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Front Panel Assembly of Hetduogen; Super-Heterodyne Trouble Shootings Presenting Experimenter Supreme; Antenna Coupling for Superdyne Set

# Kaalo

Vol. XII

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SATURDAY, JANUARY 24, 1925

# RADIO HURTS THEATERS?



# **BROADCASTS**

TAKE PEOPLE FROM SHOWS

Producers in Argument

Some for, Some Against Radiocasts
—McCormack-Bori Concert
Starts Heated Discussion

NEW YORK.—Theaters are on the high road to ruin as a result of Radio programs, according to the statements of many aroused theatrical producers and managers, following the first Victor program on the air, with John McCormack and Lucrezia Bori star features. On the other hand there are those producers such as John Golden, responsible for the greatly successful play, "Lightnin'," who rally to the support of Radio and claim it is the best possible advertisement for a really good play. Other authorities, speaking as the breach (Continued on page 2)

(Continued on page 2)

# Gail Bandell, who is recognized as one of KYW's own staff and one of the Radio headliners.



## **URGE BROADCAST OF INAUGURAL ADDRESS**

WOULD BE GREATEST LINK EVER ARRANGED

More Than 35 Stations Would Permit Public to Listen in Throughout Country

Country

WASHINGTON, D. C.—An expenditure of some \$20,000 is being urged upon the congressional inauguration committee for broadcasting the inaugural address of President Coolidge on March 4.

While this matter has not yet been formally placed before the committee, there has been considerable discussion regarding it here. The idea of those favoring the plan is to hook up thirty-five or more broadcasting stations, thereby having the biggest hook-up yet arranged so that every boy and girl in the country will have a chance to hear an inaugural address.

There is some opposition among members of Congress to the expenditure of this sum of money, but it has been suggested that part of this at least could be saved in other directions.

#### THEATERS CLAIM RADIO HURTS

(Continued from page 1) opens, insist that theaters are killing themselves by overtaxing the public for

In the meantime—the battle rages!

In the meantime—the battle rages!

Brady Calls Radio Menace

Although theaters invariably suffer a falling off on the evenings following holidays, many theatrical leaders looked at their rows of empty seats on New Year's night, heaved a composite sigh and blamed all their troubles onto the appearance that night of the two important singers at WEAF and linked stations.

William A. Brady, famous producermanager, was emphatic in his avowal that Radio was at the bottom of it all. He seemingly was the first and loudest to sing the swan song.

"Radio constitutes the greatest menace the theater has ever faced," he declared, "On New Year's night I was seated in a room with a group of people enjoying, free of charge, a musical program over the Radio that I can only describe as gorgeous. Why in the world should we go to the theater and pay money? The fault is entirely with the men who control the theater."

Frohman Says Good Play Needn't Worry

retriefy with the men who control the theater."

Frohman Says Good Play Needn't Worry As a rebuttal to the statement of Mr. Brady, Daniel Frohman, now almost as famous in producing and managing theatricals as was his illustrous father, expressed his views. He said:

"A first rate play will always be sold cut, just as it has been in the past. The hits have nothing to fear. But the average play, which exists only because it furnishes entertainment to people who happen to be in New York for a night, is going to have a hard time to survive."

First class plays which give value for money received will survive, according to Mr. Frohman. It is merely a case of survival of the fittest.

Hammerstein on Worried List

#### Hammerstein on Worried List

Arthur Hammerstein, president of the Managers' Protective association, fears the effect of Radio broadcasting of current shows' music, and falls in line with Mr.

the effect of Radio broadcasting of current shows' music, and falls in line with Mr. Brady.

"This practice must be reformed at once," said Mr. Hammerstein, "and our association will take the necessary steps to see that it is done. The music publishers now turn the music over to the big stations who broadcast the scores of our shows at the same time they are being produced throughout the country."

Mr Hammerstein has evidently had a sudden change of mind, or else he does not let his left hand know what his right hand does, for this last year he was quite willing that the music from his own shows, "Wildflower" and "Mary Jane McKane," were broadcast by Radio. So much so, in fact, that he had his own actors and actresses go to the Radio stations to do the singing.

John Golden Sold on Radio

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John Golden Sold on Radio
John Golden, eminently successful producer, coming to the front has indicated that he would make an attempt to use the advertising possibilities of Radio for the purpose of stimulating theater attendance. "My publicity department already has been instructed to devise means of reaching over the air the great theater public," said Mr. Golden. "Instead of taking the attitude that Radio is a menace, theatrical interests should consider it in its true light—a potential means of exploiting their plays before immense audiences."

"Cut Prices and Sell Tickets"

their plays before immense audiences."

"Cut Prices and Sell Tickets"

A Radio editor of national repute took a slap at prevailing theater ticket prices. Ile offered the suggestion that prices be slashed to \$2 a seat, "a sane level" for the best shows.

He continued, "The phonograph industry learned this two years ago when they decreased the price of records to a level within the reach of every one. By playing to capacity houses at \$2 a seat the producers can make money. And the producers can be assured that their houses will be filled to capacity by the one instrumentality they are now fighting, namely, Radio.

mentality they are now again.
Radio.
"This is the cheapest form of advertising imaginable. If a first-class station in New York broadcasts a play today, an audience of upwards of one million will listen to it. Far from staying away from an attraction which has been broadcast, the producers will find that the opposite true."

## Equity Joins Brady's Chorus Frank Gilmore, executive secret

Frank Gilmore, executive secretary of the Actor's Equity association, chimed in by joining Mr. Brady in his song.

"Plays emerge very badly over the Radio," said Mr. Gilmore, "and I am sure that such performances keep persons away from the theater. We of the Equity have done our best by passing a resolution charging managers with an extra performance when a microphone is placed in the theater for the purpose of broadcasting."

A meeting of the Equity will be held January 26 in New York for the purpose of sounding the actors on their opinions as to Radio, and in the further hope of arousing the theater as a whole to concerted action.

WHEN YOU WANT

Radio Digest

YOU WANT IT!

BE SURE OF YOUR WEEKLY COPY BY SUBSCRIBING NOW

S. L. "Roxy" Rothafel, who has been broadcasting for two years from the Capitol theater, and who claims Radio has increased his box office receipts, took a more rosy view at the "crisis".

more rosy view at the "crisis".

"Radio is here—nothing can stop it," he said. "I do not think it will be harmful to the theater. Radio appeals to but one sense, hearing. The demand for entertainment that satisfies the other senses will always exist.

"Good plays draw as well as ever," he continued, "and Radio will not hurt them. Properly used, it will help them. The public is growing wiser, more discriminating, in its tastes, thanks to Radio."

"Radio Aid to "Ahle's Trish Rose"

inating, in its tastes, thanks to Radio."

Radio Aid to "Abie's Irish Rose"

Another witness for broadcasting was found in the person of Thomas P. Gozzola, manager of the Studebaker theater, Chicago, who some time back, consented, after much argument, to a broadcast of "Abie's Irish Rose".

"Never in my twenty years' experience as a Chicago theater manager has any one feature helped patronage like the broadcasting from the stage of Abie's Irish Rose. By actual count at the box office, 2,876 persons mentioned that they had heard the play over the Radio, and this within the forty-eight hours immediately after the actual broadcasting."

McCormack Proof of Pudding

#### McCormack Proof of Pudding

McCormack Proof of Pudding
Regardless of what fearsome managers have said about Radio and its influence toward keeping people at home, the experience of John McCormack in a concert at Carnegie hall soon after his broadcast appearance, seems encouraging.

His audience overflowed the hall. Every seat was sold and as many persons as the fire laws would permit were crowded into the standing room.

It had been argued that the broadcasting of the tenor's voice on New Year's night would reduce the paid audience at his concerts. Proof contrariwise, however, was that the audience was increased, if anything.

But still the battle rages!

# FEEDBACK PATENTS

JUDGE BONDY THROWS OUT WESTINGHOUSE SUIT

Application for Injunction Charging In-fringement by Robert D. Montgomery Disallowed—Affects Many Cases

NEW YORK.—The Westinghouse Electric and Manufacturing company cannot bring suit for infringement against any company or companies using the regenerative circuit patents. These circuits belong to Dr. Lee DeForest and not to the Westinghouse interests.

Such was the decision handed down by Federal District Judge Wm. Bondy recently in this city, when application for injunctions charging infringement were filed against Robert D. Montgomery, "acting jointly as well as severally" with the Ambassador Sales company and the Ludwig Baumann company.

Judge Offers Two Courses

Ambassadōr Sales company and the Ludwig Baumann company.

Judge Offers Two Courses

In summing up his opinion, Judge Bondy stated that he would force the Westinghouse company to accept one of two alternatives—either dismissal of bill of complaint as to Mongomery, or confine their petition to a charge that the several defendants had conspired together. He warned counsel for the Westinghouse interests that if they elected the latter remedy, they would be required to prove such conspiracy before he would consider the merits of their case.

Fallure of the plaintiffs to prove such a conspiracy was followed by dismissal of the petition, when Samuel E. Darby, Jr., attorney for Montgomery, said: "It will be remembered that the patent involved in this litigation is for the so-called Armstrong regenerative circuit, priority for the invention of which was awarded to Lee DeForest on September 2, 1924, in the tribunal of last resort on patent office litigation—the court of appeals, District of Columbia."

# 3 Tubes DO THE WORK OF 6 In the **EROSLEY** *Grirdyn*

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

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

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

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

Write for Complete Catalog

The CROSLEY RADIO CORPORATION

Powel Crosley, Jr., President 1494 Sassafras St. Cincinnati, Ohio





The Meco stamped on its base means to radio tubes what gilt-edge means to securities. Look for it. Demand genuine Meco Tubes. Investing in Meco Tubes to replace worn out tubes or when equipping a new set is to insure yourself of the ultimate in radio entertainment. So say thousands of radiophans who have "tried them all" and finally of radiophans who havifried them all' and final standardized on Meco Tube

Metropolitan	
Electric Co.	
Des Moines,	
2737	Your dealer has Meco Tubes or
	can get them for you from recog- nized radio job-

# CONTENTS

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Brush
Antenna Coupling for Superdyne Set, by Henry G. Jones, Jr....
Questions and Answers.
Radiophone Broadcasting Stations, Part V.....

# Looking Ahead

Lee Shubert, William Brady and John Golden are all famous figures in the theatrical world, and all will give their views on the recent Radio-theater controversy that has arisen. The first two are much opposed to broadcasting any of their shows or parts thereof, but Mr. Golden is sold on the value of Radio "sampling." Read this feature next week.

WNAC, The Shepard Stores, Boston, is one of the most interesting stations in America. It was one of the first to get down to the real business of Radio broadcasting, while using then but a 100-watt transmitter. See the pictures and read the story of this station in next issue.

Combining Resistance Coupled and Push Pull Amplification, J. E. Owen produces some amplifiers that will get a thrill from the most blase old-time experimenter. This completes what has been one of the most interesting series of articles this publication has had in some time.

v-Loss Tuned R. F. Inductances Have Been Worked Out by Jacques Fournier, and in the next issue, he goes into great detail in describing their construction. The numerous illustrations will make it easy for the beginner to assemble what look like very difficult units to make.

Tuning and Adjusting Hetduogen will be covered thoroughly next week by C. E. Brush. This is, perhaps, the most important part of its construction, as any set with so many radical departures as this, requires slight variation of its various units for efficiency from the entire assembly.

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

SEND IN THE BLANK TODAY

## GOLD AWARD SET IS STILL TO BE FOUND

## ENTRIES SO FAR SHOW NO NEW DEVELOPMENTS

As Issue Goes to Press Judges Investi-gate Carefully Possibilities of Sets Received

gate Carefully Possibilities of
Sets Received

What has happened to the much-touted American inventiveness and ingenuity—our ability to devise ways and means of doing something, by means of a new method, better than it has ever been done before? Are those who listen to broadcasting night after night satisfied with their present selectivity and range? So it would seem from the response to Radio Digest Gold Award Set offer.

Receivers have come in—beautiful examples of assembly ability, many unusual in layout or finish—but progress and advance are not shown. This is being written as the issue containing it goes to press ten days in advance of publication date and, unless sets containing genuine contributions to the Radio art and Radio knowledge are received, no prizes can be awarded.

Many Possible Developments

The selectivity of a super-heterodyne can certainly be increased. Several theoretical ways of doing this are well known and only await some one working out the data to make them practical. Tuned Radio frequency, first cousin to the neutrodyne, has only been in use a few months and requires much development before its possibilities will be fully realized. Surely, reflexing, delicate and unstable as it usually is, can be put on a more reliable basis, and its selectivity increased.

As an example of what would have had long and serious consideration: why not two reflexed tubes, a pure Radio frequency tube in front, its grid circuit tuned by a low-loss split secondary coupler as in the heduogen, a small condenser controlling regeneration to lower the effective resistance of the circuit, and loose coupling between primary and secondary?

The technical and Gold Set Award editors have been going over the circuit diagrams accompanying sets to make as easy as possible the work of the judges. Variations of single circuit tuners are eliminated, as are the usual forms of Radio frequency amplifiers. The expected improvement may yet come in.

#### Budget Bureau Will Study Radio's Needs

#### May Increase Funds for Pressed Radio Section

appropriation for the Radio service be granted.

Hearings have been held on the matter by budget authorities and it is expected that a report will be made to the president and Congress within a very short time. If the bureau approves the recommendation, it will probably be sent to Congress by the president in the form of a supplemental appropriation which, it is believed will receive favorable consideration.

The House appropriation committee will soon take up the main appropriation bill for the commerce department, in which the Radio section is included. Secretary Hoover and officials of the Radio section are to appear before the committee to tell of the pressing need for an increased appropriation for this service.

#### Sigmund Spaeth's Parties Will Continue from WOR

Will Continue from WOR

NEWARK, N. J.—Another of Dr. Sigmund Spaeth's studio parties is scheduled at WOR here next Monday evening and several well-known figures of the music and theatrical world will be presented to the Radio audience in informal fashion following Dr. Spaeth's weekly review and forecast of important musical events. The series of WOR studio parties has attracted considerable favorable attention and will be continued weekly for an indefinite period.

#### Government May Soon Give Warnings of Heavy Rains

Washings of Heavy Rains
Washington, D. C.—It is probable
that the department of agriculture will
broadcast by Radio to the farmers of the
United States storm warnings and reports
of heavy rains when crops are growing.
This suggestion was made to Secretary
of Agriculture Gore, by Senator Harris
of Georgia and it is said that the secretary is favorable to the suggestion.

#### ANN PENNINGTON BROADCASTS



Ror the first time the actual making of a motion picture has been broadcast. Through Station WJZ, the filming of the scenes—or rather, the portions of them that are audible—of the "Mad Dancer" in which Vincent Lopez, orchestra leader, and Ann Pennington, Follies dancer, are playing the leads, are being sent out on the script of the well-known invisible audience an insight into the methods of procedure during the preparation of entertainment for the screen fans. This event is an experiment, and it is hoped that some day it will be possible to broadcast actual scenes. Vincent Lopez is shown here at the left with the baton.

#### \$1,200 in Prizes Is Offered for the Best Poems

RICHMOND HILL, N. Y.—The "Radio Saint Valentine" of Station WAHG, A. H. Grebe and company here, offers \$1,200 in prizes for the best valentine verses containing the word "Grebe."

The contest will close February 9 and awards will be made on St. Valentine's eve, Friday, February 13, at 9 p. m., castern time, or 8 p. m. Central time. Verses submitted may be up to fourteen lines in length, either serious or comic. In case of tie, duplicate prizes will be awarded all tying contestants.

The Radio Saint Valentine is on the air every Monday and Friday at 9 p. m., and on Saturday and Monday midnight programs at 1 a. m., eastern time. WAHG broadcasts on 316 meters.

#### New Train Picks Up WBAP

FORT WORTH, Texas.—Passengers on the new Golden State Limited, crack Rock Island fast train from Chicago to California, have heard clearly the daylight programs from WBAP here. The new train is completely equipped with Radio receivers. receivers.

#### VALENTINE CONTEST IS Soap Company Pays ON AT GREBE'S STATION Philharmonic's C Philharmonic's Cost

# Los Angeles Orchestra Treat at KHJ January 24

KHJ January 24

LOS ANGELES.—Probably the most liberal contribution to a paid Radio program in the West, and possibly the United States, will be that of the broadcast of the Los Angeles Philharmonic orchestra on Saturday night, January 24, from KHJ, Los Angeles Times.

Since a few months ago, when the policy of "paid" programs became the rule instead of the exception at KHJ, the size and quality of programs presented has steadily increased, reaching the culmination in this broadcast. The studio at KHJ would not hold the orchestra, consisting of ninety men, satisfactorily and it was necessary to make arrangements to use the auditorium of the First Methodist Episcopal church.

It is understood that the donor of the program, the Los Angeles Soap company, is spending over \$1,200 for this two-hour program, and as KHJ makes no charge for the use of its studio or transmitter, the whole amount will go to the members of the orchestra in payment for the broadcast.

#### THE CAUSE OF ALL THE TROUBLE



## BRUNSWICK MONEY FOR MUSIC MEMORY

# \$5,000 WILL BE AWARDED MONTHLY TO WINNERS

# Talking Machine Firm to Broadcast Tests Weekly from Chain of Eight Big Stations

Eight Big Stations

NEW YORK.—To foster a deeper understanding and appreciation of good music, the first national Radio musical memory contest will be broadcast from six of the principal stations of the country, starting the evening of February 2, during the "Brunswick Hour of Music" at 10 p. m., eastern time, or 9 p. m., central time.

Everybody in America is eligible to enter. The broadcasting of operatic stars, famous symphonies and foremost orchestra will be done from the Brunswick laboratories in New York city every Tuesday evening and relayed through Stations WJZ, New York; WGY, Schenectady; WRC, Washington: KDKA, East Pittsburgh; KYW, Chicago, and KFKX, Hastings.

Arrangements are being perfected to include soon Station KOA, Denver, and KGO, Oakland, Calif., so as to reach every Radio musical fan from coast to coast.

\$5,000 Monthly in Prizes

Twenty thousand people are expected to take part in this test of music memory, which aside from its educational value will be stimulated by a competition for the winning of cash prizes, totaling \$5,000 monthly. First prize of \$1,000, second \$500, third \$300, fourth \$200, ten of \$100 each and forty of \$50 each. In case of tie duplicate prizes will be awarded all tying contestants.

Lists of musical selections from which the numbers of each Tuesday evening

and forty of \$50 cach. In duplicate prizes will be awarded all tying contestants.

Lists of musical selections from which the numbers of each Tuesday evening "Brunswick Hour of Music" will be selected will be given in advance. These lists may be obtained in any town or city within the radius of the stations broadcasting the program.

Competitors are not to send in their answers until after the final "Brunswick Hour of Music" program each month.

That people musically inclined who are not fortunate enough to possess Radio outfits may have an opportunity to enter the contest on an equal footing with the owners of sets, arrangements have been made to permit the public to listen in at any Brunswick headquarters Tuesday evenings.

# SUMMER NOISES NOT SO NOISY DURING 1924

#### Dr. L. W. Austin Says Tests Show Marked Improvement

Marked Improvement

WASHINGTON.—Summer interference conditions have entirely disappeared and Radio is now going through its best period, according to Dr. L. W. Austin, physicist of the bureau of standards.

"The September and October measurements indicate the disappearance of summer conditions," says Dr. Austin. "Both the afternoon fading and the disturbances show a market decrease much earlier than last year.

"The atmospheric disturbances in September and October have not only decreased in intensity as compared with July and August, but also have changed their character to some extent. The strong crashes which were common during the summer were infrequent in September and October, the disturbances being nearly always the crackling, rumbling type."

#### Crosley's Five-Kilowatt Plant Soon to Be on Air

Plant Soon to Be on Air
CINCINNATI.—It will not be long before the new Crosley WLW five-kilowatt
broadcasting station at Harrison, Ohio, is
ready for testing. Workmen and engineers are doing everything possible to
complete their work.

The new transmitter's panels, six in
number, bear the serial number 101, which
indicates it is the first one of its type.
Although the new station will work
almost automatically, it will require the
attention of a thoroughly experienced
operator. For that position J. E. Whitehouse has been obtained. He comes to
WLW after ten years in the United States
Navy as chief Radio man.

Starts Cross Word Song
CLEVELAND.—A broadcasting studio would be the last place one would pick to work cross word puzzles under ordinary circumstances. But at WTAM was where Mrs. Bernard L. Strang chose to work hers. This was while waiting for her husband, who is "Announcer B. L. S." The result was a popular song written by Carmen Lombardo, one of the brothers around which the Royal Canadian orchestra, a WTAM feature, is built. The song is entitled, "Cross Word Puzzle Crazy."

Many new stations of the B type are preparing to go on the air.

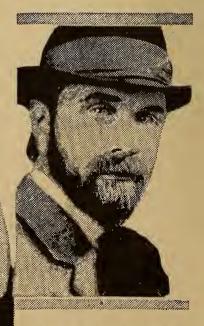
Left, Frank W. Elliott, business manager of Station WOC and the Palmer School of Chiropractic. It is due to his foresight and ability that the school is at its present state of perfection. Mr. Elliott is also known to thousands of Radiophans as announcer FWE, and is very popular with them.

# WOC-First Super Power Station on the Air



Where the West Begins, Davenport

By John Galbraith



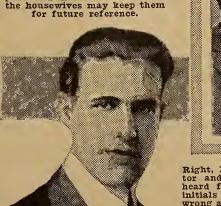
B. J. Palmer, owner of Station WOC, is known to the public as BJ. He acts as announcer between trips around the world, one of which he is making at the present time.

# In the State Where the Tall Corn Grows



A b o v e, Clarence
Eddy, the world's
most noted concert
organist, who plays
frequently from
WOC. He is known
to thousands for
his playing.

Gilson V. Willetts, known as announcer GWW. He is operator and announcer between times. Mr. Willetts gives the "Helpful Hints to Happy Homes" every morning from WOC. These hints are now published in book form so that the housewives may keep them for future reference.



Right, Franklin W. Pierce, chief operator and technician, who is sometimes heard from WOC signing off with the initials ANR. When anything goes wrong at the station with the apparatus, they call on Mr. Pierce to fix it.

Left, Erwin Swindell, musical director and conductor of Palmer School Radio orchestra. Mr. Swindell is the composer of several well-known classical selections. He is personally responsible for the high quality of music sent out from WOC.





You Will Hear These Radio Favorites More Clearly
KPO On The WMC

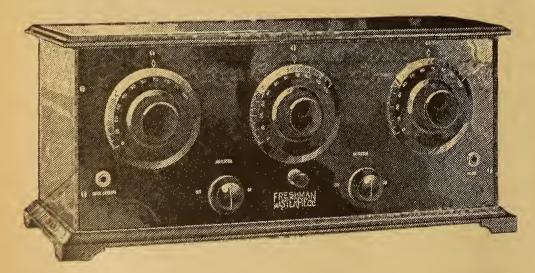


Fern Bachman is a talented violinist appearing frequently at Station KPO, San Fran-

# Five Tube Tuned Radio Frequency

\$6000

The Greatest Value Ever Offered in a Radio Receiving Set



Made of the finest low loss materials and in a beautiful, genuine solid mahogany cabinet, that is attractive enough for the most pretentious room, and at sixty dollars, economical enough for the most modest.

The Freshman Masterpiece combines every feature essential to the perfect receiver. Brings in even the most distant stations without a bit of squealing or howling—brings them in night after night at the same points on the dials. And what's more

It's the easiest set in the world to operate.

# Have Your Dealer Install One in Your Home!

Every genuine Freshman Masterpiece has the serial number and trade mark riveted on the sub-panel. Sets are not guaranteed if number has been removed or tampered with.

Chas. Freshman Co. Inc.

Radio Receivers & Parts

FRESHMAN BUILDING

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Beware of imitations.

Insist upon the genuine.

Write for interesting literature

## **REVISED WAVE BAND GIVEN TO AMATEURS**

# COMMERCIAL STATIONS TO GET 105-110 METER RANGE

# Department Urges Abandonment of Spark Transmitters—"Z" Calls Go Into Discard at Once

WASHINGTON. — Under the revised regulations governing amateur Radio station operations, just issued by the department of commerce, amateurs must cease using the wave length band between 105 and 110 meters. This range of waves is being taken up by commercial and government stations.

Radiophone, spark and ICW transmitters may be used only within the band from 170 to 180 meters, but CW transmission may be carried on within the following wave channels: 4.69 to 5.35; 18.7 to 21.4; 37.5 to 42.8; 75 to 85.7 and 150 to 200 meters.

following wave channels: 4.69 to 5.35; 18.7 to 21.4; 37.5 to 42.8; 75 to 85.7 and 150 to 200 meters.

Abandon Spark Transmitters

The department urges the abandonment of the spark transmitter as soon as possible and the adoption of sets causing less interference. No new restrictions will be imposed relative to the character of the power supply, the department regulations state, provided the emanated wave is sharply defined and the power does not exceed 500 watts, set by law.

Amateurs using the band between 150 and 200 meters, which includes all spark, phone and CW transmitters, are required to remain silent every night between 8 and 10:30, local time, and on Sundays during church service broadcasting. Stations using wave lengths below 85 meters and having a pure continuous wave, or where full wave rectification is employed are not required to remain silent, except where interfering with other Radio services.

Abolish Special Licenses

Special amateur licenses are abolished, but owners of stations so licensed may continue to use their "Z" calls under new regular amateur licenses. No more special "Z" licenses will be issued, as the department feels that there is no longer need for them.

Amateur stations are not permitted to communicate with commercial stations unless so authorized or in emergencies.

These rules go into effect immediately.

#### WTAR IDENTIFIES **MYSTERIOUS MAN**

#### "Oxekula," by Broadcast, Found to Be Finnish Naturalist Far Astray

NORFOLK, Va.—Oxekula, mystery man, who acquired nationwide publicity reently, has had his mystery solved. Ratio broadcasting through WTAR here and listening near-countryman are responsible.

dio broadcasting through WTAR here and a listening near-countryman are responsible.

Oxekula, in detention in the city jail and later at the Union mission here, who could not make himself understood, proved to be a middle-aged Finnish naturalist and writer, far astray from his home in Boston, Russia—not New England. He had heard tales of the wonderful plant l'fe in America and the Orient, and, forgetting to bid his aged wife goodby, shipped aboard the S. S. Riga as a sailor.

But the rest of the sailors didn't understand the queer old man's love of flowers and plants—they ridiculed him and mistreated him. The Riga touched Canada, then came to the United States. Oxekula took shore leave in some city here, he knows not where, and became lost. He walked and walked, sometimes being given food by kind persons, all of whom invariably thought him out of his head.

Then the Norfolk authorities picked

whom invariably thought him out of his head.

Then the Norfolk authorities picked him up. He is in good hands now—thanks to Radio—and will soon be deported, according to his wishes, back to Boston, Russia, where an old woman is probably mourning his death at the hands of the Bolshevists.

New Daylight Record
FORT WORTH, Texas.—That WBAP, the Star-Telegram here, has established a daylight record for voice transmission is now believed. H. R. Lovell, Keystone, Canada, at 9 a. m., mountain time, heard the entire market report on November 20, approximately 1,200 miles. Reception of WBAP is also reported by L. L. Donaldson of Papeete, Tahiti, in the middle of the Pacific ocean, about 5,000 miles from Fort Worth. Mr. Donaldson used a five tube set.

Like WLW Dinner Programs

CINCINNATI.—Many letters have been received at WLW here following the first of a series of dinner hour programs given by the Selinsky quintet and assisting artists through the courtesy of the Cincinnati Post. The programs are broadcast every evening except Sunday and Friday, at 6 p. m., Central time.

#### "C.B.L." AND "W.R.S." POPULAR WBAP MEN



FEATURING Locke and Sullivan:
Sounds like participants in a fistic
encounter, doesn't it? But these
popular announcers, C. B. Locke and W.
R. Sullivan of WBAP, Fort Worth, Texas,
possess anything but pugulistic proclivities

cer de luxe, is Radio editor of the Star-Telegram. His initials are C. B. L.—easy to remember, and so is he. His Is the voice most often heard from the station's remote control at Crazy Wells hotel, Mineral Wells, Texas, and elsewhere.

C. B. L. is a Texan by choice. His first announcing was done in Kentucky—that land of corn, colonels and fair women. Undoubtedly he kept folks awake with his "announcing" in those days, too! His education was completed at Texas Christian university at Fort Worth. Texas, he decided, had beautiful women, too, so he married one of them.

W. R. Sullivan is announcer and operator. To be an operator of a first-class station requires ability. He must have the patience of Job, the mind of a genius and be as tactful as a diplomat. W. R. S. is all of this.

As announcer for market quotations and weather reports, his services are an invaluable aid to scores of listeners in. Business men in Oklahoma and Texas depend on his reports, clearly enunciated, on cotton, grain, livestock and other commodities. Buying is regulated by the market information obtained from WBAP.

Mr. Sullivan was born in Galveston, the bustling seaport of Texas; he spent

WBAP, Fort Worth, Texas.

By Susan Haymes

EATURING Locke and Sullivan:
Sounds like participants in a fistic encounter, doesn't it? But these opular announcers, C. B. Locke and W. S. Sullivan of WBAP, Fort Worth, Texas, cossess anything but pugulistic proclivties.

WBAP, Fort Worth, Texas, baseline the doesn't want a loud speaker in the house.

Mr. Sullivan was born in Galveston, the bustling seaport of Texas; he spent his carefree boyhood days enjoying the Gulf, watching the breakers roll and men go out to the sea in ships. What a delated in the house.

WLW Adds Portable Stage CINCINNATI.—It has been announced from the Crosley WLW studio that a portable stage has been added as part of the equipment. It is possible to see the solo and ensemble studios of WLW from the and silence. Unusual characteristics for an announcer, eh? He doesn't talk much, and is now used when occasion demands.

#### TRADE COMMISSION TO TAKE TESTIMONY

That within the next few days the Federal Trade commission will announce the date for beginning the taking of oral testimony in its case against the Radio Corporation of America. It is expected that the hearings will be held in several of the larger cities. Edward L. Smith, special attorney for the commission, is in charge of the work, which will take time.

but work he is always doing; ever busy in his unending quest for improvement of WBAP, tackling new hook-ups in his leisure or building a new set, only to sit up until 2 a. m. to see if "she works."

The arrows of Cupid haven't struck Sullivan yet. We trust this plain statement will not cause an influx of letters—for as stated above, W. R. S. loves silence—he doesn't want a loud speaker in the house.



anywhere from onth more than I re enrolling with consider \$10,000 course.

N. Long, Greensburg, Pa.









# Prepare Yourself For Radio — the New Profession

# Many N.R.I. Graduates Now Earning From

Send Today for Free Book and Special Short-time Offer

Dorn and the world the state of the state

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

Statian and City	Met.	Saturday	Sunday	Manday	Tuesday	Wednesday	Thursday	Friday
AT9. Fort Bragg, N. C	435	7:00-8:55	7:00- 8:00	Silent	7:00- 8:55	Silent	7:00-8:55 10:00-11:00	Silent
CFAC, Calgary, Alta	430	Silent	Silent 6:00- 7:00	9:00-11:00 7:00- 8:00	Silent 7:00-8:00 12:30-1:30	6:00- 7:00 7:00- 8:00	7:00-8:00	
CHYC, Montreal, Que	341 437	11:00- 1:00 Silent	Silent 8:00- 9:00 3:30- 4:30	Silent Silent Silent	Silent	7:30-8:30	Silent	Silent Silent
CFCA, Toronto, Ont	410	6:30-9:30 10:30-11:30	Silent	10:30-11:30	6:30-9:30 10:30-11:30 7:30-9:15		6:30-9:30 10:30-11:30	Silent 10:30-11:30
CNRO, Ottawa, Ont	450 435 370	Silent 6:30-11:30 8:30 9:00	7:00- 8:00 Silent	Silent Silent Silent	Silent	6:30-11:30	7:30-9:15 Silent	7:30- 9:15 Silent
CNRO, Ottawa, Ont	480	Sllent	Silent Silent	Silent	8:30 - 9:00 10:00-11:30	Silent	9:00-11:00 Silent	Silent 10:00 - 11:30
	330 309.1 330	Slient 5:30- 8:00 Silent	Silent 6:30-7:30 Silent	9:00-12:00 5:30-8:00 9:30-10:30	Silent 5:30-10:00 Silent	Silent 5:30-8:00 9:30-10:30	Silent 5:30-10:00 Silent	8:00-10:00 5:30-8:00 9:30-10:30
		Silent	Silent 9:00-10:00	9:00-10:00 Silent	Silent 8:00-11:00	Silent Silent	Silent	9:00-10:00 8:00-11:00
KFOM, Beaumont, Texas. KFI. Los Angeles, Caiif KFKB, Milford, Kan	469 273	Silent 8:45- 2:00 6:00-11:00	8:45-1:00 8:00-10:00	8:45- 1:00 6:00-11:00	8:45- 1:00 6:00-11:00	8:45- 2:00 6:00-11:00	8:45- 1:00 6:00-11:00	8:45 - 2:00 6:00-11:00
KFKX, Hastings, Nebr KFMQ, Fayetteville, Ark KFMX, Northfield, Minn.	$\frac{288.3}{275}$	Silent Silent	Silent Silent	9:30-11:00 Silent	Slient 9:00-10:00	Silent Silent	9:30-11:00 7:30-8:30	Silent Silent
KFMX, Northfield, Minn. KFNF, Shenandoah, Ia	283 266	Sllent	7:00- 8.00 6:30- 8:00	Silent	Silent Silent	9:00-10:00	Silent 6:30- 9:00	Silent
KENA Souttle Wash	455	6:30-9:00 8:45-12:00 9:00-11:00	Silent 10:00-11:00	6:30-9:00 8:45-12:00 9:00-10:00	8:45-1:00 10:00-11:00	6:30 - 9:00 8:45-12:00 9:00-10:00	Silent 9:00-10:00	6:30-9:00 8:45-1:00 10:00-11:00
KFPT, Salt Lake Cy., Utah KGO, Oakland, Calif KGW, Portland, Ore	312 492	10:00 - 3:00 12:00 - 2:00 10:00 - 12:00	9:45-11:00 8:00- 9:00	10:00 - 3:00 10:00 - 11:00	10:00- 3:00 10:00- 2:00	Silent 10:00-2:00 10:00-12:00	10:00 - 3:00 Silent	Silent 10:00-1:30 10:00-2:00
KIS, Los Angeles, Calif	395 252	Silent	9:15-11:30	Silent	10:00-12:00 10:00-11:00	10:00-12:00 Silent	10:00-12:00 10:00-11:00	Silent
KLX, Oakland, Callf KNX, Hollywood, Callf	$\begin{bmatrix} 509 \\ 337 \\ 322.4 \end{bmatrix}$	8:00- 1:00	Sllent 10:00-12:00	10:00-12:00 8:00-1:00	Silent 8:00-1:00	10:00-12:00 8:00-1:00	Silent 8:00- 1:00	10:00-12:00 8:00-1:00
KOB, State College, N. M.	360 423	Silent	9:45-10:45 Silent 10:30-12:00	10:00-11:00 8:30-9:30 9:00-1:00 7:00-9:00	Silent	10:00-11:00 8:30-9:30 9:00-12:00	Silent	10:00-11:00 8:30- 9:30 Silent
KOV Blttchurgh Po	975 9	Sllent Sllcnt	Silent	7:00- 9:00 7:30- 8:30	9:00- 1:00 Silent 7:30- 8:30	1 7:00- 9:00	9:00- 1:00 Sitont	7:00-9:00
KSAC, Manhattan, Kan KSD, St. Louis, Mo KSND, Seattle, Wash	549.1	8:00- 9:00 7:15- 2:00 8:30-11:30	Silent Silent Silent	7:00-11:55 9:15- 1:00	7:00-11:00	7:30 - 8:30 6:45-11:00 9:15- 1:00	7:30-8:30 Silent Silent	7:30- 8:30 8:00- 9:00 9:15- 1:00
KTHS, Hot Springs, Ark.	375 405	8:30-11:30 Silent	8:30-11:30 9:00-11:30	8:30-11:30 Silent	9:15- 1:00 8:30-11:30 Silent	8:30-11:30 Sitent	8:30-11:30 Sitent	8:30-11:30 Silent
KTHS, Hot Springs, Ark, KTW, Seattle, Wash	535,4 435	7:00- 2:00 Silent	7:00- 8:00 Silent	Silent 5:45- 7:20	7:00- 2:30 6:05- 7:20	7:00- 2:30 6:25- 7:40	7:00- 2:30 5:45- 7:40	7:00- 2:30 7:05- 7:40
PWX, Havana, Cuha WAAW, Omaha, Nebr	$\frac{400}{278}$	7:30-10:00 Silent	Silent	Silent 7:30- 9:00 6:00- 8:00	Silent Silent	7:30-10:00 Silent	Silent 7:30- 9:00	Silent
WABL, Storrs, Conn	$\frac{283}{244}$	Silent	Silent	6:00- 8:00 8:00-10:00	Silent Silent	6:00- 8:00 Silent	Silent 9:00-11:00	6:00- 8:00 Silent 6:30-10:15
WAHG, Richmond, N. Y., WBAP, Fort Worth, Tex.	$\frac{316}{472.9}$	11:00-12:00 7:00-8:00 9:00-11:00	Silent 11:00-12:00	8:00-10:00 6:30-1:00 7:30-10:45	Silent 7:30-10:45	7:30-10:45	Silent 7:30-10:45	1 7:30-10:45
WABL, Storrs, Conn	293.9 248 273	Silent 1	Silent	7:00- 9:00	Silent Silent	Silent 7:00- 8:00	Silent Silent	7:00 - 8:00 6:00 - 1:00
WBCN, Chicago, Iil		7:00- 8:00 6:00- 1:00	8:10-9:05 4:00-10:00	7:00- 8:00 6:00- 7:00	Silent 6:00-1:00	7:00- 8:00 7:00- 8:00 6:00- 1:00	8:10- 9:05 6:00- 1:00 7:30- 8:30 6:40- 8:55 6:30-10:30	Silent 6:00-1:00
WBCN, Chicago, III WBT, Charlotte, N. C WBZ, Springfield, Mass WCAE, Pittsburgh, Pa	360	Silent 6:40- 8:55	5:30-6:30 6:00-9:00 6:30-8:30	Silent 6:40-11:00 6:30-10:30	6:00-1:00 7:30-8:30 6:40-8:55 6:30-10:30	Silent 6:40-11:00 6:30-8:30	6:40-8:55	Silent 6:40-11:00
WCAL, Northfield, Minn	462 360 469	6:40- 8:55 6:30- 8:30 12:00- 1:00 Silent	8:30-10:00 6:20- 9:00	Silent	Silent	Silent	9:00-10:00 Silent	6:30 - 8:30 8:30 - 9:00 6:30 - 11:00
		Silent Silent	5:00-6:00	6:30- 9:00 5:00- 6:00 8:00-10:30	Silent Silent Silent	6:45- 9:00 5:00- 8:00 Silent	5:00- 8:00 8:00-10:30	5:00-10:00 Silent
WCBK, St. Petersburg, Fla., WCCO, MinnSt. P., Minn.	266 419.3	Silent 6:00- 9:00	2:30-6:00 7:00-9:00 8:00-9:00	6:00- 7:00 6:00- 9:00	7:00- 7:15 6:00- 7:30	Silent	7:00-10:30	Silent 6:00-9:00
WCX, Detroit, Mich WDAF, Kansas City, Mo.	$516 \\ 414.1$	Silent	8:00- 9:00 6:15- 7:15 4:00- 5:00	7:30- 9:00 8:00- 1:00	10:00-11:00	7:00-8:00 6:00-9:00 8:00-1:00 6:30-9:00	6:00- 9:00 11:45- 1:00	6:00-9:00 6:00-9:00 8:00-1:00 6:30-12:00
WCBD, Zion, III. WCBK, St. Petersburg, Fla. WCCO, MinnSt. P., Minn. WCX, Detrolt, Mich WDAF, Kansas City, Mo. WDAF, Kansas City, Mo. WEAR, Columbus, Ohlo WEAR, Clevaland, O WEAR, Clevaland, O	395 492	11:45- 1:00 6:30- 7:30 5:00-11:00	Silent 6:20- 9:15	6:30-9:00 5:00-10:00	11:45- 1:00 6:30- 7:30 5:00-10:00	5:00-11:00	6:00-9:00 11:45-1:00 6:30-7:30 5:00-11:00	3:00-11:00
WEAR. Columbus. Ohlo WEAY. Houston, Texas WEBH, Chleago, Ill WEBI, New York, N. Y WEBI, Serrien Spss., Mch. WFAA, Dallas, Tex WFBH, New York, N. Y WFBH, New York, N. Y WFBH, New York, N. Y WFI, Philadelphia, Pa WGAQ, Shreyport, La	294 390	Silent	Silent Silent	Silent	Silent 6:00-10:00	Silent Silent	7:00-9:00 7:00-10:00	Silent
WEBH, Chicago, Ill	$\frac{360}{376.7}$	Silent 7:30-12:30	8:00- 9:00 7:00- 9:00	Silent	8:30-9:30 7:30-12:30	8:30-9:30 7:30-12:30	Silent 7:30-12:30	8:30-9:30 7:30-12:30
WEEL, Boston, Mass	273 303	Silent Silent	Silent 6:20- 9:00 7:00- 9:15	Silent 6:00- 9:45 7:00- 9:15	6:00-8:00 6:00-11:00	6:00-8:00 6:00-11:00 7:00-9:15	Silent 6:00-11:00	Silent 6:00-11:00
WFAA, Dailas, Tex	286 472.9 273	Silent 8:30-12:00 6:00-11:30	6:00-11:00 6:30-12:30 6:30-7:30	7:00- 9:15 10:30-12:15	Silent 8:30-12:00 10:30-12:30	Sitent 6:30-12:30	Silent 8:30-12:00 6:00-12:15	7:00-10:00 8:30-9:30 6:30-12:15
WFI. Philadelphia, Pa	395 263		6:30- 7:30 Silent	Silont	7:00- 8:00 Silent	Silent	7:00- 8:30 Silent	Silent Silent
WFI, Philadelphia, Pa WGAQ, Shreveport, La WGBS, New York, N. Y WGI, Medford, Mass WGN, Chicago, Ill WGR, Buffalo, N. Y WGST, Atlanta, Ga WGSY, Schenectady, N. Y. WHAA, Jowa City, WHAA, Jowa City, WHAO, Illyaukee, Wis	316 - 360	9:00-12:00 6:30-11:00 6:30- 9:00	Silent 7:30- 9:00	9:00-12:00 5:30- 6:30 Silent	5:30-11:00 6:30- 9:00	8:00- 9:00 6:10- 6:30 6:30-9:00 6:00-11:00	7:00-12:00 6:30- 9:00 6:00-11:00	5:30- 6:30 6:30- 9:00
WGN, Chicago, Ill	376.7 319	6:30-9:00 6:00-11:00 5:30-6:30	2:30-10:00 3:00-7:30	Silent 5:30-11:00 9:00-10:00	6:00-11:00	5:30-11:00	6:00-11:00 5:30-6:30 7:00-8:00	6:00-11:00 5:30-11:00
WGY, Schenectady, N. Y.	270 380	Silent 8:30- 9:30	Silent 6:30- 9:00	9:00-10:00 6:45- 9:00	5:30- 6:30 Sllent 6:45- 9:00	Silent	6:45~ 9:001	Silent 6:45-10:30 7:45- 8:45
WHAA, Madison, Wis	498	Silent 7:30-9:00	Silent Silent	6:45- 9:00 7:45- 8:45 Silent	Silent 8:00- 9:00 Silent	7:45- 8:45 9:00- 9:30	Silent Silent	Silent
WHAO, Milwaukee, Wis WHAS, Louisville, Ky	$\frac{275}{399.2}$	Silent 7:30-9:00	Silent 4:00- 5:00	Silent	7:30- 9:00	7:30- 8:30 7:30- 9:00	Silent 7:30- 9:00	Silent 7:30- 9:00
WHB, Kansas City, Mo	414.1	Silent Silent	Silent 8:00-10:00 7:00-10:00	Silent 8:00-10:00 7:00- 8:00 5:00- 6:30 6:30-11:00 7:30-12:00	Silent 8:00-10:00	Silent 7:00- 8:00	Silent 8:00·10:00 5:00-11:00	Silent 7:00- 8:00 5:00-11:00 8:30-11:00 7:30- 9:00
WHN, New York, N. Y	360	5:00-11:00 6:30-11:00 Silent	8:30-11:00 Silent	6:30-11:00	5:30- 6:30 8:30-11:00 Silent	7:00- 8:00 5:00- 6:30 6:30-11:00 6:30- 9:45	8:30-11:00 Silent	8:30-11:00
WIP, Philadelphia, Pa	509.9	7:00-11:00 6:10- 7:10	9:30-12:00 Silent		7:00-11:00 7:00-8:00 7:30-10:00		7:00-11:00 Silent	
WJAS, Pittsburgh, Pa WJJD, Mooseheart, Iil	$275.3 \\ 302.8$	Silent 7:15-12:00	Silent	7:00-8:00 7:30-10:00 7:15-8:15	7:30-10:00 7:15- 8:15	7:00-12:00 7:30-10:00 7:15- 8:15	6:30- 9:00 Silent	6:30-10:00 6:30- 9:00 7:15- 8:15
WJY. New York, N. Y	$\frac{405}{455}$	Silent 6:00-10:30	7:15- 7:45 6:00-10:30	Silent 6:00-10:30	7:15-8:15 6:45-8:00 6:00-10:00 7:00-8:30	Silent 6:00-10:30 6:00- 7:30	6:30-9:30	6:30-10:30 6:00-10:30
WKAQ, San Juan, P. R WKBF, Providence, R. I	360 286	Silent Silent	Silent Silent	Silent Silent	8:00-9:30		6:30- 8:00	Silent
WLS. Chicago, Ill	278 3-14.6	Silent 8:00-12:00	Sllent 6:30- 8:00 7:30- 9:15	Silent	8:00- 9:00 6:30- 1:00	Silent 6:30-12:00	Silent 6:30 - 8:00 10:00-12:00 11:00-12:00 6:00-10:00	Sitent 6:30-11:00
WMAK, Lockport, N. Y	265.5	Silent	Silent	8:00-10:00 Silent	10:00- 1:00 7:00- 9:00	7:00-10:00 Silent	11:00-12:00	Silent Silent 6:00-10:00 8:30-12:00
WMC, Memphis, Tenn	503.9	6:00-10:00 8:30-9:30 10:00-12:00	Silent Silent	Silent 8:30-9:30 8:00-10:00	7:00- 9:00 6:00-10:00 8:30-12:00		8:30-10:00	8:30-12:00 Silent
WNAC, Boston, Mass	280.2 528.8	9:00-10:00 7:30-10:30	Silent 7:30-9:30 Silent	6:00-10:00 7:30-10:30	Silent 8:00-10:00 7:30-10:30 8:30-10:30	8:00-11:00 6:00-10:00 7:30-10:30	8:00-10:00	Silent 6:00-10:00 7:30-10:30
WOAL, San Antonio, Texas.	394.5 522.3	Silent 6:00-12:15	7:30-10:30 6:00-11:00	Silent 6:00-11:00	8:30-10:30	Silent Silent	9:30-10:30	Sitent 6:00-11:00
WOC, Davenport, Ia	240 498	Silent 9:00-10:00	Silent	Silent	6:00-11:00 8:15-10:00 Silent	Silent 8:00- 9:00	8:30- 9:30 8:00-10:00 8:00-10:30 7:30-10:30 9:30-10:30 6:00-11:00 8:11ent 9:00-11:00 8:15- 9:15	8:00-10:00 8:00- 9:00
WHAA, Iowa City. WHAO, Milwaukee, Wis WHAS, Louisville, Ky WHAS, Louisville, Ky WHAS, Louisville, Ky WHB, Kansas City, Mo WHK, Cleveland, Ohio WHN, New York, N. Y WHO, Des Moines, Ia WIP, Philadelphia, Pa WIAR, Providence, R. I. WIAS, Pittsburch, Pa WIAR, Providence, R. I. WIAS, Pittsburch, Pa WIAR, Providence, R. I. WIJD, Mooseheart, Ill WIJD, Wooseheart, Ill WIJO, Mooseheart, Ill WIZ, New York, N. Y WKAQ, San Juan, P. R WKAQ, San Juan, P. R WKBF, Providence, R. I. WLBL, Stevens Point, Wis. WLS, Chicago, Ill WMAC, Memphis, Tenn WMAC, Memphis, Tenn WNAC, Boston, Mass. WNYC, New York, N. Y WOAU, San Antonio, Texas, WOAW, Omaha, Neb WOC, Davenport, Is WOL, Ames, Ia WOL, Philadelphia, Pa	360 509.9	Silent Silent	Silent Silent	8:00-11:00 10:00-1:00 6:30-10:00	Silent	Silent 6:30-10:00 5:15-10:00		6:30-10:00
WORD, Batavia, Ill	278	6:15-10:00 Silent	Silent 7:00- 9:00 7:30- 8:30	5:15-10:00 8:00- 9:00	5:15-10:00 8:00- 9:00	Silent	5:15- 6:30 8:00- 9:00	5:15- 6:30 Silent
WQJ, Chicago, Ill	429,5	Silent 7:00-2:00	7:30-8:30 8:00-10:00 7:30-8:30	8:00-10:00 Silent	Silent 7:00- 2:00	8:00-10:00 7:00- 2:00	Silent 7:00- 2:00	8:00-10:00 7:00- 2:00
WRC, Washington, D. C	469	Silent 6:00-10:30 7:15-10.00	7:30-8:30 Silent 6:00-7:00 7:00-10:30	7:30-8:30 Silent Silent	Silent 6:00-10:30 7:15- 8:15	Silent Silent Silent	Silent 6:00-10:30 7:15- 8:15	Silent Silent Silent
WOC, Davenport, Ia	273	7:15-10.00 8:00·10:30 Silent	7:00-10:30 Silent	8:00-10:30 Silent	8 .00-10 .301	8:00-10:301	8:00-10:30 Silent	8:00-10:30 Sijent
WSR Atlanta Ga	429	8:00-10:00 8:00-12:00	3:00- 4:00 7:30- 9:15	10:00-12:00	7:00-10:00 8:00-12:00	Silent 10:45-12:00	10:00-12:00 8:00-12:00	Silent 8:00-12:00
WTAM, Cleveland, O WTAS, Elgln, 111 WTAY, Oak Park, I11 WWJ, Detrolt, Mich	390 302.8	Silent 8:00-10:00 8:00-12:00 8:00-11:00 6:00-12:30	Silent 6:00-12:30	7:00-9:00 6:00-12:30	Silent 6:00-12:30	7:00- 9:00 6:00-12:30	Silent 6:00- 1:30 6:45- 7:45	Silent 6:00-12:30
WTAY, Oak Park, Ill WWJ, Detroit, Mich	250 516	6:45-10:00 6:45-10:00	Silent	Silent 6:00- 7:00	6:45-7:45 6:45-10:00	6:45-10:00	6:45- 7:45 6:45- 7:45	6:45-10:00 6:45-10:00

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

#### STATIONS IN ORDER OF WAVE LENGTHS USED

Meters Call	Meters Cal	Meters	Call	Meters	s Call	Meters	call call	Meter	rs Call
238 KSND	275.3 WJAS		WGBS	360	woi	414.1	WDAF	469	WRC
240 WOAX	278 WAAW		WAHG	360	WSAC	414.1	WHB	472.9	WBAP
244 WABN	278 WCAU		WGR	370	CYB	419.3	WCCO	472.9	WFAA
248 WBBG	278 WLBI		KOA		WEBH	423	KPO	480	CYL
250 WTAY	278 WORI		WMH.	376.7	WGN	423	WLW	492	KGW
252 KJS 263 WGAQ	278 WRBO	050.0	WSAI	375	KTHS	429	WSB	492	WEAF
263 WGAQ 265.5 WMAK	280.2 WNAC 283 KFMX		CYX	380	WGY	429.5	wos	498	WHAA
266 KFNF	283 WABI		KFAE KNX		WHAZ	430	CFAC	498	WOC
266 WBCN	283 WH		WBZ		WEAR	435	AT9	503.9	WMC
266 WCBK	285.5 WREC		KSAC	394.5	WTAM	435	CNRO	509	KLX
268 KFPT	286 WEMO		CHYC	395	WOAI	435	NAA	509.9	WIP
270 WGST	286 WKBI		WCBD				CKAC	509.9	woo
273 KFKB	288.3 KFKX		WLS		WDAR	440	CFCN	516	WCX
273 WBBR	293.9 WBAV	360	KOB	395	WFI		WMAQ	516	wwJ
273 WEBJ	294 WEAC		WBT		WHAS	444.8	WQJ	522.3	WHO
273 WFBH	302.8 W.J.JT		WCAL	400	CFCA	450	CKY		WOAW
273 WRW	302.8 WTAS		WEAY	400	PWX	455	KFOA	528.8	WNYC
275 KFAU	303 WEE		WGI	405	KTW	455	WJZ	535.4	KYW
275 KFMQ	309.1 KDKA		WHN	405	WJY	462	WCAE		
275 WHAD 275.2 KOV	312 KGC		WJAR	405	WOR	469	KFI	535.4	WHA
275.2 KQV	315.6 KFDM	1 360	WKAQ	410	CKCD	469	WCAP	549.1	KSD



# KESTER Radio SOLDER



Jack Binns knows, and here's what he says in Collier's:

"Never use any of the messy soldering pastes. This is quite important, because it causes a lot of noise in your reception. The only material to use is rosin. Suitable strip solder can be obtained with a rosin core which makes the task of soldering a simple one."

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Kester Radio Solder has a pure rosin flux inside of itself which makes absolutely non-corrosive joints and prevents dielectric losses. It requires only heat. By using a good hot iron and having it touch the parts to be soldered, a neat, clean job quickly and permanently safe is the result.

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# SPRING STYLES AT WHN, NEW YORK

#### Saturday, January 24

aturday, silent night for: CFAC, CKY, KFAE, KFDM, KFKU, KFKX, KIS, KOB, KSAC, WBAP, WBF, WBBG, WCAP, WGAU, WCBD, WCX, WOBY, WEAO, WCBJ, WCBJ, WCBJ, WCBJ, WCBJ, WCBJ, WCBJ, WOJ, WOO, WOS, KAC, Montreal, Can. (Eastern, 425), 7 p. m., kiddles stories in French and English; 7:30, Windsor hotel dinner concert; 8:30, La Presse studio concert; 10:30, dance program, Windsor hotel grill room.

NRO, Ottawa, Can. (Eastern, 435), 7:30 p. m., bed-time story and Jullaby, Aunt Agnes; 8, overture, "Son and Stranger," "Slegmund's Love Song," "Celebre Minuet," "Carmen," Chateau Laurler hotel orchestra; "Piano Concertino Solos," Tony Paladino; "Star of Eve." Charles Watt, baritone; Dicken's character study, "The Unwelcome Stranger," from Dicken's "Barnaby Rudge," Bert Summers; "Wilkins Micawber," Bert Summers; "Wilkins Micawber," Bert Summers; "Wilkins Micawber," Bert Summers; "Wilkins Micawber," "Effentanz," "Offertoire in B Minor," "Minuet," "Fantasia Rustique," "Lullaby," "Slavle Dance," Dr. Herbert Sanders, organist; "Prospecting in Manitoba," Dr. J. F. Wright; piano concertino solos, Tony

WBAP, Fort Worth, Texas (Central, 472.9), 7 p. m., review of the interdenominational Sunday school lesson, Mrs. W. F. Barnun.
WBAY, Columbus, Ohio (Eastern, 294), 9 p. m., dance program, Dick Fiddler's orchestra, Spring Lakes pa-

WBAY, Columbus, Ohio (Eastern, 294), 9 p. m., cance program, Dick Fiddler's orchestra, Spring Lakes pavillon.

WBBR, New York, N. Y. (Eastern, 273), 8 p. m., Watchtower orchestra; 8:15, Bible questions and answers; 8:45, Watchtower orchestra.

WBZ, Springfield, Mass. (Eastern, 337), 8 a. m., special transmission for test purposes durling Eclipse of the Sun; 6 p. m., Leo Reisman's Hotel Lenox ensemble; 6:45, popular songs, George Rogers; 7:95, bedtime story; 7:15, sketches from United States Naval history, E. S. R. Brandt; 7:30, concert, Hotel Kimball trio; 8, Harvard-Princeton hockey game.

WCAE, Pittsburgh, Pa. (Eastern, 429), 2:30 p. m., tea-dansant, Nikon restaurant; 429, 2:30 p. m., tea-dansant, Nikon restaurant; 30 orchestra; 6:30, dinner did to the state of the state o

WOAF, Kansas City, Mo. (Central, 414.1), 3:30-4:30 p. m., the Star's Radio number; 6-7, school of the air, plano tuning-in number on the Duo-Art; personal message from Roger W. Babson, statistical expert; the Tell-Me-A-Story Lady; music, Hotel Mueblebach Triano ensolved the trian tell-Me-A-Story Lady; music, Hotel Mueblebach Triano ensolved the triano telles and the Plantadion statistical expert; the Alley Berlinder of the trianous telles, the analysis of the trianous telles, the analysis of the trianous telles, the trianous telles, the decided and the trianous telles, the trianous telles,

Bellevue Stratford concert orchestra; 7. Sunny Jim, the kiddies' pal; 8. medical talk: "Influenza and its Complications;" 8:15, banquet, Philadelphia Real Estate Board.

WGN. Chicago, Ill. (Central, 376.7), 1:40 p. m., luncheon concert, Drake Concert ensemble; Blackstone string quintet; 3, rocking chair time! 5:30, skeezix time; 6, organ recital, Lyon & Healy; 6:30, dinner concert; 8, classleal concert, Morgan's Welch Men's quartet; 10-11. Don Bestor's Drake dance orchestra; Jerry Conley's Blackstone dance orchestra.

WGR, Buffalo, N. Y. (Eastern, 319), 12:30-1 p. m., Hotel Statler concert ensemble; 6-7:20, dinner music Hallpryd tric; 7:30-815, mixed program, direction of Cass Conaway, secretary of the Buffalo Real Estate Board, featuring Judge William E. Hough of the Indiana State Tax Commission as speaker, University of Buffalo orchestra.

WGV, Schenectady, N. Y. (Eastern, 380), 9:30 p. m., dance music, Phil Romano's orchestra.

WHA, Madison, Wis. (Central, 534.4), 7:30 p. m., basketball game, Minnesota-Wisconsin.

WHAS, Louisville, Ky. (Central, 539.2), 4-5 p. m., selections, Alamo theater organ; readings, Courier-Journal and the Louisville Times editorials; 7:30-9, concerts, auspices the Liederkanz, Fred O. Neutzel, director.

WHB, Kansas City, Mo. (Central), 414.1), 2-3 p. m.,

director,
WHB, Kansas City, Mo. (Central), 414.1), 2-3 p. m.,
ladies' hour program, Sweeney Radio trio.
WHN, New York, N. Y. (Eastern, 360), 6:30-7:30 p. m.,
Vincent Catanese and his Hotel Alamac orchestra:
7:30-8, Hotel Carlton Terrace orchestra: 8:30-9, Strand
Roof Entertainers; 11:30-12:30, Roseland dance or-

chestra.
WIP, Philadelphia, Pa. (Eastern, 509.9), 1 p. m., organ
recital, Karl Bonawitz; 3, "Pep" William's Entertainers: 6:05, St. James hotel orchestra; 7, Uncle

Chestra.

WIP, Philadelphia, Pa. (Eastern, 509.9), 1 p. m., organ recital, Karl Bonawitz; 3, "Pep" William's Entertainers; 6:05, St. James hotel orchestra; 7, Uncle Wip's beddime stories; 8, great surprise feature.

WIJO, Mooscheart, Ill. (Central, 302.8), 7:15-8:15 p. m., Mooscheart theatre orchestra; 9-12, Log Cabin dance music; popular music from studio.

WIZ, New York, N. Y. (Eastern, 455), 11-1 p. m., American Orchestrata society concert, children's concerts; 1-2, Park Lanc orchestra; 4-4:30, "The Texans"—Sanchez and Milstead; 4:30-5:30. Sherry's Tea orchestra; 7-8, Joseph Knecht's Waldorf-Astoria dance orchestra; 8-8:15, "Art for Laymen." Walter M. Grant; 8:15-8:20, "Learn a Word a Day"; 8:29-8:30, Norma Helms, soprano; Keith McCleod, accompanist; 8:30-8:45, "How Motion Pictures are Made." Alfred B. Hitchens; 8:45-9, Nora Helms, soprano; 9-9:30, course on Jewish history and literature, auspices of Rabbinical Assembly of Jewish Theological seminary, Dr. Elias Margolis; 9:30-10:30, Washington Square College players; 10:30-11:30, Hotel Astor dance orchestra.

WEB., Stevens Point, Wis. (Central, 278), 12 midnight, "Encules of Sleep."

WLS, Chicago, Ill. (Central, 344.6), 7 p. m., Ford and Glenn's lullaby trip to Mexico; 7:20-12, WLS revue night, Ralph Emerson, organist; Glenn's Corn buskers; Harmony girls, Carpenter and Ingram; Grace Wilson; Isham Jones and his College Inn orchestra; Ford and Glenn.

WLW, Cincinnati, Onio (Central, 423), 8 a. m., setting-

Isham Jones and its Contest and Glenn.

WLW, Cincinnati, Ohio (Central, 423), 8 a. m., settingup exercises, Y. M. C. A.; 3 p. m., dance program,
Hubert Buschle's orchestra; 6, dinner hour concert,
Selinsky instrumental quintet; lafafone, E. D. Leonard.

WMAQ. Chicago, III. (Central, 444.8), 2 p. m., Union
League club forum; 6, Ukulele girls; 8, LaSaile hotel



Paladino; "Largo." Charles Watt, baritone; "Jonas Chuzzlewit Come Home Drunk," "A Christmas Carol." Bert Summers; "Country Gardens," Reta Brennan, planist; orchestra; Jack Grace, soloist.

KOKA, E. Pittsburgh, Pa. (Eastern, 309.1), 1:30 p. m., concert, Daugherty's orchestra; 6, dinner concert, Westinghouse band; operatic quartet; 10, hockoy scores, Pittsburgh Hornets-Boston H. C.

KFI, Los Angeles, Calif. (Pacific, 469), 5 p. m., table talk and news. Evening Hersell; 5:30-6, Examiner's musical half hour; 6:45-7, "The Subconsclous Short-cut to Power," Dr. Clyde Sheldon Shepard; 7-8, dance music, C. Howard Paxton, baritone; 8-9, song recitai; 9-10, Examiner, program by Alhambra Chamber of Commerce; 10-11, Packard Radlo club.

KFNS, Shenandosh, lowa (Central, 266), 6:30 p. m., concert, Burlington Junction, R. L. Yaple, director.

KFOA, Seattle, Wash. (Pacific, 455), 4-5:15 p. ni; Olympic hotel concert orchestra; "Today's Recipe; 6:45-8:15, Rhodes' Department store program; 8:30-10, dance umsic; 10:05-11, Olympic hotel music.

KFSG, Los Angeles, Calif. (Pacific, 278), 10:36-11:30 a. m., sunshine hour program, Mrs. McPherson; 3:30-4:30 p. m., impromptu studio program, Roy Reld Brignail, G. N. Nichols and others; 7:30-9:30, auditorium service of Anselus temple, sermon on Divine Healing, Aimee Semple McPherson, pastor.

KGO, Oakland, Calif. (Pacific, 312), 4-5:30 p. m., concert orchestra, Hotel St. Francis; 8, program. Oakland Realtors' Glee club. Zura E. Bells, director; Elizabeth Joinstone Wastell, accompanist; Edna Fischer Hall, contraito; Willy Mcler Pauselius, guitarist; 10-1 a. m., dance music, Henry Halstead's orchestra.

KHJ, Los Angeles, Calif. (Pacific, 312), 4-5:30 p. m., concert orchestra; drenom frolic; 6-6:30, Art Hickman's Billmore hotel concert orchestra; 6:30-7:30, stories american history, Prof. Walter Sylvester Hertzog; Helen Pirie, screen juvenile; Uncle John; 8-10, program. Los Angeles Soap company, arranged by J. Howard Johnson; Russian string quartet; Claire Forbes, The Pausel Soap company, arra

Aunt Vivien's bedtlime story; 8-9. Earl Gray and his Hotel Butler orchestra; 9-10, concert hour; 10-11, Earl Gray and his orchestra. KTHS, Hot Springs, Ark. Central, 375), 8:39-10 p. m., concert, Arkansas artists; 10:39-11:30, dance frolic, New Arlington Meyer Davis orchestra. KTW, Chicago, Ill. (Central, 335.4), 6:39 p. m., norning exercises, Y. M. C. A.; 10:30, tarm and home service; 11:33, table talk, Mrs. Anna J. Peterson: 6:35-7 p. m., children's bedtline story, Uncle Bob; 7-7:30, dinner concert, Congress totel; 8-8:35, program, Carter H. Harrison Tech. High school band; 9:05, Youth's Companion; 9:35-11:30, Congress classic; 12-2 a. m., Congress carnival.
PWX, Havana, Cuba (Eastern, 400), 8:30 p. m., concert, Academy of Prof. Juan Gonzalez.
WAHG, Richmond Hill, N. Y. (Eastern, 316), 12-2 p. m., William F. Morgan and his Sunlite Serenaders.

Rosalie Stewart (left), who has the unique position of being one of the only women producers of plays in the country, will tell how she does it Friday, January 30, at WGBS, New York. Fred W. Lower (above) is the new cornetist with the Detroit News orchestra. He plays with this orchestra every night. Grace Wilson (right), contralto, sings regularly every Tuesday and Saturday evening at WLS, Chicago.

### Headliners of the Week

Headliners

S. R. BRANDT, Lieut. Commander of the U. S. Navy, will give sketches Saturday at WBZ to illustrate the influence of the Navy on American history. If you do not believe now that Oakland is the garden spot of the world, you will after hearing the booster songs of the Oakland Realtors' glee club at KGO. As distance means nothing by Radio, tune in now for WIP and find out what all the mystery is about this Saturday night program.

Sunday nights the Waldorf-Astoria orchestra program as broadcast by WJZ and WGY may always be enjoyed. Dr. Harry Emerson Fosdick, a New York modernist who has been the storm center of the controversy between the fundamentalists and liberalists of the Presbyterian church, will talk Sunday at the Chicago Sunday Evening club and may be heard at KYW.

Many famous artists have crossed the ether but few have given an entire evening of music. Francis MacMillen, a violinist of note, will give a recital program at KSD, Monday.

Queen Titania returns Tuesday night from fairyland to entertain the little folks at KHJ. This little creature is a famous screen beauty and has been appearing with the sandman before the microphone at frequent intervals for over a year.

intervals for over a year.

Spring will soon be here and although a young man's fancy may turn to thoughts of love, a young lady's turns to clothes. WHN knowing this will start the season Wednesday with a talk on spring styles. Tune at 7:30 p. m.

The great Arctic explorer, Donald MacMillan, will talk Thursday night on the "True Value of Arctic Work." Dr. MacMillan as you will remember, relieved the monotony of Arctic life by receiving and transmitting Radio messages.

Rosalie Stewart, co-producer with

messages.
Rosalie Stewart, co-producer with the late Bert French of "The Show-Off" and "Meet the Wife," is one of the few successful women theatrical producers. What she has to say Friday night at WGBS will be of interest to many young theatrical directors

orchestra; 8:30, Radio photologue, "Siberia," A. C. Fludo; 9, weekly Balaban & Katz Chicago theater

Fludo; 9, weekly Balaban & Katz Chicago theater revue.

WMC, Memphis, Tenn. (Central, 503.9), 8 p. in., bedtime stories, Uncle Joe; 8:30, program, arranged by Hugh Sandidge.

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

WNYC, New York, N. Y. (Eastern, 528.6), 6:30 p. m., Sam Wooding's Club Alabam orchestra; 7:35, Chateau four; 8:30, songs; 9, "How the Indians Re-lit the Sun," Marie Collins Rooney; 9:15, Police quartet; 9:45, violinist; 10:10, Board of education lecture.

WOAW, Omaha, Nebr. (Central, 522.3), 6:45 p. m., dinner program; 9, program, ausnices of the Omaha Printing company; 11, Frank Hodek's orchestra of Roseland Gardens; 11:30, organ music, World theater.

WOC, Oavenport, towa (Central, 498), 7:30 p. m., discussion, International Sunday school lesson, Rev. M. A. Getzendaner, pastor; 9, Lonis Comnor and his Le-Claire hotel orchestra; song and novelty numbers, Peter MacArthur.

Claire notel orchestra; song and novelty numbers, Feter MacArthur.

WOI, Ames, lowa (Central, 360), 12:30 p. m., "Preparing for the Summer Meat Supply," Prof. M. D. Helser.

WOO, Philadelphia, Pa. (Eastern, 509.9), 11 a. m., organ recital, Mary E. Vogt; 12:02 p. m., Wanamaker crystal tea room orchestra, Robert E. Golden, director; 4:45, organ recital; 5, sports results.

WOR, New York, N. Y. (Eastern, 405), 7 a. m., gym class, Arthur E. Bagley; 2:30 p. m., Manhattan male trio; 2:45, Paolo del Pino, tenor; 3, Manhattan male trio; 3:15, Paolo del Pino, tenor; Papp's orchestra; 6:15, "Music White You Dine," Clifford Lodge orchestra; 8, Schubert string quartet; 8:30, J. E. Hardenberg; 8:45, program, Frank LaForge, composer-coach planist; 10, joint program, cellist and dramatic spprano.

coach pianist; 10, joint program, cellist and dramatic soprano.

W JJ, Chicago, III. (Central, 444.8), 11-12 m., "What Is a Carbonated Beverage," C. J. Hill: "The Proper Radiation for Your Home," J. F. McShayne: 3-4 p. n., koffee klatsch; 7-8, dinner concert, Ralph Williams and his Rainbo Gardens orchestra; Otls Pike Jester, soprano; Mary Thrash House, accompanist; Myron Muench, reader; II-2 a. m., Ralph Williams and his Rainbo Skylarks; Jerry Sullivan, Harry Gelse, The Melodians, Laurie, Eddle, Bennie; Bock Sisters, Julia and Ruth; Yukona Cameron, soprano: Lew Butler, "Tho Glant of Radio"; Peggy McClure prima donna; Rick, Whalen and Gardner, "The Three Rounders."

(Continued on page 10)

# DR. FOSDICK HEARD AT KYW SUNDAY

#### Saturday, January 24

#### (Continued from page 9)

WRC, Washington, O. C. (Eastern, 469), 6:45 p. m., children's hour, Marjorie Tucker; 7, dinner music, Hotel Washington-Irving Boernstein orchestra; 8, Bible talk; 8:15. music; 9:30, talk; 8:45, music; 9, dialect storles, W. Alfred Palconer; 10:30, dance program, Astor Hotel orchestra; 11:15, organ rectula, Otto Beck, WREO, Lansing, Mich. (Eastern, 288.5), 9-12 midnight, Frank Logan and his orchestra.
WSAI, Cincinnati, Ohio (Central, 325.9), 8 p. n., chimes; 8:13, program, Bicycle sextet; 8:45, Waldene Johnston, violinist; 9, weekly news review, Allison Frederick Stanley; 9:13, Bicycle male and mixed quartet; Genevieve Goddman, pianlist; 12, WSAI midnight entertainers; 12:13, Freda Sanker's Toad Stool orchestra.

orchestra. WSB, Adlanta, Ga. (Central, 429), 12 m., entertunment 5-6 p. m., songs and bedtime story, Bonnie Barnhardt 8-9, Battlehill string band; 10:45, Journal Hired Help unbilde.

WTAY, Oak Park, III. (Central, 250), 6:45-7:45 p. m., Anna Largent, violinist: Glenn Bruce, reader: 9-10, Anna Largent, violinist; Glenn Brüce, reader; 9-10 Ted Sill, tenor; Benny DuVol, planist. WWJ, Oetroit, Mich. (Eastern, 516), 3 p. m., th Detroit News orchestra; 7, the Detroit News orchestra

Sunday, January 25

Sunday, silent night for: CKAC, KFAE, KFKU, KFKX, KOB, KSAC, PWX, WAHG, WBAV, WBBF, WBBG, WCAE, WCX, WOAF, WOAR, WOBY, WEBB, WGST, WHAS, WHAZ, WHO, WIP, WKAQ, WLBL, WMC, WNJ, WOI, WTAY.

CFAC, Calgary, Can. (Mountain, 430), 7:30 p. m., church service.

CKAC, Montreal, Can. (Eastern, 425), 4:30 p. m., band concert, Philharmonic de La Salle from Three Rivers city, competing in silver cup contest, talk by mayor.

CKY, Winnipeg, Can. (Central, 450), 7 p. m., service, Knox Presbyterian church; 9, concert, Aeolian string quartet.

E. Pittsburgh, Pa. (Eastern, 309.1), 11 a. m., es, Point Brecze Presbyterian church, Rev. Per-H. Barker, pastor; 2:30 p. m., concert; 4, Dr. es Helnroth, organist; 4:45, vesper scrvices, rside Presbyterian church, Rev. Hugh Thompson minister; 6:15, dinner concert, Scalzo's orchestra services, East End Christian church, Rev. Ray

Beaumont, Texas (Central, 315.6), 9 p. m.,

sacred concert.

KFI, Los Angeles, Calif. (Pacific, 469), 10-10:45 a. m.,
L. A. Federation of Church Musicians; 4-5 p. m.,
vesper program. Margaret Fern Melrose, soprano; Foothill Four; 6:45-7, musical appreciation talk; 7-8, stage
acts, specialties and orchestra of Metropolitan theater;
8-9, one act play, instrumental tric; 9-10, Examiner,
Cluderella ballroom orchestra; 10-11, Packard Six dance

KFNF, Shenandoah, Iowa toen, C. E. Hanu, ...
Ilglous services. Afton, Iowa, C. E. Hanu, ...
6:30, regular Seedhouse chapel service.
KFSG, Los Angeles, Calif. (Pacific, 278), 10:30-12:30
p. m., complete morning service of Angelus temple
with sermon broadcast from publit, Almee Semple
McPherson, pastor; Esther Fricke Green, organistic
McPherson, pastor; McPherson,

sermon, Almee Semple McPherson; 10-11, organ recitar, Esther Fricke Green (Pacific, 312), 11 a. m., service, First Congregational church, Rev. James L. Gordon, pastor; 3:39 p. m., KGO Little Symphony orchestra concert. Carl Rhodehamel, conductor; 7:30, service, First Congregational church. KGW, Portland, Ore. (Pacific, 492), 10:30 a. m., service, FIrst Presbyterian church, Dr. Harold Leonard Bowman, pastor; 3 p. m., municipal concert; 6, church services. Portland Council of Churches; 7, dinner concert, Colburn concert orchestra.

burn concert orchestra.

KHJ, Los Angeles, Calif. (Pacific, 395). 10 a. m., sermon, Dr. H. C. Culbertson, pastor Plymouth Congregational church; 10:39-12:30 p. m., organ recita and complete service of First Methodist Episcopal church, Dr. E. E. Helms, pastor; Arthur Blakely, organist; 6:30-7, Art Hickman's Biltmore hotel concert orchestra, Edward Fitzpatrick, director; 7-7:30.

WBZ, Springfield, Mass. (Eastern, 337), 10:45 a. m., scrvlees; 8:30-10 p. m., concert.

WCAE, Pittsburgh, Pa. (Eastern, 462), 10:45 a. m., services, Rodef Shalom temple; 3 p. nr., Peoples Radio church; 4. Prof. Otto Kalteis, planist; 6:30, dinnor concert. William Penn hotel.

WCAL, Northfield, Minn. (Central, 360), 8:30 p. m., sacred program, sermon, Rev. Nils Kleven, pastor.

WCAU, Philadelphia, Pa. (Eastern, 278), 5, contralto solos; 5:30, talk, Rev. Dr. John W. Stockwell; 6, Hotel Pennsylvania orchestra, Ray Steen, director.

WCBO, Zion, Ill. (Central, 344.6), 8 p. m., malo chorus and Hiro trio; clarinet quartet, Randall, Petrennan, Dreyer, Hendricks; Goorge Beem, marimba solois; vocal duct, Carey sisters; Mrs. Marion Moulton Priddy, planist; Mrs. John A. Marshall, reader.

WCCO, Minncapolis-St. Paul, Minn. (Central, 419.3), 11 a. m. Westminster Prestyterian church, Rev. J. E. Bushnell, pastor; 4:10 p. m., House of Hope Presbyterian church, Rev. H. C. Swearingen, pastor; 7:20, Second Church of Christ Scientist; 9:15, classical concert.

WCX, Oetroit, Mich. (Eastern, 516), 10:30 p. n., services of the Central Methodist Episcopal church.

WDAF, Kansas City, Mo. (Central, 414.1), 4-5 p. n., classical program, the Star's Radio orchestra; 5-5:45, international Sunday school lesson, Dr. Walter L. Wilson.

WDAR, Philadelphia, Pa. (Eastern, 395), 2:30 p. n., readia cafe concert orchestra, Ferl Sarkozi, director.

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

WMAK, Lockport, N. Y. (Eastern, 265.5), 11 a. m., First M. E. church services, Rev. Paul Burt, pastor. WNYC. New York, N. Y. (Eastern, 528.8), 9-11 p. m., Brooklyn Mark Strand program, Edward L. Hyman, Hym

WNYC, New York, N. Y. (Eastern, 523.8), 9-11 p. m., Brookiyn Mark Strand program, Edward L. Hyman, director.

WOAI, San Antonio, Texas (Central, 394.5), 11 a. m., services, Efirst Presbyterlan church; 7:30 p. m., services, Central Christian church; 9:30, selections from 'Rigoletto,' WOAI entertainers.

WOAW, Omaha, Nebr. (Central, 522.3), 8 p. m., dramatic hour, Davis Studio of expression.

WOC, Oavenport, Ia. (Central, 498), 8 p. m., church service, Culvary Baptist church, Rev. H. B. Cox, pastor; 9:30, The Palmer School Radio orchestra, Erwin Swindell, conductor.

WOI, Ames, lowa (Central, 360), 10:45 a. m., college chimes; 11, chapel services, Dr. J. M. Artman.

WOO, Philadelphia, Pa. (Eastern, 509.9), 10:30 a. m., services, Bethany temple; 2:30, Sunday school services, Bethany temple; 6:05, organ rectal, Clarence K. Buwden; 7:30, services, Pethany temple, Rev. Gorden A. MacLennan, pastor; organ rectal, Caroline Quigg.

WOS, Jefferson City, Mo, (Central, 429.5), 7:30 p. m., religious service, Central Evangelical church, Rex. E. W. Berlekamp, pastor.

WJ, Chicago, III. (Central, 444.8), 10:30 a. m., sermon Dr. Preston Bradley; Clarence Eddy, organist; 8-10, Ralph Williams and his Rainho Garden orchestra; Lancaster Smith, bass, Mrs. Lancaster Smith accompanist; Maxime Mordy, violinist; Mace Gordon, iyric baritone; Robert Mctxler; Mace Gordon, soloist; Miriam Burns, soprano; Lois Mackey, accompanist; Otto A. Moore, baritone.

KOB, State College, N. M. (Mountain, 360), 7:30-8:30
p. m., Radio talk; "Public Health," Dr. G. S.
Luckett; College band.
KPO, San Francisco, Calif. (Pacific, 423), 11 a. m.,
chat to the housewives on "Home Making," Prudence
Penny; 1-2 p. m., Rudy Seiger's Falrmont hotel orchestra; 4:30-5:30, children's hour storles, Big Brither
of KPO; 7-7:30, Rudy Seiger's Falrmont hotel orchestra; 5:30-6:30, children's hour storles, Big Brither
of KPO; 7-7:30, Rudy Seiger's Falrmont hotel orchestra; 8:9, Theodore J. Irwin, organist; 9-10, "Better
Lighting," H. C. Barnard; Constance Reese, soprano;
10-11, E. Max Bradield's Versatile band.
KSAC, Manhattan, Kans. (Central, 340.7), 12:30 p. m.,
reading; farm and home weck, L. C. Williams; "Hatch
Disease Free Chicks," J. W. Lamb; 7:20, college bell
and opening excretes; 7:30, s"Duroc, Poland China
and Chester White Breeds," A. D. Weber; 7:49, Radio
college quartet; 7:45, "Feeding for Milk Production,"
J. B. Fitch.
KSO, St. Louis, Mo. (Central, 549.1), 7 p. m., music
and specialties, Missouri theater; 9, studio recital,
Francis MacMillien, American violinist,
KSNO, Seattle, Wash. (Pacific, 238), 7:15-8 p. m.,
Aunt Vivien's bedtime story; 8-9, special program;
9-10, concert hour; 10-11, Early Gray and his Hotel
Butler orchestra.
KYW, Chicago, Ill. (Central, 555.4), 6:30 a. m., mornring exercises; 11:35, table talk, Mrs. Anna J. Peterson; 6:35-7, children's bedtime story, Uncle Bob,
WAHG, Richmond Hill, N. Y. (Eastern, 316), 8 p. m.,
Miss Sherer, soprano; 8:15, Norman Curtis, pianist;
8:30, Adelaide Deloco, contralto; 8:45, Elizabeth Carlton, popular songs; 9, special musical number; 9:15,
musical; 9:30, Miss Sherer, soprano; 9:45, Norman
Curtis, pianist; 10, Adelaide Deloco, contralto; 10:15,
Elizabeth Carl-ton and William Morgan, popular singers.
WBAP, Fort Worth, Texas (Central, 472.9), 7:30-9:30
p. m., dance music, Frensley Moore's Black and Gold
screnaders; 9:30-10:45, string band of Ennis, George
W. Collard, director,
WBAV, Columbus, Ohio (Eastern 293, 9), 8 p. m.,

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

WBBR, New York, N. Y. (Eastern, 273), 8 p. m., Frank Wood, flutist; 8:10, Irene Kleinpeter, soprano; 8:20, world news digest; 8:40, Irene Kleinpeter; 8:50, Frank Wood, flutist; 8:40, Irene Kleinpeter; 8:50, Frank Wood, flutist; WBZ, Springfield, Mass. (Eastern, 337), 7:10 p. m., kiddies' bedtime story; 7:15, lecture address; 7:30, University Extension course; 8:10:30, concert; 11:30-12, McEhenlly's Singing orchestra playing dance music. WCAE, Pittsburgh, Pa. (Eastern, 462), 6:30 p. m., dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 7:35, address; 8:30, concert, studios of Mme. Lella Wilson-Smith; 9, concert, A. & P. Gypsy string ensemble; 10, music; 11, artists and orchestra from Nixon restaurant.

WGBO, Zion, Ill. (Central, 344.6), 8 p. m., McElroy

ensemble; 10. music; 11, artists and orchestra from Nixon restaurant.

WCBO, Zion, III. (Central, 344.6), 8 p. m., McElroy saxophone quintet; celestial bells; vocal trio, Esther Wiedman, Pearl Ludlow, Mrs. Evelyn DePow; E. B. Paxton, barttone; Hermann Becker, cellist; Richard F. Hire, pianist; Mrs. Edna Huston Paxton, reader.

WCCO, Minneapolis-St. Paul, Minn. (Central, 419.3), 2 p. ul., woman's hour, Dr. Margaret Whalen; 2:30, matinee musical; 4, magazine hour, excerpts from "in the Beauty of the Purple;" William Sterins Davis; 5:30, children's hour, Ellen Nye; 8, talk, auspices Parents' and Teachers' association; 8:15, "What Taxpayers' say sociations Can Do," H. W. White; 8:30. Third Infantry band, travelogue on Japan, Korea and Manchurla, Capt. Raymond C. Wolfe; 10, dance program, Diek Long's Nankin cafe orchestra; Lou Emmel, baritone, WCX, Oetroit, Mich. (Eastern, 516), 4:15 p. m., music; 6, dinner concert, Book Cadiliae hotel; 7, musicai program.

6, dinner concert, Book Cadillac hotel; 7, musical program.

WOAF, Kanasa City, Mo, (Central, 414.1), 3:36-4:30 p.
m., program broadcast from Newman and Royal theatres; 5-5:30, weekly Boy Scout program; 6-7, school of the air, piano tuning-in number on the Duo-Art; address, C. H. Cheney, eleventh of a series of talks on banking; the Tell-Me-A-Story Lady, music. Hotel Muchicbach Trianon ensemble; 8-9:15, Ivanhoe band, Walter A. French, director; Ivanhoe Gice club, Edward H. Gill, Jr., director; 11:45-1 a. m., nighthawk frolic, the "Merry Old Chief" and the Plantation players.

Ward H. Gill, Jr., detection of the Plantation players.

WDAR, Philadelphia, Pa. (Eastern, 395), 11:45 a. m., daily almanac; 12:02 p. m., Aradla cafe concert orchestra, Stanley theater organ recital; 2, Ateadia cafe concert orchestra; 4:30, Marcella North, planist; 7:30, Dream Daddy's bedtime stories; 7:55, "Short Agro-Waves," Chas. D. Shoffner; 8:30, Luserow quartet; 9:25, Stanley theatre features; 10:02, Aradia cafo dance orchestra; 10:15, vaudeville features, Fay's Knickerbocker theatre.

WEEI, Boston, Mass. (Eastern, 303), 2 p. m., Crystal Lake orchestra; 6:30, Big Brother club; 7, Dok-Eisenbourgh and his Sinforians; 8, Macedonian male quartet; 8:45, "Buddy's" Bostonians; 10, musicale.

WEMC, Berrien Springs, Mich. (Central, 286), 8:15-9:30 p. m., Radio Lighthouse music makers; travelogue on England, Paul Nelson Pearce.



Here are the humorists who tell those funny stories each week via Radio and Station WGBS, New York. Norman Anthony (left) is the editor of Judge and George Mitchell (right), editor of Film Fun.

9, "Evening with the Great Composers," Charles H. Gabriel, Jr.; solos, Ethel Wakeneld, soprano, Drake concert ensemble.

WGR, Buffalo, N. Y. (Eastern, 319), 3-4 p. m., vesper service, the Rev. C. E. Odel, speaker; 4-5, George Albert Bouchard, organist; 7:15, service of the Central Park Presbyterian church, William Wall Whiddit, organist and Dr. Rohert J. MacAlpine, speaker.

WGY, Schenectady, N. Y. (Eastern, 380), 10:30 a. m. Belleview Reformed church, Dr. J. A. Thurston, pastor; 3:35 p. m., program, WGY Symphony orchestra, Leo Kliwen; Grace Klugmann "wartz, soprano; 5, Dr. Frank Sill Rogers, organist; f. Roy Keefer, violinist; 7:30, service, First Church of Christ Scientist; 9, Symphony orghestra from Waldo.f-Astoria, New York, broadcast with WJZ; 10, selections, Hampton Institute quartet.

WHAS. Louisville, Ky. (Central, 399.2), 9:57 a. m.

broadcast with WJZ; 10, selections, Hampton Institute quartet.

WHAS, Louise Ky. (Central, 399.2). 9:57 a.m. organ music; 10, church service, auspices Methodist temple, Rean recital George Latimer; 4:30-5, choral Carlon Service, Christ church cathedral, Rev. Richard McCready, dean; Ernest Arthur Simon, organist.

WHB (Cansas City, Mo. (Central, 444.1), 9:45-11 a.m., services, Linwood Boulevard Christian church, Directives, Linwood Boulevard Christian church, Directive Christ church of Kansas City; 12 m., services, representative church of Kansas City; 12 m., special midnight program.

sentative crutch of Raises of the Role of Role

man and his entertainers with Eddic Eikins and his orchestra.

WHO, Des Moines, Iowa (Central, 522.3), 11 a. m., sermon, Dr. C. S. Medbury.

WIP, Philadelphia, Pa. (Eastern, 509.9), 10:45 a. m., services, Holy Trinity church, Rev. Floyd D. Tompkins, D. D., rector; 4, "Sunday Talk" meeting from Germantown Y. M. C. A.; "The World Challenge to America." Frank Dixon.

WIJD, Mooseheart, Ill. Central, 302.8), 7:45-8:45 a. m., Roman Catholic scrvices; 8:40-9:40, organ recital, Albert F. Brown; 9:40-11, Protestant services; 3-4 p. m., regular Sunday concert.

WJY, New York, N. Y. (Eastern, 405), 8:15-10 p. m., Bernhard Levitow's Hotel Commodore orchestra; 10-10:15, "Reminiscences of a Reporter," William H. Crawford.

10:15, "Reminiscences of a Reporter, Crawford. WIZ. New York, N. Y. (Eastern, 455), 9-10, a. m., children's hour; 2:30-3:30 p. m., Radio Bible class; 3:30-4. "Practical Religion," Rev. Dr. Harry Emerson Fosdick; 4-5:45, vesper services from St. Georges church; Dr. Karl Reliand, rector; Mozelle Bennett, violinist; Harry T. Burleigh, bass; 5:45-7. "The Metropolis of Mankind," Edgar White Burrill; Tom Morgan, haritone; 7-8, Nathan Abas; Hotel Pennsylvania orchestra; 8-8:30, Harry H. Schyde, bass; 10-11, Hampton Institute quartet.

wanta otchestra; 8-8:30, Harry H. Schyde, bass; 10-11, Hampton Institute quartet.
WLS, Chicago, III. (Central, 344.6), 6:30 p. m., Raiph Emerson, organist; 7-8, choir, Julia Gay Memorial church, Carl G. Theeman, director.
WLW, Cincinnati, Ohio (Central, 423), 9:30 a. m., Sunday school, editorial staff of Sunday school publications of the Methodist Book concern; 11, services, Church of the Covenant, Dr. Frank Stevenson, minister; 7:30 p. m., services, First Presbyterian church. Dr. Frederick MeMillan, minister; 8:30, Western and Southern orchestra; William Kopp, director; Joseph Vito, solo harplst with the Cincinnati Symphony orchestra.

WEMC, Berrien Springs, Mich. (Central, 286), 11-11:15
a. m., Radio Lighthouse choir; 11:35-11:25, songs, specially requested by our patrons; 11:25-11:39, certices, Seripture reading and prayer; 11:30-11:49, Cecil Woods, bass; 11:49-12:95 p. m., sermon, Pastor W. R. French; 8:15-8:39, Radio Lighthouse choir; 8:30, songs requested; 8:45-9:05, Dr. Birt Summers, or ganist; 9:05-9:25, address. Pastor John Knox.
WFAA, Oallas, Texas (Central, 472.9), 3-4 p. m., Grand Symphony orchestra; 5-6, vesper servicc, Westminster Presbyterian church, Dr. T. O. Perrin, pastor; 6-7, Radio Bible class, Dr. William M. Anderson; 7:39-8:45, First Methodist church, south, Dr. Carl C. Gregory, pastor; 3:30-11, McDowell sisters.
WFI, Philadelphia, Pa. (Eastern, 395), 4:30 p. m., talk, Dr. Daniel A. Poling, of New York; 7:30, Arch Street Presbyterian church, south, Dr. Carl C. McGround C. McGround

Monday, silent night for: CKAC, CKY, KFDM, KFSG, KJS, KYW, PWX, WCAL, WCAU, WDBY, WEAO, WEBH, WEBJ, WGN, WHAS, WJY, WKAQ, WLBL, WLS, WMAK, WMAQ, WNJ, WOAI, WQI, WRC, WREO, WTAY.

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

KOKA, E. Pittsburgh, Pa. (Eastern, 309.1), 7 a. m., morning exercises, O. Shannon; 8, morning exercises; 12:15 p. m., concert, Scalzo's orchestra; 5:15, KDKA Little Symphony orchestra; 7:30, children's period; 8:15, address, University of Pittsburgh studio; 8:30, concert.

12:15 p. m., concert, Scalzo's orchestra; 6:15, KDKA
Little Symphony orchestra; 7:30, children's period;
8:15, address, University of Pittsburgh studio; 8:30,
concert.
KFAE, Pullman, Wash. (Pacific, 330), 7:30-9 p. m.
Alpha Gamma program; vocai solos, Frances Lookwood;
Rosalla C. Koch, planist; vocal solos, Agnes Dilts;
Reba Robertson, reader; Marguerite Miller, vocalist;
ensemble numbers; Edna McKee, vocalist; group songs;
talk, Dean A. A. Cleveland; 'Opportunities in Civil
Englneering,' O. L. Waller; 'First Egg Laying Contest,' R. N. Miller.
KFAU, Boise, Idaho (Mountain, 275), 8 p. m., program, Evening Capital News.
KFI, Los Angeles, Calif. (Pacific, 469), 5-5:30 p. m.
Evening Herald, table talk and news 5:30-6, Examiner's musical half hour; 8-9, Evening Herald, dance
music; 9-10, program, Walter M. Murphy Motors company; 10-11, Examiner, Ray West and his orchestra.
KFKU, Lawrence, Kas. (Central, 275), 6:50 p. m.
plano tuning-in number; 7, musle, University string
quartet, Prof. Waldemar Geltch, Prof. Karl Andrist.
Cobrad McGrew, Dean D. M. Swarthout; 7:15, basketball coaching, 'Individual Defense,' Dr. F. C. Allen;
7:30, debating, 'Refutation,' Prof. A. B. Gilkinson;
7:45, elementary Spanish, Lesson IV.
KFKX, Hastings, Nebr. (Central, 283.3), 9:30 p. m.,
special Seotch program, male quartet; French horn,
mouth harp, ukulele, guitar trio.
KFDA, Seattle, Wash. (Pacific, 455), 4-5:15 p. u.,
studio musical program; 4-5:30, Henry Haistead's
dance orchestra; 5:30-6, Aunty Betty stories, KGO
Kiddles' klub; 8, 'How Our Food Affects Our Teeth,'
Miss Secrest; 'N Alesson in English,' Wilda Wilson
Church; 'Tile First Years in School,' Dr., Aurella
Henry Reinhardt; 'Chats About New Books,' Joseph
Henry Reinhardt; 'Chats About New

Olsen's Metropolitan orchestra; Shefler's string orchestra.
KHJ, Los Angeles, Calif. (Pacific, 395), 12:30 p. m., Pligtly Wiggly girls trio; 8-10, Charllo Wellman's frolic transplanted to an evening program for benefit of eastern listeners.
KNX, Hollywood, Calif. (Pacific, 337), 8 a. m., morning prayer; 9, Hired Hand, news; 10 Hired Hand's morning message; 12, Wurlitzer pipe organ recital; 8-10 p. m., program, Los Angeles Lee and Cold Storage company; 10-11, June Purcell, the KNX girl; 11-12, Abe Lyman's Cocoanut Grove dance orchestra from Amhassador hotel.
KOA, Denver, Colo. (Mountain, 322.4); 8 p. 16.7, Scottish program, in honor of Robert Burns.

Dr. Harry
Emerson Fosdick, leader of
the modernist
movement in
the religious
world, will
talk again
this year Sunday, January
25, at the Chicago Sunday
Evening club,
Orchestrahall.
You may get
his views by
dialing KYW.



WFAA, Dallas, Tex. (Central, 472.9), 12:30-1 p. m., address, Dr. J. D. Boon; 6:30-7:30, vesper musicale, address, Dr. J. D. Boon; 1:30-7:30, vesper musicale, Paul Wellbaum and his orchestra; 8:30-9:30, Edmonds quartet entertainers.

WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3:05. Lester L. Druckenmiller, tenor; Marguerite Moyer, accompanist; Anna March Jenkins, contratic; Mrs. Charles Ross, soprano; 4, Piccadilly Sirens dance orchestra; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jlm, the kiddles' pai.

WGN, Chicago, Ill. (Central, 376-2), 1:40 p. m., luncheon concert, Drake concert ensemble, Blackstone string quintit; 2:30, artists' series, Lyon & Healy; 3, rocking chair time; 5:30, Skeezix time; 6, organ recital, Lyon & Healy; 6:30-7, dinner concert.

WGR, Buffalo, N. Y. (Eastern, 319), 12:30-1 p. m., Hotel Statler concert ensemble; 6:30-7:30, dinner music, Vincent Lopez Hotel Statler dance orchestra; Harold Gieser, director; 9:10, concert, Argo Musical club, direction of Frances Cady; 10-11, Melodette orchestra and assisting artists; 11:30, supper dance music, Vincent Lopez Hotel Statler dance orchestra, Harold Gieser, director; 9:10, concert, Argo Musical club, direction of Frances Cady; 10-11, Melodette organ, Signal Corps unit of the R. O. T. C.

WGST, Atlanta, Ga. (Central, 270), 9:10 p. m., program, Signal Corps unit of the R. O. T. C.

WGY, Schenectady, N. Y. (Eastern, 380), 2 p. m., "Working with Mother, Every Child's Privilege," Florence E. Winchell; 7:15, farm bureau speakers; 7:45, Mildred Hail, planist; Mardi Kenny, soprano; "Cinaracteristics of Mozart" May Gilmore, pianist, WASS, Louisville, Ky. (Central, 392), 4-5 p. m., "sefections, Alaino theater organ; readings, Courier-Journal and Louisville Times.



Louise Rennick is another
attractive
pianist from
the Marguerite
Manley Siedel
School of
Music, Columbus, who entertains every
day at 1:15
p. m., and
sometimes 4,
at WBAO. She
is always
willing to play
your favorite
selections. rgan recital, Arthur Blakely, organist; 8-10, pro-tram, Newberry Electric corporation, arranged by J.

ward Johnson.

Los Angeles, Calif. (Pacific, 252), 10:45-12:30
m., regular inording service, Church of the Open
or, sermon, Dr. William Evans; Alfred M. Butler,
anist; 6-4/3, vesper services, vocal and instruntal numbers with short scriptural talk; 7:15-9:30,
ming service of the Church of the Open Door, musical
gram arranged by C. M. Books; Alfred M. Butler,

organist.

KNX, Hollywood, Calif. (Pacific, 337), 4 p. m., Salvation Army band; address, Mrs. Evangeline Booth

hotel concert orchestra, Josef Rosenfeld, director; 9-11, program El Encanto Apartments.

KOA, Oenver. Colo. (Mountain, 322.4), 11 a. m., services, First Congregational church, Rev. Robert Hopkin, pastor; 7:36 p. m., First Church of Christ Scientist.

KPO, San Francisco, Galli, (Pacific, 423), 11-2 p. m., church services, Rev. Samuel Blacknery; soloist, Georgo Carson, barltone; Theodorer J. Irwin, organist; 8:30-10, concert, Rudy Seiger's Fairmont hotel orchestra.

KYW, Chicago, III. (Gentral, 535.4), 11 a. m., Central church service, Dr. F. F. Shannon, pastor; 4-5 p. m., studlo concert; 7, Chicago Sunday Evening club, Dr. Harry E. Fosdiek, speaker.

Harry E. Foudiek, speaker.

WBAP, Fort Worth, Texas (Central, 472.9), 11 a. m.,
scruces, Flrst Methodist church, Rev. J. W. Bergin;
Will Foster, organist; 4 p. m., concert, Rialto theater;
11-12, midnight frolles, Ted Miller's Crazy hotel

orchestra.
WBBR, New York, N. Y. (Eastern, 273), 9:10 p. m.,
I. B. S. A. choral singers; 9:20, vocal duets, Thyra
Lundberg, Fred Franz; 9:30, "The Joy of the People,"
Judge Rutherford; 10:10, vocal solos, Fred Franz;
10:20, I. B. S. A. choral singers.

# QUEEN TITANIA AND SANDMAN AT KHJ

#### Monday, January 26

(Continued from page 10)

WHAZ, Troy, N. Y. (Eastern, 380), 9 p. m., Rensselaer Polytechnic institute students' program; address, mem-ber of faculty; 10:30, Palladino orchestra. WHB, Kansas City, Mo. (Central, 414.1), 2-3 p. m., ladles' hour program, Sweeney Radio trio; 7-8, address, member of factulty of Sweeney school; music, Sweeney Radio trio

ladles' hour program. Sweeney Radio trio; 7-8, address, member of factulty of Sweeney school; music, Sweeney Radio trio.

Radio trio.

WHN, New York, N. Y. (Eastern, 369), 5-6 p. m., Charles Taylor and his Southeeneers orchestra; 6:30-7:10. Vincent Catanese and His Hotel Alamac orchestra; 7:10-7:20 fashion chats, Mme. Belle; 7:20-7:30. Hotel Carlton Terrace orchestra; 7:30-7:35.

"Spring Styles," Haas Brothers Fabric corporation; 7:35-8. Hotel Carlton Terrace orchestra; 7:30-7:35.

"Spring Styles," Has Brothers Fabric corporation; 7:35-8. Hotel Carlton Terrace orchestra; 8:305. Storage Batteries," H. B. Shontz; 8:05-8:30, Roseland danee orchestra; 8:50-9:20, Litmann's employees' orchestra; 9:35-10, Dan Gregory and his Crystal Palace orchestra; 10-11, Jack Shaek direct from Radio Shaek VHO, Des Moines, lowa (Central, 522.3), 7:30-9 p. m., Stewart Watson; classical program, Dean Hoimes Cowner, director.

VIP, Philadelphia, Pa. (Eastern, 509.9), 1 p. m., Gimbel tea room orchestra; 3, Combs Conservatory of Music; 6:05-8-100 st., James dinner orchestra; 7, Uncle Wip's beddime stories.

VIID, Mooscheart, III. (Central, 302.8), 3:30-4:30 p. m., music, Mooscheart children, assembly, talks, members of taculty; 6:45-7:13, Albert F. Brown, organist; 7:15-8:15, Novelty orchestra, talk, Ben Oswait, athletic coach; 11:30-12:30, organ, A. F. Brown.

VIZ, New York, N. Y. (Eastern, 455), 10:20-10:30 a. m., "The Use and Abuse of Clothes" Mrs. Julian Heath; 10:40-40:50, "A Five Letter Word Meaning Beef," John C. Cutting; 10:50-11, Eleanor Gunn's Hotel Ambassador trio; 4-4:30, Eleabeth Globs, contraito; Marie Nicholson, soprano; Keith McLeod, pian-

VSB, Atlanta, Ga. (Central, 429), 12 m., entertainment; 5-6 p. m., songs and bedtime story, Bonnie Barnhardt; 8-9, concert, Alumni Association of Emory university; 10:45, Warner Seven Aces.
(WI, Detroit, Mich. (Eastern, 516), 8:30 p. m., the Detroit News orchestra; Eugene Wilson, baritone; Margaret Foy, soprano.

#### Tuesday, January 27

Tuesday, silent night for: KFAE, KFKU, KFKX, KFNF, KOA, KOB, PWX, WAHG, WBAV, WBBF, WBBG, WBBR, WCAL, WCAP, WCBD, WDBF, WCBO, WEMC, WGST, WHAZ, WHO, WOC, WOI, WOO, WOS.

CKAC, Montreal, Can. (Eastern, 425), 7 p. m., kiddies' stories in French and English; 7:30, Windsor hotel dance concert, 8:30, studio entertainment; 10:30, Windsor hotel dance program.

CKY, Winnipeg, Can. (Central, 450), 7:30 p. m., university lecture; 8:15, studio concert.

CNRA, Moncton, N. B. (Eastern, 313), 8:30 p. m., program, St. John artists, Dr. P. L. Bonnell, director; popular dance music, Joe Mazziec and his Rainbow Melody boys.

orchestra; 9-10, concert hour; 10-11, Earl Gray and his Hotel Butler orchestra.

KYW. Chicago. Ill. (Central, 535.4), 6:30 a. m., morning exercises; 11:23, table talk, Mrs. Anna J. Peterson; 4 p. m., studio frolic; 6:02-6:18, news; 6:35-7. children's bedtime story, Uncle Bob; 7-7:30, dinner concert, Congress hotel; 8-8:20, Stella Wrenn, soprano; Irving P. Schuster, tenor; Ned Santry, tenor; W. E. Hunter, bag puncher; 8:20-8:45, speeches, auspices, American Farm bureau federation; "Monthly Analysls of Farm Markets," H. W., Moorhouse; 8:45-9:30, musical program; 10-11:30, evening at home program, Coon-Sanders Original Nighthawks; 11:05, "Applesauce club."

WBAP, Philadelphia, Pa. (Eastern, 509.9), 1 p. m., Karl Bonawitz, organist; 3, Cliiford Burnett, bartione; Stiver Bell quartet; 8:15, Philadelphia Police band; 9, Stetson chorus; 10:05, songs, Mark Fisher; 10:15, 29, Stetson chorus; 10:05, songs, Mark Fisher; 10:15, albert F. Brows, organist; 7:10:30, Harvey Marburger's dance orchestra.

WBAP, Philadelphia, Pa. (Eastern, 509.9), 1 p. m., Karl Bonawitz, organist; 3, Cliiford Burnett, bartione; 30:1000, p. M. Stets on chorus; 10:05, songs, Mark Fisher; 10:15, 20, Stetson chorus; 10:05, Songs, Mark Fisher; 10:15, 20, Songs, Mark Fisher; 10:15, 20, Setters 4, 10:10, Sundari 4, Pa. Valar Valar 4, Pa. Valar Valar 4, Pa. Valar Valar 4, Pa. Valar Valar 4, Valar Valar 4, Valar 4, Vala



Marguerite McGuiness (left) was a favorite with the audience of WEAR when that station was operated as WJAX. Although WEAR is operated

CNRR, Regina, Can. (Mountain, 420), 9 p. m.. weekly bedtime travel tales; Mrs. Colin Faunt's concert party. becutime travet tales; Mrs. Colin Faunt's concert party.

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

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

4:30-5:30, Fred Hall's Royal Terrace orchestra;
Bernhard Levitow Hotel Commodore dinner cont; 8-8:10, Wall Street Journal review; 8:10-8:20,
merlean History," Dean M. S. Brown; 10:45-11:45,
ques Green and his Club Deauville orchestra with
rk's Hawalians.
Chicago, Ill. (Central, 344.6), 12 m., music nums, Nubs Allen; 3:45-4:45 p. m., "The Care of the
man Offender," Jessie Binford; "Fun for the
mily," Mrs. Samuel MacClintock.
/, Cincinnati, Ohio (Central, 423), 8 a. m., physical
reises, William Stradtman; 12:15 p. m., Williamson
ertainment and review; 6, dinner hour program,
centnati Post; 8, Times Star program, Times Star
hestra playing overture: "The Merry Wives of
ndsor," "Whispering Flowers," "The Chimes of
rmandy," "Golly Woggles Cake Walk," "Entre
t" Valse, Finale; "Scenes from Rigoletto"; Howard
ford, tenor; Karl Kirksmith, first cellist; Kathryn
ee Haun, soprano; Ewald Haun, flutist; Mairjorie
rrigus Smith, Thomie Prewitt Williams, accomlists. FSG. Los Angeles, Calif. (Pacific, 278), 10:30-II:33 a. u., sunshine hour, 3:30-4:30 p. m., organ recital Esther Fricke Green and assisting artists, 6:30-7:30 children's hour, presenting Harry James Beardsley (Uncle Jim).

(Uncle Jim). KGO, Oakland, Calif. (Pacific, 312) I1:30-1 p. m. luncheon concert. Pacific States Electric company; 4

dance music, Henry Halstead's orchestra.

KGW, Portland, Orc. (Pacifit, 492), 12:30 p. m., concert; 5, children's program story, Uncle Dave; 8, lecture, "Glass—a Vegetable Garden Asset," A. G. Boquet; 8:30, concert; 10, Multnomah Hotel stroller, KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-13:30 p. m., news and music; 2:30-3:30, program, Pacific States Electric company, Grace Currey, harpist; Mary Newkirk Bower, soparno; 6:43:00, Art Hickman's Bittmore hotel concert orchestra, Edw. Fitzpatrick, director; 6:30-7:30, little stories American history, Prof. Walter Sylvester Hertzog; weekly visit of Queen Titania and the Sandman from Faityland; Uncle John; 8:10, program, Gistenwalter and Gough, presenting the Zenith tric; 10-11, Earl Burtnett's Biltmore hotel dance orchestra. riationd, shore; Karl Kirksmith, first cellist; Kaltist, Maryine Reese Haun, soptance; Ewald Haun, fullitist; Maryine Garrigus Smith, Thomic Previtt Williams, accompany Grass Curry, Indian, 1988. Colored, 1998. Colored, 1999. P. M., Los Angeles, Calif. (Pacific, 395), 12:30-130 May MAQ, Chicago, that Carry Indian, 1999. P. M., p. M., C. A. 6:30-7:30, vegetal, Dallas Woman's Council, Mrs. 3 Dillot package, 1999. P. M., bed-time stories; Uncle Pervy; 3:30, special organ rectal, which is considered to construct the concert orchesters. Edw. Pitzpatrick, director; 6:30-7:30, little stories American history, Prof. W. M. C. A. 6:30-7:30, vegetal, Dallas Woman's Construction of the Carry of th

now by the Goodyear Tire and Rubber company, Mrs. McGuiness will still ap-pear on the programs arranged by the Cleveland News-Leader on Tuesday eve-

Cleveland News-Leader on Tuesday evec
WCCO, Minneapolis-St. Paul, Minn. (Central, 419.3), 10:45 a. m., home service, "Recipe Exchange," Betty Crocker; 2 p. m., woman's hour, "How Minnesota Administers Agricultural Problems," Dean W. C. Cofcy; 2:15, woman's hour, "How Minnesota Administers Problems Relating to Public Domain such as Drainage and Waters, Timber and Forestry," Lt. Governor W. I. Nolan; i, magazine hour, "Grass: A Persian Epic of Migration," Merian C. Cooper; 5:30, children's, hour, Gold Medal Lady; 6:30, dinner concert, Biley's concert orchestra; 7:30, "How to File Income Tax Returns," Charles H. Preston; 7:45. "Invitation to the Business Men of the Northwest to Attend the Market Week Show," Governor Theodore Christianson, WCX, Detroit, Mich. (Eastern, 516), 4:15 p. m., music; 6, dinner correct, Book-Cadillae hotel; 7, musicale; 10, the Red Apple club.

WDAF, Kansas City, Mo. (Central, 414.1), 3:30-4:30 p. m., the Star's Radio trio; 5-5:30, weekly child talent program; 6-7, school of the air, piano tuning in number on the Duo-Art; skteenth of a series of Radio plano lessons, Maudellen Littlefiel; the Tell-Me-a-Story Lady; music, Hotel Muehlebach Trianon ensemble: II:45-1 a. m., nighthawk frolic, the "Merry Old Chief," and the Plantation players.

WDAR, Philadelphia, Pa. (Eastern, 395), 11:45 a. m., daily almanae; 12:02 p. m., Stanley theater organ recital; Arcadia cafe concert orchestra; 2, Arcadia cafe concert orchestra; 2, Parcadia cafe concert orchestra; 2, Parcad

WEE1, Boston, Mass. (Eastern, 303), 6:30 p. m., Big Brother club; 7, Dok-Eisenbourg and his Sinfonlans; 8-11, programs from New York studio, Eveready

Hour.

WFAA, Dallas Texas (Central, 472.9), 12:30-1 p. m..

Charles E. Osborne, physical director of the Dallas
Y. M. C. A.; 6:30-7:30, vesper musicale, Lone Star

Flve's orchestra; 8:30-9:30, recital, Dallas Woman's

forum; 11-12, organ recital, Dwight Brown.

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

Davis Bellevue Stratford concert orchestra; 3:05, Phila
delphia Music club; 6:30, Meyer Davis Bellevue Strat
ford concert orchestra; 7, Sunny Jim, the kiddies' pal;

8, play by Walter Gray players; 9, Everready hour;

10, Goodrich Silvertown Cord orchestra.

WAN Chiegon III, Central, 376, 7, 1,140 p. m., juncheon

nings. These merry gentlemen are mem-bers of the Mark Strand male quartet, heard Monday evenings at Station WEAF, New York.

WEAF, New York.

VI.S. Chicago, III. (Central, 344.6), 12-1 p. m., Jinur Whelan, Irish tenor; "Selection and Breeding of Dah Cattle." Prof. W. W. Yapp; 3:45-4:45, First District of Illinois Federation of Women's clubs; 6:25, Raip Emerson, organist; 6:50, Senate theater studio; Inllaby time, Ford and Glenn; 7:15, Metropolite ladles' quartet; Grace Wilson, contraito; 7:45, juveni adventures, Anthony Wons; 8-9, Isham Jones and h College Im orchestra; Ford and Glenn; Kenuel Clark, Hawaiian guitarist; "Selection and Breeding Clark, Hawaiian guitarist; "Selection and Breeding Clark, Hawaiian guitarist; "Selection and Breeding of Clark, Hawaiian guitarist, soprano; 9:10, "Much Ado Abo Nothing," Anthony Wons; 9:30, Kenneth Clark, Hawaiian guitarist; 9:40, Art Kahn and his Senate theat syncopators; 10:30, Isham Jones and his College Ir orchestra; 10:40, Ford and Glenn time; 11, vauderil talent, Carrell agency; 12, Ralph Emerson, organis Isham Jones and his College In orchestra; Ford an Glenn.

VI.W. Cincinnati, Ohio (Central, 423), 8 a, m., physic

Griggs; 11, midnight frolle, Rhinehardt's orchestra.
WNJ, Newark, N. J. (Eastern, 233), 10:30-11 p. m.,
Frank Daily and his famous Meadowbrook orchestra;
11-11:30, Jinmy Clark and his Broadway entertainers;
11:30-12, Original Dixteland Jazz band; 12-12:30 a.
m., Frank Daily and his Meadowbrook orchestra.
WNYC, New York, N. Y. (Eastern, 528.8), 7:30 p. m.,
police alarms; 7:35, sports analysis, Thornton Fisher;
3:30, "Thrift," Albert Firmin; 8:50, vocal and instrumental recitals; 9:30, Colonel Jamos Churchward, geologist and world traveller; 10:10, Board of Education
lecture.
WOAI, San Antonio, Texas (Central, 394.5), 8:30 p. m.,
selections from light operas, WOAI entertainers; WOAI
trio; Jinmy's Joys orchestra.
WOI, Ames, lowa (Central, 360), 12:30 p. m., college
chimes; "Selection of Poultry Breeding Stock;" Prof.
W. H. Lapp.

enimes; "Selection of Poultry Breeding Stock," Prof. W. H. Lapp.

WO. Philadelphia, Pa. (Eastern, 509.9), 11 a. m., organ recital, Mary E. Vogt; 12:02 p. m., Wanamaker crystal tea room orchestra, Robert E. Golden, director: 4:45, organ recital, Mary E. Vogt.

WOR, New York, N. Y. (Eastern, 405), 7 a. m., gym class, Arthur E. Bagley; 3:30 p. m., book reviews, Mae Jacobus Flemming; 6:15 p. m., "Music Whilo You Dine," Halsey Miller's orchestra; 6:30, "Man in the Moon" stories, Josephine Lawrence, William F. B. McNeary; 7, "Music While You Dine," Halsey Miller's orchestra. (\*30, "Man J. B. Morse, authority on the manufacture of candy; "Mah Jongg Party," Josephino Navier, "Health Inheritanco," Dr. Anna E. Blout; "Sugrestions for Washington and Lincoln Parties," Agnos May Allen; 7-8, dhiner concert, Ralph Williams and bis Rainbo Garden orchestra; (Continued on page 12)

# ROSALIE STEWART TO TALK AT V

#### Where to Hear Concerts

Central Standard Time

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

Sunday, January 25: 6:20, WEEI; 6:30, WLS; 7, KYW, WJZ, WLS; 7:30, WBZ; 8, WCBD, WJZ, WNYC, WQJ; 8:10, WBBR; 8:15, WEMC; 8:30, KHJ, WLW; 9, CKY, KFDM, KFI, KFSG, KGW, KHJ, WGN. WJZ, WOAW; 9:10, WBBR; 9:15, WCCO; 9:30, WFAA, WOAI, WOC; 10, KFI, KHJ, KNX; 10:30, KPO; 11, KNX; 12, KFSG.

NX, KPO.

Tuesday, January 27: 6, KGO, SD. WCX, WEBJ, WGN, WLW, MAQ; 6:25, WOAW; 6:30, CKAC, PO, WCCO, WFAA, WGN; 6:45, JJD, WTAY; 7, KDKA, WCAU, LEH, WFI, WGY, WLS, WQJ; 7:15, IP, WIJD, WLW; 7:30, CKAC, KFI, BAP, WBZ, WCAE, WHAS, WWJ; 50, WNYC; 8, KFDM, KHJ, KNX, SD, WCAE, WFI, WGN, WGR, HB, WIP, WIZ, WLBL, WSB; 8:15, CY, KFI, WREO; 8:30, WFAA, OAI; 8:45, CFAC, KFOA, KYW; 9, CAE, WHN, WIY, WLS, WOAW; DS, WIP; 9:15, WMAQ; 9:30, CKAC, BAP, WIY; 10, KDKA, KGO, KHJ, IS, KNX, KPO, WLS, WLW, WQJ;

10:30, KGW, WBZ; 10:32, WGT; 24, KNX, KSND, WFAA, WLS; 12, KFI, KNX, KSND, WFAA, WLS; 12, KFI, KNX, KPO, WLS.

Wednesday, January 28: 6, KGO, WCX, WEEI, WGN, WLW; 6:30, KFNF, KPO, WAHG, WGN, WOO; 6:45, KSD, WCAE, WJJD, WTAY; 7, KYW, WCAU, WEAO, WEEI, WLS, WLW, WNYC, WQJ; 7:10, WBBR; 7:15, WEAO, WGR, WJJD; 7:25, WJZ; 7:30, KDKA, PWX, WAHG, WBAP, WBZ, WCAE, WHAS, WHB, WHO, WWJ; 7:40, WBBR; 8, KHJ, KNX, KYW, WCAU, WDAF, WGN, WOC; 8:15, WEMC, WOR; 8:30, WMAQ, WOS; 8:45, CFAC, KFOA, KYW, WNYC; 9, KNX, KOA, WCCO, WEEI, WHO, WOR, WTAY; 9:15, WGR; 9:30, KDKA, KFI; 9:45, KYW, WMAQ; 10, KGW, KHJ, KNX, KPO, WEEI, WNJ, WQR; 11:30, KYW; 12:30, KYW.

Thursday, January 29: 6, KGO, WCX, WGN, WLW, WMAQ; 6:30, KFNF, KPO, WCCO, WFAA, WGN; 6:45, WCAE, WOAW, WTAY; 7, KDKA, KFKU, KYW, WBBF, WDBY, WEEI, WFI, WGST, WGY, WIP, WLS, WOAC, KCY, KHJ, KNX, WCO, WCBD, WEEI, WGN, WHB, WSB; 8:02, KYW; 8:10, WBBR; 8:15, WOI, WOS, WREO; 8:30, WFAA, 8:50, WBBR; 9, WCAE, WCAL, WEEI, WLS, WOAW; 9:35, WNYC; 10, CFAC, KDKA, KFI, KGO, KHJ, KJS, KNX, KPO, KYW, WQJ; 10:03, WLW; 10:30, WGY; 10:55, WSB; 11, CFAC, KFI, KPO, WIJZ, WMAQ; 6:30, KFNF, KPO, WCCO, WEBJ, WEEI, KFI, KFSG, KPO.

Priday, January 30: 6, KGO, WEBJ, WEEI, WGN, WJZ, WMAQ; 6:30, KFNF, KPO, WCCO, WEBJ, WEBI, WCEI, WGN, WJZ, WMAQ; 6:30, KFNF, KPO, WCCO, WEBJ, WEEI, KFI, KFSG, KPO.

CFAC, KFI, KPO: 11:15, KFSG; 12, KFI, KFSG, KPO.

Friday, January 30: 6, KGO, WEBJ, WEEI, WGN, WJZ, WMAQ; 6:30, KFNF, KPO, WCCO, WEBJ, WFAA, WGN, WMAQ; 6:45, WJJD, WTAY; 6:50, WGY; 7, KYW, WAHG, WBAV, WCAU, WEBJ, WEEI, WHB, WLS, WQJ; 7:15, WJJD; 7:25, WOO; 7:30, KDKA, WBAP, WCAE, WCCO, WDAR, WEBJ, WGY, WHAS, WHO, WJY, WNYC, WWJ; 8, CFAC, KFDM, KHJ, KSD, WEEI, WGN, WGR, WOC, WSE; 8:15, CKY; 8:30, KNX, WFAA, WHO; 8:45, KFI, KFOA, WJZ; 9, KOA, KYW, WEMC, WBZ, WCCO, WEEI, WLS, WNYC, WOAW; 9:10, WHN; 9:30, KFAE, WEMC, WGY; 9:35, WNYC; 10, KFAU, KHJ, KNX, WNJ, WLS, WOAW, WJ; 10:05, WEMC; 10:30, KFOA; 10:55, WSB; 11, KFI, KSND, KYW, WLS; 11:15, KFSG; 10:30, WJJD; 12, KFI, KFSG, KNX, WLS; 12:30, KYW.



diner concert, William Penn hotel; 7:30, Uncle Kaybee; 7:45, special feature; 8:30, concert, artists and orchestra, Nixon restaurant.

WCAU, Philadelphia, Pa. (Eastern, 278), 6 p. m., Hotel Pennsylvania dance orchestra, Ray Steem, director; 7:30, fashion talk, Mile. Madelaine; 8, Bryer Ice Cream company's half hour of songs; 9, recital.

WCCO, Minneapolis-St. Paul, Minn. (Central, 419.3), 10:45 a. m., "Home Management," Bernice Bell; 2 p. m., woman's hour, Buchanan Bible study club; 2:30, children's hour, Alpha Stalson; 7, midweek church service, Salvation Army, Col. W. S. Barker; 9, musical program, 10, dance program, Arnold Frank's Casino orchestra (CX, Octroit, Mich. (Eastern, 516), 4:15 p. m., music, 6, dinner concert, Book-Cadillac hotel; 7, musical program

#### Tuesday, January 27

(Continued on page 11)

Davie Dillow, soprano; the Excelsior quartet, m., Ralph Williams and his Rainbo skylarks, id Ches; Nubs Allen, contraito; Will Rossiter; Vhalen and Gardner; Nate Caldwell, ansing, Mich. (Eastern, 288.5), 8:15-9:45 p. m., tor Car company band; Reo Glee club; faculty

etroit, Mich. (Eastern. 516), 3 p. m., the News orchestra: 8:30, the Adanac male quartet ohn McDermott, soprano.

#### Wednesday, January 28

ednesday, silent night for: CKY, KFKU, KFOM, KFKX, KGO, KJS, WBAV, WBBF, WCAL, WCBO, WEBJ, WFAA, WGST, WGY, WHAZ, WJY, WLBL, WMAK, WMC, WOAI, WGAW, WOI, WRC, WREO, NRM, Montreal, Can. (Eastern, 341), 8:30 p. m., "Aria from 'Horadladed," "Two Grenadlers," "Evening Star," Max Pantelcef, baritone; "Elizabeth's Prayer, "Tannhauser," 'I Know a Hill," Mrs. Harold Mills. soprano; "Etnde, Op. 25, No. 11," Olga Guiland, "Song of the Flea."

KFAE, Pullman, Wash. (Pacific, 330), 7:30-3 p. m., Lusinn Barakian, soprano; Frederick C. Butterfield, planist; talk on commercial art, Worth D. Griffin; talk, Dr. Carl I. Erickson; U. S. health bureau talk; Radio talk No. 5, selectivity, Dean H. V. Carpenter; Demonstration Meetings on Clothlog, T. E. Belle Algar. (Pacific, 238), 71:15-8 p. m., Pointers on Dairy Farming, E. V. Ellington. KFI. Los Angeles, Calif. (Pacific, 469), 5-5:30 p. m., Evening Herald, table talk and news; 5:30-6, Exam-

WEAO. Columbus, Ohio (Eastern, 294), 8 p. m., university chimes, Prof. A. P. McManlgal; 8:15 p. m., concert, community chorus of Washington Court House, Obio; Ruth Reid Fenner, piano; Raymond K. Hollinger, bartione.

WEEI, Boston, Mass. (Eastern, 303), 6:30 p. m., Big Brother club; 7, Shawmut Juvenile syncopators, Lou Lissack, director; 7:45, "The Bad Boy from the Good Home," Harry Einstein; 8, musicale; 9, Gillette Safety Razor dance orchestra; 10, program, Ernest A. L. Hill; 11, Fenway theater midnight organ rectiat, Lloyd G. Del Castillo.

WEMC, Berrien Springs, Mich. (Central, 286), 8:15-9:15 p. m., program, men of Maple hail.

WFAA, Oalias, Texas (Central, 472.9), 12:30-1 p. m., music, Dallas theater entertainers.

WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3:95, Radio talk, Warren Foote; "Marrative Poetry," Walter Gray; 6:30, Meyer Davis Bellevue Stratford concert orchestra; 7, Sunny Jim, the kiddles' pal.

WGN, Chicago, Ill. (Central, 376.7), 1:40 p. m., luncheon concert, Drake concert ensemble, Blackstone string quintet: 2:30, artists scries; 3, rocking chair time; 5:30, Skeezix time; 6, organ rectial, Lyon & Healy; 6:30-7, dlanner concert; 8-9, classical concert, Lyon & Healy; 6:30-7, dlanner concert; 8-9, classical concert, Lyon & Healy; 6:30-7, dlanner concert; ensemble; 6:30-7:30, dinner music, the Vincent Lopez Hotel Statler dance orchestra; Ned and Ches, jazz artists.

WGR, Buffalo, N. Y. (Eastern, 319), 12:30-1 p. m., Hotel Statler concert ensemble; 6:30-7:30, dinner music, the Vincent Lopez Hotel Statler dance orchestra, Harold Gleser, director; 8-8:15, lecture, "Some Common Superstitions in Nature." Dr. C. E. Cubblins of the Buffalo Society of Natural sciences; 8:15-9:15, Philharmonic concert, jointly with WbAF; 10:15-11:16, musical program, a quartet of the First Presbyterian church of Nlagara Falls, N. Y., 11:30, supper-dance music, vincent Lopez Hotel Statler dance orchestra, Harold Gleser, director, strips, Division, K. & I. Terminal Ra

(Centraline)

# GBS; ARCTIC EXPLORER AT WCCO



8:15, "The Winter Pruning and Spraying of Tree Fruits." T. J. Tablort; 8:30, musical program, Frank G. Robertson.

Wol, Chicago, III. (Central, 444.8), 11-12 m., "The Influence of Corsets on Women's Health," Mrs. Bertha Bridge; "Some Mid-Winter Cleaning Hints," Mrs. Wilbur E. Fribley; health talk on the value of yeast, H. J. Schinkel; 3-4 p. m., "Fourth Lesson, Domestic Science Course." Mrs. Helen Harrington Downing: "Meat in the Diet," Martha Logan; "Horseback Through the Trail of the Lonesome Pine," Roy J. Snell; 7-8, Ralph Williams and his Rainbo Garden orchestra; Merrie Boyd Mitchell, soprano; James Mitchell, baritone; Rev. Karl Scheroffski, planist; 10-2 a. m., Ralph Williams and his Rainbo skylarks; Fred Jacobsen, Swedish monologuist; the Melodians; the Rogers boys; Nate Caldwoll.

WSB, Atlanta, Ga. (Central, 429), 12 m., entertainment; 5-6 p. m., songs and bedtime story, Bonnie Barnhardt; 10:43, Pilgrim quartet.

WTAY, Oak Park, III. (Central, 250), 6:45-7:45 p. m., Howard Hanks, planist; Nina Joslyn, soprano; Richard Joslyn, bartione; 9-10, ten minute technical talk, member of the staff of "Radio Age;" Spencer Laverne and Shayne, the Xylophone Harmony kings; Grace Wilson, blues singer.

WWJ, Oetroit, Mich. (Eastern 516), 8:30 p. m., the Detroit News orchestra; Templeton Moore, tenor.

#### Thursday, January 29

Thursday, silent night for: KFAE, KFKU, KFOM, KFOA, KGW, KOA, KSD, KSND, PWX, WAHG, WBAU, WBBG, WZZ, WCAP, WCAU, WEAO, WEBJ, WEMC, WGS, WHAZ, WHO, WJJO, WLBL, WNJ, WOO. WOS.

CKAC, Montreal, Can. (Eastern, 425), 8:30 p. m. special entertainment, Frontenac Brewerles studio. CKY, Winnipeg, Can. (Central, 450), 7:30 p. m., lesson in French diction and conversation, A. C. De-Lalande; 8, Canadian National Railway's program from Fort Garry hotel.

CNRC, Calgary, Can. (Mountain, 430), 9-II p. m. weekly travel tales, "Johnny and Jenny Jingles" and youthful C. N. R. travelers; Canadian National Railways Symphony orchestra; George Boothman, bartione. CNRW, Winnipeg, Man. (Central, 450), 8:15 p. m., bedtime travel tales; 8:30, The Melody Three, Elisa Brault, soprano; Lucia Hart, contralto; Margaret Fletcher, accompanist; "The Functions of an Express Foreign Department in Overseas Trade;" dance program, Frank Wright's Country club dance orchestra. (KOKA, E. Pittsburgh, Pa. (Eastern, 309.1), 12:20 p. m., Institute from Trinity church; 6:15, concert, KDKA, Little Symphony orchestra, Victor Saudek, conductor; 130, children'a period; 8, program; 8:30, concert; 11, concert, l'Ittsburgh Post studio.

KSO. St. Louis. Mo. (Central. 549.1). 4 n. m., home

Hudson.

KSO, St. Louis, Mo. (Central, 549.1), 4 p. m., home hour.

KYW, Chicago, Ill. (Central, 535.4), 6:30 a. m., morning exercises; 11:35, table talk, Mrs. Anna J. Peterson; 2:35-4 p. m., afternoon frolie; 6:35-7, children's bedtime story, Uncle Bob; 7-7:30, dinner concert. Congress hotei; 8-8:20, "Twenty Minutes of Good Reading," Rev. C. J. Pernin; 8:20-9:05, program, Chicago Association of Credit Men; 9:15, safety first talk, Chicago Motor club; 10-11:30, evening at home, Coon-Sanders Original Nighthawks.

WAAW, Omaha, Nebr. (Central, 278), 7:30 p. m., bridge talk, Mrs. Purdy.

WBAP, Fort Worth, Tex. (Central, 472.9), 7:30-8:30 p. m., dance music, "The Troubadours;" 9:30-10:45, musical program, artists of Texas Woman's college.

WBBR, New York, N. Y. (Eastern, 273), 9:10 p. m., Malcoim Carment, clarinetist; 9:20, Fred Twaroschk, tenor; 9:30, international Sunday school lesson, S. M. Van Sipma; 9:50, Fred Twaroschk, tenor; 9:30, international Sunday school lesson, S. M. Van Sipma; 9:50, Fred Twaroschk, tenor; 10:10, Malcoim Carment, clarinetist; 9:20, Fred Twaroschk, tenor; 10:10, Malcoim Carment, clarinetist; 9:20, Gred Twaroschk, tenor; 10:10, Malcoim Carment, clarinetist; 9:20, Fred Twaroschk, tenor; 10:10, Malcoim Carment, cl

#### Where to Hear Talks

Central Standard Time

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

Saturday, January 24: 6, WDAF, WOAW; 6:15, WBZ; 6:45, WCAE; 7, KFI, WFI, WJZ; 7:15, WBBR, WJZ; 7:30, WJZ, WCO, WJZ, WLS, WNYC; 8:30, KHJ, KOB, WMAQ; 8:45, KFI, WNYC; 9:05, KYW, WEMC; 9:10, WNYC.

Sunday, January 25: 8:45, KFI, WBBR; 9, WJY.

Monday, January 26: 6, WDAF; 6:10, WHN; 6:15, WBZ, WGY; 6:30, WBZ, WHN; 6:35, WNYC; 6:45, WCAE; 6:55, WDAR; 7, KFI, WHB, WHN, WJZ; 7:10, WJZ; 7:15, KDKA; 7:20, KSAC, WOC; 7:30, KFKU; 7:45, KFKU; 8, WCCO; 8:15, WCCO; 8:30, KOB, WOR; 9:10, WNYC; 10, KGO; 11, KPO.

Tuesday, January 27: 6, WDAF, WHN, WJZ, WOAW; 6:10, WHN; 6:15, WBZ; 6:30, WCAU; 6:35, WNYC; 6:45, WCAE, WGY; 7, KFI, WAHG, WJZ; 7:10, WJZ; 7:30, CKY, KSAC, WCCO, WJY, WNYC; 7:45, WCCO; 8, WLS, WMAQ; 8:20, KYW; 8:30, WMC, WNYC; 8:50, WMAQ; 9:10,

WNYC; 9:15, WIP; 10, KGW; 11, KFI; 11:05, KYW.

Wednesday, January 28: 6, WDAF; 6:15, WBZ; 6:30, WCAU, WHN; 7, KFI, WGR, WHB, WJZ; 7:15, KDKA; 7:20, WBBR; 7:30, KSAC, WNYC; 7:40, WJZ; 7:45, WOR; 8, WLS, WLW, WMAQ, WOS; 8:15, WOR; 8:30, KHJ, KOB, KYW; 8:45, KFI; 9:05, KYW; 10, KFAE.

Thursday, January 29: 6, WDAF; 6:10, WHN; 6:15, WBZ; 6:35, WNYC; 6:45, WGY; 7, KFI, WJZ; 7:15, KFKU, WJY; 7:30, CKY, KFKU, KSAC, WAAW, WCCO; 7:45, KFKU, WCCO, WJY; 8, KYW, WLS, WOS; 8:30, KHJ, WAAW, WBBR; 9, WMAQ; 9:15, KYW.

chestra; 12:30, Stanley theater organ recital; 2, French program of music and songs, Lillian Foster, soprano; Marcella North, planist; Mildred Tindeli, soprano; Marcella North, planist; 7:30, Dream Daddy's bedtime stories.

WEI, Beston, Mass. (Eastern, 303), 6:30 p. m., Boston Edison Big Brother club; 7, Dok-Eisenbourg and his Sinfonians; 8-11, program, New York studio.

WFAA, Oailas, Texas (Central, 472.9), 12:30-1 p. m., DeWitt McMurray, philosopher; Edmund F. Boetcher, tenor; William H. McRaven, pianist; 6:30-7:30, vesper musicale, Jack A. Davis and his Ritz orchestra; 8:30-9:30, singers, Midlotthan, L. D. Huffstatter; 11-12, Adolphus hotel orchestra.

WFI, Philadelphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Believue Stratford concert orchestra; 3:05, House-wives' Radio exchange, direction Mabel Swint Ewer; 6:30, Meyer Davis Believue Stratford concert orchestra; 7, Sunny Jim, the kiddles' pai; 8, Victor concert.

WGN, Chicago, Ili, (Central, 376.7), 1:40 p. m., luncheon concert, Drake concert ensemble, Blackstone string quintet; 2:30, artists series; 3, rocking chair time; 5:30, Skeezix time; 6, organ recital, Lyon & Healy: 5:30, Skeezix time; 6, organ recital, Lyon & Healy: 5:30, Skeezix time; 6, organ recital, Lyon & Healy: 5:30, Skeezix time; 6, organ recital, Lyon & Healy: Hole Statler concert; 8-9, classical concert, WGN artists; 10-11, Don Bestor Drake dance orchestra, WGR, Buffalo, N. Y. (Eastern, 319), 12:30-1 p. m., Hotel Statler concert ensemble; 6-7:30, dinner music, Hotel Texpe Vorchestra; 7:45, "A Few Moments with New Books," L. L. Hopkins; 8, studio program; 8:30, concert, United States Navy band; 11:30, Stephen E. Boisclair, organist.

WHAS, Louisville, Ky, (Central, 290.), 4-5 p. m., selections, Alamo theater organ; 7:30-9 one-hour concert, william W. Francisco; vocal solos, Prof. William W. Francisco; vocal solos, Prof. William W. Francisco; vocal solos, Prof. William W. Francisco; vocal solos, Central, 414.1), 2-3 p. m., laddes' hour program, Sweeney Radio trio; 8-9:30, varied hour progr

8. "Hints for Husbands," John Kennedy of Coffier's;
8-2:10, Wall Street Journal review; 8:10-8:30, N. Y.
U. Air college; 10:30-11:30, Waldorf-Astorla dance
orchestra.
WKAQ, San Juan, P. R. (Intercolonial, 360), 8:30-10
D. m., musicai concert, La Cafetera.
WLS, Chicago, Ill. (Central, 344.6), 12-1 p. m., music,
Bert White; 3:43-4:45, "What Beautiful Pictures Do
for Your Home," Margery Currey; "Recreation in the
Home," Margaret Bridge; "Preparing for the Baby,"
Ellen Rose Dickey; 6:25, Ralph Emerson, organist;
6:50, Senate theater studio; 7, "Tom Thumb," Ford
and Glenn Woodshed theater; 7:20, WLS theater presents operetta, "The 1sle of Asuwere."
WLW, Cincinnati, Ohio (Central, 423), 8 a. m., physical
exercises, William Stradinan; 12:15, noon-day concert; 4, French lesson, Madame Ida Tcimpidis; piano
recital, Adelaide Apfel; 6, dinner hour concert, Cincinnati Post, featuring Selinsky quintet; 10, throeminute message, Civil Service Department of United
States; 10:03, Cooper corporation concert, featuring
Cooper orchestra, directed by Wm. Stoess; male quartet;
Richard Pavey, first tenor; Ferd Raine, second tenor;
Herbert Schatz, baritone; Howard Fuldner, bass; Grace
Raine, accompanist.
WMAG, Chicago, Ill. (Central, 444.8), 4 p. m., household hour, Mrs. Elizaboth O, Hillier, director; 4:30,
Illinois Federation of Women's club; 6, Chicago
theater organ recitai; 6:30, Hotel LaSaile orchestra;
8, banquet of the Chicago and Cook County Bankers'
association; 9, lecture, University of Chicago; 9:15,
Walthers league program,
WMC, Memphis, Tenn. (Central, 503.9), 8 p. m., bcdtime story, Uncle Joe; 8:30, Hotel Gavoso orchestra.
WNC, New York, N. Y. (Eastern, 528.8), 7:35 p. m.,
sports, Thornton Fisher; 8, program, citizens and
officials of Borough of Queons; 8:30, Queen's night;
10:35, Queen's night.

WOAI, San Antonio, Tex. (Central, 394.5), 9:30 p. m., Jimmy Joy's dance orchestra.

Jimmy Joy's dance orchestra.

WOC, Davenport, la. (Central, 498), 9 p. m., Bernie Schulz and his orchestra; 11, Louis Connor and his LeClaire hotel orchestra; song and novelty numbers, Peter MacArthur.

WOI, Ames, la. (Central, 360), 12:30 p. m., college chimes; "Incubation," Prof. W. H. Lapp; 8:15, musical

WOI, Ames, la. (Central, 360), 12:30 p. m., college chimes; "Incubation," Prof. W. H. Lapp; 8:15, musical program.

WOO, Philadelphia, Pa. (Eastern, 509.9), 11 a. m., organ recttal, Mary E. Vogt; 12:02 p. m., Wanamaker crystal tea room orchestra, Robert E. Golden, director; 4:45, organ recttal, Mary E. Vogt.

WOR, New York, N. Y. (Eastern, 405), 7 a. m., gym class; 2:30 p. m., Gertrude Briedenbeck, pianist; 3:30, Gertrude Briedenbeck, pianist; 3:30, Gertrude Briedenbeck, pianist; 6:15, "Radio for the Layman," Albert E. Sonn, 6:30, "Music While You Dine," Tom Cooper's Country club orchestra.

WOS, Jeserson City, Mo. (Central, 429.5), 7 p. m., program, Hannibal Chamber of Commerce, from Hannibal WO, Lockago, III, (Central, 444.8), 11-12 m., "Some WO, Inclago, III, (Central, 444.8), 11-12 m., "Some Sugestions for Home Builders," L. M., Francisco; "Suggestion for Home Builders," L. M., Francisco; "Suggestion for Home Builders," L. M., Francisco; "Suggestion for Home Builders," C. E. Johnson; 7-8, dinner concert, Raphy Williams and his Rainbo Garden orchestra: Manuel Rodriguez, Spanish tenor; Lydia Lochner, contralto; Marlon Henry, pianist; 10-2 a. m., Raiph Williams and his Rainbo Garden orchestra: Manuel Rodriguez, Spanish tenor; Lydia Lochner, contralto; Marlon Henry, pianist; 10-2 a. m., Raiph Williams and his Rainbo Sylarks; Ned and Ches; Axel Christensen, planist; Grace Wilson, contraito; Hill, Hirsch, Gorny, Rosemary Hughes, soprano; Peggy McClure, WRCO, Lansing, Mich. (Eastern, 288.5), 8:15-9:45 p. m., Reo Motor Car company orchestra; Reo quartet; S. Ray Hamilton, tenor; James Lyon, baritone; Mrs. Carl Dewey, accompanist.

Dewey, accompanist.

WSB, Atlanta, Ga. (Central, 429), 12 m., entertainment:
5-6, bedtime story, Bonnie Barnhardt; 8-9, Dr. Charles
A. Sheldon, organist; 10:55, classic cuncert. Mrs.
Bess Merrill Smith, soprano, director.

WTAY, Oak Park, III. (Central, 250), 6:45-7:45 p. m.,
Mildred Broman, reader; Herbert Schaeffer, pianist;
Jerry Fullum, soprano.

Jerry Fulium, soprano.

WWJ, Detroit, Mich. (Eastern, 516), 3 p. m., The Detroit News ororchestra; 8:30, The Detroit News or-

#### Friday, January 30

Friday, silent night for: KFKX, KGO, KJS, KPO, PWX, WBBF, WBBR, WCBD, WDBY, WEAO, WGST, WHAZ, WKAQ, WMAK, WOAI, WOI, WRC, WREO.

WREO.

CKAC. Montreal, Can. (Easterh, 425), 1:45 p. m., Winsor hotel luncheon concert; 4:30, lio lessons.

CKY, Winnipeg, Can. (Central, 450), 7:30 p. m., "The Human Body as a Machine," Prof. J. C. B. Grant; 8:15, studio concert.

CNRA, Moneton, N. B. (Eastern, 313), 7:30 p. m., Uncle Air, bedtime stories; 8:30, musical program; popular dance music, Joe Mazzico and his Rainbow Melody Boys.

CNRE, Edmonton, Can. (Mountain, 450), 7:30 p. m., children's bedtime stories; 8:30, Newsboys' band of Edmonton.

Melody Boyse Muste, Joe Mazzleo and his Rainbow Conference Language Conference Can. (Castern, 400), 6:30 p. m., Luigi Edmonton. Confliders's bedtime stories; 8:30, Newsboys' band of Edmonton. Conference Can. (Castern, 400), 6:30 p. m., Luigi Romanelli and his King Edward hotel concert orchestra; 8:30, studio program, ensemble, "O Canada" the Conference Conference Canada Canada

# ROSALIE STEWART TO TALK AT WGBS; ARCTIC EXPLORER AT WCCO

#### Where to Hear Concerts

Central Standard Time

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

#### Thursday, January 29

#### Where to Hear Talks

Central Standard Time

 $T_{daily}^{ALKS}$ , instructive, serious, humorous and even frivolous, are Radiocast daily and below are listed the stations.

#### Friday, January 30

# Tuesday, January 27

#### Wednesday, January 28

l.5), 9:30 p. m.,

p. m., Bernie Connor and his novelty numbers,

p. m., college pp; 8:15, musical

Golden, director;

, 7 a. m., gym

K, planist; 3:30,

'Radlo for the
usic While You
chestra While You
chestra While You
chestra While You
chestra Bertrams;

pring, 'Borrian
Edward H. E.
for Home Buildconcert, Ralph
chestra; Manuel
her, contrain;

(Falph Williams
es; Axel Chrisigy McClure,
igy McClure,
igy McClure,
igy McClure,
igy Mrs. Carl

entertainment; 3-9, Dr. Charles concert, Mrs.

:45-7:45 p. m., aeffer, pianist; 3 p. m., The troit News or-

30

DBY, WEAO

1:45 p. m., lo lessons. 30 p. m., "The C. B. Grant;

, 7:30 p. m., isical program; 1 his Rainbow

op. m., Luigi neert orchestra; anada;" "Men t; "Dear Little r," Eva War-rland Misener, ow Sleeps the lito; "Song of uet, "Miscrere gton and Bran-till the Glass," (a," "Serenade,"

"Mother My Dear," "My Hardel F. Downing, "Mother My Dear," "My Life Has Crept," George Aldcroft, barltone; vloia solo, Erland Misener, "Linden Lea," "Noah's Ark," Marion Copn, contraito; quartet, "Good Might Beloved." 9 address; 10:30, Luigi Romanelli and his King Edward hotel dance orchestra. KDKA, E. Pittsburgh Pa. (Eastern, 309.1), 7 a. m., morning exercises, O. Shaunon; 8, morning exercises, 12:20, m., Sunday school lesson, J. C. Mace, W. M. C. A. Sunday school lesson, J. C. Mace, W. M. C. A. Sunday school lesson, J. C. Mace, W. M. C. A. Sunday school lesson, J. C. Mace, W. M. C. A. Sunday school lesson, J. C. Mace, W. M. C. A. Sunday school lesson, J. C. Mace, W. M. C. A. Sunday school lesson, J. C. Mace, W. M. C. A. Sunday school lesson, J. C. Mace, W. M. C. A. Sunday school lesson, J. C. Mace, W. M. C. A. Sunday school lesson, J. C. Mace, W. M. C. A. Sunday school lesson, J. C. Mace, W. M. C. A. Sunday school lesson, J. C. Mace, W. K. Fatter and Llosay, planist; Erma Nelson, reader; "Reading in Preparation for Travel in Europe," Carl M. Brewster, "Essentials of Successful Farm Managomeni," George Severance; "Survey of New Books," Allee L. Webb; "First Care of Isaby Cricks," W. D. Buchanan.
K. K. J. W. B. Buchanan.
K. H. J. Suse, Idaho (Mountain, 275), 8 p. m., Ed. Hoffman, barttone; Mrs. Fred Rankin, soprano.
K. F. J. Les Angeles, Calif. (Pacific, 469), 5-5:30 p. m., Evening Herald, table talk and news; 5:30-6, Examiner, voillands, and Carolina Reno, planist. (Continued on page 14)

Latange; 8, Canadian National Railway's program from Fort Garry hotel.

CNRC, Calgary, Can. (Mountain, 430), 9-11 p. m., weekly travel tales, "Johnny and Jenny Jingles" and youthful C. N. R. travelers; Canadian National Railways Symphony orchestra; George Boothman, barlione. CNRW, Winnnipeg, Man. (Central, 450), 8:15 p. m., bedtime travel tales; 8:30, The Melody Three, Elisa Brault, soprano; Lucia Hart, contralto; Margaret Fletcher, accompanist; "The Functions of an Express Foreign Department in Overseas Trade;" dance program, Frank Wright's Country club dance orchestra. KOKA, E. Pittsburgh, Pa. (Eastern, 309.1), 12:20 p. m., Institute from Trinity church; 6:15, concert, KDKA, Little Symphony orchestra, Victor Saudek, conductor; 7:30, children's period; 8, program; 8:30, concert; 11, concert, Pittsburgh Post studio.

KFI, Los Angeles, Calif. (Pacific, 469), 5-5:30 p. m. Evening Herald, table talk and news; 5:30-6, Examiner's musical half hour; 6:45-7, Y. M. C. A. speaker; 7-7:30, dance orchestra; 7:30-8, Retta King Nelson, mezzo-soprano; Philip Musgrave, cello; female quartet; 8-9, program, Standard Oll company of California; 9-10, Examiner, program, Zoeliner Conservatory of missic; 10-11, voca and Instrumental.

KFKU, Lawrenco, Kans. (Central, 275), 6:50 p. m. planot tuning-in number; 7, music, Prof. Valler Whitlock, tenor; university string quariet; 7:15, "Americanization," 17tof. F. W. Blackmar; 7:30, chemistry

6:30, Kpo, 9:05, Wjz, Webh, 10:15, e b h, Whn, Kyw; Kgo,

29: 8, Whn, Wex, Wdar, 9:30, Vnj, Ksnd, 10:30, Vnj, Webh, 11:45, Khj, 12:05, Kyw,

dinner concert, William Penn hotel; 7:30, Uncle Kaybee; 7:45, special feature; 8:30, concert; 10, concert, Goodrich Silvertown orchestra.

WGAL, Northfield, Minn. (Central, 360), 9 p. m., musical program.

WGB, Zion, Gentral, 344, 61, 8 p. m., mixed quartet; the Miss Hollingshead. Mrs. Hire, Mrs. Huth; Mrs. L. J. Hire, harpist; Miss Hollingshead, flutist; Mrs. C. J. Hire, harpist; Miss Hollingshead, flutist; Mrs. C. J. Hire, harpist; Miss Hollingshead, flutist; Mrs. G. J. Hire, harpist; Mrs. B. D. J. Miss Goptano; Joseph Bishop, baritone; Mrs. S. D. J. Miss Goptano; Joseph Bishop, baritone; Mrs. S. D. J. Miss Goptano; Joseph Bishop, baritone; Mrs. Hulds Klammer, reader.

WCCO, Minneapolis-St. Paul, Minn. (Central, 419.3), 10:45 a. m., home service, Betty Crocker; 2 p. m., "The Popular Concert," Mrs. Agnes Fryberger; 4, magazine hour, "William the Conqueror: Part One," 5:30, children's hour, Gold Medal lady; 6:30, dinner concert, Dick Long's Nankin cafe orchestra. Kater Brothers quartet; 7:45, "True Value of Arctic Work," Donald McMillan; 8-9, musical program; 10, dance program, Dick Long's Nankin cafe orchestra.

WCX, Detroit, Mich. (Eastern, 5:61), 4:15 p. m., music; 6, dinner concert, Book-Cadillac hotel; 7, musical program.

WDAF, Kansas City, Mo. (Central, 414.1), 3:30-4:30 p. m., the Star's Radio orchestra; 6-7, school of the altr, piano tuning-in number on the Duo-Art; Ceclle Burton, reader; address, one of a series of book talks, Louls Mecker; the Tell-Me-a-Story lady; musle, Hotel Muchicbach Trlanon ensemble; 11:45-1 a. m., night-

Ellen Rose Dickey; 6:25, Ralph Emerson, organist; 6:50, Senate theater studio; 7, "Tom Thumb," Ford and Glenn Woodshed theater; 7:20, WLS theater presents operetta, "The Isle of Asuwere."

WLW, Gincinnati, Ohio (Central, 423), 8 a. m., physical exercises, William Stradtman; 12:15, noon-day concert; 4, French lesson, Madame Ida Telmpidis; planorecital, Adelaide Apfel; 6, dinner hour concert, Clincinnati Post, featuring Selinsky quintet; 10, throeminute message, Civil Service Department of United States; 10:03; Cooper orporation concert, featuring Cooper orchestra, directed by Wm. Stoess; male quartet; Richard Paev, first tenor, Ferd Ralne, second tenor; Horbert Schatz, baritone; Howard Fuldner, bass; Grace Raine, accompanist.

WMAK, Lockport, N. Y. (Eastern, 265.5), 12 midnight, Xfurray Whiteman's Midnight serenaders.

WMAQ, Chicago, Ill. (Gentral, 444.8), 4 p. m., household hour, Mrs. Elizabeth O. Hiller, director; 4:30, Illinois Federation of Women's clubs; 6, Chicago theater organ recital; 6:30, Hotel LaSalle orchestra; 8, banquet of the Chicago and Cook County Bankers' association; 9, lecture, University of Chicago; 9:15, Watthers league program.

WMC, Memphis, Tenn. (Central, 503.9), 8 p. m., bedtime story, Uncle Joc; 8:30, Hotel Gayoso orchestra. WNYC, New York, N. Y. (Eastern, 28.8), 7:35 p. m., sports, Thornton Fisher; 8, program, citizens and officials of Borough of Queons; 8:30, Queen's night; 10:35, Queen's night.

#### Friday, January 30

#### (Continued from page 11)

(Continued from page 11)

KFNF, Shenandoah, Ia. (Central, 266), 6:30 p. m., eencert, Omaha, Nebr., Rev. J. W. Sapp, director.

KFOA, Seattle, Wash. (Pacific, 455), 4-5:15 p. m., Olyuple hotel concert orchestra; 6:45-8:15, Shorman, Cloy & company program; 8:30-10, Seattle Times studio program; 10:05-11, Olymple hotel dance music.

KFSG, Los Angeles, Calif. (Pacific, 278), 10:30-11:30 a. m., sunshino hour; 3:30-4:30, organ recital, Roy Reld Brignall; 7:30-9:15, auditorium servico, Angelus Temple, Illustrated sermon; 9:15-10, studio program presenting Temple Choir and Silver band; 10-11, organ recital, Roy Reld Brignall.

KGO, Oakland, Calif. (Pacific, 312), 11:30-1 p. m. funcheon concert, Pacific States Electric company; 3. studio musical program and speaker; 4-5:30, concert orchestra. Hotel St. Froneis; 5:30-6, grirs' half hour, Esther Wood Schneider.

KGW, Portland, Ore. (Pacific, 492), 12:30 p. m., eon-cert; 5, children's program, story, Aunt Nell; 8, lecture, University of Oregon Extension division; 10:30, Hoot Owls.

KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:30 p. m., Perry's orchestra; 2:30-3:30, program, Pacific States Electric company; 6-6:30, Art Hiekman's Biltmore hotel concert orchestra. Edward Fitzpatrick, director; 6:30-7:30, Prof. Walter Sylvester Hertzog, little stories, Aunerican history, "Sir" Richard Headrick, screen starlet, Unelo John; 8-10, program, Mullen & Bluett; G. Allison Phelps, Radio philosopher; 10-11, Earl Burinett's Biltimere hotel dance orchestra.

KNX, Hollywood, Calif. (Pacific, 337), 8 a. m., morning prayer; 9, Hired Hand, mers; 10, Hired Hond's morning message; 11:30, Estello Lawton Lindsey, skipper of the Evening Express' Log; 12, Wurltzer pipe organ recital; 5:30 p. m., Town Crior and Village Urchins; 6. Richfield weekly travelogue; 6:30-7:30, dinner hour music; 8-10, program arranged by Mrs. A. F. Borden; 10-11, popular sons, June Purceli, the KNN gli; 11-12, Abe Lyman's Coconnut Grove dance orchestra from Ambassador hotel.

KOA, Oenver, Colo. (Mountain, 322.4), 6:40

p. m., popular steries englinering faculty.

(PO. San Francisco, Calif. (Pacific, 423), 7 a. m., settling up exercises, Bernard Drury; 11, chat to inousewives, Prudence Penny; 12:45 p. m., talk, Commonwealth club luncheon; 1-2, Rudy Seiger's Fairmont hotel orchestra; 4:30-5:30, Rudy Seiger's Fairmont hotel orch

monwealth club luncheon; 1-2. Rudy Selger's Fairmont hotel orchestra; 4:30-5:30, Rudy Robert Fairmont Fai

Hetty and Helen Lasner; 10, Mat Steger's dance orchestra.

WBAP, Fort Worth, Tex. (Central, 472.9), 7:30-8:30 p.
m., dinner musle, Jiumy Riley's Texas hotel orchestra;
9:30-10:43, Saxophone band of Sweetwater.

WBAV, Columbus, Ohio (Eastern, 234), 8 p. m., Dispatch Little Symphony orchestra, John Clark, director,
WBZ, Springfield, Mass. (Eastern, 337), 7:10 p. m.,
kiddies' beditine story; 7:15, lecture, address; 7:30-8.
University Extension course; 10-11:30, concert: 11:30,
McEnelly's singing orchestra playing dance musle,
WCAE, Pittsburgh, Pa. (Eastern, 462), 6:30 p. m.,
dimer concert, William Penn hotel; 7:30, Uncle Kaybee; 8:30, musical program, Rochester artists.

WCAL, Northfield, Minn. (Central, 360), 8:30 p. m.,
hook talk, "The Necessity of Art," reviewed by Dr.
George Welta Spolin.

WCAL, Northnett, Mill. (Ventral, 278), 6 p. m., Hotel hook talk, "The Necessity of Art," reviewed by Dr. George Welda Spolin.

WCAU, Philadelphia, Pa. (Eastern, 278), 6 p. m., Hotel Pennsylvania dance orchestra, Ray Steem, director; 7:39, series of health, fashion and household talks; 8, reeltal; 9, dance music, Southland seven.

WCCO, Minneapolis-St. Paul, Minn. (Central, 419,3), 10:45 a. m., home service. "A Reducing Diet," Betty Crocker; 2 p. m., "The Visiting Nurse and a Happy Community," Eleanor Zuppaun; 2:30, matinee musical; 4, magazine hour, "William the Conqueror: Part Two;" 5:30, children's hour; 6:30, dinner concert, Diek Long's Nankin cafe orchestra; 7:30, program, auspices Brainer Chamber of commerce; 9, "Pa's P. and R. Family."

WCX, Detroit, Mich. (Eastern, 5:16), 4:15 p. m., music, 6, dinner concert, Book-Cadillac hotei; 10, dance music, the Arcadia.

cadia.

Kansas City, Mo. (Central, 414.1), 3:30-4:30
the Star's Radlo tric; 6-7, school of the air,
tunling-in number on the Duo-Art; address,
r, auspices Kansas City Children's bureau; the
e-a-Story lady; music, Hotel Muchlebach Trianon
eje; 8-10, popular program; [11:45-1 a. m., nightfrolic, the "Merry Old Chief" and the Plantation

Davis Bellevue Stratioru concertium, the kiddles' pal.

Jim, the kiddles' pal.

WGN, Chicago, ili. (Central, 376.7), 1:40 p. m., lunch

WGN, Chicago, ili. (Central, 276.7), 1:40 p. m., lunch

""" Special chicago, ili. (Central, 376.7), 1:40 p. m., lunch

""" Special chicago, ili. (Central, 376.7), 1:40 p. m., lunch

dance orchestra.

WGR, Buffalo, N. Y. (Eastern, 319), 12:30-1 p. m., Hatel Statler concert ensemble; 6:30-7:30, dinner musle, Vincent Lopez Hotel Statler dance orchestra, Harold Gleser, director; 8:15-8:30, lecture, "Earned Income Tax Law." E. C. Gruen; 8:45-8:55, rectital, Blanche K. Langhans, soprano, and assisting artists; 9:10, concert, Niagara Battery corporation, direction of C. S. Bettinger, president; 10-11, the Larkin string orchestra, John Lund, director; 11:30, supper-dance Harold Gleser, director.

Music, Vineta Lopez Inter State dance orderstar, Harold Gleser, director.

WGY, Schenetady, N. Y. (Eastern, 380), 2 p. m., health hints, Dr. C. H. Woodall; 6:30, stories for children; 7:45, health talk; 7:50, WGY orderstra; 8, address, "The Pan-American Scientific Congress," Henry Wallace Gardner; Glovanni Trombini, eellist; 8:30, drama, "Inside the Lines," WGY players; 10:30, Tschalkowsky program; WGY orchestra; Glovanni Trombini, cellist; A. O. Coggeshall, tenor; Edward A. Riee, violinist; "An Appreciation of Tschalkowsky; Ethel E. Osterhout, planist; Rice string quartet; American trio. WHAS, Louisville, Ky, (Central, 399.2), 4-5 p. m., 80-lections, Alamo theater organ; 7:30-9, concert, Al

Wiesman's Novelty orchestra; fifteen minute specialty, Wendell Hall.

WHB, Kansas City, Mo. (Central, 414.1), 2-3 p. m., iadies' hour program, Sweeney Radio trio; 7-8, address; music, Sweeney Radio trio.

WHN, New York, N. Y. (Eastern, 360), 6:30-7 p. m., Vincent Catanese and his Hotel Albamac orchestra 7-7:30, Harry Richman and his entertainers; Eddie Erkins and his orchestra; 10-10:10, fashion chats Mino. Relie; 10:10-10:25, Boh Miller, songs; 10:31-10:30, "Storase Batterlox," H. B. Shontz; 11:30-112 Roseland dance orchestra; 11-11:30, Vanity Albama orchestra; 12-12:30 a. m., Ted Lewis and his Parody club orchestra.

lesson, Madame Ida Teimpldis, reeital, pupils of Leo Stoffregen.

MMAQ, Chicago, III. (Central, 444.8), 12:25 p. m., Y. M. C. A. forum; 4, talk on English, Mrs. J. Elliott Jenkins; 4:30, pupils, Bush conservatory; 5, lullaby lady, Mrs. Gene Davenport; 6, organ recital, Chleago theater; 8, weekly Wide-Awake elub program, Mrs. Frances M. Ford; 8:30, musical geography, Mr. and Mrs. Marx E. Oberndorfer; 9:15, musicol program.

WMC, Memphis, Tenn. (Central, 503.9), 8 p. m., bedtime stories, Uncte Perey; 8:30, Prof. Chin Chin and his Britting's Cafeteria Novelty orchestra; 1F, midnight frolic.

WOI, Ames, lowa (Central, 360), 12:30 p. m., college chimes; "Brooding of Chicks," Prof. W. H. Lapp.
WOO, Philadelphia, Pa. (Eastern, 509.9), 11 a. m., organ recital, Mary E. Vogt; 12:92 p. m., Wanamaker crystal tea room orchestra; 4:45, organ recital, Mary E. Vogt; 12:92 p. m., Wanamaker crystal tea room orchestra; 1:455, organ recital, Mary E. Vogt; 5, sports results; 7:30, A. Candelorl's ensemble from Hotel Adelphi; violin solos, A. Candelorl's ensemble from Hotel Adelphi;

orchestro; 10, Senate theater symphony orchestra; 10:10, Nubs Allen; Kenneth Clark and his Hawalian guitar; 10:30, Islam Jones and his Collego Inn orchestra; 10:40, Ford and Glenn time.

WLW, Cincinnati, Ohio (Central, 423), 8 a. m., physical exercisos. William Stradman; 12:15 p. m., program from the College of music, dance program; 4, French lesson, Madame Ida Teimpidis, recital, pupils of Leo Stoffregen.

WMAQ, Chicago, III. (Central, 424), 12:25 p. m., Y. M. C. A. forum; 4, talk on English, Mrs. J. Eliotat Jenkins; 4:30, pupils, Bush conservatory; 5, Iullaby lady, Mrs. Gene Davenport; 6, organ recital, Chicago III. (Sanger; 7-8, concert, Raiph Millaus and his Rainbo Garden orchestra; Marldehn Borreson, bartione; Fern Denicke, accompanist; Harry Stoffregen.

with the desired and the desired artists to be announced.

SB, Atlanta, Ga. (Central, 429), 12 m., entertainment.

5-6 p. m., songs and bedtime story, Bonnie Barnhardt;

8-9, John McCrindle, Seotch bass; 10:55, Radjowl entertainment.

WTAY, Oak Park, III. (Central, 250), 6:45-7:45 p. m.,

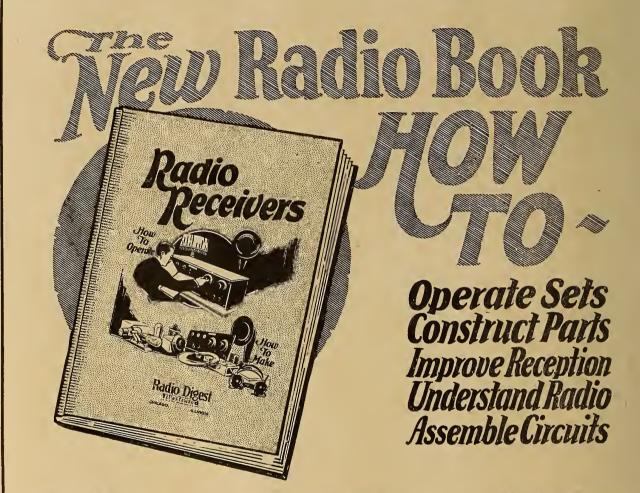
Sandy Meck, barltone; Black Cat orchestra.

WWJ, Oetroit, Mich. (Eastern, 516), 3 p. m., The

Detroit News orchestra; 8:30. The Detroit News orchestra; The Detroit News poet.

#### Complete Denial of Rumor Using Secret Broadcasting

Using Secret Broadcasting
NEW YORK.—Emphatic denial of the
rumor that the American Telephone and
Telegraph company had perfected a device
which would permit the broadcasting of
special programs only to those who had
subscribed for the service was made by
J. A. Holman, manager of broadcasting
for the telephone company.
This rumor was published in several
papers and created quite a furore among
Radio engineers. When questioned, Mr.
Holman stated that there was no foundation for the story being printed in these



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# OPERATING AND TROUBLE SHOOTING

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to 550 meters.

Additional Equipment Required

In addition to the Radiola Super-heterodyne, there will be required the following apparatus: 6 vacuum tubes, model UV-199, 1 loud speaker, 1 telephone plug, 1 set of A, B and C batteries. The A battery may be composed of six ordinary dry cells, 1½ volts each, for lighting the filaments. They should be connected in two parallel groups, each of three cells in series. For the B battery, four 22½-volt plate batteries connected in series, or two 45-volt plate batteries may be used, if desired. The C battery is to be one of the customary 4½-volt units measuring 4 by 3 by 1% inches.

Access to the space provided for the A and B batteries is secured by pulling on the knobs on the two small end doors 1 and removing these doors. An envelope containing four short and two long jumper connectors will be found inside.

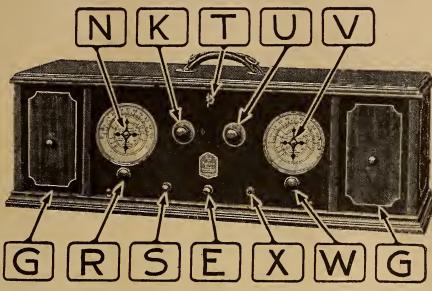
Connecting Batteries

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\*\*Connecting Batteries\*\*

\*\*Connecting Batteries\*\*

\*\*Connect two B batteries in series, using one of the long jumper connectors, fastening one end onto the "+22½ V." terminal of one battery, and the other end onto the "—" terminal of the other battery. (Should the large size 45-volt blocks be used, the two jumper connectors will not be needed.) Connect these batteries to the set, fastening the lead marked "+C" to the "+" terminal on the battery terminal marked "+22½ V.", as to the set, fastening the lead marked "—C" to the "—4½ V." terminal of the battery compartment onto the battery terminal marked "+22½ V.", as yet unconnected; (or onto the "+45 V." terminal of the 45-volt battery if one is



used). Connect the other lead marked "—B" onto the "—" terminal of the other battery. Stand the batteries (or battery) on end and place them in the compartment, pushing them into the corner as near toward the center of the set as possible.

Connect three of the A dry cells in series, using two of the four short immer

desirable to its owner. It need not be located in any particular place or turned in any particular direction with respect to the room or to the received signal.

This super-heterodyne utilizes six tubes, model UV-199, which should be handled with due care. Pull the Radio panel forward to the half open position, allowing it to rest against the stay joint.

Before inserting the tubes, turn the "battery setting" knob K to "off" or push in the filament switch E in the lower center of the panel. Remove the six vacuum tubes from their individual cartons. Insert one in each of the six tube sockets by placing it in the socket, turning the tube until the pin in the base drops into the slot, and then turning slightly to the right. Swing the panel back in place and lock it, using the latch T.

Operation
Pull out the filament switch E. Turn the "battery setting" knob K clockwise from "off" toward "100." With new bat-

teries, the pointer should be set approximately 40 to 50 on the dial. As the batteries grow older, this setting must be gradually advanced toward "100." Turn the "volume control" knob U clockwise from "soft" to "100." Push in the jack switch S, which puts the output of the second stage amplifier into the loud speaker.

switch S, which puts the output of the second stage amplifier into the loud speaker.

The tuning of Radiola super-heterodyne involves only the manipulaion of the two "station selector" knobs R and W—a simple operation if the principle described below becomes thoroughly understood.

The two gold-tipped pointers have approximately the same settings, i.e. if one is set at 10 or 30, etc., the other is at or near 10 or 30, etc., the other is at or near 10 or 30, etc.

When searching for stations, the settings of which are not known, proceed as follows: Set "station selector I" gold-tipped pointer N at, say, 10 (referring to the metal dial scale under the paper scale). Move "station selector II" gold-tipped pointer V slowly over the scale near 10, say from 5 to 15. If no signals are heard, there is no station working on that wave length. Then set "station selector I" pointer at say 12, and slowly move "station selector II" from about 7 to 17. If again no signals are heard, set "station selector I" gold-tipped pointer at, say, 14, and move "station selector II" slowly from about 9 to 19. If still no signals, repeat this process increasing the setting of "station selector II" in small steps until the whole scale has been covered. It will be noted after the first few trials that when "station selectors I and II" are in resonance, a slight breathing sound is heard, indicating that the set is working properly and in resonance.

After hearing a signal, carefully adjust both "station selectors I and II" to best result. If no stations are heard, the set should be turned on the table 90 degrees from where it was during the preceding adjustments, and the tuning process just described should be repeated.

As Radiola super-heterodyne is a very sensitive receiver, it is often found advisable to reduce the loud speaker volume. This may be accomplished by employing one or all of the following methods:

(Continued on page 20)



Loop Aerial Construction

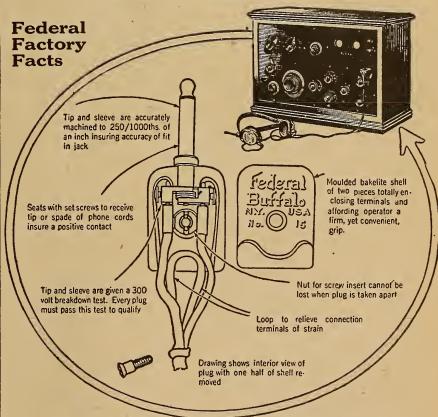
ANYONE who has built a crystal set or single-tuber can follow Mr. Ryan's concise, simply worded instructions and enjoy the range available only from a super-heterodyne. Every wire, every lug, is placed

by his directions and you cannot go wrong.

The construction of loop aerials, storage "B" batteries, charger and even the cabinet are gone into thoroughly. This manual covers the complete installation of a selective, quiet, long range Radio outfit. Send money order, stamps or currency to

Radio Digest Publications

Comercially the continues in the second in t



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

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

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

FEDERAL TELEPHONE MANUFACTURING CORP. Buffalo, N. Y.



BOSTON PITTSBURGH

YORK PHILADELPHIA CHICAGO SAN FRANCISCO BRIDGEBURG, CANADA

# Radio Digest

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Chicago, Saturday, January 24, 1925

#### Publicity Broadcasting

Field for Reaching Buyers Great Advertisers Think RENCH advertisers are beginning to wonder what is the best means to reach the wide field of sales prospects among Radio listeners. This has been a problem wherever broadcasting exists. A station has a multitude of purposes. The manager is supposed to be a conductor of opera, an educator, an editor, a private entertainer, a director of an orchestra and a music hall manager, and last of all advertisers would make him sales campaign manager.

music han manager, and last of an advertises the make him sales campaign manager.

The Frenchmen think that in using a station for advertising, or other publicity, that this would be a cure for their ills in financing the broadcasting of

cure for their ills in financing the broadcasting of programs.

Spain has a law which controls the amount of advertising or other publicity which may be broadcast by Radio. Only five minutes of this advertising is permitted for every hour of operation.

As it happens America has no law or regulation on things to broadcast, neither does it have a tax on sets. Very little advertising passes through the air. Americans do not stand for anything out of order. The public would not stand for advertising slides in motion picture houses, neither will they stand for the same thing coming through the air. To tax a set is the wrong way and some other means must be sought.

#### Radio Classes

To Which of Three Classes Do You Belong?

THERE are three distinct classes in Radio. These may be applied to fields other than Radio and can be classed generally under the headings, mildly interested, technically inclined and hobby riders. Translated into Radio terms, these distinctions mean the owners of manufactured sets, experimental listeners and the amateurs who do not only receive but transmit as well

and the amateurs who do not only receive but transmit as well.

If you belong to any one of these groups you are a member of the Radio fraternity, but your ability to hold your own conversation with a group of Radiophans depends entirely on whether you have taken the first, second or third degree. To be merely the owner of a receiving set, without knowing the first thing about its construction, admits you into the circle. However, you cannot get farther without the ability to converse in terms of hook-ups.

In order to get the most out of Radio, if one seeks more than the ordinary entertainment and educational advantages, it is necessary to go through all of these stages. The amateur game represents the limit that can be reached while maintaining an interest in Radio as an avocation. Amateur Radio, when one has mastered the code and a certain amount of technical knowledge, admits one to the greatest thrills in Radio, the exchange of personal messages over distances limited only by the world itself.

#### All Kinds of Receivers

Anything from a Flivver to a Rolls Royce

THERE are many types and classes of Radio sets as there are motor cars. There are broad principles of design that must be followed in all sets. In addition to the necessary parts there are many refinements and improvements which are found in the better class

what Were You Drinking?

Sets.

Fifteen years ago automobiles were sold without top, windshield or side curtains. The "unnecessaries" were available, but at a higher price. Today a good automobile is really not complete unless it has a closed body, balloon tires, speedometer, bumpers and countless other refinements that we now look upon as things which should go with any good car.

Likewise, in the early days of Radio, an amplifier and loud speaker was looked upon as an admirable equipment for the scientific laboratory, but beyond the hopes of the amateur enthusiast. Today almost any Radiophan contemplates a ten tube superheterodyne with considerably less emotion than we used to display toward the first quick detachable tire. So when you buy a Radio set remember that you have the opportunity to purchase anything from a fliver to the Rolls Royce of Radio; your choice depending on your needs—and also your purse.

What Were You Drinking?

Dear Indi: While listening to KGO recently I heard the following announcement:

"KGO—the voice of the prairies, broadcast from the following announcement:

"KGO—the voice of the prairies, broadcast from the Acolian hall by the Calument Baking Powder company at Winnipeg, down in Dixie, the city surrounded by the United States, in the state where the tall corn grows, in the land of ten thousand lakes. Announcer G. R. EH O. STAT AND SON, STATIC.

Absotively, Mr. Miloplex? Posilutely,

Mr. King

Dear Indi: Hi! I know a guy who is waiter in the Statler hotel at Buffalo. and it has been called to my attention that he picks up China every day.

Do you suppose you could get this in on the last line, seeing as how I have never made the line as yet?

KING MILOPLEX.

#### RADIO INDI-GEST

#### At Raquette

Still, so still that the creaking boot Shrieks loud on the frosty night; Cold, so cold that the shivers shoo And your skin is shrivelled tight.

Dull, so dull that your way grows slouch, A face from the morgue you wear. Sour, so sour, you enjoy a grouch—You're a brother to the bear.

Home, a joke in a twisted shack, That shakes like a shimmie flirt. Jail, yes jail, where the big woods crack, Twelve months in a flannel shirt.

Song! What th' 'ell! (you have just tuned in)
A song, and you see some bird.
Sweet, so sweet that it smoothes your skin,
And you eat it word by word.

Jazz! Oh, jazz! how it spreads your chest, Some pep, how it warms your veins. Lights, white lights with the mirth and jest, And the music, songs and Janes.

Laugh, you laugh, and you tilt your chair.
You're back with the mob you know.
Jokes, new jokes, and you rough your hair
At the old time minstrel show.

Swift, so swift they have dumped the load, The waves that have thawed the heart. Far, so far on the measured road, But a breath of time apart.

Home, back home, you are chummy now, An ear to the outside world; Sing, you sing, and you hold no row, And your flag, old grouch, is furled. CHARLES HOWARD SCANLAN.

#### Dusting a Few Good Ones

ONE THAT ABE MARTIN OVERLOOKED
The other day Simon Pratt heard a right good Radio from the neighbor's house, but on investigating found it to be only a phonograph.

LISTERINE TO THIS
One good thing about the Radio is that you don't have to worry whether the guy speaking to you has Halitosis or not.

or not.
LISTERINE TO THAT

"Does Mr. Smith suffer much from his Halitosis?"

"No, but we do,"
WE SUGGEST

That WTAS adopt a slogan. How about "Vice of a Nation?"

SAID MR. LUDWIG
Radio man of the ZR3, "The Statue of Liberty looked a great deal smaller to us than we had expected it to be."

Well, it was larger until prohibition came to the land of the free.
HEINRICH HASENFUSS
Has bought enough Radios to reach from here to Kansas City, but he hasn't reached the coast yet.
SAID THE ANNOUNCER AT WSOE
"The next number is 'Kiss Me Again.' We will do the best we can with the many requests coming in."
Now wasn't that nice of him?
THE THIRD TROMBONE PLAYER.

#### Pa's Radio

Pa is mcsmerized and hypnotized,
While Ma looks on amazed;
He sits and works his superdyne
Until we're nearly crazed.
"Listen, we're getting out tonight,"
Says fan Pa with a grin,
"But shucks, it's only local—
So loud that's coming in."

Pa keeps us up at night so late,
Sometimes it's way past two;
"Sh!" says he, "I think I hear a song
Clear from Honolulu."
He keeps the whole durn house astir
With static from his set;
Ma has to set her foot down, too—
Or sleep we'd never get.

It's fine to have this wireless thing A fillin' all the air;
But Pa he cares for nothin' else But his 'ol tube set there.
We travel fast o'er all the land, Amidst the squeaks and squawks;
There's one thing about that Radio, We can't speak back when it talks. RHEA SHELDON.

#### What Were You Drinking?

#### You're Always Welcome



## Condensed

By DIELECTRIC

Out in Denver, where KOA sends forth three programs weekly, available dramas for Radiocasting evidently are none too plentiful. At least that would be the natural inference after hearing them put on "Mrs. Temple's Telegram," an interesting skit—some fifteen years ago. It may be that Radarios have not been supplied the studio. It "went over" anyway.

WTAM had a feature artist whose work almost made you doubt the assertion that Ruth Park is only twelve years old. Her playing of piano selections requiring maturity to interpret properly had moments of such treatment. In fact, I have heard pianists more than twice her age give less intelligent readings to a few of the compositions. Bravo Ruth and WTAM.

The Quaker City may not display the speed some of our eastern and western metropolises do, but the directors of studios in Philly's Radiocast stations are not behind the times nor are the local musicians lacking snap. WIP presented the city police band with soloists in a program full of pep and enjoyment.

A violin is one instrument capable of giving utmost pleasure or severe agony, according to the skill of the performer. Fortunately WHB had the good luck to know a musician falling within the first class. His choice of classical numbers was discriminating and rendition of them very delightful.

If you "Wait and hear Grebe" perhaps you will be pleased, perhaps not. The programs from this station are fairly diversified so that at some time during the evening's performance you may find what suits. The Lincoln's Specialty Boys succeeded in playing popular numbers in rather an agreeable manner. WAHG has a good corps of operators.

It was before KGO came on the air officially, and while they were testing under their experimental call, that we first heard the Arian Trio play. Since that time we have heard them often and never tire of the sheer beauty of their playing. Between acts of a KGO play, at the beginning or end of a program of any kind, this instrumental group always fits in gracefully. It is our hope that someday KGO will present an entire program of numbers by these musicians.

Of course they cry "We are ruined," those dramatists, fight promoters, dance hall managers, dog fanciers, et al., who think they saw millions upon millions of Americans listening to McCormack and Bori in their initial Radio appearance in preference to patronizing them. The day of substitution is over. If you want to see drama you won't accept music in place of it. Thank goodness the Victor company is allied with Radiocasting instead of futilly deriding it. Radio audiences are to have the best in music with a wonderful opening night in retrospect.

From the recording laboratory of the Brunswick company come voices of renowned artists. Mario Chamlee is one of America's foremost tenors; Florence Easton holds as high a place among sopranos, both of whom—with Elly Ney, English pianist—entertained through several Radiocast stations. Listening to WGY the concert came through splendidly, but the same cannot be said for WJZ in respect to the piano numbers.

There is not much fault to find with the playing of the Boston American orchestra as it comes to us through Station WNAC. The selections are good and their rendition shows capable leadership.

# Demonstrating Radio Principles at Home

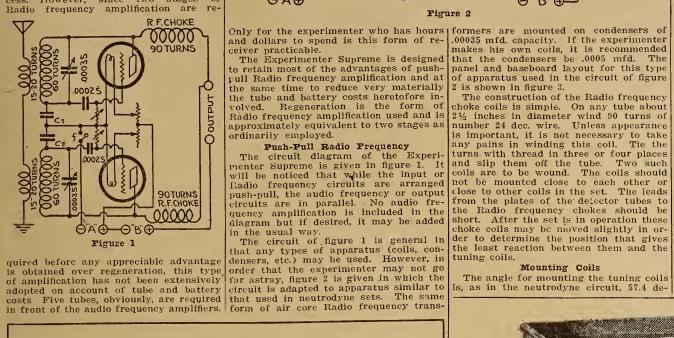
Chapter VII—The Experimenter Supreme

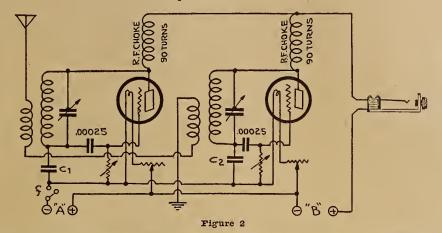
By J. E. Owen

RADIOPHANS inclined to experiment will find in this series of articles, directions for illustrating to their own satisfaction the underlying principles of Radio. They are told how to set up the experimental apparatus, which is simple and not so complicated as to require the equipment of a large laboratory, using odds and ends probably already at hand. Few new parts are needed. The last chapter, to appear next week, will be:

Chapter VIII—Experimenting with Push Pull Amplifiers.

PUSH-PULL amplification has been used in both audio and Radio frequency amplifiers with excellent success. However, since two stages of Radio frequency amplification are re-





LIST OF PARTS mfd. 2 Dials, 3 with verniers...

2 Sockets

2 Fixed mica condensers, .0001 mfd.

2 Fixed mica condensers, .0005 mfd.

1 Panel 7"x16"x3/16"...

1 Cabinet to match...

1 Baseboard 7"x15"x1½ or 3¼"...

1 Binding post panel 3"x7"...

6 Binding posts...

Bus bar, spaghetti, etc... .70 .60 .\$37.85 LIST OF ACCESSORIES \$38.00

grees. This angle may have to be changed a degree or two for best results.

The correct values for the condensers C<sub>1</sub> and C<sub>2</sub> will depend on the types of tuning apparatus used and may be determined by experiment. On the average, this value will be either .0001, .00025, or .0005 mfd.

A list of do's and don'ts will not be

A list of do's and don'ts will not be amiss at this time.

The lead from the plate to the tuning

(Continued on page 18)



Perfect Tune

T MAKES all the difference in the world

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

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

There are five Bristol Audiophones, priced from \$12.50 to \$2\00. If not at your dealer's, write for Bulletins AY-3011, 3017 and 3022.

The Bristol Company, Waterbury, Conn.

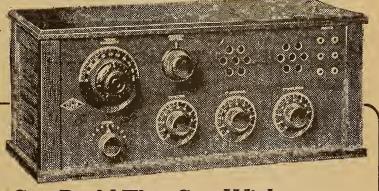


Cabinet Model \$30.00

\$25.00

Beautifully finished mahogany. Full floating wooden horn. Cast motal throat. Size 17x10x10¼".

AUDIOPHONE Loud Speaker



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

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

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

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

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

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

# Super-Reinartz The Ford of Radio

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

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

#### THE ANTENNA BROTHERS

#### Spir L. and Lew P.

#### Distance Without Howling











Continued from page 17)

coil must be connected between the plate and the plate choke coil—not outside or beyond this choke.

BINDING POST PANEL

BINDING POST PANEL

CHOKES

CHOKES

Don't let either tube oscillate during reception. - 16"-

Don't let either tube oscillate during reception.

Don't mount the variable condensers closer than six inches shaft to shaft.

Don't be discouraged if good results are not obtained at first.

(The theory of push-pull amplification with several examples using resistance coupling between the stages, with special reference to using dry cell tubes in series (filaments) being fed from a six-volt battery, will be the next and last article in the series.—Editor's Note.)

#### Non-Corrosive Flux

Celluloid dinder for Radio work. It should be used in place of shellac, collodion, etc. Rosin dissolved in rubbing alcohol, with a couple of drops of glycerin, makes an absolutely non-corrosive Figure 3

The primary coils in the two tuning circuits must be connected in a reverse for most joints and makes a neat and noiseless job.

#### WOC AT DAVENPORT

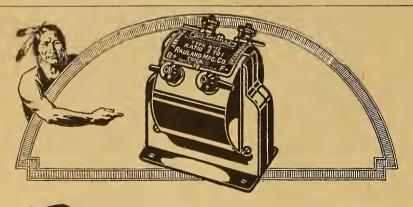
ber 16, 1922, a lecture by Major Dent Akinson was picked up thirty kilometers cast of Paris, France, an airline distance estimated at 6,000 miles.

Since that time, reception of WOC signals have been officially reported at Stockholm, Rome, Great Britain, Buenos Aires, Samoa, the Philippines and by the MacMillan North Polar expedition in North Greenland. An enviable record was established in the early part of 1923 with the steamship Ardmore, in South American waters. While operating off the coast of Chili, in the vicinity of Antofagasta, which is more than twenty-two degrees south of the equator, the crew of the Ardmore were entertained regularly for three months with programs from WOC. (Continued from page 5)
installed to allow the pupils to listen in to any affair of national importance which is being broadcast. It is also used when B. J. talks to the students and they are unable to get into the auditorium.

Police reports are broadcast from this station whenever a man is wanted by the police. Recently two men escaped from the county jail by knocking one of the keepers unconscious. The warden called WOC on the phone and gave a description of the flying "birds" to the operator on watch. In a few minutes, the public were told to be on the lookout for the two men. This is one of the many services that WOC has rendered since their appearance on the air.

Even the elevator boy who runs the carr up to the studio door is an ardent Radiophan. He has a small crystal set installed in the car with an aerial running around the top of the car. When WOC is broadcasting, he can listen in to the program without interrupting the elevator service. "Stan" claims that this is the ideal way to keep elevator operators from sleeping while on duty, excepting, of course, the bedtime stories have a bad effect.

Station WOC, using its old 1000-watt transmitter, has been heard in every state and province in the North American continent on one single program. On Decem-



# Reliable!

There is now an revery radioneed.
udio and R. F.—
ower Amplifying
ush-Pull)—Interediate Frequency.

All-Amax Receivers — the famous ALL-AMERICAN Reflex—completely mounted with full wiring directions. Junior (1 tube) \$22. Senior(3tubes)\$42.

ALL-AMERICAN Standard Audio Transformers in any radio receiver are recognized by experimenters and listeners everywhere as proof of assured efficiency in amplification.

> Three Ratios: -3 to 1, \$4.50 5 to 1,\$4.75 10 to 1,\$4.75

Two pleasant hours spent with the RADIO KEY BOOK will acquaint you with the essential facts of modern reception, and how to enjoy it at its best. Ten cents—coin or stamps—brings the KEY BOOK.

RAULAND MANUFACTURING CO. PIONEERS IN THE INDUSTRY

2640 Coyne Street

Largest Selling Transformers in the World

# Trade Mark

#### THE FORD of LOUD SPEAKERS \$950

Fultone Loud Speaker has conclusively proven to the radio world that a reproducer could be made and sold at \$9.50 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 superheterodyne or reflex. The adjustable diaphragm permits matching Fultone to any receiver and "B" battery voltage.

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



Use on Your Phonograph 

\$9.50

LOUD SPEAKER UNIT

HALL & WELLS, Inc. ADDRESS..... CITY AND STATE.....

# Construction of the Six Tube Hetduogen

Part V-Assembly of the Front Panel

By C. E. Brush

WITH the sub base apparatus in place and wired, we can now take up the drilling and assembly of the front panel. The layout of the apparatus on the sub base was such that we can place the front panel parts symmetrically without resorting to long leases. On the panel we must secure three condensers, two rheostats, a battery switch and two jacks. The 20-ohm rheostat is the left, the 6-ohm rheostat to the right.

The Full Size Layout

Figure 12 is the layout for this panel. Due to the fact that there has been no standardization of mounting holes for Radio apparatus, an enlargement of figure 12 cannot be used as a drilling template for all the holes. Lay out figure 12 on a large sheet of paper; now, in each box containing rheostats and condensers will be found a template for the drilling of mounting holes. Paste these small templates on the large sheet so that shaft holes coincide. On the boxes containing jacks and the switch will be found directions for the size hole to be drilled for those items.

The writer has, for some time, followed

those items.

The writer has, for some time, followed the practice of mounting condensers with the stationary plates up and the rotor plates swinging below, as in figure 10 of last week's description. This prevents damage to the rotor plates from above after the set is in the cabinet and one is making adjustments. In placing the condenser templates in position rotate them so that, when the condensers are mounted, the plates will be as stated.

Panel Mounting Holes

Panel Mounting Holes

Note the width of the rabbeting around the front of the cabinet; it will probably be 5/16 inch, % inch or ½ inch. Whichever it is, measure from the panel edge lines one-half that distance and mark to drill small countersunk holes for flat head wood screws to hold the panel to the cabinet. If the rabbeting extends across the bottom, mark to drill four equally spaced holes across the bottom edge of the panel for screws. On each end two holes are to be drilled, one about 1½ inches from the top and one 1½ inches from the bottom. If

Hansen "BIRD-CAGE" Radios

A wonderful little set.

4-Tube Cabinet Receiver.

BLUEBIRD .....\$57.50

Easy to tune-long distance-selective.

A very high grade receiver — very selective.

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

We Announce the

5 TUBE RECEIVER

GOLDFINCH .....\$75.00

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

For further descriptions Write for New Catalogue

Dealers and Jobbers-Our line is interesting and profitable.

...\$90.00

4-Tube Receiver

4-Tube Receiver.

AMERICAN CREST.

CENTER SHAFT-HOLE OF .0005 CONDENSER TEMPLATE HERE CENTER SHAFT-HOLE OF RHEOSTAT TEMPLATE HERE BASE PANEL CENTER SHAFT-HOLE OF RHEOSTAT TEMPLATE HERE Figure 12

your cabinet is of the type that has rabbeting across the top, mark to put in four holes across the top, mark to put in four holes across the bottom.

Check over the large sheet for all drill marks: condensers, rheostats, jacks, switch, mounting screws and angle brackets, and find marks: condensers, rheostats, jacks, switch, mounting screws and angle brackets holes, they should be so placed that, when the sub base is mounted, there will be 13% inches below it to the bottom edge and, if these dimensions are followed exactly throughout, no difficulty will be experienced from parts not fitting together exactly.

Now clamp, or paste, this large layout drilling sheet to the front panel and center punch all holes before drilling. It will be found a wise precaution to drill any 5/16-inch and 7/16-inch holes with an umber 27 or number 18 drill before using the full size. This for the reason that large drills do not have sparpoints and are only too apt to start considerably off the mark.

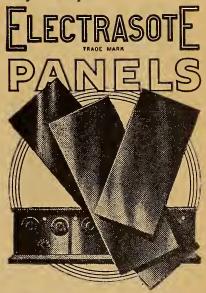
When the front panel apparatus has all been mounted in place the wired sub base can be attached to it by the brackets. While figure 7 shows but two right angle.

When the type that has rabbeting across the top, mark to put in four in f

New York City—Donald H. Miz. wireless operator of the McMillan Expedition, reports Thordarson Transformers used in their radio stood the extreme temperature of the Arctic without the slightest mishap. They were in as good condition on their return as when installed in May, 1923. Thordarsons are standard on the majority of leading sets. Partial list below:



selected just as carefully as any other part.



meet the most exact specifica-They reduce surface leakage to a minimum. Unaffected by climatic condi-tions, they will neither warp nor change color, retaining for all time their fine finish. When you buy an Electrasote Panel you are getting some-thing with a reputation back of it, for Electrasote is one of the celebrated "sote" products introduced by The Pantasote Company, Inc.
Yet these panels are

Lower Priced than other standard panels Make your Set an "Electrasote Panel Set"—and get results! On sale at good Radio Dealers M. M. FLERON & SON, Inc.

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# The "Goode" Two-o-One





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The "Goode" Two-o-One A Tube amplifies or detects. It is a quarter ampere, five volts, standard base silvered tube.

Send express or postal money order or New York draft to—

The Goode Tube Corporation

Owensboro (Dept. A) Kentucky

#### HOW TO OPERATE SET

HOW TO OPERATE SET

(Continued from page 15)

1, turn the "volume control" knob U away from "100" toward "soft"; 2, pull out the jack switch S; 3, shift the set on the table, until best position is found.

Eliminating Interference

Signals from an interfering Radio station may be eliminated or at least minimized by either of the following methods:

1. Turn "station selector: II" pointer V, either to the right or left, by approximately % to 1 inch, to find another position of this control, where the desired station will be again heard. The setting of "station selector II" nearer the left end of the scale is technically called the "lower wave length peak." Two settings of this nature will be found for all broadcast stations, and the separation between them becomes greater and greater for the higher end of the scale, i.e., nearer the right hand end. It is recommended that "station selector II" be consistently set on the "lower peak" in the usual manipulation of the set. When interference is encountered, shift to the "upper peak," and use whichever one at which minimum interference occurs.

2. Rotate the receiver on the table. For every transmitting station, there are two positions at which the signal strength will rise to a maximum, and two others at right angles at which it is at a minimum. Place Radiola super where best results are secured, trying to locate the position where the interference does not come in, but the desired signals do.

Four paper dials for each of the "station solectors" will be found with the set, three each in the envelope for the instruction book, and one each in place on the panel. To put another "station selector I" dial in place, grasp pointer N with the left hand, turn and remove the knurled nut which holds it in place. Grasp the two knobs on the end of the clamp wire, princh the knobs together, and pull the clamp wire free from its retaining ring. Remove the old dial and place a "station selector I" dial on the panel, taking care properly to line up the central hole and the notch on t

positions of one of the tips of each of the "station selectors" as well as the call letters of the station. It is suggested that only the "lower peak" of "station selector II" be recorded.

General Information

Each of the "station selectors" is provided with four pointers, in order that stations of nearly the same settling may be recorded on the dials without crowding the markings. It is suggested that the station settings be recorded on the three remaining pointers in the following order: Long black pointer, right short pointer, Mark as many stations as possible on the long black pointer. Mark as many stations as possible on the long black pointer. When a new station is tuned in, quite close to one already recorded, then use the short pointers for the markings.

The only precaution to be observed when making these markings is to see that the set is not located near any aerials or electric wiring. Such positions may cause changes in the settings of "station selector Li".

The "battery setting" knob K should be kept as near the "off" position as possible, without decreasing the signal strength or destroying the quality of reception. The six tubes should be used at all times. It is inadvisable to remove the sixth tube when only five are used, to reduce volume. Rather reduce volume by dimming all filaments or by turning the set than to employ this method. Both these precaution make for economical use of the batteries and tubes.

Very little maintenance is required on this super-heterodyne, outside of an occasional oiling of a few of the parts. The oiling operation is important, and should be done about once every six months. To

and tubes.

Very little maintenance is required on this super-heterodyne, outside of an occasional oiling of a few of the parts. The oiling operation is important, and should be done about once every six months. To oil the moving parts, turn both "station selector" pointers as far right as possible, and open the panel of the set half way. Then place one drop of good grade oil, such as typewriter oil, on each of the following parts of both "station selectors":

1 on the front and rear hearings of the

1, on the front and rear bearings of the shafts, where the shafts pass through the black moulded sub-panels; 2, on the bushings in the panel which hold the "selector" knobs; 3, on the universal or ball joint just back of the "selector" knob shaft; 4, on the spring bearing of the slanting

hausted, these clicks will become practically imperceptible—an indication that they need replenishing.

An indication of exhausted C batteries may be had by listening to the loud speaker with no station tuned in. If the loud speaker gives forth a continuous noise, the battery needs renewal. The noise may be either a high pitched whistle, a high cackling sound or a low gurgling murmur. Frequently the whistle is so high as to be above the range of audibility for some, but in any case the noise becomes more audible as the batteries age.

When a storage battery fails to take a charge, it is an indication that it needs to be overhauled at a battery service station.

C Battery Effects Saving

The C battery as a grid bias effects a saving in B battery current consumption. The C battery is used in the audio frequency stages. Although the C battery reduces the amount of current in the plate circuits of the tubes, it does not cause a reduction in the strength of signals when properly used, but rather a slight increase with added signal clarity.

#### Static Cut with Short Aerial

A short antenna cuts down the static. The signal may also be somewhat weaker, but it does not fall off as much as the static and the result over-all will be more pleasing reception.



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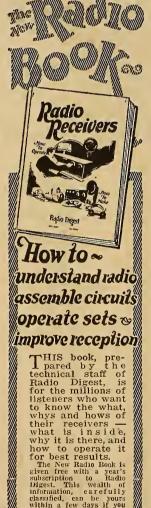
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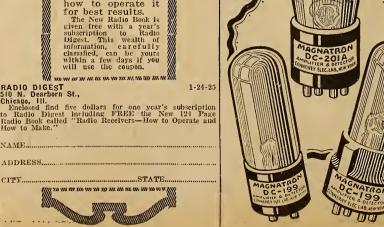
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# ntenna Coupling for Superdyne Set

#### Volume Obtained with Selectivity on Distance

While experimenting with various kinds of antenna coupling for my superdyne set, I hit upon an arrangement whereby the volume on both local and distant sta-

#### WORKSHOP KINKS EARN A DOLLAR-

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

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

tions is increased quite a bit. This discovery was purely accidental.

Leaving one side of the four primary turns connected to the aerial, I was connecting the ground lead to various points. I touched it to the grid lead of the Radio frequency stage and noted that the stations came in with surprising volume. I also noted that the selectivity of the set was increased and that the wave length was increased by about 25 meters.

As is shown in the diagram, one side of the primary coil is left open. To change from the old circuit to the new at will, I installed a single pole double throw switch. A convenient arrangement is to use a switch arm and two contact points.

Another arrangement worth trying is shown in the second illustration. The single pole double throw switch can also be used on this hook-up.

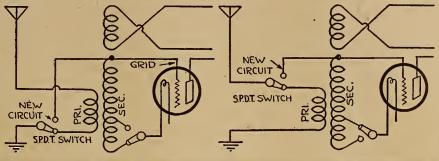
Using these arrangements, I have been able to hear WGR, WGY and KDKA very well.—Henry G. Jones, Jr., San Diego, Calif.

#### Single Circuit Receiver

While the accompanying diagram is very much self-explanatory, a few suggestions may aid any who desire to build such a set to get the most out of the circuit. Success depends very much on the use of the best materials. Not necessarily the most expensive, but the most efficient. The winding of the variocoupler need not be exactly as given, but the turns mentioned have produced the best results with selectivity.

The capacity of the grid condenser and leak is very important and the adjust-

#### WAY TO INCREASE SELECTIVITY

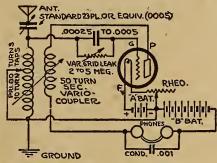


ment of the grid leak is very critical, but conce found it may remain the same for any tube used.

If the tone of the set is too metallic, increase the capacity of the phone condensers. The capacity of .001, as shown, should be about correct, but larger capacity may give a more mellow tone to music.

This is not always so, though because

usic. When the correct filament and plate ltage are found they do not vary. When e rheostat is adjusted properly all



tuning is done with an aerial condenser and the variocoupler. The aerial condenser and the variocoupler. The aerial condenser controls the wave length and the rotor of the variocoupler coontrols regeneration. A good ground is very essential.

One of the secrets of selectivity is in the use of an aerial about 50 feet high and from 70 to 80 feet long, well insulated. Long distance reception will come quickly with this set, as its simplicity permits the operator to become familiar with the tuning controls. Learn to tune with both hands. Mount the condenser and variocoupler so the right hand adjusts the wave length with the condenser, and the left hand adjusts the regeneration with the coupler. In this way it will be found that presently the left hand will work automatically without thought, keeping the tube just at the point of oscillation while tuning. This gives quick and satisfactory operation with a minimum of interference to other nearby receiving stations. Good phones are es-

Locating Condenser Shorts

A short circuit in a condenser is usually quite easily located by the scraping of the rotary plates against the stationary ones. This is not always so, though, because sometimes the contact is so light that it makes no noise at all. This is the worst kind of "short" and the hardest to locate. Placing a white piece of paper under the condenser with a strong light on it will sometimes allow the fan to locate the touching plates, if he looks through the condenser sidewise. It is usually cheaper to buy a new condenser than to attempt to fix one which has become damaged in this way.

When building a receiving set, it is best to first obtain the necessary parts and from the dimensions of these units lay out the panel and baseboard.

## The Crystalstat



The Ideal Reflex Detector but equally suitable for crystal sets The Ideal Reflex Detector but equally suitable for crystal sets. The Crystalstat embodies the following features: A super-sensitive crystal in an air tight enclosure. A brush eat whisker of gold tinsel strands. A micrometer adjustment by means of which the most delicate adjustment by means of which the most delicate adjustment may be had. The multiple contacts of fine gold filaments prevent howling and gives light but sure centact. The crystal is our wonderful Star-ite, the pick of the Earth's best crystal.

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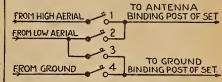
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#### Switch Combination for Antenna and Ground

When I built an underground antenna When I built an underground antenna according to the instructions given in Radio Digest I found it convenient to have a system of switches to connect the upper aerial, underground aerial and ground in whatever combinations I desired for best reception. In this combination I used four small 15-ampere single pole single throw knife switches.



As the illustration shows this system gives five combinations. Closing all switches grounds the whole system.

If 'the underground aerial is placed directly below the regular aerial it can be used for a counterpoise.—N. V. Parsons, Pasadena, Cal.

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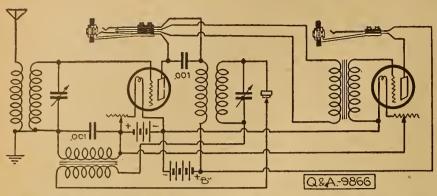
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Chicago, KYW, WAAF, WBBM,
WBCN, WDBY, WEBH, WGN,
WBCN, WDBY, WEBH, WGN,
WJAZ, WLS, WMAQ, WQJ
Chicago Heights, WCBZ
Decatur, WBAO
Elgin, WCEE, WTAS
Eureka, WFBB WJAZ, WLS, WMAG,
Chicago Heights, WCBZ
Decatur, WBAO
Elgin, WCEE, WTAS
Eureka, WFBB
Galesburg, WFBZ, WRAM
Harrisburg, WEBQ
Joliet, WWAE
Lake Forest, WWABA
Monmouth, WBBU
Mooseheart, WJJD
Oak Park, WTAY

State, City, Ca Illinois (Continued) Peoria, WJAN

Zion, WCBD

Indiana:
Anderson, WEBD
Evansville, WGBF
Ft. Ben. Harrison, WFBY
Greencastle, WLAX
Indianapolis, WBBZ, WFBM
Laporte, WRAF
South Bend, WGAZ
Seymour, WFBE
Valparaiso, WRBC
West Lafayette, WBAA

West Lafayette, WBAA

Iowa:
Ames, WOI
Atlantic, KFLZ
Boone, KFGQ
Burlington, WIAS
Cedar Falls, KFIX
Cedar Falls, KFIX
Cedar Rapids, WJAM, WKAA
Davenport, WOC
Des Moines, WHO
Fort Dodge, KFER, KFJY
Iowa City, KFQP, WHAA
Lamoni, KFFV
Marshalltown, KFJB
Marengo, KFOL
Oskaloosa, KFHL
Shenandoah, KFNF
Sioux City, KFMR, WEAU
Waterloo, WRAN

Waterloo, WRAN

Kansas:
Lawrence, KFKU
Manhattan, KSAU
MIlford, KFKB
Topeka, WJAQ
Wichita, KFOT, WEAH

Kentucky:
Louisville, WHAS, WLAP

Louisville, WHAS, WLAP

Louisville, WHAS, WLAP

Louisville, KFFY, KFRF

Baton Rouge, KFGC

Jennings, WCBJ

New Orleans, WAAB, WAAC

WABZ, WBBS, WCAG,

WCBE, WEBP, WTAF, WWL

Shrereport, KFDX, WGAQ

Maine:
Bangor, WABI, WDBN
Houlton, WCBL

Maryland:
Bangor, WABI, WDBN
Houlton, WCBL
Maryland:
Battimore, WCAO, WCBM,
WFBR, WGBA
Salisbury, WEBI
Massachusetts:
Boston, WCBR, WDBR, WEEI,
WNAC, WTAT
Bridgewater, WFBN
Fall River, WGBH, WSAR,
WTAB
Lowell, WQAS
Mattapolsett, WBBG
Medford Hillside, WGI
New Bedford, WDAU
Roslindale, WELY
South Dartmouth, WMAF
Springfield, WEZ
Taunton, WDBB
Worcester, WCBT, WDBH
Michigan:
Ann Arbor, WCBC
Berrien Springs, WEMC
Dearborn, WWI
Detroit, KOP, WCX, WWJ
East Lansing, WKAR
Filint, WEAA
Grand Rapids, WEBK
Houghton, KFMW, WWAO
Kalamazoo, WOAP
Lansing, WREO
Mt. Clemens, WABX
Petoskey, WBBP
Port Huron, WBBH
Saginaw, WABM
Minnesota:
Breckenridge, KFUJ

Minnesota: Minnesota:
Breckenridge, KFUJ
Carver, KFRA
Collegeville, WFBJ
Hutchinson, WFAN
Minneapolis, KFDZ, KFEX, State, City, Call

Minnesota (Continued)

KFMT, KFQF, WCCO, WLB

Moorhead, WPAU
Northfield, KFMX, WCAL
St. Cloud, WFAM
St. Paul, AVY, KFOY

Mississippi:
Coldwater, KFNG
Hattiesburg, WDBT
Oxford, WCBH
Ruleville, WCBG

Missouri:
Butler, WNAR

Ruleville, WCBG
Missouri:

Butler, WNAR
Cape Girardeau, WSAB
Carterville, KFPW
Columbia, WAAN
Independence, KFIX
Jefferson City, WOS
Kansas City, WDAF, WHB,
WOQ
Moberly, KFFP, KFOJ
St. Louis, KFEZ, KFQA, KFUO,
KSD, WCK, WEB, WEW,
WMAY, WRAO
Warrensburg, KFNJ
Montana:
Butte, KFRV, KFLA
Havre, KFBB
Helena, KFCC, KFNY, KFSY
Nebraska:
Belden, KFQY

Nebraska:
Belden, KFQY
David City, KFOR
Fremont, WOAE
Harrington, KFRZ
Hastings, KFKX
Lincoln, KFAB, WFAV, WJAB,
WMAH
Norfolk, WJAG
Oak, KFEQ
Omaha, KFCZ, KFOX, WAAW,
WIAK, WNAL, WOAW
Tecumseh, WTAU
University Place, WCAJ

Nevada: New Hampshire:

Laconia, WKAV

New Jersey:
Atlantic City, WHAR, WPG
Camden, WABU, WFBI
Gloucester City, WRAX
Lambertville, WTAZ
Newark, WAAM, WBS, WCBX,
WNJ, WOR
New Brunswick, WEBA
North Plainfield, WEBA
Paterson, WBAN
Pitman, WFBT
Salem, WDBQ
Trenton, WOAX

New Mexico:

Albuquerque, KFLR
State College, KFRY, KOB

New York:
Buffalo, WEBR, WGR
Canton, WCAD
Cazenovia, WMAC
Freeport, WGBB
Ithaca, WEAI
Jamestown, WOCL
Kingston, WDBZ
Lockport, WMAK
New York, WBAY, WBBR,
WDBX, WEAF, WEBJ, WFBH,
WGBS, WHN, WJY, WJZ,
WNYC, WQAO, WSAP
Rlchmond Hill, WAHG
Rochester, WABO, WHAM
Schenetady, WGY
Syracuse, WFBL
Tarrytown, WRW
Troy, WHAZ
Ulica, WSL

North Carolina:

Fort Bragg, AT9 Ralelgh, WFBQ

North Dakota: Fargo, WDAY, WPAK Grafton, KFRH Grand Forks, KFJM

State, City, Call

WEAO, WMAN
Dayton, AW5, WABD, WDBS,
WEBT
Granville, WJD
Hamilton, WIEBO, WRK
Lima, WOAC
Newark, WBBB
Pomeroy, WSAZ
Sandusky, WABH
Springfield, WNAP
Toledo, WABR, WTAL
Wooster, WABW
Yellow Springs, WRAV
Youngstown, WDBF
Oklahoma:
Bristow, KFJK, KFRU
Chiekasha, KFGL
Fort Sill, KFRM
Muskogee, KFQL
Norman, WNAD
Okmona CRY, KFJF, KFQR,
Okmulgee, WPAC
Tulsa, WGAF, WLAL
Oregon:
Astoria, KFJL
Corvalls, KFDJ
Portland, KDYQ, KFEC, KFIF,
KFQN, KFRQ, KGW
Pennsylvania:
Allentown, WCBA, WSAN
Altoona, WFBG, AMA
Altoona, WFBG, WGAW
Arnold, WCBU
Buck Hill Falls, WCBY
Butler, WBR
East Pittsburgh, KDKA
Erle, WOAV
Grove City, WSAJ
Harrisburg, WABB, WBAK
Haverford, WABQ
Johnstown, WBBV, WTAC
Lancaster, WDBC, WGAL
MCKeesport, WIK
Parkersburg, WQAA
Albiladelphia, WABY, WCAU,
WDAR, WFBD, WFI, WGL,
WIAD, WIP, WNAT, WOO,
WWAD
Pittsburgh, KQV, WCAE, WJAS
Reading, WBBD, WRAW
Scranton, WQAN
State College, WPAB
Wilkes-Barre, WBAX
Rhode Island:
East Providence, WKAD
Providence, WEAN, WJAR,
WEBP, WSAD
South Carolina:
Charleston, WBBY
Clemson College, WSAC
Greenville, WGBT
South Dakota:
Brookings, KFDY
Rapid City, WCAT
Veruillion, WEAY
Yankton, WNAX
Tennessee:
Columbla, WDBW
Knoxville, WFBC, WEBX
Tullaboma, WCBV

Nashville, WUBU, WEBU, Tullaboma, WCBV

'exas:
Amarillo, WDAG, WQAC
Austin, KFQM, WCM
Beaumont, KFDM
Beeville, KFRB
Boelle, KFRB
Dollege Station, WTAW
Dollas, WFAA, WRR
Donison, KFQT
Dublin, KFPL
El Paso, WDAH
Fort Worth, KFPL,
KFRO, WSAY,
KFRO, KFLX, KFUL
Greenville, KFPM
Houston, KFCV, WEAY, WEV,
WRAA, WSAV
Orange, KFGX

Ohio: Dhio:
Canton, AQ6
Cambridge, WEBE
Clinchnati, WAAD, WHAG,
WLW, WMH, WSAI
Cleveland, KDPM, WEAR, WIK,
WAAX
Columbus, WBAV, WCAH,
WEAO, WMAN
Dayton, AW5, WABD, WDBS,
WEBT

State, City, Call
Texas (Continued)
San Antonio, WCAR, WOAI
San Benito, KFLU
Tyler, WOAF
Waco, WJAD
Wichita Falls, WKAF
Utah:
Ogden, KFCP, KFUR
Salt Lake City, KDYL, KFPT,
KFOO, KFPH, KFUT

Salt Lake City, KDYL, KFPT, KFOO, KFPH, KFUT Vermont:
Springfield, WQAE
Virginia:
Norfolk, WBBW, WTAR
Radlo, NAA
Richmond, WBBL
Roanoke, WDBJ
Thrifton, WGBG
Washing ton:
Everett, KFBL
Lacey, KGY
North Bend, KFQW
Olympia, KFFPP, KFRW
Pullman, KFAE, KFRX
Seattle, KFHR, KFOA, KFPB
KHQ, KJR, KSND, KTW
Spokane, KFIO, KFPY
Tacoma, KFFG, KGB, KMO
Walla WAIIa, KFCF
Yakima, KFIQ
West Virginia:
Charleston, WPAZ
Martinsburg, WDBD
Wisconsin:
Relatit WEBW

Charleston, WPAZ
Martinsburg, WDBD
Wisconsin:
Beloit, WEBW
Fond du Lac, KFIZ
Kenosha, WOAR
La Crosse, WABN
Madison, WHA
Milwaukee, WCAY, WHAD,
WSOE
OSEO, WTAO

WSOE Osseo, WTAQ Sisiht, WAR St. Crolx Falls, WRAL Stevens Point, WLBL Superior, WDBP, WEBC

Casper, KFEV Laramie, KFBU

Anchorage, KFQD
Juneau, KFUU
Kukak Bay, KNT
Hawaii:
Honolulu, KGU, KYC
Porto Rico:
San Juan, WKAQ
Australia:
Adelaide
Sydnes, 281

Adelaide
Sydney, 2BL, 2FC
Melbourne, 2AB
Perth, 6WF
Austria:
Vienna, OHW, Radio Wien,

Perth, 6WF

Austria:
Vienna, OHW, Radio Wien, Ravag

Brazil:
Bahia, Sociedade do Bahia
Belle Horizantes, Nat'l Telg.
Scrvice
Rio de Janeiro, Praia Vermelha,
Sociedade de Rio de Janeiro
Sao Faulo, Radio Bondeirantes

British West Indies:
Curacao, Dept. of Finance

Canada:
Bellevue, CFCO
Calgary, CFAC, CFCN, CFHC,
CHEC, CHCM, CJCA, CNRE
Halifax, CHAC
Hamilton, CFCU, CHCS, CKOC
Iroquois Falls, CFCH
Kingston, CFRC
Kitchener, CJCF
London, CFCW, CFLC, CJGC
Moneton, CNRA
Montreal, CFCF, CFUC, CHYC,
CKAC, CNRM
Montreal, CFCF
CKAC, CNRM
Nanaimo, CFDC
New Westminster, CFXC
Olds, CJCX
Olts, CJCX
Oltsva, CHXC, CKCO, CNRO
Quebec, CFCJ, CHCD, CKCI
Regina, CKCK, CNRR

State, City, Call
Canada (Continued)
St. John, CJC1
Saskatoon, CFQC, CHUC, CNRS
Sudbury, CFCR
Thorold, CFKC
Toronto, CFCA, CHCB, CHNC,
CJBC, CJCD, CJCN, CJSC,
CKCE, CNRT
Vancouver, CFCQ, CFYC, CJCE,
CKCD, CKFC, CKLC
Victoria, CFCL, CFCT, CHCE
Wintipeg, CKY, CNRW
Chili:

Chili:
Vina del Mar, ABC
Santiago, CRC
Cuba:

Suba:
Caibarien, 6EV
Camajuani, 6YR
Cienfuegos, 6BY, 6CX, 6DW,
6GR, 6GT
Camaguey, 74Z, 7BY, 7SR
Colon, 5EV, 6HS
Elia, 7SR
Havana, PWX, 24B, 2BY, 2CX,
2HP, 2HS, 2JP, 2JQ, 2KD,
2KP, 2LC, 2MG, 2GK, 2RY,
2TW, 2WW, 8antiago, 8AZ, 8BY, 8CX, 8DW,
8EV, 8FU, 8GT, 8HS
Tuinueu, 6KW, 6KJ
Trance:

SEV,
Tuinucu, 6KW,
France:
Agen, Fr. Gov.
Lsy-Lez-Moulineaux, Fr. Gov.
Lyons, YN
Paris, FL, FPTT, SFR, Le Petit
Parisien
Toulouse, MRD
Haus,

Toulouse, MRD
Germany:
Berlin, L. P., Vox Haus,
Telefunken Co.
Breslau, Schlesische, Rundfunk
Frankfort-on-Main, Sudwestdeutsche Rundfunkfenst
Hamburg, Norag.
Konigsberg, Ostmarken Rundfunk
Leipzig, Mitteldeutsche Rundfunk
Munich, Deutsche Stunde
Munster Station
Nuremberg, relayed from Munich
Stuttgart, Station

Nurenberg, relayed
Stuttgart, Station
Great Britain:
Aberdeen, 2BD
Belfast, 2BE
Birmingham, 51T
Bournemouth, 6BM
Bradford, 2f.S
Cardiff, 5WA
Dundee, 2DE
Edinburgh, 2EH
Glasgow, 5SC
Hull, 6KH
Lecds, 2LS
Liverpool, 6LV
London, 2LO
Manchester, 2ZY
Newcastle, 5NO
Nottingham, 5NG
Plymouth, 5PY
Scheffel, 6FL
Stoke-on-Trent, 6ST
taly:
Rome, IRO

Italy: TRO Mexico:

ICKICO:
Chihuahua, XICE
Mazatlan, CYR
Mexico City, CYB, CYL, CYX
CYZ, CZA
Monterey, 21A
Oaxaca, CYF

Oaxaca, CYF

Netherlands:
Amsterdam, PA5, PCFF
Hague, PCGG, PCUU
Hilversum, NSF
Ymuiden, PCMM
New Zealand:

Auckland, 1YA, 1YL Dunedin, 4XO, 4YO Gisborne, 2YM Wellington, 2YB, 2YK Spain:

Barcelona, EAJL Madrid, PTT Switzerland: Geneva, HB1 Lausanne, HB2, Hongg

#### STATION SCHEDULES

(Continued from last week)

#### Chile

ABC, Vina del Mar, Chile, 400 meters. Radio Corp. of Chile. CRC, Santiago, Chile. 460 meters. Radio Corp. of Chile. Valparaiso, Chile. Senor Placi do Munzo Rojas.

#### Cuba

PWX, Havana, Cuba. 400 meters. 500 watts. International Tel. & Teleg. Corp. Wed, Sat, 8:30-11 pm, music. Eastern.

2AB, Havana, Cuba. 240 meters. 20 watts. Alberto S. Bustamante.

2BY, Havana, Cuba. 300 meters. 100 watts. Electrical Company of Cuba.

2CX. Havana, Cuba. 320 meters. 10 watts. Frederich W. Barton. Company of Cuba.
20X, Havana, Cuba.
320 meters. 10 watts. Frederich
W. Borton.
2EV, Havana, Cuba.
220 meters. 50 watts. Westinghouse Elec. Co.
2HP, Havana, Cuba.
295 meters. 100 watts. Credito
Y Construcciones Co.
2HS, Havana, Cuba.
2180 meters. 20 watts. Julio
Power. Power. 21Q, Havana, Cuba. 150 meters. 10 watts. Raul Perez Falcon. 2KP, Havana, Cuba. 195 meters. 10 watts. George A. (P, Havana, Cuba. 195 meters, 10 watts. Luis Casas. AG, Havana, Cuba. 250 meters. 20 watts. Luis Casas. AG, Havana, Cuba. 280 meters. 20 watts. Manuol Y. Gulllermo Salas Music Store. Announcer, Roger Morales. Daily, 3-4 pm, muslc. One day each week, 8-11 pm. Eastern.

K, Havana, Cuba. 260 meters. 100 watts. Mario Gareta Velez.

L, Havana, Cuba. 290 meters. 15 watts. Oscar Collado. Gareta Velez.

20L, Havana, Cuba. 290 meters. 15 watts. Oscar
Collado.

2TW, Havana, Cuba. 230 meters. 20 watts. Roberto E. irez.

Havana, Cuba. 210 meters 20 watts. Amadeo
12 de Calahorra.
Colon, Cuba. 360 meters. 10 watts. Leopold V.
12 de Calahorra.
Cientuegos, Cuba. 300 meters. 100 watts. Jose
duse.

xe. lenfucgos, Cuba. 170 meters. 20 watts. Antonio

Figueroa. Cienfuegos, Cuba. 225 meters. 10 watts. Eduardo

Terry.

6EV, Caharien, Cuba. 250 meters. 50 watts. Maria Josefa Alvares. Daily, 10:30 pm.

6KW, Tuinucu, Cuba. 340 meters. 100 watts. Frank H. Jones. Slogan, "If You Hear the Koo of the Cuckoo You Are in Tuno With Tuinucu." Mon, Tues, Fri. Sun, 10 pm, music. Wed, Thurs, Sat, 8 pm, music. Sat, 12 mldnlgbt, dance music. Eastern.

EKJ, Tuinucu, Cuba. 275 meters. 100 watts. Frank H. 7AZ, Camaguey, Cuba. 225 meters. 10 watts. Pedro ueras. Camaguey, Cuba. 235 meters. 20 watts. Salvador Rionda.
7SR, Elia, Cuba. 350 meters. 50 watts. Salvador C,
Riondo. Slogan, "Cuba, the Land of Sunshine, Sugar
and Tobacco." Mon, Tues, Thurs, 9 pm. Eastern.
8AZ, Santiago, Cuba. 240 meters. 20 watts. Alfredo
Errooks. Brooks, 8BY, Santiago, Cuba. 250 meters. 100 watts. Alberto Ravelo.

SDW, Santiago, Cuba. 275 meters. 50 watts. Pedro C. Andux. Daily, 4:30-8:30 pm, 10:30-12.

SEV, Santiago, Cuba. 180 meters. 75 watts. Eduardo Mateos.

SFU, Santiago, Cuba. 225 meters. 15 watts. Andres Vinent.

SGT, Santiago, Cuba. 260 meters. 50 watts. Juan F. Chibas.

FL, Paris, France, Eiffel Tower. 2,600 meters. Announcer, "Chief Poste Militaire de la Tour Eiffel. FTT, Paris, France. 450 meters. 480 watts. Superior School P. T. T. Announcer, M. Chanton. MRD, Toulouse, France. 1,525 meters. Aerodrome. SFR, Paris, France. 1,780 meters. 2,000 watts. Radio-Paris Paris.

YN, Lyons-la-Doua, France. 480 meters. French Government. ment.
Agen, France, 335 meters. French Government.
Issy-Lez-Moulincaux, France, 1,600 meters. French
Government.
Paris, France, Le Petit Parisien, 340 meters, 500
watts.

Germany
LP, Berlin, Germany. 680 mcters. 4,000 watts. Konigs-LP, Berlin, Germany. 680 meters. 4,000 watts. Konigswusterhansen.
Berlin, Germany. 430 meters. 700 watts. Vox Haus.
Berlin, Germany. 750 meters. 1,000 watts. Telefunken
Co.
Breslau, Germany. 415 meters. 1,500 watts. Schleslsche
Rundfunk, A. G.
Frankfort-on-Main, Germany. 467 meters. 1,500 watts.
Sudwestdeutsche Rundfunklenst.
Norag, Hamburg, Germany. 395 meters. 1,200 watts. Nordiselier Rundfunk, A. G. Announcer, Hermann
Beyer.
Konigsberg, Germany. 460 meters. 1,500 watts. Östmarken Rundfunk, A. G.
Leipzig, Germany. 452 meters. 1,500 watts. Mitteldeutsche Rundfunk, A. G.
Munich, Germany. 485 meters. 1,500 watts. Deutsche
Stimde in Bayern.
Munster, Germany. 487 meters. 1,500 watts.
Nuremberg, Germany. 310 meters. Relayed from Munich.
Stuttgart, Germany. 437 meters. 1,500 watts.

Great Britain 2BD. Aberdeen, Scot. 495 meters. 1,500 watts. British Broadcasting Co. Announcer, A. M. Shinnie.
2BE, Belfast, Ireland. 435 meters. British Broadcasting Co., Ltd. Announcer, W. T. Guthrie.
2DE, Dundee, Scot. 331 meters. British Broadcasting Co. Co.

2EH, Edinburgh, Scot. 328 meters. British Broad-easting Co.

2LO, London, Eng. 385 meters. 1,500 watts. British Broadcasting Co.

2LS, Bradford, Eng. 310 meters. British Broadcast-ing Co. ing Co.
2LS, Leeds, Eng. 346 meters. British Broadcasting Co.
2ZY, Manchester, Eng. 375 meters. British Broadcast-Ing Co.
51T. Blrmingham, Eng. 475 meters. British Broadcasting Co. Announcer, Percy Edgar.
5NG, Nottingham, Eng. 322 meters. British Broadcasting Co.
5NO, Newcastle, Eng. 400 meters. British Broadcasting Co.
5PY, Plymouth, Eng. 235 meters. 200 watts. British
Broadcasting Co. Announcer, Clarence Goode.
5SG, Glasgow, Scot. 420 meters. British Broadcasting
Co. 5WA, Cardiff, Wales. 351 meters. British Broadcasting Co. 5XX, Chelmsford, Eng. 1,600 meters. 14,000 watts.
British Broadcasting Company, Marconi Wireless Telegraph Co., Ltd.
6BM, Bournemouth, Eng. 335 meters. British Broadcasting Co. Announcer, John H. Raymond.
6FL, Sheffield, Eng. 301 meters. British Broadcasting Co.

6KH, Hull, Eng. 335 meters. British Broadcasting Co.
6LV, Liverpool, Eng. 315 meters. British Broadcasting Co.
6ST, Stoke-on-Trent, Eng. 306 meters. British Broadcasting Co.

Italy

IRO, Rome, Italy. 422 meters. 1,500 watts.

Mexico CYA, Mexico City, Mex. 185 meters. Partido Liberal CYA, Mexico City, Mex. 185 meters. Farence Endead.
Avanzado.
CYB, Mexico City, Mex. 380 meters. 500 watts. El
Buen, Tono. Tues, Sat, 7:30-9 pm. Thurs, 8-10 pm,
concert. Mexican.
CYF, Oaxaca, Oax., Mex. Federico Zorrilla.
CYG, Mexico City, Mex. Secretara de Guerra y Marina.
CYL, Mexico City, Mex. 480 meters. 500 watts. La
Casa del Radio. Announcer, Raul Azcarraga. Siogan:
"The Land of Eternal Summer. Dally ex Sun, 1:30-2
pm, weather, financial reports, music. Tues, Fri, 910:30 pm. Mexican.
CYR, Mazatlan, Sln., Mex. Rosseter Y Cla.

CYX, Mexico City, Mex. 333 meters. 500 watts. Excelsior & Cia. Parker. Announcer, Rafael Lerdo de Teiada. Slogan, "Land of the Aztecs." Mon, 8-9:30 pm. Fri, 8:30-9:30 pm. Mountain.

CYZ, Mexico City, Mex. 400 meters. Liga Central Mexicana de Radio.

CZA, Mexico City, Mex. 70-500-1,070 meters. Aviation Dept., War Ministry. Announcer, Ricardo S. Bravo. Daily. 12:30-1 pm., time, weather, news; 6:30-7:30, time, markets, music. Mexican.

XICE, Chiluashua City, Mex. 400 meters. 250 wats. Chiluashua State Radio Broadcasting Station. Announcer, C. A. Nieto. Wed, Fri, 8-9:30. Mountain. 24A, Monterey, Mex. 285 meters. 200 watts. Tarnava & Cia. Daily ex. Sun, 12-6 pm, news, markets, baseball. Wed, 8:30-10 pm. Mexican.

#### **Netherlands**

NSF, Hilversum, Netherlands, 1,050 meters. 500 watts.
Dutch Radio Apparatus Factory.
PA5, Amsterdam, Netherlands. 1,050 meters. 200 watts.
Smith and Hooghout.
PCFF, Amsterdam, Netherlands. 2,125 meters. Vas
Diaz Press Office. Daily, hourly, 7:55-4:10 pm.
PCGG, The Hague, Netherlands. 1,050 meters. Nederlandsche Radio Industri.
PCMM, Ymuiden, Netherlands. 1,050 meters. Middelraad. raad. PCUU The Hague, Netherlands. 1,050 meters. Labora-torium Heussen.

torium Heussen.

New Zealand

1YA, Auckland, New Zealand.
Auckland Radio Service.

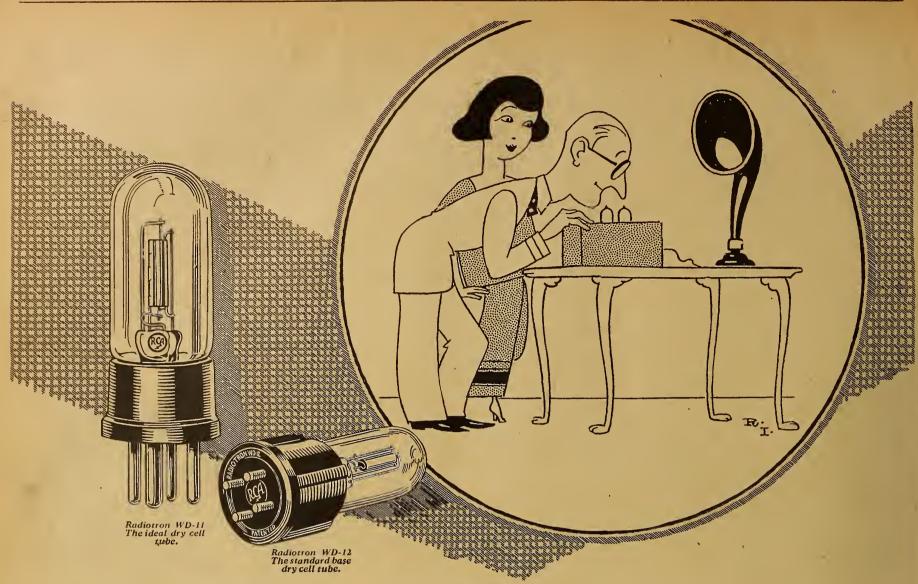
1YL, Auckland, New Zealand.
C. H. Pearson for Newcombe (Lidd.)
2YB, Wellington, New Zealand.
Wellington, New Zealand.
Dominion Radio Co.
2YM, Gisborne, New Zealand.
335 meters.
Gisborne Radio Co.
4XO, Dunedin, New Zealand.

Spain

EAJL, Barcelona, Spain. 325 meters. 100
6-7 pm, 9-11.
Madrid, Spain. 392 meters. 1,500 watts. 325 meters. 100 watts. Daily,

#### Switzerland

HBI, Geneva, Switzerland, 1,100 meters, 600 watts, Marconi's Wireless Telegraph Co., Ltd.
HB2, Lausanne, Switzerland, 850 meters, 500 watts.
Champ de l'Air.
Tausanne, Switzerland, 650 meters, 500 watts. Honge.



# Get a good detector

What will Radiotrons WD-11 and WD-12 do as detectors? These are the same—but with different bases. First—they are sensitive to weak signals—superlatively sensitive, as remarkable distance performances show in thousands of one-tube sets. Second, they are good "oscillators" — and that is important in regenerative circuits. And third, they are quiet in operation—add no electrical noises to the music, or speech. Radiotrons WD-11 and WD-12 are famous as audio and radio frequency amplifiers, too, and have made possible the hundreds of thousands of dry battery receivers that are in use today. They mean clear, true reception—over big distances—with dry batteries! Be sure to get a Genuine Radiotron.

Radiotrons WD-11 and WD-12 are the same tube but with different bases. Radiotron WD-12 has a standard navy-type base. Use it to change your set to dry battery operation. Ask your dealer today.



This symbol of quality is your protection.

#### RADIO CORPORATION OF AMERICA

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233 Broadway, New York 10 So. La Salle St., Chicago, Ill. 28 Geary St., San Francisco, Cal.

# Radiotron