcade cafeteria orchestra. Juck Crotshaw, leader: 6:30-7:30, history story. Prof. Hertzog; Dicked Brandon. screen juvenile, bedtime story by Unclodon: 8-10, program. Los Angeles Enamelers association, arranged by Walter Biddiek; 10-11, Art Hickman's Blituore hotel dance orchestra, Frank Ellis, leader.

Batts Different Royal Control of Rules Carlot Project Rates Carlot Project Rates Carlot Project Rates Carlot Royal Royal Royal Rates Carlot Royal Royal Royal Rates Carlot Project Royal Radiating Order Carlot Rules Carlot Rules Carlot Royal Radiating Order Rules Carlot Rules Carlot Royal Radiating Order Rules Carlot Radiating Order Radi

NX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wur-(Continued on page 19)

MICHIGAN NIGHT FOR ALUMNI AT WJR

Thursday, November 12

(Continued from page, 18)

litzer pipe organ studio; Town Tatiler; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra, Paul Finstein, leader; 7-8, program, H. L. Crockett with H. L. Crockett, baritone; Way Watts and ukulele and others; 8-10, KNX feature studio program; 10-11, Ambassador botel dance orchestra, Ray West, leader.

KPO, San Francisco, Calif. (428.3), 1-2 p. m., Rudy Sciger's Fairmont hotel orchestra; 2:30, special afternoon studio program; 3:30, Palace hotel concert orchestra; 6:30-8, banquet in honor of Robert Dollar; 8-9, Don Lee Cadillac company; 10-11, Jack Coakley's Cabirians.

KTAB, Oakland, Calif. (240), 8-10 p. m., program.

KTAB, Oakland, Calif. (240), 8-10 p. m., program, Breuner's

Osborne and Eddie Meredith, songs; 3:15-3:30, Leslie McLeod, tenor; 3:30-3:45, Ona Welsh, planist; 3:45-4, William J. Rietz, songs; 4-4:15, Sam Weber, planist; 4:15-4:30, Profit and Sampson, entertainers; 4:30-4:45, Hugo Angelo, tenor; 4:45-5, Charol de Thomee, planist; 5-5:15, Sunshine, songs; 7-8, Dominion Ginger Ale orchestra; 8:15-8:45, Clarence Williams trio; 8:45-9, Shirley Herman, songs; 9-9-15, Ukulele Eob McDonald; 9:15-9:30, Jimmy Flyun, songs; 9:30-9:45, Eva Rothenberg, pianogue; 10-11, Strickland's orchestra; 11-11:39, Club Ritz orchestra; 11:30-11:45, Club Rodeo entertainers; 12-12:30, Connic's orchestra.

WGHP, Detroit, Mich. (270), 10 p. m., Skylark orchestra and soloist.

chestra and soloist.

WGR, Buffalo, N. Y. (319), 2:30-4:30 p. m., WGR's afternoon program; 6:30, Clef trio; 9, Winger's Cres-

Central Time Stations

KFAB, Lincoln, Neb. (340.7), 3:15-3:45 p. m., matine musical; 5:30-6:30, Buick Little symphony, Belshaw's orchestra; 8:30-10:30, Silver Creek band and entertainers.

entertainers.

KFDM, Beaumont, Texas (315.6), 8-10 p. m., Magnolia Petroleum company's refinery band.

KFMX, Northfield, Minn. (337), 10-11, organ recital.

KFNF, Shenandoah, 1a. (266), 7 p. m., Sunday School lesson; 7:30, concert, Tom Keenan.

KFVE, University City, Mo. (240), 8:30 p. m., studio entertainers, Orchestra Romaine.

KMA, Shenandoah, 1a. (252), 11:30 a. m.-12:30 p. m., R. F. D. program; garden, flower and orchards talks.

Earl E. May, music; 6-7, dhner program; domestic science talks Le Ona Teget, June Case; How Do You

Currie's Music Box; readings; 7:30-9, concert, Louisville Music and Radio company; Gene Klingman, uke soloist, planist and director.

WHB, Kansas City, Mo. (365.6), 2-3 p. m., Sweeney Radio trio; 7-8, Milo Finley's trio; Sweeney Radio

who, be the first title, sweetly fadio orchestra.

WHO, Des Moines, Ia. (526), 7:30-9 p. m., program, Hapac Groto quartet; 11-12, dance program.

WHT. Chicago, III. (399.8), 6 p. m., classical program; Genevieve Burnham, soprano; Bob York, tonor; Grayling's string trio; Al Carney, organist; (238), 7:35-9:15, musical features; (399.8), 9:30, Lottls half hour of nusic: Preddle Whitner, planist; Samuel Rowe, tenor; Oscar Heather, tenor; Pat Barnes, tenor; Helen Rauhn, planist; Husk O'Hare's orchestra; 12, Pat Barnes "Your Hour League," Al Carney.

Friday, November 13 Headliners Today Eastern Central Mountain 7 p. m. 6 p. m. 5 p.m. VOS (440.9) Homecoming. WOS (490.9, 200.0) WGY (279.5) Festival choir. 8:30 7:30 6:30 WHO (526) Hapac Grotto quartet. WTIC (475.9) Hoodoo Night. 5:30 Friday, silent night for: CHIC, CKNC, CNRC, CNRM, CNRO, CNRR, CNRW, KFMQ, KFRU, KGO, KLDS, KOB, KPRC, KUOM, WAFD, WBBR, WCBD, WFI,

Florence Sully Todd, left, has an exquisite contralto voice. She will be featured in WGR's afternoon programs during the week of November 16. Elizabeth Santagano, above, is one of the new staff entertainers at WIF. She is a European singer of note.

Santagano Photo, Jubey-Rembrandt

WGBS, WHAZ, WIP, WKRC, WLW, WOR, WRC. WREO, WSAI, WSMB, WSUI, WTAM. Eastern Time Stations

NRT. Toronto, Can. (356.9), 6:30 p. m., King Edward hotel concert orchestra; 9, Mrs. Russell Marshall, soprano; Alfred Heather, tenor; Reginald Stewart, pionist; 11, Luigi Romanelll and his King Edward hotel charge orchestra.

dance orchestra.

KDKA, Pittsburgh, Pa. (309.1), 6:15 p. in., dinner concert; 7:45, "The Rhodes Scholarships," Dr. Alfred P. James; 8:30, Dutch Master half hour.

WAHG, Richmond Hill, N. Y. (315.6), 12-12:55 p. m., musical program; 7:30-7:45, Hon. Maurice E. Connolly; 7:45-8, Emma Keller May, soprano; 8-9, Skinner organ recital; 9-9:15, Emma Keller May; 9:15-9:30. Rainhow saxophone quartet; 9:30-9:45, William Bellham, reader; 9:45-9:55, Rainhow saxophone quartet; 9:55-10, time signals and weather report; 10-10:15, Radio talk; 10:15-11:15, Benton Harbor erchestra.

tet; 7:30-10, time signats and weather roport; 1910:15, Radio talk; 10:15-11:15, Benton Harbor crchestra.

**WBZ. Springfield, Mass. (333.1), 6:30 p. m., Leo Reisman's Hotel Lenox ensemble; 7:05, violin recital, Alessandro Niccoli; Dorothy Curtis, planist; 9, Myrtle
Ashe, pianist; Loris Patten, reader; 8:30, Rita Equi,
soprano; Bertha St. Chaire, centralio; Dessie Brewn,
pianist; 9, Whatdoyoucallit club.

**WCAP. Washington, D. C. (468.5), 7:45-8 p. m., "The
Age of Synthetic Production," Dr. H. E. Howe; 8-9,
amonreed; 9-3:20, Hodo College glee club, Prof. Henry
7. Wade, director; 9:20-9:15, Irving Boernstein's
Wardman Park hotel drace orhestra.

**Wackurtus Production or Synthesis Subsensien's
Wardman Park hotel drace orhestra.

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Wardman Park hotel drace orhestra.

**Wackurtus Production or Synthesis Subsensien's
Wardman and his Hotel Pennsylvania orchestra; 8:15,
chiropractic talk; 8:30, Houston Club Suoker entertalminent; 9, Hill; Instrumental trio; 9:30, Billy and
his saxophone; 9:45, Ed Klefer, humorist; 10, Rennie
Covnasck, popular song writer; 10:30, Loesser's daucing
acudemy orchestra.

**WCX. Detroit. Mich. (517), 6 p. m., dinner concert.

Cornacts, popular sons in the content of the conten Astoria; 7-11, Allan Harris, banjoist; bir 1905,00111, Happiness Candy Boys; Eagle Neutrodyne trie; Mears and company; Flordna trie; 11-12, Meyer Davis Lido-

weak, and company; Sage Medical Rever Davis Lido-Venice orchestra.

WEAR, Cleveland, O. (389.4), 7-8 p. m., Roberts Kindergarten hour; 8, talks; 8:30-11, dance program, WEBJ, New York, N. Y. (272.6), 7-7:30 p. m., Blenhein Incater ensemble; 7:46-8, Michele Bontemoo, buritone; Norman Hemosfeld, accompanis! 8:138-8:30, Carrie Cohen, pianist; 8:30-9:30, Recreation club orchestra; direction, Andrew Bonne.

WEEL, Boston, Mass. (348.6), (0945 a. m., "Onick Nut Locaf." 3:15 p. m., Art. Robin and his orchestra; 7, Big Brother club; 7:35, musicate; 8, Neanolitanice Cream company; 8:30, Sager's balf hour of hospitality; 9, musicate; 10, American House Martibaund orchestra.

WGBS, New York, N. Y. (315.6), 6-0:30 p. m., Uncle Geebce; 6:30-7:30, Nazell's orchestra.

WGCP, New York, N. Y. (315.6), 3-3:15 p. m., Nat

cent Park entertainers, "The Old Blacksmith Shop," 9:30-10, Margaret Gerrison, pianist; 10-10:30, American-Hawalian quartette; 10:30-11, Hewitt Rubber company program, "Thirty Minutes of Something Different;" 11-1a, m., Vincent Lopez Hotel Statler dance orchestra, Harold Gleser, director.

WG7, Schnetady, N. V. (279-5), 2 p. m., husic; health talk, "Chronle Appendicitis," Dr. C. W. Woodall; "Color in Lamps," Bernice Bowser; 6:30, Invernational Sunday School lesson; 7, Albany Strand theater orchestra, Julius Boxhorn, conductor; Floyd Walfers, organist; 7:30, health talk; 7:35, piano recital, Ollie G. Yettru; 8, Festival choir; WGY Augmented orchestra; Cocil Wright, conductor; 9:20, Radio Four, A. Corgeshall, Kolin Hager, William Fay, Ullsworth Page; 10, comedy, "The Dover Road," Ten Eyek Clay, director.

WHAR, Atlantic City, N. J. (275), 2 p. m., Seasido hotel tric; 7:30, talk; 8, Seaside hotel orchestra; 11:15, Strand theater organ recital.

WHN, New York, N. Y. (381.2), 6:40-7 p. m., Sunshine talk, Billy B. Van; 7-7:30, Club Richman entertainers; 7:30-8, "Cheerful Philosopher," Furr Mc-Intosh; 10:39-11, Roseland dance orchestra; 11:11:30, Bandbox revue and orchestra; 11:20:12, Club Alabam orchestra; 12:12:30, Silver Slipper revue and orchestra.

WP, Philadeiphia, Pa. (508.2), 1 p. in., Gimbel tea

Bandbox revue and orchestra; 11:20-12, Club Alabam orchestra; 12-12:30, Silver Silpper revue and orchestra; 12-12:30, Silver Silpper revue and orchestra; 21:212:30, Silver Silpper revue and orchestra.

WIP, Philadelphia, Pa. (508.2), 1 p. m., Gimbel tea room orchestra; 3, artist recital; 6:05, Benjamin Franklin concert orchestra.

WJAR, Providence, R. L. (305.9), 1:05 p. m., Woo?steck entertainers; 8, musical program; 9, Maine Creamery hour; 11, Providence Bilimore dance orchestra.

WJR, Detroit, Mich. (517), 7 p. m., Jean Goldkette's Petite symphony orchestra; 8, Summerfield and Hech presentation.

WKAQ, San Juan, P. R. (340.7), 8-0 p. m., entertainment. Porto Rican Atheneum.

WLWL, New York, N. Y. (288.3), 8 p. m., question box, Rev. James Gillis; 2, Catbolic study club; vocal and instrumental numbers.

WMCA, New York, N. Y. (340.7), 6-6:30 p. m., Olepti Yali and his Hotel McAlpin string ensemble; 6:30-7:30, Džmie Golden and his Hotel McAlpin orchestra; 8:50-9, falk, Arthur Williams; 9-10, Hardman home and music; 10:13-11:15, Peter Molzen and his Society orchestra; 11:15-11:15, Donald Flamin, dimmatic crific.

WNYC, New York, N. Y. (526), 6:10-6:20 p. m., market high spots; 6:20-6:30, plano recital; 6:30-7, clementary French Jessons; 7:30-7:35-8, resume of meeting, board of colucation; 8-9, studio program; 10:30-10:23, talk, Prof. J. G. Carter Troon.

WRAG, Newark, N. J. (405.2), 3:45-4 p. m., talk, E. P. Adams; 6:15-6:17. Words Often Mispronounced; 10:14, Tood binks, Mitdred Thomas; 12:05-2 p. a., luncheon music, WTAG trio, Hart Smith, Girector; 7:15, Twinkle Twinkle story teller; 8, concert, program monunced.

WTAG, Worcester, Mass. (268), 10:20 a. m., chat; 10:43, Tood binks, Mitdred Thomas; 12:05-2 p. a., luncheon music, WTAG trio, Hart Smith, Girector; 7:15, Twinkle Twinkle story teller; 8, concert, program nonunced.

WTC, Hartford, Conn. (475.9), 6:30 p. m., Jules Klein's Mote Statler orchestra; 11:30, popular half hour.

WI, Detroit, Mich. (35.27), 12:05 p. m., Jules Klein's Mote Statler orchestra; 3,

Santagano Photo, Jubey-Rembrandt

Do Boys, Grady and Doc, Connie Forto and the Slumber Boat; 9-11, entertainers, Amity Township, KSAC, Manhattan, Kan. (340.7), 12:35 p. m., readings; 12:30, "Trevent Colla, Croup and Frozen Combs," J. H. McAdams; 12:38, word pleture of the horticulture exposition, W. R. Martin, Jr.; 4:30-5. lessons in color and design; 6:35, travelog and speaking; 6:50, English literature; 7. flout, E. L. Tague; 7. KSD, St. Louis, Mo. (545.1), 7:30 p. m., commorce NSB, St. Louis, Mo. (545.1), 7:30 p. m., commorce NSB, Harletta Schunacher, soprano. (374.8), 9:10-81. Louis Colp, organist; 10-11, Pooley hour, Marletta Schunacher, soprano. (374.8), 9:10-81. Louis Colp, organist; 10-11, Pooley hour, Rathow Garden. KYW, Chicago, Ill. (535.4), 11:35 a. m., table talk, Mrs. Anna. J. Peterson; 12:05, noonday concert, Commonwealth Edison company; 1-2, luncheon concert, Sanders Original Nighthawks; 7-7:30, Congress hote!; 9-10, Commonwealth Edison company; 10-12:30, Consanders Original Nighthawks; 12, Henrt A. Kontes, organist; 1-2, Insomania club.
WBAP, Fort Worth, Tex. (475.9), 12:05 p. m., Shelly Lee Alley and his entertainers; 6-6:30, Fred Cahoon's Texas hotel orchestra; 7:30-8:30, artists, John Tarleton Agricultural college; 9:30-10-45, mid-term graduation exercises, University of Eskota.
WBBM, Chicago, Hl. (226), 5:30-6 p. m., Kiddies Joy-Disger club); 8-10, instrumental quartet; Leona Hayes,

tion exercises. University of Eskota.

WBBM, Chicago, IH. (226), 5:30-6 p. m., Kiddies JoyDigger club; 8-10, instrumental quartet; Leona Hayes,
haculst; Devon coincely four; Low Russell, Peter Kules,
Montmarter orchestra.

WCCO, Minneapolis-St. Paul. Minn. (416.4), 10:45 a.
m., "Quick Nut Loaf;" 12 m., Dick Long's Dayton
trio; 3:95 p. m., "Canned Foods Week Value to
Hospitulis, Nurses, Physicians, Invalids; "Carcy Emeson; 4, readers' club, Mrs. Walter Stevens; 6:15,
Chadbourne's Nicollet hotel orchestra; 7:45, farm lecture, dairy farming, lesson IV; 8, health talk; 3:15,
musical program; 10:03, Dick Long's Nankin eafe
orchestra.

misseat program; 10:05, Dick Long's Nankin eafe orchestra.

WDAF, Kansas City, Mo. (365.6), 10:45 a. m., Betty Crocker series; 3:30-4-30 n. m., Star's string trlo; 6-7, piano tuning in number; address, speaker Kansas City Children's bureau; Tell-Me-a-Story Lady; Trianon ensemble; 8-9:30, Star's laddo orchestra; 11:41-1, Plantation players; Eddie Kuhn's Kansas City Athletic chip orchestra.

Plantation players; Eddie Kuhn's Kansas City Athletic chio prehestra; (370.2) 7-8 p. m., Oriole orchestra; Untown theater; 9-10, Oriole orchestra; Katherine Forbes, sonrano, Beulah Ladon, violinist; 19-1 a. m., Oriole orchestra; stories, Wayne Myers; Paul Suall.

WGES, Oak Park, Ill. (250), 5-7 p. m., Lydia Werner, soprano; John Brown, planist; Katherine Gray, contraito; Edwin Kemp, tener; Tiffin theater organ and orchestra; 3-9, Thomas Pappas, accordion; Tiffin theater organ and orchestra; John Stantford, tenor; McDevitt, sisters, vocal duo; 11-1 a. m., Remington Welsh, organist; Parish and Ward, Sandy McTavish, Scotch comedian; Bob and Cameron, duettlists; Thomas Pappas, accordionist.

comedian: Bob and Cameron, duettlists; Thomas Pappes, accordionist.

WGN, Chicago, Ill. (370.2), 12:40 p. m., Drake concert ensemble; Blackstone string quintet; 2:30, Loyand and Healy; 6:30, Drake concert ensemble, Blackstone string quintet; 8:9, WGN string trio; 10, Jack Chapman's, Blackstone hotel dance orchestra.

WHAD, Milwaukee, Wis, (278), 6:7 p. m., Arthur Richter, organist; 7:35, Bill Juhre's Radio Cartoon game; 8:30-10, Wisconsin theater revue.

WHAS, Louisville, Ky. (399.8), 4:5 p. m., Harry S.

Cecil and Esther Ward, above, are the en tertainers at WMBB, Chicago, who take the listener away to islands of the South Seas. The soft strum of their Hawaiian guitars gives many a fan romantic dreams.

Seas. The soft strum of their Hawaiian guitars gives many a fan romantic dreams.

WIBO. Chicago. III. (266), 6.8 p. m. studio program; 10-12, popular program; O'Henry quartet.

WIB. Eligin. III. (302.8), 7-8 p. m., dinner concort, Drake concert ensemble: Blackstone string quintet; 9-10, Fred Hamm's orchestra; organ recital; 10-11, Jack Chapman's and the Blackstone hotel dance orchestras; jazz artists; 1-2 a. m., Chapman's orchestra; Blackstone hotel dance orchestra; Jazz.

WLS. Chicago, III. (344.6), 12 moon. Ford and Glenn; 6:30 p. m., Raph Emerson, organist; 7, Ford and Glenn, Iullaby time; 7:15, WLS trio; 8, farm program; 9, quartot; 9:30, Rodeheaver program, Vivian Tripp. director; 10:40, Ford and Glenn.

WLW. Cincinnati, Ohio (422.3), 7:30 a. m., morning exercises, William Stradlman, Y. M. C. A.; 7:45, morning devotions, auspices Parkway V. M. C. A.; 9, Crosley elementary school program, musical approciation, Sarah Y. Cline; 9:10, "The Corn Belt," Dr. McConnoll. Miami university; 9:20, Agricultura primer, "Feeding a Pig and Feeding a Boy." J. W. Schwab, Purdue university; 9:25, calisthenics, Y. M. C. A.; 12:15, monday concert.

WMAQ, Chicago, III. (447.5), 12:10 p. m., Radie farm school; 12:25, Y. M. C. A. forum; 2, Shut-in program; 4, Bush Conservatory of music; 4:30, fads end fancies, Dorothy Aldis; 5, Child Ilfe stories; 6, Chicago theater organ; 6:20, Family Altar leagui; 6:30, Wide-Awake culb program; 8, musical lecture, Mr., and Mrs. Marx E. Obendorfer; 8:30, Whitney trio; 9, University of Chicago fooball talk; 9:20, Elizabeth Stokes, sopramo; 9:45, Christian Endeavor topics.

WMBB, Chicago, III. (2507, 7-8 p. m., Trianon duc: Lilllan Marseilles; 9-11, Trianon orchestra, Woodlawn theater orchestra.

WMC, Memphis, Tenn. (499.7), 8:30 p. m., program. Harry Kohn, director; 11, midnight frolie.

WOAU, San Antonio, Tex. (394.5), 3 p. m., musical program, Kamma's Hawaitans; 8:30, musical program, Menger hotel trio.

WOAW, Ownaha, Neb. (526), 12:45 p. m., Banis Kennedy, orcanist; Thomas B. Stephenson, plani

concert trie; 8:15, WORD Radio Study club; IBSA orchestra.

WOS, Jefferson City, Mo. (440.9), 6 p. m., house coning. Missouri university.

WQI, Chicago, III. (447.5), 11 a. m., "Have Your Pencils Ready," Ted Wilmes; 3-4 p. m., "The Sixth Domestic Science Lesson," Helen Harrington Downing; 7-8, Ratinbo Gardens orchestra; Laving Price, nlanist; Maude Shapton Couse, Ayrle solutano; Rengietta Nolan, violitist; 10-1, Ratinbo Sixylarks; West Brothers; Dr. H. Lucille Long, woman harmonica Diaver; Ratinbo fantasy; Blues Destroyers trie; Medians; Electa Mid, soprano; Lean Terrill, Juritone; Ed. McGinnic Ratind, soprano; Lean Terrill, Juritone; M. Mashville, accordionist; 1-2, Gluger hour.

WSM, Nashville, Tenn. (282.3), 6.30-7 p. m., Beasley Smith's orchestra; 7, heddine story, Bonnie Barnhardt; 113-8, Smith's orchestra.

WSUI, lowa City, lowa (483.6), 12 m., Dr. Jacob Kwalwasser, planist.

WSUL, lowa city, lowa (483.6), 12 m., Dr. Jacob Kwalwasser, planist.
WIAD, Waco, Tex. (352.7), 8:30-10 p. m., Mrs. Kenneth E. Runkel.
WSOE, Milwaukee. Wis. (246), 3:30 p. m., matiner
program, Milwaukee Radio show; 5:30, twillight horn,
Aunt Julie's stories; Caroline Radminger, soprano;
Claudino Claw, bunists; 8:45, book chit, M. S. Dudgeon; 9, old favorite sorges, dame tunes, Milwaukee
Radio show; Enderwood's Quadrillo orchestra; Le Moditer, violinist; 1. Prankenstein, soprano,
Mountain Standard Time Stations
KFWA, 90den, Utah (261), 5-6 p. m., Ogden Radio

Mountain Standard 11me Stations
KFWA, Ogden, Utah (261), 5-6 p. m., Ogden Radio
dealers' program; 9-10, studio program,
KOA, Denver, Colo. (322,4), 12:15 p. m., Rialto theater
musicale; 3:15, relaxing and corrective exercises; 3:39,
matinee for housewives; 4, culinary hints; 4:15, fashton
review; 6:39, dinner concert, Herbert White and his
Silver State ordestra; 7:39 International Sinday
School lesson; 8, summary of votes cast by KOA's

(Continued on page 21)

WGY IN HORIZONTAL **RADIATION TRY-OUTS**

SCHENECTADY STATION EX. PERIMENTS IN SENDING

Uses Horizontal Antenna Alternately with Vertical One; Asks Listeners for Cooperation in Tests

SCHENECTADY, N. Y.—Tests to establish the value of horizontal radiation on broadcast wave lengths were made from the Radio development laboratory of the General Electric company, near here, Monday and Tuesday nights, November 2 and 3, according to an announcement by C. J. Young, of the Radio engineering department of that company. Both tests were conducted on super-

engineering department of that company. Both tests were conducted on superpower, 50 kilowatts, through WGY, using the normal wave length of that station, which is 379.5 meters. The listener had an opportunity to compare reception on both horizontal and vertical fadiation on the same night. The schedule provided for a half hour period of broadcast entertainment on the horizontal antenna from 12 to 12:30 midnight, Monday and Tuesday, and from 12:45 to 1:15 on the vertical antenna, regularly used for superpower transmission. A period of fifteen minutes was required to change connections from one antenna system to the other.

Not Often on Broadcast Wave

Mot Often on Broadcast Wave

Much has been written during the past
few months on horizontal radiation and
there has been considerable speculation
as to the advantages which this form of
transmission holds. Practically all, if not
all, experimental work with horizontal
waves has been carried on with the very
high frequencies of the shorter wave
lengths, and much valuable data has been
collected. Reports on short wave length
demonstrations were necessarily few because of the comparatively small number of short wave sets in use. It is also ber of short wave sets in use. It is also pointed out that results on higher wave lengths may be directly opposed to the observations made on wave lengths from 50 to 150 meters.

50 to 150 meters.

Instituting these tests, Mr. Young is requested that all Radio listeners report on the quality, volume, comparative signal strength and the fading characteristics of both forms of transmission. Work in transmission development necessarily depends upon the cooperation of all those who are interested in improved broadcast transmission. Receiver development can be carried on in the laboratory but transmitter work makes the entire country a laboratory and every listener an experimenter. The reports received will be digested and expertly analyzed and it is hoped by this procedure to collect a vast

be digested and expertly analyzed and it is hoped by this procedure to collect a vast fund of information which must ultimately advance the art of broadcasting. Sending out Radio power which vibrates parallel to the earth's surface is a comparatively new development. In earlier days it was asumed that an antenna which lay parallel to the earth's surface would neither transmit nor receive signals, and that is largely true of the long wave lengths which were used before broadcasting. broadcasting.

However, recent experiments made by E. F. W. Alexanderson, consulting engineer of the General Electric company, and by others, such as Dr. G. W. Pickard, have shown that short wave horizontal radiation may be more effective than the vertical radiation obtained from the usual upright type of antenna.

Alexanderson's Theory

Mr. Alexanderson's work showed that the short, horizontally polarized waves do not follow the surface of the earth like the low waves but are launched into space as though fired by a high angle gun and that they travel in a gented the and that they travel in a curved tra-jectory through the upper atmosphere. It is Mr. Alexanderson's theory that the It is Mr. Alexanderson's theory that the wave on returning to earth is vertically polarized. It is impossible to state, thus far, what relation the discovery of horizontally polarized waves will have to the problem of the reduction of static, but it is probable that it will open up new possibilities for progress. There is the possibility that the fading phenomena are directly due to the change in the plans of polarization. Because of the high angle radiation of horizontal waves it is possible that with the use of high power radiation of horizontal waves it is possible that with the use of high power, good, long distance reception may be secured without the production of overstrong signals in the immediate vicinity of the transmitters. In other words, it may shoot most of the energy into the air so that it will come down at a distance.

U. S. Has Twice as Many Stations as Rest of World

WASHINGTON, D. C .- According figures which have been compiled by the department of commerce there are 277 broadcasting stations now operating outside the United States as compared with 563 stations operating in this country as llsted by the Radio division of the de-

HAS FUNERAL FOR SILENCED SENDER

Portugal 'Ham' Burlesques Solemn Rites When Censor Bars Him from Air

LIBSON, Portugal.—A day or two after the last of the periodical attempts a revolution in Portugal, the police visite each of the five Portuguese private send each of the five Portuguese private send ers and informed them that amateu transmission would be forbidden in th future, "as in times of revolution, fals news by this means might be sent abroad. The amateur whose call number i PIAC, solemnly loaded his entire apparatus on a neek funeral arrange.

paratus on a mock funeral carriage and followed by his colleagues and friend as "mourners," conveyed it to a shop selling Radio apparatus on one of the mai streets of Lisbon.

streets of Lisbon.

In the shop window a mock funera chapel was erected. There on a black draped bier lay all that remained of P1AC, with wreaths and burning candles Following the continental custom of sending out heavily black-bordered death no times to friend a letters were printed to tices to friends, letters were printed an sent out, earning a whole crop of replie expressing condolences and heartfelt sympathy in this severe bereavement.

Check Up Wave Length with Bureau Test Call

Government Station on Air Twice a Month

WASHINGTON.—The bureau of standards transmits, twice a month, Radio signals of definitely announced frequencies, for use by the public in standardizing frequency meters (wavemeters) and transmitting and receiving apparatus. The signals are transmitted from the bureau Station WWV, Washington, D. C., and from Station 6XBM, Stanford university, California.

The transmissions are by unmodulated continuous-wave Radiotelegraphy and the

The transmissions are by unmodulated continuous-wave Radiotelegraphy and the signals can be heard and utilized by stations equipped for continuous-wave reception at distances within about 500 to 1,000 miles from the transmitting stations. Information on how to receive and utilize the signals is given in bureau of standards letter circular No. 171, which may be obtained on application from the bureau of standards, Washington, D. C.

The schedule of standard frequency signals from both the bureau of standardards and Stanford university is as follows:

lows:

Schedule of Frequencies in Kilocycles (Approximate wave lengths in meters in parentheses.)

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10:12 to 3300 133 315 630 1650 3300 10:20 p. m. (31) (2251) (952) (476) (182) (91) 10:24 to 3600 143 345 730 1800 3600 10:32 p.m. (83) (2097) (869) (411) (167, 83) 10:36 to 4000 155 375 850 2000 4000 10:44 p. m. (75) (1934) (800) (353) (150) (75) 10:48 to 4400 166.5 425 980 2200 4400 10:56 p. m. (80) 166.5 425 980 2200 4400 11:00 to 4000 205 500 1130 2450 4400 11:18 p. m. (61) (1463) (800) (265) (122) (61) 11:12 to 5400 260 600 1300 2700 5400 11:20 p. m. (55) (1133) (500) (231) (111) (55) 11:24 to 6000 315 666 1500 3000 6000 11:23 p. m. (50) (952) (450) (200) (100) (50) (250) (220) (100) (50) (250) (220) (100) (50) (250) (220) (100) (50) (2	10:00 to	3000	125	800	550	1500	20.00	
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10:35 tp.m. (83) (2097) (869) (411) (167) (83) (10:36 tp.m. (75) (1934) (800) (353) (150) (75) (10:44 p.m. (75) (1934) (800) (353) (150) (75) (10:48 tp.m. (75) (1934) (800) (353) (150) (75) (10:56 p.m. (88) (1800) (705) (306) (136) (88) (11:00 tp.m. (88) (1800) (705) (306) (136) (88) (11:00 tp.m. (81) (1463) (600) (265) (122) (81) (11:12 tp.m. (55) (1133) (500) (231) (111) (55) (11:24 tp.m. (55) (1133) (500) (231) (111) (55) (11:24 tp.m. (55) (15) (600) (315) (600) (315) (600) (315) (600) (315) (600) (315) (600) (315) (600) (315) (600) (315) (600) (315) (600) (315) (300) (300) (300	10:20 p. m. 10:24 to	(91)	(2254)	(952)	(476)	(182)	(91)	ŀ
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Dastelli standard tilne for WWV Washington To C 1	11:32 D. m.	(50)	315 (952)	666	1500	3000	6000	ľ
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"WIRED WIRELESS" IS PROPERTY OF PUBLIC

Supreme Court Rules Squier's Invention Open to All

WASHINGTON, D. C.—The supreme court of the United States has refused to review the decision of a lower court in which it held that the American Telephone and Telegraph company has the right to use "wired wireless" through the patent of General George O. Squier, who at the time of his invention was chief of the signal corps of the United States Army. Army.

lower court contended that a patent taken out by an official of the government can be used by the public as public property, and not only by the government itself. In refusing to review this case the United States supreme court has upheld this oplnion.

WWJ, Detroit Station Will Broadcast N.Y.Philharmonic

DETROIT.—Commencing November 7 WWJ, the Detroit News, will broadcast the New York Philharmonic orchestra

The first two concerts, which are No-The first two concerts, which are November 7 and December 19, will be conducted by Willem Mengelberg. The last four, their dates being January 30, 1926, February 13, March 20 and April 3, will be led by Arturo Toscanini and Wilhelm Surtwalder.

These dates all fall on Saturday beginning at 8:20 p. m. and ending about 10:30 p. m. eastern time.

AN EVENING AT HOME WITH THE LISTENER IN IN EASTERN TIME

•••	Cali	Location	Met.	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	AT9 CFCA		356.9	Silent Silent	6:00- 7:0 8:00- 9:0		Silent Silent	Silent 8:15-11:45	8:00- 9:55	Silent
tei ai	. CJCA	Edmonton, Can	516.9	12:00- 2:00 11:00- 1:00	9:30-10:3	Silent 9:30-11:30	Silent	Silent	10:00-11:00	
ed id	CKN		356.9	Silent	Silent	Silent 8:00- 9:00		Silent Silent	7:30-11:00 9:00-10:00	Silent Silent
uı he	CNRO	Ottawa, Ont Mexico City, Mex	434.5		Silent	Silent Silent Silent	9:30-11:45 Silent 10:15-11:15	Silent 8:30-1:30 Silent	9:00-10:00 Silent Silent	Silent
lse	CYL	Mexico City, Mex Mexico City, Mex	480	Silent	9:00-10:30 Silent		9:00-10:30	Silent	Silent	Silent 9:00-10:30
is p-	KDKA	Pittsburgh, Pa	309.1 340.7	6:15- 9:55 6:30-10:30	4:00- 8:48 5:00- 6:00	6:15-9:55 6:30-11:30	6:15-12:30	6:15- 9:55	Silent 6:15-12:30 Silent	10:15-11:45 6:15- 9:55 6:30-11:30
id ds	KFI	Los Angeles, Cal	f. 467	9:45- 3:00		9:45- 2:00		Silent 9:45- 2:00	Silent 9:45- 2:00	9:00-11:30 9:45- 2:00
II.	. KFM	Fayetteville, Ark	299.8	Silent Silent Silent	Silent Silent 8:00-9:00	10:00-12:00 Silent	Silent 10:00-11:06	Silent 8:30-9:30	Silent 8:30-9:30	10:00-12:00 Silent
al	KFNA	Shenandeah, Ia Seattle, Wash	268	8:00-9:00 9:00-2:30			10:30-11:00 8:00- 9:00 9:00- 2:00	10:00-11:00 8:00- 9:00 9:00- 1:00	Silent 8:00- 9:00 Silent	0110 0,101
k- of	KFVE	Univ'ty City, M	_	Silent 11:00- 1:00		9:00-10:00	Silent 11:00- 1:00	10:15-11:15 11:00- 1:00	Silent	9:00- 2:30 Silent
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0-	КНЈ	Portland, Ore, Los Angeles, Cali Sihtipok, Minn	405.2	8:30- 5:00 Silent	10:45-12:00 9:00- 1:00 3:00- 4:00	9:00- 1:00	8:30- 2:00	11:00- 2:00 8:30- 2:30	8:30- 2:00	12:00- 1:30 8:30- 2:30
nd es ~	KIR	Seattle, Wash	384.4 o. 440.9	11:30- 1:00 Sllent	10:15-12:00 7:30-11:00	10:00- 2:00	Silent 11:30- 1:00 8:00- 9:00	8:00- 9:00 10:00- 1:00 Silent	Silent	8:00- 9:00 11:30- 2:00
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11	KOIL KPO KPRC	Council Bluffs, Is San Francisco, Ca Houston, Texas.	1. 428.3	8:30- 1:00 9:35- 3:00 8:30- 1:00	8:30-10:00 9:30-1:00 9:00-11:30	9:30- 2:00	8:30-1:00 9:30-2:00	8:30-1:00 9:30-2:00	8:30- 1:00 9:30- 2:00	8:30-1:00 10:00-2:00
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nd .s. u-	PWX WAHG	Havana, Cuba Richmond, N. Y	. 400 . 315.6	Silent 12:00- 2:00	Silent Sllent	811ent 8:00-2:00	Silent Silent	8:30-11:00 7:30-12:00	7:45-8:00 Silent Silent	7:45- 8:00 Silent 8:00-11:00
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·d	WBBM	Chicago, III	. 226	9:00- 2:00	5:00-3:00	Silent	9:00- 1:00	9:00-10:00	8:30- 9:30 9:00- 2:00	9:00-12:00
ie	WBCN	Chicago, III	. 266	8:00-10:00 10:00- 2:00 Sllent	9:00-10:15 6:00- 1:00 8:00- 9:00	8:00- 9:00 Silent 6:30-11:05	Silent 10:00- 2:00 6:30-10:02	Silent 9:00- 1:00 6:30- 9:45	8:00- 9:00 10:00- 3:00 6:30-10:00	Silent 10:00- 2:00
e- to	WCAE WCAP	Pittsburgh, Pa Washington, D. C.	468.5	8:30- 9:30 Silent	6:30- 8:20 4:00- 9:15	6:30-12:00 7:00-10:30	8:00-11:00 Silent	8:30-10:00 7:00-12:00	9:00-11:00 Silent	6:30-11:05 6:30- 9:30 7:45-12:00
ı-	WCAU	Philadelphia, Pa Zion, III	. 344.6	Silent	5:00-7:00 9:00-10:00	7:30-11:00 Silent	7:30-11:30 9:00-10:00	7:30-10:00 Silent	6:30-11:30 9:00-10:00	8:00-11:30 Silont
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у 1-	WEAR	Columbus, Ohlo Cleveland, Ohio	389.4	Silent 7:00-8:00			Silent 7:00-11:00	*8:00- 9:00 7:00- 8:00	8:00-9:00	Silent 7:00-11:00
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n	WENR	Boston, Mass Chicago, III Dallas, Tex	266	Slient 7:00- 9:00 9:30- 1:00	7:20-10:20 4:00-12:30 7:30-12:00	8:30-10:00 Silent 7:30-10:30	8:00-11:00 7:00-11:00	8:00-10:00 7:00- 1:00		8:30-11:00 7:00- 1:00
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() () ()	WGES WGN	New York, N. Y. Oak Park, III Chicago, III	250		1:30- 3:00 3:30-11:00			8:00-11:15 1:30- 3:00 7:30-12:30	7:30 - 3:00 1	8:00-11:00 1:30- 3:00
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Ś	WHAS WHAZ	Atlantic City, N. J. Louisville, Ky Trey, N. Y	275 399.8 379.5		7:50- 1:15 5:00- 6:00 Silent			Silent 8:30-10:00	7:30-11:00 8:30-10:00	7:30 · 1:15 8:30-10:00
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ĺ	WHO WHT	Des Moines, Ia Deerfield, III Chicago, III	399.8	8:00-2:00	8:30- 9:30 1:00-11:30 7:00- 1:00	8:30- 1:00 Silent	8:30 - 1:00 8:00 - 2:00	7:30- 1:00 8:00- 2:00	8:30- 1:00 8:00- 2:00	8:30- 1:00 8:00- 2:00
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FRIDAY THE 13TH WTIC HOODOO NIGHT

Friday, November 13

(Continued from page 19)

audience on jass vs. classical program; football ralls and yell fest. Colorado Agricultural college; 2,500 students participating; R. O. T. C. band, 8:30, "Round the World in Sixty Minutes," Dean H. Diek-ason; Melodies typical of various countries.

Pacific Time Stations

KFOA. Seattle, Wash. (454.3), 6:45-8:15 p. m., Sherman, Clay and company, studio program; 8:30-10.

Times studio program; 10-11:30, Eddie Harkness and bit programs.

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

KFPG, Hollywood, Calif. (238), 5-6 p. m., home hour with Mammy Simmons and naborhood children; 6-7, dinner music; 7-7:30, history lesson; 8-10, KKPPG concert hour with Turner orchestra; Amanda Fernandez, tenor; 10-11, dance music by remote control.

KFWB, Hollywood, Calif. (252), 6:30-7 p. m., program, E. P. Janes, builder; 7:30, microphone brevities; 8-10, studio program; 10-11, Warner Brothers frolic.

KGO, Oakland, Calif. (361:2), 11:30-1 p. m., luncheon concert; 3-4, concert, Norman Woodside's Metropolitan orchestra; Frank Gibney, tenor; 4-5:30, concert orchestra, Hotel St. Francis, Vinton LaPerrera, conductor; 5:30-6, girls' half hour; 6-7, Sherman, Clay and company dinner concert.

Signer St. Firmers, Vinton Larerrera, conductor; 5:30-6, girls' half huur; 6-7. Sherman, Clay and company dinner concert.

KGW, Portland, Ore. (491.5), 12:30-1:30 p. m., Rose City tric; 9-10:30, Sherman, Clay and company; 10:30-12. Hoot Owls.

KHJ, Los Angeles, Calif. (405.2), 6-6:30 p. m., Lelghton's Arcade cafeteria orchestra, Jack Cronshaw, leader; 6:30-7:30, history story, Prof. Hertzog; Richard Headrick and Vyola Von, screen starlets; 7:30, "Romane of Santa Fe Trail." Gladys De Witt; 8-10, program, Western Auto Supply company, arranged by J. Howard Johnson; 10-11, Art Hickman's Biltmore hotel dance orchestra, Frank Ellis, leader.

KJR, Scattle, Wash. (304.4), 1:15 p. m., organ recital; 2, home helps, Bernice Redington; 8:30-10. Post Intelligencer studio program; 10-11, Gordon Kilbourne and his orchestra.

KLX, Oakland, Calif. (508), 5-5:30 p. m., Aunt El-

Intelligencer studio program; 10-11, Gordon ALHOOURHE and his orchestra.

KLX, Oakland, Calif. (508), 5-5:30 p. m., Aunt Elsie's Irate Pirate; 8-0:45, program, Western Auto Supply company; 9:45-10:30, Harry Davis and his ballroom entertainers.

KNX, Hollywood, Calif. (336.9), 5:30-6:15 p. m., Wurthtree Studio, talk on golf by D. Scott Chisholm; Town Tattler; 6:15, travel talk, W. F. Alder; 6:30-7, Atwater Kent Radio orchestra, Paul Finstein, leader; 7-7:30, Carlyle Stevenson and his El Patio ballroom orchestra; 7:30-8, program, Eastern Outfitting company; 8-9, West Coast theaters; 9-10, Order of Optomistic Donuts; 10-11, Ray West's Coconnut Grove dance orchestra.

chestra.

KPO, San Francisco, Calif. (428.3), 1:30-2 p. m., Rudy
Seiger's Fairmont hotel orchestra; 7-7:30, S. B. Dickson; 8-11. Palace hotel dance orchestra.

KWSC, Pullman. Wash. (348.6), Helen Frink, vocal
and banjo soloist; Helen Dunlap, pianist; Frieda Peterson. vocalist; "Ten Years of Highway Progress in
Washington," H. E. Phelps.

New Station Features New Community Shows

WSM to Broadcast Weekly Programs from Nashville Church

NASHVILLE, Tenn.—A weekly community program, the first of its kind in the south, will be given every Monday evening between the hours of 7:30 and 3

evening between the hours of 7:30 and 3 o'clock from the First Presbyterian church here and broadcast by WSM, on the wave length of 282.8 meters.

The public is cordially invited to these concerts which will present the finest talent available in the city and even big attractions which visit Nashville from other cities. other cities.

WSM's weekly community program should prove one of the biggest assets to Nashville's civic life ever fostered and officials of the National company, the church and the city are working hand in hand to give Nashvillians a regular meet-ing place where the best musical talent obtainable will entertain them.

WSM's community broadcast is scheduled for every Monday night from 7:30 to 9 o'clock. The first one presented P. L. McFerrin, organist, and the mixed quartet choir of the church and associate

Monotony of Bus Travel Is Eliminated by Radio Shows

BIRMINGHAM, Ala.—The Birminghamontgomery Transportation company, Montgomery Transportation company, operators of motor busses between Birmingham and Montgomery, has equipped a number of busses with Radio.

R. B. Dwyer, manager of the company, says that his company now has receivers on all night busses between Birmingham and Montgomery.

Some excellent programs are being received on these busses en route. The trip by motor bus from Birmingham to Montgomery requires about three hours and Manager Dwyer says Radio entertains passengers so well that the monotony of the trip is eliminated.

Becker Suggests Cosmos as Appropriate Radio Flower

BUFFALO, N -O. E. Becker, senioi announcer at WGR, has sprouted some poetic flights of fancy. Out of them has been born the idea of having a Radio

Mr. Becker's own flower garden has had much to do with the bright idea. He wants to know what Radio fans think about it and will be glad to hear suggestions on the subject.

Mr. Becker suggests the cosmos. He declares that the very name is appropriate inasmuch as it is indicative of the universal good of Radio.



Violet Deutsch is a talented, young pianist of Omaha, Nebraska. Her effective tone production on the concert grand piano has won her many admirers among the listeners in of WOAW.

RESEARCH DEVELOPS VOCAL POSSIBILITIES

Downing Says Voices Need Special Radio Training

CLEVELAND .- Since the earliest days

CLEVELAND.—Since the earliest days of broadcasting, Albert Downing has been a familiar figure and voice to the audiences of Cleveland Radio stations but in spite of this few listeners know the extent of Mr. Downing's Radio activities. Early in his experiences, he discovered that one voice of undeniable quality for concert work will compare very unfavorably with another which is decidedly inferior when the two are applied to Radio and that any voice of a natural quality can be trained for Radio work when it night be hopeless for concert work, but

special training for Radio in most instances.

instances.

The result of his research will be offered soon to the public in the form of a book on broadcasting for students in voice culture. Many of Mr. Downing's pupils are training for Radio alone. In this connection he has started what is perhaps the first actual school exclusively for Radio artists. Mr. Downing is an exclusive artist of WEAR, the Goodyear Tire and Rubber company's station here. He is perhaps best known for his "Evening Hour's" programs, the Sunday evening feature of WEAR. ning Hour's" programs, evening feature of WEAR.

Listeners Association Expands

CHICAGO.—The Wilmington, N. C., local of the Broadcast Listeners' association organized under the direction of Herbert can be trained for Radio work when it H. Ford of that city is progressing rapmight be hopeless for concert work, but idly, according to Frank H. McDonald, that a voice of operatic quality needs national president here.

STATIONS IN ORDER OF WAVE LENGTHS USED Meters Call | Meters Call

1 1						
	215 KTAB	278 KOIL		$\overline{365.6}$ WDAF	410.7 CKAC	475.9 WBAP
Н	217.3 WOK	278 WCAU	315.6 WGCP	365.6 WHB	416.4 WCCO	475.9 WTIC
ľ	226 WBBM	278 WGBU	319 WGR	370 CYB	421 KIAF	475.9 WFAA
i	226 WIBO	278 WOQ			422.3 WLW	480 CYL
Ш	240 KFVE	280.2 WNAC			422.3 WKRC	483,6 WOC
Ш	240 WOAX	282.8 WOAN	325.9 WSAI	374.8 KTHS	428.3 WSB	483.6 WSUI
ı	243.8 WAMD	282.8 WSM			428.3 KPO	491.5 KGW
ı	250 WGES	285.5 WKAR	333.1 WBZ		434.5 CNRO	491.5 WEAF
١	250 WMBB	285.5 WREO		384.4 CKY	434.5 NAA	499.7 WMC
ı	252 KFWB	288.3 KFKX	337 KFMX		434.5 CFCN	508.2 KLX
L	266 KFNF	288.3 WLWL		384.4 WMBF	435 AT9	508.2 WIP
1	266 WBCN	293.9 KTBI		389.4 WEAR	440.9 KLDS	508.2 WOO
ı	268 WTAG	293.9 WEAO		389.4 WTAM	440.9 WDWF	516.9 CJCA
ı	272.6 WBBR	296.9 KPRC	344.6 WCBD		440.9 WOS	516.9 WCX
1	273 KWKH	299.8 KFMQ	A . A	394.5 WLIT	447.5 WMAQ	516.9 WJR
	272.6 WEBJ	299.8 KSL			447.5 WQJ	526 WHO
	272.6 WFBH	299.8 WPG		399.8 WHAS	454.3 KFOA	526 WNYC
		302.8 WJJD		399.8 WHT	454.3 WJZ	526 WOAW
		305.9 KTCL		400 PWX	455 KTW	535.4 KYW
	275 WHAD	305.9 WJAR			461.3 WCAE	
	275 WHAR	309.1 KDKA			467 KFI	535.4 WHA
	275 WORD	315.6 KFDM			468.5 WCAP	545.1 KFUO
	275.3 WJAS	315.6 WAHG	361.2 WHN	406 WBAR	468.5 WRC	545.1 KSD
1						

MANY WILL ATTEND ANNUAL RADIO MEET

HOOVER SAYS CONFERENCE WILL ONLY LAST 3 DAYS

Department Outlines Principle Problems for Discussion; Public Invited to Attend Meetings

WASHINGTON, D. C.—The Canadian government at the invitation of Secretary of Commerce Hoover has appointed C. P. Edwards, director of Radio of the department of marine fisheries, to represent it at the fourth Radio conference to be held here beginning November 9. Mr. Edwards will be accompanied by one of his assistants, Mr. W. A. Rush. Many other acceptances have reached the department and indications are that the forthcoming conference will be the biggest which has ever been held.

Seek New Secretary

gest which has ever been held.

Seek New Secretary

Considerable attention is being given by officials to the appointment of a secretary for the conference. Last year L. E. Whittemore, who was at that time secretary of the interdepartmental Radio advisory committee, acted as secretary of the conference but Mr. Whittemore is now associated with the American Telephone and Telegraph company and will not be available for this work.

The position as secretary of the conference requires a man thoroughly familiar with Radio activities and also a man of ability. W. E. Downey, assistant chief of the Radlo section of the department, has been mentioned for the position but there is some objection to this, owing

but there is some objection to this, owing to the fact that the department wants him to be avallable for discussion at the conference. It is expected that Secretary Hoover will take action in the next few

days.

Three days should be enough to complete the work of the conference is the opinion of Secretary Hoover, although there is no question but what committees will be appointed by the conference which will sit for a longer time.

which will sit for a longer time.

Now Preparing Data

Statistical data is being compiled by the Radio section of the department of commerce in preparation for the conference so that everything possible will be available for reference. William D. Terrell, chief of the section, and Representative Wallace White of Maine have returned from Paris where they attended the telegraph conference as representing the department.

Arrangements are being made by the department for an even larger representa-tion at the conference than last year when more than 200 delegates were registered

more than 200 delegates were registered representing daily papers, Radio magazines, broadcasters, amateurs and others. The secretary has announced that all of the meetings of the conference will be open to the public and that opportunities will be afforded for the expression of views on any of the subjects to come before the meetings.

Outlines Some Problems

While consideration is to be given to Radio activities generally, the principal problems will be those affecting broadcasting. The department in announcing the subjects to be taken up insofar as they have been outlined up to this time says:

"Recognition of the principle that servrecognition of the principle that service to the listening public must be the basis for every broadcasting privilege and for all Radio regulations.

"The present saturation in broadcasting due to the exhaustion of channels, and

the necessity for limiting the number of stations on the basis of public service.

"The requiring of permits in advance of construction of broadcasting stations.

"The necessity of operators' licenses,

particularly for broadcasting stations.
"Frequency band assignments for the various classes of Radio communication.

Use of High Power
"The use of high power for broadcast-

ing.
"The location of broadcasting stations so as to prevent intereference in congested centers.

"Time division, duplication of frequency assignments, and a geographical basis for allocations.

"The use of broadcasting for advertis-

ing.
"Matters affecting amateurs.
"Matters affecting the marine and mo-"Rebroadcasting."

WOR is broadcasting on the last Monday of each month a magazine review by Henry Seidel Canby, who formerly edited the Literary Review of the New York Post, and now edits the Saturday Review of Literature and Lectures at Yale,

Radio Diges

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Vol. XV

Saturday, November 7, 1925

The Shuberts Reconsider

THE SHUBERTS, Lee and J. J., are going in for Radio! Let's see— wasn't it just about one year ago that the Messrs. Shubert and William Brady were up in arms decrying with alarm the inroads which the popular thing of the day, broadcasting, was making on the theatrical profession?

Readers of this publication will remember how Equity and the two producers named were reading the riot act and asking divine guidance as to how to control this giant new amusement. The Shuberts and Brady insisted that Radio was hastening the day when the sheriff's notice would be posted on their doors and the auctioneer's hammer would be disposing of their useless seats.

Radio has never and will never do the harm to the legitimate stage that the managers have done themselves. Hundreds, yea, even thousands have turned from the brightly lighted theater lobbies after having heard, "Nothing better than fourteenth row" and have gone direct to their homes to tune in on a fair playing Radio program rather than patronize the ticket scal-This class of insects is the only known group of parasites that are encouraged by those on which they live. When the producers cleanse themselves of the scalpers they will have less to fear from Radio.

We always have contended that the presentation motion picture house, with seats selling (four or five times a day) for from thirty-five to seventy-five cents, was doing a great deal of damage to the weak and weaker drama and musical shows whose seats sell for from \$1.50 (worst seats) to \$3.50 and often more The good motion picture, presented with first quality music and incidental, high quality, entertaining acts, is the most dangerous competitor Mr. Brady, Equity or the Messrs. Shubert can possibly have.

We still contend this to be true. Radio is a poor, struggling infant of an opponent when compared to the 1925 brand of silent drama. We wonder if the spoken drama and musical show profession members

have looked the "movies" squarely in the face?
Radio has helped, can help, and will help the legitimate stage again to a firm footing. Radio can do very little for the motion picture, however, until Radio motion pictures—or Radio instantaneous vision, sometimes called Radio television—is perfected, or rather becomes popular with the public.

The Messrs. Shubert have recently recognized this

truth. They permitted broadcasting of "The Student Prince." They are still being surprised with the public acclaim and box office support which the broadcasting

The Shuberts also have come to Radio for their stars. The Misses Martens and Wilkens, "Melody Maids" team at WHT, Chicago, were given an audition and signed for a forty-week tour in a "Student Prince" road show.

We haven't heard the Equity or Mr. Brady calling out the militia of late, so we are inclined to believe that they too are converted to the large scope of broad-casting as an aid to their business. If not converted, perhaps this editorial will help them to see the problem in the same light the Shuberts have recently seen.

The Modern Miracle

IF THERE is such a thing as "the modern miracle" it surely must be represented by the scene in which we have an old lady. She lives far from any relative who might be of any comfort to her. She is an invalid sitting in a wheel chair. A stroke of paralysis is her surety that she will never walk again. she likes to read but in the evening she tires of that. Her eyes are not as good as they used to be so that sewing is out of the question.

She is blessed, however, in a sense, with a Radio receiver that she has in her home. She loves beautiful music and when she would like a little entertainment all she has to do is turn a small knob and forget that she is unable to visit the theater, or the

Our little old lady is happy indeed, pleased with something that is accomplished by modern genius, that we think nothing of. We take Radio for granted but not so her. She is ever thankful for this "modern miracle" which benefits her so much.

RADIO INDI-GEST

The Radio in Camp

A construction camp, when far from a town, Is a lonesome place when the sun goes down: For the day's work is done, the men all fed, And all but myself have retired to bed.

'Tis then that the Radio proves its worth, And livens me up with music and mirth: The loneliness goes as I listen and hear Both music and voices from far and near.

The folks in the cities who use it for fun, Have other amusements,—we have just this one; For out here it is newspaper, church and play And helps pass the long empty hours away

The foregoing comes to us from those great open spaces where two tubes bring in real DX and a crystal set is out of luck. Our friend George lives in a railroad car hence no mater how large a set he uses, some manufacturer can claim wonders on it as a portable.

LA GRAND TRIX How to Get DX on a Crystal Set By PROP. SPOPFENHAUER

Expert on Sanitary Engineering and Belgian Lace Installation

1. Purchase a good crystal set, equipped with a cat's whisker made of gold-plated green cheese.

2. Take the purchased good crystal set, equipped with a cat's whisker made of gold-plated green clieses, home

3. Set the good crystal set, equipped with a cat's whisker made of gold-plated green cheese, which you have bought and taken home, on a special Radio table

nave bought and taken home, on a special Radio table made of mahogany veneered pine.

4. Cover the purchased good crystal set equipped with a cat's whisker made of gold-plated green cheese, which you have bought and taken home and set on a Radio table made of mahogany veneered pine, with a pine box heavy enough to hold the Grand Prix Superheterodyne described in Radio Digest.

5. Turn to the articles by James McDonald and build the Grand Prix super-heterodyne, which you will then set upon the pine box covering the purchased good crystal set equipped with a cat's whisker made of gold-plated green cheese which you have taken home and set on the mahogany veneered pine Radio table and tune it for DX.

6. Tell your friends that you get DX every night on a crystal set. This is known as La Grand Trix.

Tangled

Pa puts on his head set 'An Ma puts on a pair 'An the baby is delighted, In his big high chair; While Pa neips with the Midst wires everywhere.

RHEA SHELDON

NO, JUST OUR VOICE

Dear Indi: Picked up your broadcast of Dixie Dee's poems over WBCN the other night and would have sent the following telegram: "LOUDER AND FUNNIER," but the office here would not accept it for transmission collect. What's the matter, is your credit had?

By the way, Cap, why be so original in your praise

Not Even a Marine

London correspondence tells us that the microphone used by King George when his speeches are broadcast is made of solid silver. When it was displayed at the recent Radio show there it was guarded by a squad of detectives. During the New York show, the Gold Cup shaped like a mike, which was presented to Graham McNamee by Radio Digest, was on exhibition. There were no guards

Remember when the cry used to be heard daily at the post office when the cry used to be heard daily at the post office when the senior class of the correspondence school call for their daily lessons:

Pooh, Pooh, Harvard,
Bah, Bah, Yale,

We gets our learnin' Through the mail.

Now with the Radio colleges we should expect stirring cheers such as the following to ring out from under the antennas:

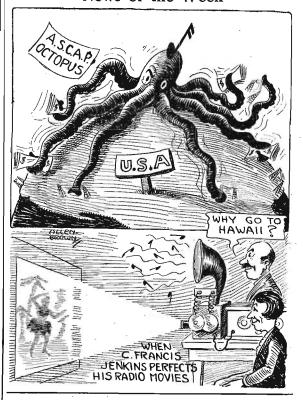
Tune 'em high, tune 'em Jow.
Turn the dials! To school we go!
It is found most everywhere
The University of the Air.

EXPERIENCES IN A RADIO LUNCHROOM—NO. 1

LUNCHROOM—NO. 1

The morning was one of those real indigo ones, so we lay abed until the sun was well up in the sky. The clock told us that, Chicago skies being sumproof on weekdays. Then with that morning after taste in our mouth still lingering because we did not beed the wisdom of the ant and put away plenty of sarsarparilla for a blue morning, we hied out to the "Grecian Tea Room" around the corner for a "scupscoughee." While we were trying to balance ourselves on the stool in front of the porcelain slab used by the proprietor as a race course for his trained roaches and the customers as a place to park the "java and." we noticed the pitiful wail of an ill-tuned Radio. "Ah, ha," says we, "here's where we scoop Condensed and get material for a review of one of those programs for busy housewives." We did! The subject of the talk was: "Adenoids and Tonsils, the Cause of Morning Vomitting by Children."

News of the Week



Condensed BY DIELECTRIC

There is at least one aged person (probably thousands more) who, after hearing the first of the Atwater Kent concerts, declared her youth restored and joy unbound. But the great boon bestowed upon the Radio public in the form of concerts by famous artists is not confined to the infirm; it's universal. Toscha Seidl performed difficult violin selections with apparent ease and gave to less spectacular works the richness of his artistry—not for hundreds of paid auditors in concert hall, but for all who could listen. It is evident no pains is spared in putting these concerts on the air to approach as nearly as possible perfection in transmission. Let's see what proportion of listeners in avail themselves of these opportunities to hear without charge the very best of artists and music. For several years my urgent plea has been for such Radio entertainment. Do we like it? Write

WTAM, Cleveland, holds to the virtue of diversified programs and with apparent success. One of their programs included flute solos of more than passing merit. This instrument is infrequently heard on Radio programs, although there would seem to be no reason for excluding it. Many beautiful effects are produced in its playing and there could be fair substitution for some of the hackneyed piano and song numbers presented night after night. Mr. Mc-Mahan's baritone voice added to a concert of general appeal and few would care to tune it out.

WMBF, Miami Beach, runs strongly to dance music presumably fitting the needs of their audiences, if a little tiresome to DX hounds. However that may be, they are guilty of one thing which the majority of broadcasters have overcome: the tendency of long waits between numbers. On this occasion of my listening to this southern station there were periods varying from a few minutes to more than five following the finish of a selection to the announcement. Fans like to know to whom they are tuned and only those who practice the regime of WHAS, Louisville, will continue in favor.

And now for a word of commendation for WOC, Davenport. Recently this station offered an orchestra program which was excellent in several particulars. The selections themselves were carefully chosen from the more lasting type of music and rendered in a manner to meet the favor of discerning listeners. Then for the station itself mention might be made of the fine modulation which insured reception of a high order. high order.

There are tenors and tenors appearing before the nike of this fair land, for some of whom there might better be no expression made. WEBH, Chicago, entertained in their studio a tenor of very pleasing whose singing of songs of the popular type was rather agreeable. Later in the program we were entertained with dance numbers, that is those who wanted to dance listened while others moved on the

There is no need for extensive comment on that portion of the programs from WLW, Cincinnati, which feature Isham Jones' dance orchestra. Suffice to say that this world-famous aggregation of terpsichoreau followers give pleasure to thousands of listeners whenever they play to the Radio public. Rhythm has no more efficient exponents than they.

Interesting and Simple Explanation of Radio

Chapter II—The Ether, Wave Motion and Wave Lengths

By H. G. Tanner, Associate Professor University of Oregon

THAT has been called space is fre-quently called ether. Ether is a better word to cover up our ignor-It is what is left after things definitely proved to exist have been taken away. It may be considered as the ocean in which all matter (electricity) swims.

To assume its reality is the only way transmission of light can be explained in harmony with other experiences. (Some very expert mathematicians are not hampered with the necessity of a physical explanation and to them the phenomenon of light is explained without the ether, but most of us have not climbed to their level as vet.)

We know from experience that the beam of light from a flashlight is just as straight on a windy night as when all is calm. The air therefore has nothing to do with it. Furthermore we received light from the stars whose distances are awe inspiring. Aviators and astronomers tell us the air extends but a short distance above the earth. If light were a stream of tiny particles, smaller than even the electrons, shot out from the flashlight or other source we would not need an ether to explain it. But everyone today who has studied it arrives at the conclusion that light is not materialistic in its nature but is a wave motion, and that is why we have to have an ether.

Imagine Ether Made of Tiny Particles

We simply cannot conceive of this way motion coming from the stars or other sources in nothingness, hence it is customary to assign what might be called a semi-material existence to the ether. For convenience let us imagine ether to be made up of particles extremely small compared to electrons. This would make

compared to electrons. This would make the ether particle about the size of the mathematician's "point." If light is a wave motion in this ether then Radio waves are also, because light waves and Radio waves are identical in

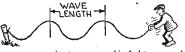
every respect except size.

It will be easier to understand how ether waves are produced if one first

Treshens his memory about other waves.

Waved Rope Explains Wave Motion

Suppose one end of a rope be fastened to a post and a person quickly moves the



A man waving a rope tied to a post produces a series of waves.

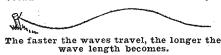
other end up and down. A wave is produced which travels along the rope. Every time this is repeated a wave is produced, and if at regular intervals a series of waves occur. In this series the distance between the humps is termed the wave

length.
Obviously, the faster one shakes the rope, the closer the waves will be to each other. Worded in technical terms, the higher the frequency (of production) e shorter the wave length. This distance apart of the waves may

be measured in inches, yards, miles, etc., but because of the very great convenience of the decimal (metric) system of meas nres, Radio wave lengths are expressed in meters. A meter happens to be equal to 39.37 inches

Speed of Wave Travel

If one maintained the same frequency of production but changed ropes the wave length might not be the same. This is because waves travel faster in some ropes



than others. If they traveled faster in the second rope they would be stretched out, so to speak, and necessarily farther apart (longer wave length).

To sum it all up, the higher the fre-nency of production, the shorter the



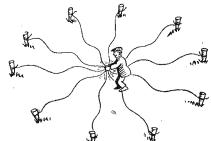
ther the frequency, the show wave produced in the rope.

wave length; and the faster the waves travel, the longer their wave length. given frequency may produce short waves in one medium and very long ones in another. In Radio, however, the speed is always the same, 186,000 miles per second.

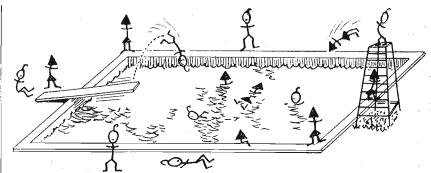
How Radio Waves Resemble Ropes

Extend the picture of generating waves in one rope to that of a person holding a great many ropes radiating in as many directions. Perhaps an even better illustration would be a person at the center of a large piece of canvas. Upon shaking it up and down waves would radiate from him in all directions.

Very much the same thing happens when a Radio wave is produced in the ether. Electrons are pumped by appropriate apparatus—a dynamo for example—from the ground up to the tip of the an tenna. The next moment they and others of the wire are pumped back into the ground. These electrons in darting upward kick the other behind them, and when they are suddenly called by the dynamo to return they kick the ether up



shaking series of ropes stretched radially, gives idea of Radio.



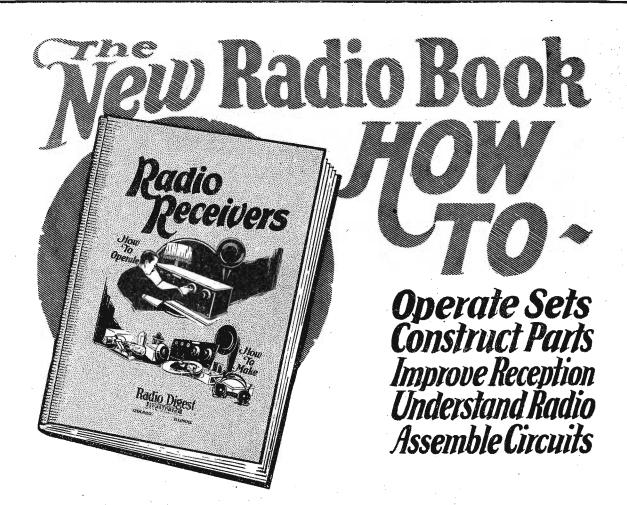
The ether may be considered as the ocean in which all matter (electricity) swims.

ether just like a wave was produced in the canvas.

The ether, however, is not of two dimensions as is the canvas but extends to infinity in all three directions. The wave is therefore of a more complex character. For our purpose we may consider only one section of this wave and think of a plane or disc of ether extend-

This action produces a wave in the ing horizontally from the center of the antenna. Let the electrons affect this plane as though it were the canvas.

Dynamo Is an Electron Pump As just mentioned a dynamo is an electron pump. If it be constructed so as to pump the electrons first in one direction and then in the reverse direction it is called an alternator.
(Continued on page 24)



FREE With One Year's Subscription to Radio Digest

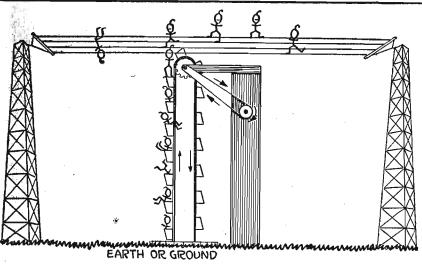
THE greatest assemblage of facts and hints, from actual everyday practice, ever gotten together. Edited by the technical staff of Radio Digest it supplies the demand for a book covering every phase of Radio from a simple explanation of Radio reception to a technical explanation of the different parts of a set which leads to the best reception possible. The sections on selecting and making sets develops the different types of sets and circuits with blue-prints and diagrams to explain same. "How to Operate" gives detailed information on the operation of all the well-known sets. The section of general

information contains a complete Radio map and schedule and a section of workshop kinks which save time and money. Now is the time to take advantage of the exceptional offer as listed in the coupon for your convenience.

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A DYNAMO IS AN ELECTRON PUMP



The dynamo is an electron pump. When hitched to aerial and ground it pumps electrons from ground to aerial. Let us consider the bucket lift above as a pump.

EXPLANATION OF RADIO

(Continued from page 23)

Just as the rate at which the end of the rope is shaken determines the length of the waves in the rope, so also does the frequency at which the alternator reverses the electron current determine the (distance apart) of the ether

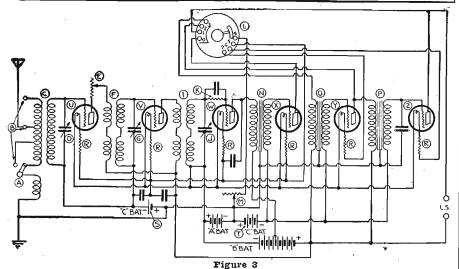
All waves travel in the ether at a speed of 186,000 miles per second. If the alternator produced a complete up and down stroke in one second the wave produced would be 186,000 miles long. (Two wave humps would be this far apart.) This is because the first edge of the wave would have traveled this distance before the last of it would have

A wave length of such huge dimensions is too unwieldy and impractical. A higher frequency must be used so as to crowd the waves together. Engineers have found that a frequency of at least 10,000 waves per second must be used, and even this produces waves, 18.6 miles in length.

Frequencies used by the broadcasting stations lie between 600,000 and 1,500,000. The wave lengths corresponding to these two frequencies are 500 and 200 meters

respectively.
(In the third chapter of his series of articles, Mr. Tanner will tell how music is changed into ether waves. His simple analogies, based on commonplace things, will be employed again to bring the mysteries of Radio home to the non-technical reader.—Editor's Note.)

OPERATING AND TROUBLE SHOOTING



(Continued from page 12)

cuits to resonance on a single wave length so that the program being broadcast on that wave length will be heard with maximum volume and clearness, to the complete exclusion of all other signals. The tuned circuit consisting of condenser D and the secondary of transformer C is adjusted to maximum response to the desired wave length by knob D. The two tuned circuits, one of which consists of condenser G and the secondary of trans-former F, the other consisting of condenser J and the secondary of transformer I, are brought to resonance simultaneously

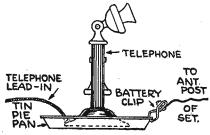
by the use of knob GJ.

Due to slight differences which are bound to occur in the values of the four instruments included in these two tuned circuits, the vernier condenser H is provided and connected across the larger variable condenser G. The tuning procedure outlined first brings the circuit including D into resonance with the circuit including J and, of course, into resonance with the program it is desired to receive. Adthe program it is desired to receive the program it is desired to receive the program it is desired to receive the pushed of the Radio set. If wave length is too brings the circuit which includes conhigh or tuning is broad, insert a folded denser G into exact resonance with the piece of newspaper or piece of cardboard other two just mentioned. The control E enables the operator to keep the first tube U at maximum efficiency and, while there may seem to be a great many controls and that a person has only two hands with which to manipulate them all, one quickly finds that two are used for preliminary coarse adjustment, two are then used for fine adjustment and only one is used for the final setting to maximum efficiency.

(The next receiver to be considered for Analysis, Trouble Shooting and Operating, is the Freshman Masterpiece. Comment on these articles will be appreciated by the Technical Dept.—Editor's Note.)

Pie Pan Antenna

The only parts necessary to construct this serviceable indoor antenna are a pie pan, nearby telephone, battery clip and from 10 to 20 feet of copper insulated wire. The battery clip should be clamped to the rim of the pan after spot on pan has been sandpapered or scraped for good contact.



Wire is attached to clip and the other end is connected to the antenna binding post of the Radio set. If wave length is too between phone base and pie pan.—Wm. D. Cope, Los Angeles, Calif.

Connect Plugs Correctly

When building a set, be sure to note to which side of the jacks you connect the plus terminal of the B battery. Then be just as sure to connect your phone cords to the plug so that the phone terminal marked with a colored thread will connect in the B battery plus in the jack. Both phones and loud speakers work much better connected correctly and the magnets do not lose their strength.





Where is the difference in radio transformers?

THE audio frequency trans-I formers in your radio perform a most important duty. They aid in increasing the volume of sound ...in building it up to the desired strength. BUT-

When sound is increased, the tendency is toward distortion. That's where the difference comes in transformers. Inefficient transformers will give distorted reception, just as a defective mirror will show a distorted image.

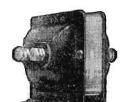
Whether you are building a set, or buying one, be sure about the transformers. No radio, remember, can be better than its transformers. A safe guide to follow is the Jefferson trade mark. You can depend on quality in performance when the name "Jefferson" is on the product.

Jefferson Transformers are made by transformer specialists the world's largest manufacturers of small transformers. There is a very definite reason why leading radio engineers specify"Jefferson. You'll find it in the clear, sweet, life-like amplification which Jefferson Transformers give. Sold by the better dealers, used by manufacturers of high grade radio sets.

JEFFERSON ELECTRIC MANUFACTURING CO.

501 So. Green St., Chicago, Ill.

Makers of Jefferson Radio, Bell Ringing and Toy Transformers; Jefferson Spark Coils for Automobile, Stationary and Marine Engines; Jefferson Oil Burner Ignition Transformers.



There is a Jefferson Transformer for every radio need.



JEEFERSON TubeRejuvenator

Keep your radio tubes like new! Rejuvenate them regularly, AT HOME, just as you recharge your storage battery. Jefferson Home Rejuvenator doubles and trebles tube life, quickly pays for itself. Raises your set's efficiency to 100%, and keeps it there! Completely restores paralyzed or exhausted tubes. Takes large or small tubestypes 201-A, 301-A, UV199, C-299, 5-VA. Don't be without this long-awaited radio necessity. \$7.50 at leading dealers.



Design RADIO TRANSFORMER

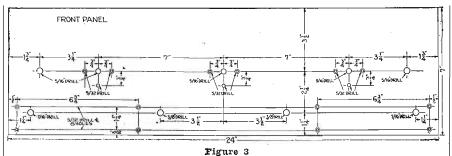
The great popularity of Jefferson Radio **DEALERS:** Transformers and the Jefferson Home Tube Rejuvenator makes it well worth your while to display these products prominently where your customers will see them. Order from your Jobber.

Fireside: 6 Tube Set of Perfect Reception

Part II—Panel Drilling and Assembly

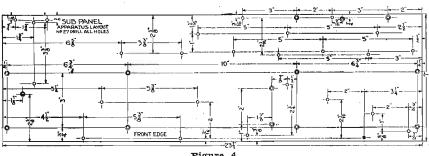
By Jacques Fournier

MY ATTENTION has been called to the fact that in the first article, which appeared last week, there is an inconsistency between the list of parts and that part of the article which appeared on page 46. In the list of parts there is a Daven Leakandenser unit and a Dubilier .001 mfd. fixed condenser while the article speaks of Electrad fixed condensers which do not appear on that list. There are two Firesides, identical in every way, except that the first one has Electrad condensers and a Daven grid leak, and it was from this one that I wrete and it was from this one that I wrote these articles. The second one, in which I put the new Daven Leakandenser was in the hands of the technical editor for



blueprint templates on receipt of 25c sent to Dept. 5, Radio Digest Publishing Co., 510 North Dearborn St., Chicago, III.

We come now to the assembly of the parts that go on the front panel. The rheostats go on first, in the two holes 3½ inches each side of the center line and 1½ inch up from the bottom. One is rated at 6 ohms resistance and goes in the left side hole; the other is a 30-ohm unit and goes in the right side hole. If you have taken these out of the boxes and then cannot tell which is which, you will find the rating punched in one end will find the rating punched in one end of the fibre strip on which the wire is wound. Each is to be mounted with the terminals toward the center of the set.



test and it was from this that he made sions exact as, once holes are drilled, it up the list of parts. That being the case, is difficult to ream or file them so that we will build the second one in these archives, since presumably you purchased strument and panel.

When these have been evidenced the

articles, since presumably you purchased parts by the list.

With this article there are included the drilling layout of the front panel as figure 3, the drilling layout for instrument mounting holes in the sub base as figure 4 and the drilling layout for wiring holes in the sub base as figure 5. For those who have been readers of Radio Digest for some time, these should not present much difficulty, but for those to whom this work may be new, the following explanation of the use of these drawings is included. Each layout is to present much difficulty, but for those to whom this work may be new, the following explanation of the use of these drawings is included. Each layout is to be enlarged to full size on a heavy piece of paper, taking care to get all dimen-

When these have been enlarged, the When these have been enlarged, the three resulting drawings are known as templates. The drawing from figure 3 is to be secured on the face of the piece of bakelite to be used as front panel, either with metal or wood "C" clamps or a touch of paste in the corners. At each cross indicating a hole, a center punch and hammer are used to make a dent in the panel by punching through

Pigure 5

drills can be applied as shown. In cases where you haven't the exact drill specified, use the next size smaller which you

have, and ream to the necessary size.

It will be noted on the drawings for It will be noted on the drawings for the apparatus mounting holes that some of the holes have two concentric circles around them. This indicates that such holes are to be countersunk. The same procedure specified for the template of figure 3 and the front panel is to be followed for figure 4 and the panel used as a sub base. Figure 5 shows the small holes to be drilled in the sub base through which wires pass from above to below it. Since there are, doubtless, many readers who like to build their sets but hesitate over their ability as draftsbut hesitate over their ability as drafts-men, Radio Digest will furnish full size

The C-R-L variable resistances come next, that marked for 200,000 ohms to be placed in the hole at the left end on the horizontal center line. The 500,000-ohm unit goes in the hole at the opposite end of the line, 3½ inches from the top edge and 1¾ inches in from the right end of panel. The Yaxley switch then is placed in the 7/16-inch hole in the lower left corner and the Yaxley jack in the same size hole made in the lower right corner. The condensers, being the more delicate apparatus, have been left for the last. I found, when laying out this set, that the dial pin came right at the point on the panel and below each condenser shaft, where the lower mounting screw of (Continued on page 26)

POPULAR DEMAND MEETING



The Tungar is a G-E product developed in the great Research Laboratories of General Electric.

Five ampere Tungar

,\$28.00

Two ampere Tungar (East of the Rockles).

\$18.00

60 cycles - 110 volts

all kinds of storage batteries. -It is more silent than ever.

- -It cannot burn out Radiotrons.
- —It cannot create radio interference.
- -It charges any make and size of storage battery: radio "A" and auto

batteries, and "B" batteries as high as 96 volts, in series—all without attach-



Tungar—a registered trademark—is found only on the genuine. Look for it on the name plate

Merchandise Division General Electric Company, Bridgeport, Conn.

Used by John G. Ryan in the "Simplest Possible" Super



Qualitone Super Kit

USING the Qualitone Kit in the Simplest Possible Super-heterodyne described in Radio Digest, makes unnecessary any changes in the diagram and insures perfect operation on completion of the wiring. Each part fits into place as shown in Mr. Ryan's layouts.

Kit includes three long wave transformers, one filter coupler and one oscillator coupler, with complete set of blueprint instructions, all packed in sturdy SEALED carton. Genuine Bakelite and silk covered wire employed throughout.

Mail orders filled promptly on receipt of check or money order.

Can be used in 7 or 8 tube supers and the Hetero-flex described in Radio Digest of August 1st.

128 N. WELLS STREET

CHICAGO, ILL.

LOOKING DOWN ON ASSEMBLED FIRESIDE 6-TUBE SET

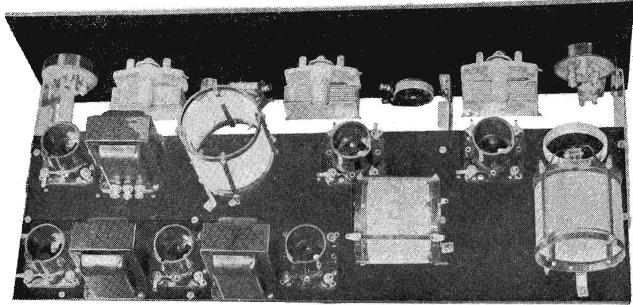


Figure 6

'FIRESIDE" RECEIVER

(Continued from page 25) the condenser had to go. In mounting each condenser, then, put in the two screws which are on a line with the shaft just enough to catch the threads in the mounting pillars and then slip in the dial pin through the lower mounting hole and catch its threads in the lower pillar of the condenser. Then screw in the machine screws and the pin a little at a time, going from one to the other so they will all be tight at about the same time. With the rotor plates then turned so they are entirely enmeshed in the stator plates, slip the dials on the condenser shafts with 100 at the top. The slot on the smaller plate will then slip over the pin and the set screw can be tightened in

pin and the set screw can be tightened in each dial hub.

The two inner brackets are then mounted on the panel with their mounting flanges inward. The one to the left of the 6-ohm rheostat will have its flange at the top and pointing toward the right; that to the right of the 30-ohm rheostat has its flange toward the left. The outer brackets are then put on in the same

The sub base assembly now follows. Before mounting the coils, some altera-tions are to be made in the brackets sup-

first radio frequency transformer about 6 inches to the right and also at the rear edge. Considering the end of each bracket at which there is only a right angle bend, measure up 5/16-inch and bend again. The small square with the single hole, formerly intended for mounting to sub base is the cut off. ing to sub base, is then cut off. Our new 5/16-inch section is to be the foot of the bracket and a hole is drilled in its center with a number 27 or 5/32-inch drill. This operation will be made clearer drill. by observation of the photograph repro-

For mounting the third coil at a point behind the 30-ohm rheostat, a slightly different procedure is necessary. The foot of each bracket is bent and cut off toot of each bracket is bent and cut off as described above, but also the curved wing at the other end is bent to be in line with the long straight portion of the bracket. At one end of this third coil, it will be noted that the terminals are marked G and B. In the bakelite ring at this end there are two small bracket holes already drilled. On this same ring and diametrically opposite, drill two more very small holes the same distance apart. The two brackets just altered are then secured to this bakelite ring and the coil is mounted vertically with the small inner primary winding at the top. The antenna coupling coil with variable primary is mounted on the two holes in

tions are to be made in the brackets supplied for them. Each of the nickeled brass brackets is made with a curved lug at one end with two small holes for attaching the coil. At the other end is a right angle bend with a single hole for securing to the sub base. Four of these are used for mounting the antenna coupling coil with variable primary is mounted on the two holes in the rear left corner and the little to the right of the first two are used for mounting the antenna coupling coil with variable primary is mounted on the two holes in the two holes in the two holes in the rear left corner and the little to the right of the first two and 2½ inches in from rear edge. The next operation is putting in the Leakan-

base. Two countersunk holes are shown a little to the right of center near the front edge and 2 inches apart. Flat head base. machine screws are dropped through these and one of the clips provided with the Leakandenser is placed on each. Put

the Leakandenser is placed on each. Put a soldering lug on each and then a small hex nut. The third Aero coil, to be mounted vertically, is then put on.

The Benjamin sockets are placed next, as follows: That which will hold the first radio frequency amplifier tube goes squarely behind the variable condenser to the left, with its G and P terminals to the rear. The socket for the second radio frequency tube goes on the sub base just behind the left edge of the center variable condenser; G and P are to the rear. The third socket is placed at the rear edge of sub base just to the right of the second Aero coil with G and P terminals to the right. Two holes are provided by figure 4 for each socket.

Socket 4 goes 2½ inches to the right of socket 3 at the rear edge of sub base and socket 5 is to be 2½ inches from that to the right, at the rear right corner. In both cases G and P are to the right. The last socket goes in the front right corner with G and P to the right. Use a long screw in the hole on the left edge toward the rear and, on the under side, slip on one of the Daven resistor mount-

slip on one of the Daven resistor mountings with its terminals front and back.

Close to the rear edge and 4% inches from the right edge is a countersunk hole, through which drop a flat head 6-32 machine screw and, beneath the sub base, secure the 1.0 mfd. fixed bypass condenser with its terminals forward. In this position, the left hand mounting lug is used under the screw and nut just mentioned.

We now come to the Autoformers. One

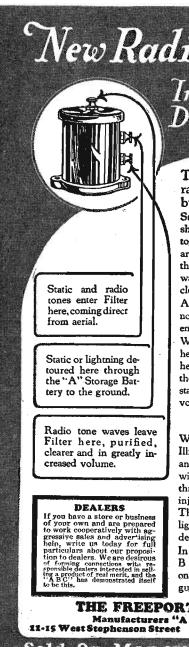
We now come to the Autoformers. One is placed between sockets 3 and 4 with terminals forward. Mounting holes are provided in figure 4 at the front right and rear left corners. Another Autoformer is now set between sockets 4 and 5, with terminals forward, and secured in place. The machine screws which hold in place. The machine screws which hold In place. The machine screws which hold our third Autoformer in place also hold two units on the under side. This Autoformer goes just to the left of socket 6 close to the front edge with terminals to the rear. Beneath it place a 5 mfd. fixed bypass condenser with terminals to the rear and so that its right mounting lug is around the source place to the front lug is around the screw close to the front edge that is holding Autoformer.

At the rear left corner of this Auto-former, a longer screw is used and, on the under side, the second Daven resistor mounting is secured by a hex nut, with terminals front and rear. Behind socket terminals front and rear. Behind socket 4 and close to the rear edge of the sub base is a countersunk hole. Beneath socket 4 place a .5 mfd. fixed condenser with its terminals forward and its left mounting lug around a machine screw put through the hole just mentioned. Condenser can then be secured by a hex nut. The same procedure is then followed using another 5 fixed bypass condenser.

Condenser can then be secured by a not nut. The same procedure is then followed, using another .5 fixed bypass condenser and the countersunk hole behind socket 5. One short screw, with plenty of tightening on the hex nut, is sufficient to hold each condenser in place.

The last .5 mfd. fixed bypass condenser is put in place using the countersunk hole just to the front and left of the front mounting screw of the antenna coupling Aero coil. Terminals go forward and the left mounting lug is secured around the screw. Now go back to socket (Continued on page 30)





New Radio Static Filter Increases Volume Decreases Interference **Easily Attached** This new radio invention actually separates

radio tones from static, clearing reception by detouring static.

Study the diagram shown at the side of this ad. It shows where the static and radio tones enter the Filter together. Inside the Filter, the static and radio tones are separated, the static being detoured to the ground through the "A" Storage battery. But the radio tone waves are filtered through entering the set purified, clearer and increased in volume.

Attach the Filter to any set-no matter what kindnote the reception-cut out the Filter-note the differ-

With the "A B C" Filter attached to your set, you hear music as it is really played by the artists - you hear the dramatic climaxes of speeches-you understand the market reports and other announcements. Distant stations are brought in easier, due to the increased

Lightning Proves Claims

We have on file a sworn statement by a Stockton, Illinois, business man Lightning struck his building and was carried by a radio aerial to a set equipped with the "A B C" Filter. The lightning was carried through the Filter to the ground with absolutely no injury to the tubes, batteries, tuning unit or cabinet. The building was unharmed. The Filter is a perfect lightning arrester. If it will detour lightning - it will detour static. Write for a copy of the sworn statement. In event your dealer cannot supply you with the "A B C" Filter, simply mail us \$5 00, and we will send one direct with full instructions for attaching. Full guarantee with each Filter.

THE FREEPORT RADIO CORPORATION Manufacturers "A B C" Static Filter. (Patent Pending)
11-15 West Stephenson Street Freepore, Illinois, U. S. A.

Sold On Money Back Guarantee

The Grand Prix Eight Tube Super-Heterodyne

Part III—The Wiring in 50 Operations

By James McDonald

F THE instructions in last week's issue were followed completely, the entire panel assembly is complete, as is the assembly of the sub base. Our Grand Prix is now ready for wiring and this part of the work divides into an even 50 operations. Before starting, however, the reldering lyes should be put on all tersoldering lugs should be put on all terminals, including those of the potentiometer and rheostat. Two are provided with the switch. Five dozen lugs are neces-

Considering, first, the sub base assembly; the sockets will be referred to by numbers, 1, 2, 3 and 4 across the rear edge from left to right and 5, 6, 7 and 8 back across the front edge from right to left.

1. A wire is bent into a U-shape so

that it can be laid on the lugs on the left front terminals of sockets 1, 2, 3 and 4, then forward and across the right rear lugs on 5, 6 and 7, then forward to the front right lug on socket 8. Solder to all lugs.

2. Another U-shape wire is bent to rest on top of wire 1 and connect to the right front lugs on 1, 2, 3 and 4, then forward and connect to the left rear lugs

on sockets 5, 6 and 7 and the rear lugs on sockets 8.

3. A wire is soldered to wire 1 midway between sockets 6 and 7 which goes straight forward to binding post 6 on the oscillator coupler, then down and slightly to the left to left terminal on rheostat. Solder to post 6 on coupler and to rheostat terminal. and to rheostat terminal.

4. Drop a wire through the hole by the left rear terminal on socket 5 and, about 1½ inch below sub base bend it forward so it will connect to the right terminal on the potentiometer.

Put a wire straight across from the left terminal of the rheostat to left terminal on the potentiometer.

6. Put in a short wire from post 4 on the coupler, down and to left, to the right hand terminal on the rheostat.
7. A short wire about 1 inch long is

next to connect right hand terminal on the rheostat to the left hand terminal

on the switch.
8. Put in a wire from the right hand terminal of the rheostat, across to right behind potentiometer to rotor terminal of the right hand variable condenser C-2.

9. A wire is to be bent and inserted,

from post 1 on coupler, back to edge of sub base and then to the left to the rotor terminal on the left variable condenser, C-2, then back to the rear Imp jack. Should be soldered at each end and to the rotor terminal.

10. Now place a wire from post 5 on the coupler, going ½ inch back, then to the right to the stator terminal on the

left side of right hand condenser C-2.

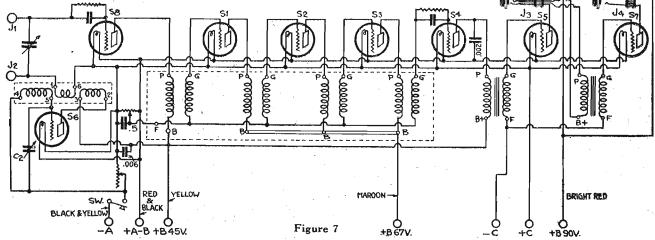
11. Determine the point on wire 10 opposite the front right post on socket 6. Put in a wire from that point running straight back and up through the hole to that post on socket 6.

12. Run a wire from post 2 on the coupler, back and up through the hole for the left front post on socket 6, and solder to that post.

13. The next wire goes from post 3 on the coupler, back almost to the Multi-former then to the left between Multiformer and AT-2, to the B terminal at

left end of Multiformer.

14. Loosen the nut on the rear ma-



chine screw holding socket 6 and put in the left 1 inch and up through the hole the .5 mfd. fixed condenser by slipping a mounting lug under the nut. Terminals socket 4, to that terminal. This wire socket 7. are forward.

15. Connect a wire from the center terminal of the potentiometer to F terminal at the right end of Multiformer.

16. A short wire is now inserted connecting the right hand terminal of the 5 mfd condenser to the nearest point of wire 15 just inserted.

17. The other terminal of the 5 mfd condenser is to be connected to the left

hand terminal of the potentiometer.

18. At the point where wire 13 passes under the front edge of the sub base, connect a wire which should drop 1 inch, then go to the right around front e AT-1 to the B plus post on AT-1. passes above wire 4.

19. Attach a ¾-inch length to each

end of the Dubilier type 601 fixed con-denser of .006 mfd. capacity. One of these goes to the joint where whres 13 and 18 meet while the other goes to the left hand terminal of the rheostat.

Drop a wire from the left front terminal of socket 5, through the hole then downward and to the right to the top spring on jack J-3.

A short wire is to run up from terminal G on AT-1 through the hole to G terminal, the right front one, on

socket 5.

22. A wire from the second spring on jack J-3 goes back 2 inches, then to the left to the P terminal on AT-2.

From the third spring a wire goes

back 1 inch, then to left to the B plus post on AT-2.

24. From the upper terminal of jack J-4 (at left of set) run a wire up through the hole by the left front post (P) on socket 7 to that post.

25. A wire is now put in straight across from the bottom spring on jack J-3 to the frame terminal on jack J-4.

26. Run a wire from the F terminal on AT-1, back and downward 14 inch, then to left and then forward and down to F terminal on AT-2. (See photograph

of wiring).

27. We complete the loop circuit by putting in a wire from the stator terminal on the left side of the left condenser C-1 back to the front Imp jack.

28. Insert a wire to go from P terminal should be kept about ½ inch below sub

29. Solder one terminal of the Dubilier .002 mfd. fixed condenser to wire 28 about midway of its below sub base length; then run a wire from the other terminal about 2 inches to wire 4 where it bends upward.

30. Next wire goes from G on AT-2 to

31. Drop a wire from the rear left post on socket 8 through the sub base, back and to the right between sub base and Multiformer to the P terminal at the left end of the rear edge of the Multiformer.

32. The second post from left on rear edge of Multiformer is G; run a wire up (Continued on page 28)

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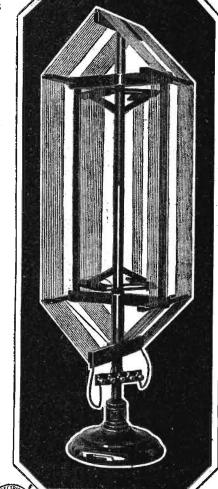
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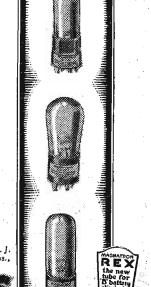
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WIRING PHOTO DIAGRAM FOR GRAND PRIX SUPER-HET

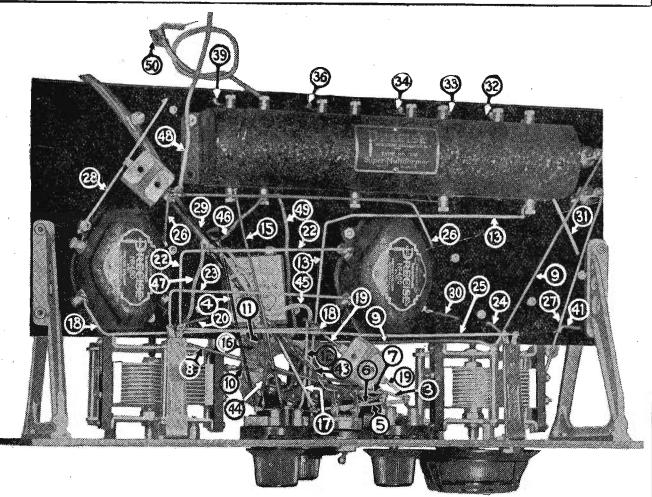


Figure 8

Next post is P; run wire up to

rear right terminal of socket 1.

34. Fourth post is G; run wire up to

rear left post on socket 2.
35. Fifth post is P; run wire up to rear right post on socket 2.

36. Sixth post is G; run wire up to rear left post on socket 3.

37. Seventh post is P; run wire up to rear right post on socket 3.

38. Take one of the Dubilier grid condensers and clips and set it vertically between sockets 3 and 4 with clips to left and solder the lower terminal to the lug

on the rear left post of socket 4.

39. A wire connecting to the upper terminal of this grid condenser is bent ½ inch to the right and rear, then down through hole to G, the eighth post on Multiformer. Multiformer.

The other Dubilier grid condenser and clips is set vertically in front of socket 8 with clips to the front and a short ½-inch length of wire connects from

the right ½ inch to wire 9.

42. There is a countersunk hole to the right of socket 4. Put in a flat head 6/32 machine screw and on the under side piece of heavy strip brass about 5/16-inch wide and % inch long, in which a hole for the screw has been drilled in one end. The screw has been drilled in one end. The Belden cable is secured under this at a point about 4 inches back from where the braid ends. The end of the Belden cable is used, at which the separate leads are but 5½ inches long. With a piece of heavy cord, cable the Red and Black, the Yellow and Black and the pure Yellow leads from the end of the outer braid, a distance of 2½ inches.

43. Solder the Yellow and Black wire to the right terminal of the switch.

44. Solder the Red and Black wire to

44. Solder the Red and Black wire to the right terminal of the potentiometer. 45. Solder the Yellow lead to the junction of wires 13 and 18 described under

operation 18.
46. Cut off the Maroon wire so that,

GRAND PRIX SUPER-HET

(Continued from page 27)

through sub base to rear left post on socket 1.

22 Next post is Proventing up to the left and slightly back, down through the hole provided, then to the left and slightly back, down through the hole provided, then to the left and slightly back, down through the hole provided, then to the left and slightly back, down through the hole provided, then to the left and slightly back, down through the hole provided, then to the right 16 than to wire 9

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47. Cut off the bright Red wire so that

it just reaches the frame terminal, the lower one, on Jack J-4.

48. Solder a 1-foot length of flexible wire to wire 26 where it bends to the left after extending $1\,\%$ inch back from the F terminal on AT-1.

terminal on AT-1.

49. Solder a 16-inch length of flexible wire to the left terminal of the .5 mfd. condenser and run it out to the rear between the Multiformer and the sub base.

50. Recently, the Crowe Name Plate and Manufacturing company, of Chicago, have brought out some long needed little identification tags for leads. These are known as "Crowe Cable Markers." These find a perfect use here, as once the set is in the cabinet it might be hard to identify the various colored leads. Put the — A In the cabinet it might be hard to identify the various colored leads. Put the — A on the Yellow and Black; the + A on the Red and Black; the B45 on the Yellow; the B + on the Bright Red. Take the B— and scratch out the — sign; scratch in 67. This tag is then secured on the Maroon lead. Flexible wire 48 gets C— and wire 49 gets tag C +.

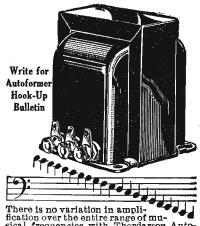
(The wiring of the Grand Prix receiver is now completed and the experienced for

(The Wiring of the Grand Prix receiver is now completed and the experienced fan can connect up the set and put it into operation. Those who have not set up and operated sets heretofore had best wait, however, for the connecting and operating article in next week's issue.— Editor's Note).

Follow the Directions

When constructing a new set from an article, whether published in Radio Digest or some other periodical, follow the data given to the letter. If you do not, and try to ring in some bright ideas of your own, neither the writer of the article nor the technical editor of the paper, can possibly answer questions on it. No home constructor can expect the technical etc. constructor can expect the technical staff of any paper to build up a special set with the variations made just to answer his individual problems. The writer of the original article did all the work once to present the data on a group of parts and a hook-up that it was known would work well.

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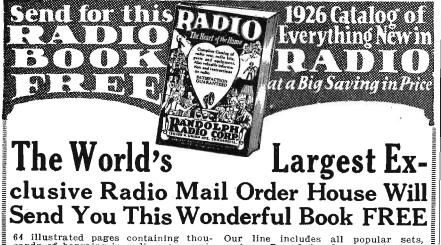
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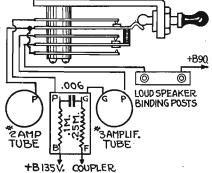
RADIO KINKS DEPARTMENT Radio Digest 510 North Dearborn St., Chicago

nights; the hot spells that visit us in summer seem to take little effect on the set. Here are the particulars:

My aerial is 85 feet long and 38 feet gh. The coupler is wound with 60 turns high. The coupler is wound with 60 turns of No. 22 dsc. wire on a 3-inch coil with 6 taps taken off as shown. The rotor has 50 turns of the same wire on a 2½-inch

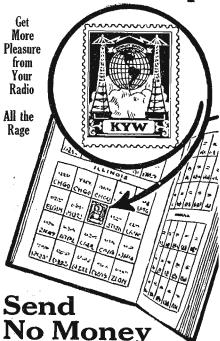
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amplification are used, the volume is often

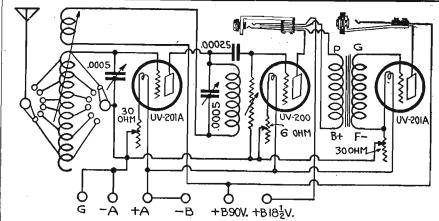
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HOOK-UP AND DETAIL OF COIL TAPS



The two variable condensers used are 23 plate with .0005 mfd. capacity. radio frequency tuned impedance coll is 40 turns of No. 20 dsc. wire on 3-inch tube. The taps in the hook-up number 12, only

6 coming from the coupler. This is explained by the smaller diagram. The audio frequency transformer is 6 to 1 ratio. If any difficulty is encountered by your readers they can write me direct.—John Mulliken, 128 Bates St., N. W., Washing-ton, D. C.

loud speaker is automatically connected to the plate of the second amplifying tube, the third resistor-coupler and tube being

disconnected in the same operation.

A filament control jack was used for

this purpose and the plug may be either a home made wooden plug or an old phone

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too great from nearby high-powered stapowerful station, finds the volume far tions, and as no way is provided for cut-ting in between stages as in transformer greater than he needs, pushes in the little plug, and behold, the music is greatly softened.—J. F. Gardepe, Columbia, S. C. coupled amplification, the arrangement shown in the diagram was devised, for tube. When greater volume is desired, the little wooden plug is left loosely in the jack. By merely pushing the plug in, the

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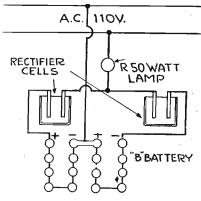
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Ft. Worth, Texas.
Run the alternating current through the cells for 20 minutes to frost (form) the

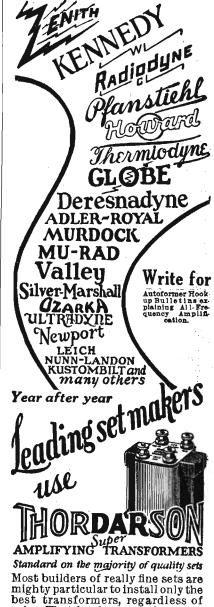


aluminum plates, then connect as shown in diagram. One side of the alternating current line goes to 50-watt lamp as resistance, then to the cells where the aluminum plate of one connects to the lead plate of the other. From the remaining lead plate connect to the negative end of B battery, from the remaining aluminum plate run a wire to the positive end of B battery. The last wire is to be run from center of B battery to the re-

maining alternating current wire.

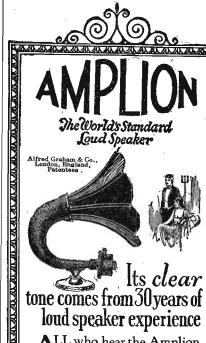
This hook-up will charge four dozen cells at one time if necessary as the current is forced to alternate in the halves; that is, it goes one way one-half cycle and the other way in the other half cycle.

—V. O. Humphrey, Gooding, Idaho.



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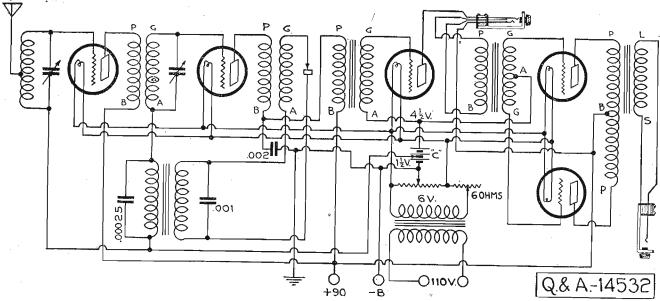
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The diagram requested is shown here. You will note that there are two C battery voltages used; the R.F. grid returns are tapped in at 1½ volts. In the original circuit these returns were brought back to the negative filament line between the rheostat and the battery which put a grid bias of about 11/2 volts on these grids. The ground connection now comes from the key wire to which grid returns, po-tentiometer arm and negative B must attach. With the exception of the filament circuits, no changes in wiring are necessary form the original hook-up.

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dressing the circulation department and enclosing 10 cents for each one desired. In the March 28, May 16, and September 26 issues are articles relating to underground antenna systems, their installa-

When working about the set, always throw off the battery switch, or better, disconnect the A and B battery connect-

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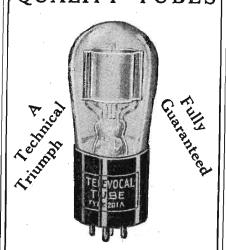
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"FIRESIDE" RECEIVER

(Continued from page 26)

(Continued from page 26)

3 and loosen the nut on the mounting screw in the right edge close to P terminal. Slip the bakelite terminal block of the Jones Cabelug on this screw with terminals to the front and using the left mounting hole. This unit was not put on sooner as the cable would have been in the way. It is, of course, on the under side of sub base.

Two holes are left, parallel to the rear edge, and close to the rear left corner.

edge, and close to the rear left corner. These are for the antenna and ground and ground binding posts. With these put in, the assembly is completed. In the photograph, figure 6, these binding posts are not shown, but the holes for their insertion appear in figure 4.

(The wiring of the parts just mounted will be the subject of Mr. Fournier's third article to be in next week's issue.-Editor's Note.)

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Wave length	Frequency (kilocycles)	Power (watts)	Call signal	Location	Wave length	Frequency (kilocycles)	Power (watts)	Call Location	Wave length	Frequency (kilogycles)	Power (watts)	Call signal	Location	Wave length	Frequency (kilocycles)	Power (watts)	Call slgnal	Location	Wave length	Frequency (kilocycles)		Call gnal Location	
U				tations by	234	1,280	10- 50 50	KFOL Marengo, Iowa KFUP Denver, Colo. KFUS Oakland, Calif.	254	1,180	50 50 50	KFE	I Corvallis, Ore, L Denver, Colo, ! Ft. Worth, Tex.	275	1,090	50 10 500	KFDD	Havre, Mont. Boise, Idaho. Lawrence, Kans.	461.3 468.5		.000 K	CAE Pittsburgh, Pa Fi Los Angeles, Cal	
202.6			Len KFXB WIBD	gins Big Bear Lk., Cal. Joliet, III.			50 10	KMJ Fresno, Calif. WDBQ Salem, N. J. WEBE Cambridge. O.			100 100 10	KFL KFW WAB	R Albuq'que, N.M. H Chico, Calif. C Ashville, N. C.			500 500 100 50	KQV;	Los Angeles, Cal. Pittsburgh, Pa. New Orleans, La. New Orleans, La.	475.9	630 !	500 W 500 W	CAP Washington, D. C. RC Washington, D. C. BAP Ft. Worth, Tex EEI Boston, Mass.	
205.4	.1,460	20	WIBS	Elizabeth, N. J. San Pedro, Cal. Logan, Utah			100 5 20	WGBM Providence, R. WGBQ Menomonie, Wi	- -		500 100 100	WCB WFB WFB	J Uni. Place, Nebr. A Allentown, Pa. R Baltimore, Md. Z Galesburg, III.			500 500 100	WAFE WBAE WBAE	Port Huron, Mich, (Harrisburgh, Pa.) Decatur, III.	483.6	620 5	500 W ,000 W	FAA Dallas, Tex. OC Davenport, Iowa SUI Iowa City, Ia.	
		50 30 20	WCRE WEHS	Flagstaff, Ariz. B Pvdce., R. I., ptb. B Evanston, N. Y.			10 100 50 100	WJBC LaSalle, III. WKAP Cranston, R. I.			50 10 100 50	WHE	A Baltimore, Md. C Canton, Ohio S Burlington, la. K Greentown, Ind.		e r ^j	250 50 5,000 100	WCAC	Charlotte, N. C. Baltimore, Md. Elgin, III, I Sioux City, Ia.	491.5 499.7	2	500 K ,000 W 500 K	GW Portland, Ore. 'EAF New York, N. Y FRU Columbia, Mo.	
		100 100 5 10	WIBK	Brooklyn, N. Y. Toledo, Ohio Utica, N. Y. Sycamore, III.	236	1,220	100	WGMUR'hm'd, H., N.	·.		250 10 100 100	W N A W R E W S A	D Norman, Okla. C Coldwater, Miss. R Fall River, Mass. Q Ossoo, Wis.		٠.	250 500 500	WFAV WHAI	Lincoln, Nebr. Milwaukee, Wis. R Atlan City, N. J.	508.2	590	500 K 500 W	MC Memphis, Tenn. LX Oakland, Cal. IP Philadelphia, Pa	
206.8	1,450	500 20 50	WAB	M Oakland, Calf. W Wooster, Ohio Joliet, III.	236	1,270	10 5 10	KF00 Salt Lk. City, t KFVG In'pendence, Ka	256	1,170		KFC KFI	F W'la W'la, Wash. 2 Yakima, Wash. P Gedar R'p's., la.			500 100 20 100	WKY	Pittsburgh, Pa. Oklahoma, Okla. Louisville, Ky. Cazenovia, N.Y.	516.9		500 W	OO Philadelphia, Pa CX Detroit, Mich. JR Detroit, Mich.	•
	1,441	10 250	KNRC	St. Petorsb'g, Fla. H'ywood, Calif.	,		10 100 100 50	KFXE Waterloo, Iowa WBOQ R'dm'd H. N. Y WFBI Camden, N. J	<i>i</i> .		250 150 20	KFY KRE WB/	D Muscatine, la. Berkeley, Calif. X Wilkes-Ba'e, Pa.			1,000 50 250	WOR	Jamestown, N.Y. Batavia, III. (Agrig. Col., N.D. South Bend, Ind.	526 535.4		,000 W	HO Des Moines, la. 'NYC New York, N. Y 'OAW Omaha, Nebr. YW Chicago, III.	
209.7	1,430	100 5 100 500	KFV(Bakersi'd, Cal. JEureka, Cal. Santa Maria, Cal. YNew York, N.Y.		*	100 15 100	WGBF Evansville, in WGBT Greenv'e, S .(WIBA The Capital Tim	d. C.		50 500 100 500	WCS WDC WDC	C Gr'd Rpds, Mich. H Portland, Me. H Hanover, N. H. D Chat'nooga, Tenn.	278	1,680	500 5 750	WSM WWL	K Dayton, Ohio. New Orleans, La. Boise, Idaho	545.1	550	500 W	HA Madison, Wis. FUO St. Louis, Mo. SD St. Louis, Mo.	
		5 5 50 500	WIBF	ł New B'df'd, Mass. Meridian, Miss. V Laconia, N. H. K New York, N. Y.	238	1,260	100 50	WTAD Carthage, III. KFCB Phoenlx, Ariz.			20 100	WEE WGE WHI	RT Dayton, Ohio RW Sp. Valley, III. RP Johnstown, Pa. N Sycamore, III.		1,000	100 500 200	KFJN KOP KUSI	Gd. Forks, N.D. Detroit, Mich. Vermilion, S.D.	Car	nadiar	Stat	ions by Wave	
211.1	1,420	200	WSBO	C Upland, Calif. O Avalon, Catif.			100 100 100 250	KFWU Pineville, La. KWKC W'Is'n D'nc'n S	tu	1,160	100 50	WRA WRA	K Escanaba, Mich. IF W'hingt'n, D.C. H Tucson, Ariz.			500 200 100 500	WAA	'G Brownsvie., Tex. F Chicago, III. D Rochester, N. Y. J Philadelphia, Pa.	247.8 267.7		75 C	FKC Thorold, Ont.	
212.6	1,410	250 100 5	W1BT	New York, N. Y. V Portland, Ore.	1	4.050	10	WHBN St.Pet'sb'g, Fl WRAW Reading, Pa	a.	1,100	50 20 10) KFJ) KFP) KFU	X Cedar F'ls, Iowa W Carterville, Mo. L Galveston, Tex.		ı	0-100 100 500	WD2 WFB	E Atlanta, Ga. Tuscola, III. G Altoona, Pa. U Fifd, By-Sea, Fl.	291.1	1,030	20 C	FRC Kingston, Ont. FYC New Wstmtr., B.C FXC New Wstmtr., B.C JYC Scarbero Stn., Ont).).
214.2	1,400		KFAV	L Leese Opt. Cö. L R'hm'd Hl., N.Y. V Santa Ana, Cal.	240	1,250	10 10 10 500	KFLX Galveston, Tex KFRL Gr'd Forks, N. I KFVE Un'sity City, M	o.		50 25 100 50	WAA WAI	H Omaha, Nebr. AD Cincinnati, Ohio DC Akron, Ohio BC Lancaster, Pa.			100 100 50	WHA WHD WKA	M Rochester, N. Y. I Minneap., Minn. A Cedar Rap., Ia.	312.3	960	500 C	NRA Moneton, Can. NRV Vancouver, B. C FCY Charletn., P. E. I	
		250 10 150	WCLS	F St. Louis, Mo. P Brownsv'e, Tex. S Joliet, III.			500 100 500	KTAB Oakland, Calif WABI Ist Uni. Church	:		500 100 100 50) WHI	BY Chicago, III. EC Rochoster, N. Y. 'S Chicago, III. AL, Omaha, Nebr.			500 50 50 500	WLB	Minneap., Minn. Stevens Pt., Wis. N Columbus, O. Kansas City. Kans.	329.5	910	1,000 C 500 C 500 C	KCK Regina, Sask. FCT Victoria, B. C. FQC Saskateon, Sask	k.
215.7	1,390	50 50 50 20	WBB:	V N. Bend, Wash. Z Ind'apolis, Ind. L Logansp't., Ind. R Cincinnati. O.			50 10 100	WDBO Winter Pk., Fl WGBI Scranton, Pa. WHAP Brooklyn, N.	a. Y. 261	1,150	500	WRI KFA	IY New York, N. Y. J Boulder, Colo. F Oklahoma, Okla.		2 1,070	250 500	W R B	C Valparaiso, Ind. C Boston, Mass.			50 C	HUC Saskatoon, Sask JGC London, Ont. JWC Saskatoon, Sask KCW Brktn. Jct., On	ζ.
		001 001 01	WIBN WKB WPR	/ Chicago, III. G Ch'go, III. (Ptb.) C Harrisb'g, Pa. r Bay Shore, N. Y.			500 500	WOAX Trenton, N. J WSMH Owosso, Mich	.		50 10	KEN KEG KEG	IR Sioux City, Ia. (A St. Louis, Mo. JT Salt Lk. City, U.		8 1,060 5 1,050	500 1,000 500	WSM	N Lawreebg., Tenn. Nashville, Tenn. Ithaca. N. Y.	340.7	880	500 C	NRO Ottawa, Ont. HCS Hamilton, Ont. KOC Hamilton, Ont.	
217.3	1,380	250 10	KFR2 WJD	K Pullman, Wash. Granville, Ohio Homewood, III.	242	1,240	50 10 10 50) KFOJ Moberly, Mo.) KFPM Greenville, Te) KFRM Ft, Sill, Okla	.		500 50 5 <u>0</u> 0 50	WAI KW WD	VA Ogden, Utah 3Q Haverford, Pa. KH Kennonwood, La. AY Fargo, N. D.		3 1,040	500 500 500	W K A W R E	C Ber. Spgs., Mich. R E. Lansing, Mich. O Lansing, Mich. K Hastings, Nebr.	356.9	840	500 C 500 C 500 C	FCA Terente, Ont. HIC Terente, Ont. HNC Terente, Ont.	
218.8	1,370	5,000 10 100	KFJC KFR\	Junct'n Cty., Kan. V Olympia, Wash.			50 100 50 500	KFUM Colo. Sp'gs, Co KFXH El Paso, Tex	0.		25 25 10) WK	BR Boston, Mass. AM N. Pl'nf'd, N. J. AF Milwaukee, Wis. AZ Macon, Ga.		9 1,020	5-100 1,000 500	WBB WLW	P Petoskey, Mich. L New York, N.Y. Los Angeles, Cal.			50 C	HSC Unity, Sask, JBC Toronto, Ont. JCD Toronto, Ont. JSC Toronto, Ont.	
		10 10 5 250	WHU	H Manhattan, Kan. B Anderson, Ind. Flushing, N. Y. Red Bank, N. J.			100 50 250) KZM Oakland, Calif.) WABY Philadephia P) WBZA Boston, Mass.			500 200	0 WO 0 WP:	AC Lima, Ohio SC State College, Pa. R. Dallas, Texas		9 1.010	500 500 500	WBA WEA	V Columbus, O. O Columbus, O. Houston, Tex.	204.4	700	500 C 500 C	KCL Terente, Ont. KNC Terente, Ont. NRT Terente, Ont.	
220	1,360	250 50 500	KFQI	S Flint, Mich. H B'lingame, Cal. IS.S'n Frn'co, Cal.			10 50 10 20	WCBQ Nashville, Ten WEBC Superior. Wis. WEBK Gr'd R'ds. Mic	n.		100 100 13	5 WTA	(C Bay City, Mich. AR Norfolk, Va. AZ Lamberty'e, N. J.	1	000,1 8	500 1,000 500	KSL WPG	Rayettv'le., Ark. Salt Lk. City, Utah Atlan. City, N. J.	384.4	780 730	500 C 1,650 C	KY Winnipeg, Man. NRW Winnipeg, Mar FCF Montroal, Que. FCQ Vancouver, B. C	
		50 100 500	WIB\ WQA	U Arnold, Pa. W Logansp't, Ind. A Parkesb'g, Pa.			100 50 500	WTAP Cambridge, III		1,140	50 100 50	O KFN O KFO O KTE	R Portland, Ore. 1W Hought'n Mich. IB Ft. Worth, Texas IR Portland, Ore.	302.		1,000	WLII	Mooseheart, III. 3 Elgin, III. . Seattle, Wash.			850 C 500 C 1,200 C	CHYC Montreal, Que. CJKC Burnaby, B. C. CKAC Montreal, Que.	
222	1,350	100 15 50 100	KFR	U Holy City, Cal. Z Hartington, Nebr. W Norfolk, Va. S Takoma Pk., Md.	244	1,230	500 100 500	KUOM Misseula, Mo WAMD Mi'apolis, Mir	n.		25 5 25 25	0WA 0 WC	AM, Newark, N. J. BR Toledo, Ohio AD Canton, N. Y. AR SanAntonio, Tex.	309. 315.		10	K D K K F X .	R Providence, R. I. A Pittsburgh, Pa. Colo. (Portablo).	434.5		50 (1,000 (KCD Vancouver, B. (KFC Vancouver, B. (NRM Montreal, Que, FAC Calgary, Alfa.	Č.
		20 100 100	WHB WHB	D Bellet'taine, U. F Rock Island, 111. H Culver, 1nd,			100 100 100	B WGBB Freeport, N. D WNAX Yankton, S. D D WRAM Galesburg, II	Y.		10	5 WCI 0 WD 5 WE	BE New Orleans, La. AG Amarillo, Tex. BZ Savannah, Ga.			500 1,000 500 1,000	KPSI WAH	M Beaumont, Tex. N Pasadena, Cal. G Rhmd. Hill, N. Y. S New York, N. Y.	704.0		750 C 250 C	CFCN Calgary, Alta. CHCM Calgary, Alta. CHXC Ottawa, Ont.	
		100 50 20	WIB	St. Pet'b'g, Fla. G Elkins Park, Pa. J Poynette, Wis.	246	1,220) WTAT B'st'n, Mas. (pt) 0 KDYL Salt Lk. City. U	i.)		500 20 10 25	0 WIE 0 WR. 60 WS	AT Minipolis, Minn. BV Henderson, N. C. AV Yollow Spgs, O. DA New York, N. Y.	317. 319	3 946 940	500 750 500	WFK	B Chicago, III. Buffalo. N. Y. IB New Orleans, La.			750 0 500 0	CKCO Ottawa, Ont. CNRC Calgary, Alta. CNRO Ottawa, Ont. CNRR Regina, Sask.	
224	1,340	- 5 15 10 50	K F B I	C San Diegn, Cal. L Everette, Wash. P Jowa City, Ja. R Ogden, Utah			50 50 50	0 KFJY Ft. Dodge, Ia 0 KFVW San Diego, Ca 5 KGY Lacey, Wash.		1,130	- 5	0 KFI	AQ Houghton, Mich. P Moberly, Mo. O Spokane, Wash.	322. 325.		1,000 1,000 500	ALW ALW	Denver, Colo. Z Chicago, III. I Cincinnati, O.	483.6 499.7 516.9	600	500 C	FCU Hamilton, Ont. FCH Iroqueis, Ont. FCK Edmonton, Alt	
		100 50 10 250	KFV WRB	U San Le'dre, Cal. SC'pe Gir'd'u, Mo. R Monmouth, III. D Patterson, N.J.			15 25 51	0 WABX Mt. Clo'ns, Mi 0 WCAZ Carthage, Ill. 0 WEBD Anderson, Inc	t.		50 10 5 50	0 KF1	NF Shenandoah. Ia. PY Spokane. Wash. RY State Col., N.M. WD Arka'phia, Ark.	333 336		500 1,500 750	WBZ	L Salt Lk. Cy., Utah Springfield, Mass. X Northfd., Minn.			500 500	CJAC Edmonton, Alt CNRE Edmonton, Alt	a.
226	1,330	15	WRA KFG	F Laporte, Ind. Q Boone, Iowa J Juneau, Alaska			5 5 10	WIBR Weirton, W. \ WQAE Springfield,	/a. /t.		25 1 50 20	0 KL2 0 WA 0 WB	' Denver, Colo. BB Harrisb'g, Pa CN Chicago, III. AH Columbus, Ohio			500 500 500	WCA WSA	Los Angeles, Cal. L Northfd., Minn. C Clemson Col. S. C.			Ler	ons by Wave	
		20 25 25	KFK KFO KFO	Z F. M. Henry R David City, Neb. Z Hollyw'd, Calif. S San Fran'co, Cal.	248	1,210	1 5 10	0 KFIF Portland. Ore.			1,00 1 50	0 WE 0 WG 0 WG	NR Chicago, III. BC Memphis, Tenn. HB Clearwater, Fla.	340	.7 880	200 500 500 500	KSA WK	B Linceln, Nebr. C Manhattan, Kan. LQ San Juan, P. R. CA New York, N. Y.	210	1,299	10 20	AZ Mantanzas 5HS Santa Clara 5YR Camaguoy CRM Hayana	
		1,500 1,500	WBB WBB WDA	A Newark, Ohio M Chicago, III. D Nashvillo, Tenn.			10 10 25	O KFKQ Conway, Ark. O KFOX Omaha. Nobr. O KFRB Beeville, Tex.	1			0 WM	AV Wilm'gton, Del. AK Lockport, N. Y. AB Fall River, Mass. / Dearborn, Mich.	344 348		500 500 500	WLS KOB	D. Zion, 111. Chicago, 111. State Col., N. M.	225	1,333	10	DW Santa Clara 7AZ Camaguey BFU Santiage	
		100 100 10	WEB	IB U.S. (portable) L U.S. (p'table) Q Harrisburg, III. E Seymour, Ind.				0 KFUZ Virginia, Min 0 KWG Stockton, Calif	n. 268	3 1,120	10 5	0 KF	EQ Oak, Nobr. GC Baton Rouge, La. RC SanFran'co, Cal.	352		500 500 500	ALW I	C Pullman, Wash C Hartford, Conn D Waco, Tex.		1,308 1,276	20 20 10	BJQ Santiago 2TW Havana 2AB Havana	
227	1,320	1,00) WGE) WIB 6 KFN	IG Thrifton, Va. O Chicago, III. V Santa Rosa, Cal.			50	00 WBBG M'tap'sett, Ma 0 WBRC Birm'gham, A 10 WCSO Sp'gfield, Mo	la.			10 K.G 10 W.E 10 W.C	U Honolulu, Hawaii BY Charleston, S. C. BG Herrin, III. (ptb) RC New Haven, Conn.	360	833	500 250 500 100	KLS	l Detroit, Mich. Oakland, Cal. Y Baguio, P. I. 10 New York, N.Y	240	1,250	20 20	2LR Havana 7BY Camaguey 3AZ Santiago	
		50 20 10	KQW WAE	N Welcome, Minn. / San Jose, Calif. 3A Lk. Forest, III. 3K Cleveland, Ohio	.			0 WGAL Lancaster, Pa 5 WGBK Johnstown, P	a.		50 25	0 WE 0 WE 0 WF	AH Wichita, Kans. BW Beloit, Wis. BM Indinapolis, Ind. AM Cedar Roids, Ia.	361	.2 830	2,000 500	KG0 WH	Oakland, Cal. N New York, N. Y F Kan, City, Mo	. 250	1,200	10 10	Q2LC Havana 6GR Santa Clara 6JQ Santa Clara 8BY Santiago	
229	1,31	500 5 50	WGE WOV KFA	3L Elyria, Ohio VO Ft. Wayne, Ind N Mossow, Idaho	250	t,200	10	60 KFBG Tacoma, Was 10 KFDX Shreven't, L	h.		50 10	00 WN 00 WG 00 WF	OX Knoxville, Tenn. AM Miami, Fla. AX Gloucester, N.J.			500	WEE	3 Kansas City, Mo H Chicago, III. V Chicago, III.	255 260	1,176	15 200	2BB Havana 5BY Santa Clara	
		10: 5: 10:	KPP WAI	V Rockford, III. C Pasadena, Calif. T Taunton, Mass. BL Richmond, Va.	$\cdot $		10 50 1 50	O KFGX Orange, Texa O KFVY Ibuq'que, N. O KFXF Colo. Sp'qs. Co	M. 27	0 1,11) () (00 WT 00 KQ	AX Chleago, III. AC Johnstown, Pa. P Hood River, Orc. AN Providence, R. I.	374 379		500 500 3,500	W.G.Y	S Hot Spgs., Ark Q Manila, P. I. 'Schenectady, N. Y	270	1,132 1,110 1,090	20 : 5	2UF Havana 2JP Havana 1AZ Havana	
		5: 5: 1	WCE WDE WGE	BM Baltimore, Md. BJ Roanoke, Va. BR Marshf'd, Wis.			5	O KGB Tacoma, Wash. O KMO Tacoma, Wash. O WFBC Knoxville, Te	nn.		5(1,5(5(00 WE 00 WG 00 WG	AY Houston, Texas HP Detroit, Mich. ST Atlanta, Ga.	384		50	KJR WM	AZ Troy, N. Y. Seattle, Wash. BF Miami Bch., Fla	280	1,070	20	2JL Havana 6JK Twinugu 2MG Havana	
		2 1 1	0 WIE D WKI D WSA	BG Harrisburg, Pa Z Montgomery, Ala BE Webster, Mass N Allentown, Pa	:		25 10 15	60 WHBY W. DePero, W 00 WIAD Philadelphia, 50 WLAL Tulsa, Okla.	is.		5(10	00 W 00 0 W 00 1 W 00	AG Norfolk, Nebr. BL Decatur, III. II Ames, Iowa WL New Orleans, La.	389		1,500 500	WT/	R Cleveland, O. M Cleveland, O. Philadelphia, Pa	295 300 310	1,016 1,000 970	100	2HP Havana 2OL Havana 2RK Havana	
231	1,30	25 (0 WSA 0 WSA 5 KDL	AJ Grove City, Pa AU Chesham, N. H .B Devils Lk.,N.D Z Min'polis, Minn	:		50 10 10	00 WNAB Boston, Mass 00 WNAT Philadelphia, 00 WQAN Scranton, Pa	Pa. 27	3 1,10	20 21 0 50	00 WF 50 WT 00 KF	K Hamilton, Ohio AW College Sta., Tex. AB Phoenix, La.	ı		500	WLI WH/	NI San Antonio, Tex T Philadelphia, Pa NS Louisville, Ky	. 320	952 937 903	100	2BY Havana 2CX Havana 6KW Twinucu	
		5 50 10	O KFO O KFP O KFG	T Wichita, Kans. R Los Angeles, Cal C Taft, Calif.	. 257	2 1,190	10	00 WWAD Phil'aphia, F 50 KFCY Lemars, Iowa 50 KFGD Chickasha, Ol	a. da.		50	00 KF 00 KF 50 KF	DY Brookings, S. D. GH Stan. Uni., Cal. IZ Fond du Lac, Wis. KA Greeley, Colo.	405	i.2 740	1,500 500 1,000) KHJ	l Chicago, III. Los Angeles, Cal New York, N. Y Newark N. I	350	. 857 845	10 500	2CG Havana 7SR Camaguey 2EP Havaла	
		5	0 KFQ 0 WBI 0 WCL	(G Los Ángeles, Cal RE W'kes-Ba'e, Pa O Camp Lake, Wis BK Ellsworth, Me.	:			50 KFHA Guonison, Co 50 KFOY St. Paul, Min 15 KFPL Dublin, Texas 20 KFQT Denison, Tex	n.		- 11 11	00 KF 00 KH 00 KZ	LZ Atlantic, Iowa Q. Seattle, Wash. KZ Manilla, P. I. AB New Orleans La.	416 422		5,000	WC(R Newark, N. J. O Minneap., Minn RC Cincinnati, O. W Cincinnati, O.	1 000	833	100	20K Havana 5EV Colon PWX Havana	
		i 2 5	0 WL/ 0 WN/ 0 WT/	AX G'noastle, Ind. AR Butler, Mo. AX Streator, III.			50 50	10 KFUV Sp'gfield, Mo 00 KFWB Hollyw'd, Cal 00 KMA Shenandeah,	if.		50 50 5	00 WA 00 WE 00 WE	FD Port Huron, Mich BAA W. Laf'ette, Ind BBR Rossville, N. Y	: ""		5,00) KPO WSI	San Fran., Cal. 3 Atlanta, Ga.			n Sta	tions by Wave	
233	1,29	10	0 KF0 0 KG1	Y Kellogg, Idaho N Long Beach, Cal T San Fran'cc, Cal BZ Kingston, N. Y	<u>: </u>		30	50 WBBS New Orleans, 00 WCAJ Uni. Pl., Nel 00 WCAX Burlington, N 00 WFBL Syracuse, N.	or. /t. Y.		5 5	00 W	OAE Tampa, Fla. EBJ New York, N. Y. FAM St. Cloud, Minn FBH New York, N. Y	. [` `	5 648),9 680) KLE	. Radio, Va. S Independ., Mo. WF Cranston, R. I AF Drtmth., Mass	310	1,153 967		ngths CYF Oaxaca, Mex. CYS Mexico City, M	
			5 WE 0 WH 10 WH	BA H'hl'd Pk., N. J AG Cincinnati, O. BM Ch'go, Ill. (ptb.	,		5(5)	10 WGBX Orono, Main 00 WGCP New York, N. 00 WNJ Newark, N. J. 00 WRCO Raleigh, N.	۴y.		2	00 WI 50 WI 00 WI 00 WI	HK Cleveland, Ohio L St. Louis, Mo. RM Urbana, III. RR Dallas, Texas	44.		50 50 50	0 WO: 0 WM 0 WQ	S Jefferson Cy., Mo AQ Chicago, III. I Chicago, III.		923 900 790		CYH Mexico City, M CYX Mexico City, M CYB Mexico City, M	ex.
		10 2 - 1	0 M 16 10 M 11	BQ Memphis, Tenn 3D Ashland, Wis. 3K Ypsilanti, Mich KO New York, N.Y	ı.		,	50 WRHM Min'polis, M 5 WSRO Hamilton, Ol 0 WTAL Toledo, Ohio	inn.		5	00 WI	RW Tarrytown, N. Y SBF St. Louis, Mo. 'G Manhattan, Kans.	45	1.3 660	1,000 50 1,00	0 KTV	A Seattle, Wash, V Seattle Wash, L'New York, N. Y	400	750 625		CYZ Mexico City, M CYL Mexico City, M	ex.

The wonderful performance of these CROSLEY Radios will be duplicated this year—and with these New Prices they should be Radio's best value!

Lives in Lawrenceburg, Ind.—Listens to U. S. with a Crosley 2-Tube 51.

"I received program under normal conditions from New England States including Canada, the Western Coast and as far South as Florida and Texas."

EDGAR F. FEIST, Lawrenceburg, Ind.

Vermont Man Appreciates Selectivity of Crosley 2-Tube 51.

"KOA, Denver, Colorado, as you know is very close to WGB of New York City. Come in on my dial only one point from each other, yet I get no interference."

ALTON D. FARRINGTON, Putney, Vermont.

Lives in the Heart of Chicago-Gets the Country's Best in Radio with a Crosley 2-Tube 51.

"E. W. Plauk of 5130 Sheridan Road, Chicago, sends a list of 46 stations he hears regularly outside of Chicago from New York City to Los Angeles, California, to which he adds, "all praise and credit to Crosley Radio."

Vancouver to Torrington, Connecticut is a Short Distance for the Crosley 2-Tube 51.

2-lube 51.

"Following are only a few of the stations I have received: WBAP, Fort Worth, Texas; 6KV, Cuba; KOA, Denver, Colorado; WTG, Manhattan, Kansas; KPO, San Francisco; Manchester, England and Vancouver, for which I can furnish sworn statement if desired."

HARRIS C. RODSEFELLOW,

Torrington, Conn.

Crosley Trirdyn Has Brought Him 178 EKKO Stamps and KZKZ Manila, Philippine Islands.

"In all I have logged 208 stations and received 178 EKKO stamps. The farthest I have received is 7,000 miles, which is Manila, Philippine Islands (KZKZ). I have received one Alaska station and four California stations."

LEO CASSELL,
Indianapolis, Ind.

Hot Weather Did Not Keep This Crosley Trirdyn Owner Home.

"During hot weather I bring in New York, Schenectady, Detroit, Omaha, Clincinnati, Cleveland, New Orleans, Denver, St. Louis, and Atlanta on any night. No matter how many stations are broadcasting in Chicago I can always pick up 10 to 20 outside stations on my set."

ORVILLE G. DALLY

ORVILLE G. DAILY, Chicago, Illinois.

CROSLEY 2-TUBE 51 REGULAR

This efficient little set uses any make of tubes. Nearby stations on loud speaker, long range on headphones.

Now 1475, Was



CROSLEY 3-TUBE 52 REGULAR



For a less expensive 3tube set the Crosley 52 regular cannot be surpassed at the new low price.

Now 25 30

CROSLEY SUPER-TRIRDYN REGULAR

In the Super-Trirdyn, 3 tubes do the work of 5. Matchless performance. Beautifully finished solid mahogany





THESE PRICES DO NOT INCLUDE ACCESSORIES. ADD 10% TO ALL PRICES WEST OF THE ROCKIES.

Easy Tuning is a Feaure of the Crosley Trirdyn.

"My little daughter, two and a half years old, is a real radio fan. For an honest fact, she can tune in the most powerful stations and get some music."

L. F. INFANGER, Rome, New York.

35 States in the Union Report to this Crosley Trirdyn Owner.

"Here is a list of States from which I have received verification stamps—from one or more stations in each state. I have also heard Scotland during international test."

JOHN H. PUTHOFF, Akron, Ohio.

Low Power Stations Heard Across the Country with the Crosley 3-Tube

"One big asset of Crosley '52' is its ability to pick up low powered broadcast. I have picked up KFON, Long Beach, California, and KFUM, Colorado Springs, Colo., both stations using only 100 watts and KFEL, a 50 watt station in Denver."

Denver. PHILLIP S. WILLIAMS, Bristol, Pa.

Lives in California-Lists 35 Stations East of Rockies, Heard on Loud

J. F. McGinley, living in Hallster, Calif., sends us a list of stations in the East including Ohio, Pennsylvania and New York, whose broadcasting he enjoys constantly on his loud speaker. He emphasizes the fact that he owns no ear phones.

"Coast to Coast" Reception with a Crosley 3-Tube 52.

"I have a record of reception of practically all the large radio stations in this country and Canada from WBZ, New England, to WMBF, Miami, from Fort Worth, Texas, to CNRT, Toronto, and from CYL, Mexico City, to KGW, Portland, Oregon, and KFI, Los Angeles."

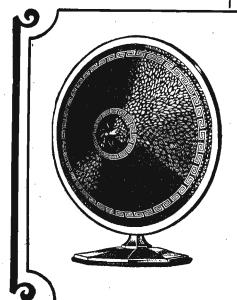
WALTER HAGERTY

WALTER HAGERTY,

Spruce, Michigan, is within Earshot of Europe with a Crosley 3-Tube 52.

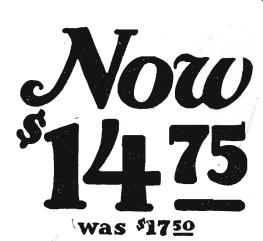
"During the International test last year I heard the following stations clearly and distinctly: Paris, Berlin, London, Honoluiu, and Porto Rico. 6 and 8 tube sets in my neighborhood don't begin to compare with my 'Little Wonder'."

ELLIS C. MARTIN, Spruce, Michigan.



The Famous MUSICONE

This marvelous loudspeaker-well on its way to REPLACE HALF A MILLION HORN TYPE SPEAKERS by January 1st -substantially reduced because of assembly improvements developed by Crosley engineers. Reproduces all tones—without distortion. Crosley patented unit, not cone, secret of its amazing perfection.



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BETTER · COSTS LESS THE CROSLEY RADIO CORPORATION—Department 49—CINCINNATI