Improved Super-Heterodyne Description; Presidential Straw Vote Results; Helpful Hints for Radio Beginners; Advance Programs for Larger Stations



**K** FREE MUSIC FOR A

# 

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### **HEAR SPEECHES AT LEAGUE OF NATIONS**

END OF SECRET DIPLOMACY AUTHORITIES BELIEVE

Geneva Radiocast Marks First Point in Allowing Public to Hear All of Negotiations

of Negotiations GENEVA, Switzerland.—A peculiar reti-cence throughout the European press has been noted by observant readers in mentioning in small space a broadcast which may well tend towards one of the greatest revolutions in diplomatic history yet witnessed. This broadcast was the transmission of the speeches of the Premiers at the ple-mary session of the League of Nations in this city held the first week in Septem-ber, and was arranged by the officials of the League in combination with those of the Paris station of Postes, Telegraphs and Telephones (the famous P.T.T.). In spite of the slight notice given it, this event may one day be marked as an epoch in European annals, just as the first declaration of this "open-door" policy, as set forth by the late President Wilson, was received with such loud ac-claim at the time of its inception. **Broadcast MacDonald's Opening Speech** On September 4, the opening speech of Premier MacDonald, of England, was transmitted by land wire, via the French (Continued on page 5)

(Continued on page 5)

### Duncan Sisters, in Interview, Relate Early Experiences with Broadcasting

"Topsy and Eva" Stars Tell How They Felt When They Made Radio Debut in Ossining, N. Y.-Vivian Duncan Amazed at Radiocast's Progress Since

(Photographs on Back Page) "The first time before the micro-phone was hard work. I kept graph record, and if I made the slightest mistake I would have to do the whole thing over again."





Radiocasters' Ass'n in Annual Meeting Backs New Tax Free Music Bureau

### **Discuss Giant Stations**

N. A. B. Re-elects E. F. McDonald, Jr., President—Crosley to Go to Third Radio Conference

NEW YORK.—"Music for everybody without a tax for public performance" is the policy of the newly established Tax Free Music bureau, which has offices at 45 West 45th street, New York city. The bureau has the backing of the Na-tional Association of Broadcasters and the First National Pictures, Inc. The latter organization is comprised of 850 of the leading motion picture theaters in the United States. The bureau is successor to the music department of the National Association of Broadcasters, which has operated dur-ing the past year to supply Radio sta-tions with music which may be used in public performance without payment of a tax.

tax

a tax. Will Not Fight American Society The manager of the new bureau is Harry Sigmond, who explained to the broadcasters at their second annual con-vention, September 25, the purposes of the bureau. "I am not conducting a fight against (Continued on page 2)





All the noise concerned in the fall of the Bastille was not made at the actual scene years ago. The photo shows the apparatus used to produce the noises to augment the unseen action in the new "sound play" production of the historic story.

### ISSUE TAX FREE MUSIC

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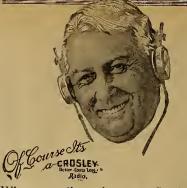
In addition to approving the establish-ment of the Tax Free Music bureau, the broadcasters devoted considerable time to a discussion of procedure and policy at the Radio conference now being held by Secretary of Commerce Hoover. Mr. Crosley was elected to act as spokesman for the broadcasters' association at the conference. Super-Power and Station Limitation One of the proposals considered was limitation of the number of broadcasting

the Radio conference now being held by Secretary of Commerce Hoover, Mr. Crosley was elected to act as spokesman for the broadcasters' association at the conference. **Super-Power and Station Limitation** One of the proposals considered was limitation of the number of broadcasting stations because additional stations in many localities means splitting time on the same length shared by three or four stations. The limit, it was suggested, could be determined by having no more than two stations on the same wave

### BRITAIN PRODUCES NEW "SOUND PLAY"

Amplify Story by Combinations of Sounds and Words at London Tryouts

and three unique adaptations have already been put on the air by the British Broad-casting company. Because of the absence of gesture and motion the ordinary play is ineffective when Radiocast. Whitman and Vincent believe that were characteristic sounds taken into consideration in the prepara-tion of the sketch this drawback will be overcome. In the first trial of the new idea, "The Fall of the Bastille" was handled in a novel way. The historical side of the story is well known. Whitman and Vincent believe that the new art will open almost illimitable pos-sibilities in broadcasting plays.



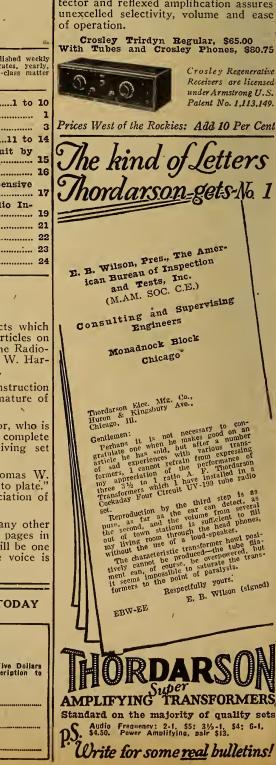
When you listen in on a Crosley-no matter what the price—you wonder, as thousands of others have, that such ex-ceptional results can be obtained and so easonably.

reasonably. The answer is simple—quality radio re-ceivers built in quantity production. During the past twelve months, we be-lieve Crosley made and sold more sets than any other manufacturer in the world. This is self-evident proof of Crosley Quality and Crosley Perform-ance. Combined with Crosley excellence are such additional advantages as selec-tivity, ease of tuning, simplicity and beauty—all at the lowest radio cost.

BEFORE YOU BUY-COMPARE YOUR CHOICE WILL BE A CROSLEY For Sale by Good Dealers Everywhere

The Crosley Radio Corp. POWEL CROSLEY, JR., President 10492 Alfred St. Cincinnati, O. Crosley Owns and Operates Broadcasting Station WLW

The combination of one stage of tuned radio frequency with regenerative de-tector and reflexed amplification assures unexcelled selectivity, volume and ease



### CONTENTS

Radio Digest, Iliustrated, Volume XI, Number 1, published Chicago, Illinois, October 11, 1924. Published weekly by Radio Digest Publishing Company, 510 N. Dearborn Street, Chicago, Illinois. Subscription rates, yearly, Five Dollars; Forcign Postage One Dollar additional; single copies Ten Cents. Entered as second-class matter at the postoffice at Chicago, Illinois, under the Act of March 3, 1879.

### "All the Live News of Radio".

Duncan Sisters, in Interview, Tell Experiences with Broadcasting ...... Editorial; Indi-Gest; Condensed by Dielectric ....

Console and Cabinet Making for Receiving Sets, Chapter IV-An Inexpensive Table Stand for the Receiver, by Charles F. Smisor Helpful Hints to Get the Most from Radio, Chapter IV-Part Two, Radio In-ductance and Tuning, by Thomas W. Benson.....

Homemade Low Power Transmitter, by Charles Belsky.. Questions and Answers Radiophone Broadcasting Stations-Part V ......

Photographs of the Duncan Sisters .....

### Looking Ahead

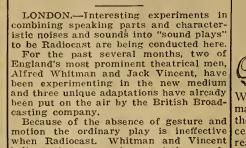
"Secrets of Selectivity and Regeneration" are a group of associated facts which form the basis of successful selectivity in every receiving set. The articles on this topic, of which there will be four, have never been brought to the Radio-phan's attention so authentically and well as they will be by William W. Har-per. The series, announced to begin this issue, will begin next week.

- You'll Build a Super-Het that Satisfies if you follow the series on the construction of an improved cight tube model beginning this issue under the signature of H. J. Marx. Part II appears next week.
- How About Building Your Receiver in an End Table? Charles F. Smisor, who is writing "Console and Cabinet Making for Receiving Sets," will give complete directions next issue for the construction of an end table receiving set combination.
- Variable Condensers May Not Mean Much to the Beginner, but Thomas W. Benson in his next "Helpful Hints" article explains them from "plate to plate." Read Mr. Benson's explanations and suggestions for a better appreciation of Radio.

**Donald B. MacMillan, of WNP, Fiddlin' John Carson, of WSB,** and many other prominent Radio figures will visit you with interviews and picture pages in Radio Digest soon. Among other popular features soon to appear will be one depicting in photographs the process of broadcasting and how the voice is carried from the studio to you.

	Don't Always One Left	SEND IN THE BLANK TODAY	former Respect
WHEN	YOU WANT	Publisher Radio Digest, 510 N. Dearborn St., Chicago, Illnois.	
Radio	Digest	Please find enclosed check M. O. for Five Dollars (Six, Foreign) for One Year's Subscription to Radio Digest, Illustrated.	HORDA AMPLIFYING TRA
	WANT IT! OUR WEEKLY COPY	Address	Standard on the majority <b>DS.</b> Audio Frequency: 2-1, 55 \$4.50. Power Amplifying,
	CRIBING NOW	CityState	"Urite for some n

October 11, 1924



### **KSD TO BROADCAST**

3

### **SYMPHONY CONCERT** NOTED ORCHESTRA'S THIRD YEAR AT THIS STATION

### Entire Series of Superb Winter Concerts Will Give Radiophans a Novel Treat

ST. LOUIS, MO.—Plans have been com-pleted for broadcasting the concerts given by the St. Louis Symphony orches-tra this season. This will be the third year KSD has sent out to music lovers throughout the United States the pro-grams given by St. Louis' famous orches-tre

100 grams given by St. Louis' famous orchestra.
153 Rudolph Ganz, the noted planist, who is conductor of the orchestra, will direct all the concerts which are broadcast.
158 Ganz is now abroad looking over the 23 possibilities in the line of new music for the coming season, and will arrive in America next week, and begin rehearsals with the orchestra early in October.

**PRESIDENT COOLIDGE WINNER OF FIRST RADIO STRAW VOTE** 

### **Broadcast Poll Conducted by Radio Digest Shows** LaFollette Second; Davis Third-35,074 Men and 22,174 Women Vote

Final tabulations of the world's first Radio straw vote, conducted by Radio Digest over seventeen class B broadcast-ing stations during the past two weeks, show that President Calvin Coolidge is the favorite with 36,752 votes, Robert M. LaFollette is second with 12,038 votes and John W. Davis is third with 8,450 votes. William Z. Foster polled but eight votes.

and John W. Davis is third with 8,450 votes. William Z. Foster polled but eight votes. Not alone was the Radio Digest straw vote an innovation in its being the first to be taken by Radio, but it is believed also to be the first straw vote conducted so as to show how men and women, in-dependently, would vote. In the majority of cases, the vote of the women, though smaller, was proportionate to the vote of the men. Votes were received from 35,074 men and 22,174 women, a total of 57,248. **Stations Co-operating in Vote** The seventeen large stations, covering every part of the country, that co-operated with Radio Digest in taking the straw poll of the invisible audience were: KGO, General Electric company at Oakland; WLW, Crosley Radio corpora-tion at Cincinnati; KFKX, Westinghouse Electric and Manufacturing company at Hastings; WJAX, Union Trust company at Cleveland; WGR, Federal Telephone Manufacturing corporation at Buffalo; WHO, Banker's Life company at Des Moines; KFNF, Henry Field Seed com-pany at Shenandoah; WMC, Memphis Commercial Appeal at Memphis; WOC, Palmer School of Chiropractic at Daven-port; WOAW, Woodmen of the World at Omaha; WCAE, Kaufmann and Baer at Pittsburgh; WBAP, Fort Worth Star-Telegram at Fort Worth; WEAX, Iris Theater at Houston; WOAI, Dallas News and Journal at Dallas; CKAC, La Presse at Montreal; WFI, Strawbridge and

t		WJAX		
0		Men	Women	To
0	Coolidge	1,364	586	1,
	LaFollette	575	202	
5,	Davis	104	26	
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s 0	Coolidge		101	
t	LaFollette	22	16	
Ľ	Davis		7	
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t	and the second	WHO		
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d	LaFollette	144	121	-,
-	Davis	208	154	
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		1,318	1.145	2,
f 4		KFNF	1.1.10	-,
4 3.	Coolidge	97	34	
5.	LaFollette	32	17	
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e		WMC	1.7	
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t	Coolidge	408 34	17	

586	1,950	Coolidge 22
202	777	LaFollette 12
26	130	Davis 57
20	100	
814	2,857	91
		wou wou
101	237	Coolidge 121
16	38	LaFollette 12
7	23	Davis 128
		200110
124	298	261
		201
870	1,836	
121	265	
154	362	
		John W. Da
1.145	2,463	Democrats. I
1.1 10	2,100	came in third
34	131	vote he does
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17	49	business.
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Women 11 8 43 62 37 11 40 88 vis, the kingpin of the bespite the fact that he in the Radio Digest straw not appear to be down-political game is queer P. & A. Photo

"HIGHEST IN WORLD," **CLAIMED BY FRANCE** 

PARIS.—The "highest Radio station in the world" is the claim France makes for the new station at the Observatory of the Pic du Midl, which will be ready for operation in October. The power of this station, perched some 8,700 feet above the sea level, will be only 500 watts. It will be used for relay work with another station at Bagnerres-de-Bigorre, the administra-tive center of the observatory.

WEAY Men

Total

100

The	e first	concert	to be	broad	cast	will
		on Sat				

beginning at 8 o'clock. It is announced It is announced that Michel Gusikoff, concert violinist, again will be concert-master of the orchestra, and Max Stein-del, solo 'cellist in the orchestra and a member of the famous musical family of Steindels, will again head the 'cello sec-tion.

Steindels, will again head the 'cello sec-tion. Some of the works announced for the season, which are either new or long un-familiar to orchestra audiences, are: The symphonic poem "Heidenleben," by Richard Strauss, for which the orches-tra's personnel will be increased by some two score players: "London Symphony," by Dr. Vaughn Williams; "Symphony in E," by Hanson; dances from "Prince Igor," Borodine; "Fireworks," Stravinsky; Entr' Acte from "Kovantchine," Mous-sorgsky; "Tombeau de Couperin," Ravel; "Victory Ball," Schelling; "Suite," Bach-Mahler; "Pacific 231," Honeger; "Three Old Dances," Respighi, and "Noveletta e Notturno," Martucci. There will be 15 concerts broadcast, taking place as follows: November 8, 15, 22 and 29; December 13, 27; January 10, 17, 24; February 7, 14, 21, 28; March 7 and 14,

### Wile to Lecture on **Politics from WRC**

### Political Authority Will Talk on International Problems

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- ALL LIACTORALS	viria.	 	 ,		
Clothier Electric			General	Davis	

The tabulations below indicate the re-	woc
sult of the straw vote at the various co- operating stations, the straggling voters who failed to indicate which station they heard asking for ballots, and the sum-	Coolidge 737 610
operating stations, the straggling voters	LaFollette 164 58
heard agking for ballots and the sum-	Davis 77 22
neard asking for barlots, and the sum-	

TOO				978	690	1
Men	Women	Total		WOAW		
6,887	5,521	11,408	Coolidge	544	403	
,401	1,976	5,377	LaFollette	155	113	
722	301	1,023	Davis	122	103	
4	0	4	-			
				821	619	1,
),014	7,798	17,812		WCAE		
			Coolidge	358	188	
				277	202	
354	243	597	-			
0.49	1 171	2 1 1 2		690	401	1
	1,1,1	0,110		WBAP		
	1,902	6,257	Coolidge	745	510	1
1,897	953	2,850	LaFollette	155	99	
1,187	621	1,808			778	1
7,439	3,476	10,915	-	1,966	1,387	3
	,887 ,401 722 4 ,014 <b>WLW</b> 1,267 321 354 <b>KFKX</b> 1,942 <b>KFKX</b> 1,355 1,897	Men         Women           ,887         5,521           ,401         1,976           722         301           4         0           ,014         7,798           WLW         ,267           ,267         230           354         243           1,942         1,171           KFKX         1,355           1,992         953           1,187         621	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Men         Women         Total           1,887         5,521         11,408           401         1,976         5,377           722         301         1,023           4         0         4           0,014         7,798         17,812           WLW	KGO       WOAm         Wen       Women       Total         Wen       5,521       11,408         K87       5,521       11,408         K401       1,976       5,377         722       301       1,023         A       0       4 $0.014$ 7,798       17,812         WLW	Men         Women         Total         WOAW $,887$ 5,521         11,408         Coolidge         544         403 $,401$ 1,976         5,377         LaFollette         155         113           722         301         1,023         Davis         122         103           4         0         4         821         619 $,014$ 7,798         17,812         WCAE           WLW         .267         693         1,965         51           321         230         551         Davis         55           324         243         597         202         Davis         55           364         243         597         1,171         3,113         WBAP $t,355$ 1,902         6,257         Coolidge         745         510 $t,897$ 953         2,850         LaFollette         155         99 $t,187$ 621         1,808         Davis         1,066         778

"Battling Bob" La
Follette telling
them what he
thinks of things in
general in one of
h i s high - powered speeches. According
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poll "Battling Bob"
should draw a heavy
vote. P. & A. Photo

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vote. P. & A. Photo

222

415

225 .440

222	Coolidge	164	00	400
	LaFollette	24	17	41
	Davis	16	4	20
	-	204	87	291
		WFI		
	Coolidge	156	104	260
	LaFollette	6	4	10
	Davis	18	12	30
	-	180	120	300
- William - Indexed		WGY		
	Coolidge		2,420	6,479
	LaFollette		175	492
	Davis	368	258	626
	Foster	4	0	4
828	roster	·		
<u> </u>		4,748	2,853	7,601
1,463	Not Listed A	ccording	to Stat	ions
	Coolidge	578	551	1,129
1,347	LaFollette		120	270
222	Davis'		179	446
99	_	996	850	1,845
		Summary		
1,668	Coolidge		14,788	36,752
	LaFollette		4,339	12,038
947	Davis		3,047	8,450
	Foster		0	8

CRAC

President Coolidge in a particularly benevolent ap-pearing mood. It may be that he had the straw vote results all figured out be-for e hand. Anyhow, he appears to be making a speech. P.&A.

LaFollette 151 120 270 Davis 267 179 446 996 850 1,845 Summary Coolidge 21,964 14,788 36,752 LaFollette 7,699 4,339 12,038 Davis 5,403 3,047 8,455 Foster 8 0 3 35,074 22,174 57,248 Improvements to Be Made 1 Chinese Communication SAN FRANCISCO, Calif. — Announce-ment of extensive improvements in order to handle the commercial Radio telegraph business with China, and which include the construction of new high power units at Bolinas and the opening of a new headquarters at 28 Geary street, San Fran-cisco, has just been made by the Radio Corporation of America through its Pacific coast division manager, Arthur A. Isbell. 546 479 66 .091

.255 ,844

### Why it is Better

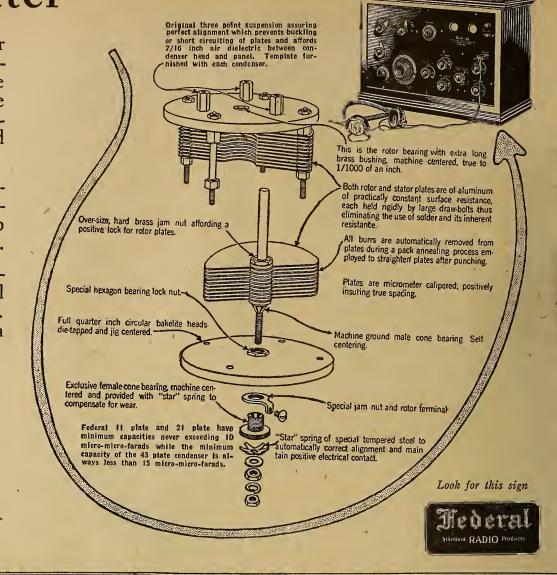
OOK at this illustration see for yourself the eleven distinctive features in the construction of the Federal Condenser. Every feature is a distinct point of superiority essential to clear, sharp tuning and clear reception.

You can get the outstanding advantages of Federal Tone and Federal Selectivity in your pet hook-up only by insisting on Federal Parts.

There are over 130 Federal Standard Radio Parts bearing the Federal iron-clad performance guarantee. Use them-for your own protection and enjoyment.

FEDERAL TELEPHONE MANUFACTURING CORPORATION BUFFALO, N. Y. Boston New York Philadelphia Pittsburgh Chicago San Francisco Bridgeburg, Canada





# SOPER-HILCO-DYNE KIT

SUPER-HILCO-DYNE KIT

### The Key to Distance

Any tube receiver will bring in out of town stations on a "silent" night-distant reception contains a thrill only when done through the transmission of nearby locals. The superheterodyne, by its principle of operation, gives one the ability to do this, but-that principle implies low-loss apparatus, critical in design and made under exacting inspection.

The use of a Super-Hilco-Dyne Kit is the key to that distance which every builder of a Super-heterodyne is after. Its oscillator and antenna couplers assure clean cut separation of radiocasters in adjacent wave bands-its filter coupler completes the weeding out process on those stations within but a few meters of each other.

Get a Super-Hilco-Dyne Kit Now—Not Later

**Coast to Coast Reception Only Two Tuning Dials** Stations can be Logged

A.E. Hill Mfg. Co.

Atlanta, Ga.

1 Hilco Oscillator Coupler

- 1, Hilco Antenna Coupler
- 1 Hilco Filter Coupler **3 Hilco Intermediate**
- Frequency Transformers
- **5** Hilco Precision Fixed Condensers
- **3** Hilco Handykans
- **1** Instruction booklet

Complete explanation, BLUE PRINTS and instructions for assembling a SEVEN TUBE SET

HOOVER ADVOCATES

**RADIO LINK COUNTRY** 

SECRETARY GIVES ADVICE TO ALL BROADCASTERS

### **20,000 PEOPLE JAM** WORLD'S RADIO FAIR

GEO. HAY PRESENTED WITH RADIO DIGEST CUP

### Arrangements Completed for Annual Radio Fairs in New York and Chicago Until 1934

NEW YORK .- Crowds so dense that NEW YORK.—Crowds so dense that the police and fire departments ordered the doors closed marked the opening night of the first annual Radio world's fair here recently in Madison Square Garden and the Sixty-ninth Regiment armory. Men, women and children stood three deep in the rain for more than an hour clamor-ing for admittance. The estimated daily attendance was 20,000. Among the features of the exposition

20,000. Among the features of the exposition was the presentation, by E. C. Rayner, publisher of Radio Digest, of the gold cup, in the form of a standard microphone, to George Dewey Hay of Station WLS, Sears-Roebuck Agricultural Foundation, Chicago, who won the recent Radio Digest contest as the world's most popular an-nouncer. MacMillan Speake

nouncer. **MacMillan Speaks** An address was broadcast by Captain Donald H. MacMillan, chief of the group of scientists of the schooner Bowdoin who recently returned from the far north after 15 months' research on the effect of the Aurora Borealis and other phenomena on Badio. Radio.

Radio. New inventions, miniature models and amateur sets were viewed by hundreds of thousands. Beautiful cabinets and in-novations in the construction of headsets and loud speakers interested the throngs. Arrangements were completed for an-nual Radio world's fairs in New York City and Chicago until 1934.

# **GENERAL OF THE ARMIES RETIRES** Now Public Utility Closely Connected to Lives of Every Citizen, Having Great Possibilities

WASHINGTON, D. C. – Secretary of Commerce Hoover, in addressing the opening session of the Third Radio con-ference on October 7, advocated regularly organized Radio in-terconnection on a national basis, with national basis, with nationally organized and directed pro-grams for some part of the day in sup-plement to local ma-terial.

For the order of the day in supplement to local material.
"Experimental during the past year has brought us to the stage where we know it can be done," said the secretary. Discussing this matter of broadcasting programs further, Mr. Hoover said:
"The local material available for the local program is, in my view, not enough to maintain assured interest and therefore the industry, or to adequately fulfill the broadcasting missions. So far as the art has developed, I think we all agree that for regularity of reception we can depend only upon the local broadcasting stations. My proposition is that the local stations must be able to deliver every important national event with regularity. To this it must add its matters of local interest." intere

### Wants National Interconnection

Wants National Interconnection Wants National Interconnection The secretary gave it as his opinion that "it is our duty to consider the pos-sibilities and potentialities of, intercon-nection as a regular daily routine of the nation. Unless it be systematically or-ganized we cannot expect its continua-tion. I realize that this matter, except insofar as it may be fostered and en-couraged, does not lie in the government. "It would be unfortunate if its control should come under the arbitrary power of any person or group of persons. It is in-conceivable that such a situation could be allowed to exist." Mr. Hoover also said that "Radio has passed from the field of an adventure to that of a public utility, nor among the utilities is there one whose activities may yet come more closely to the life of each and every one of our citizens, nor which holds out greater possibilities of future infuence, nor which is of more potential public concern." Hoover Quotes Statistics The attortion of the conform

Public concern." **Hoover Quotes Statistics** The attention of the conference was called to the fact that there are now 530 broadcasting stations in operation, making Radio available in every home in the country. The sales of Radio ap-paratus, Mr. Hoover said, have increased from \$1,000,000 a year to \$1,000,000 a day. He estimated that there are now over 200,000 men employed in the industry and that the Radio audience probably exceeds 20,000,000. "Badio activitien" or interval

20,000,000. "Radio activities," said the secretary, "so long as they remained within the legislative restrictions which hold for the government the fundamental ether are largely free. The industry's future con-duct with a single view to public interest, a voluntary imposition of its own rules and a high sense of service, would go far to make legislative intervention ncces-sary."

Taking up the question of paying for broadcasting and advertising the secre-tary said, "The quickest way to kill broadcasting would be to use it for direct advertising" advertising.

### Suggests Mutual Program Body

Suggests Mutual Program Body "The reader of the newspaper," said Secretary Hoover, "has an option as to whether he will read an ad or not, but if a speech by the President is to be used as the meat in a sandwich of two patent medicine advertisements, there will be no Radio left. To what extent it may be employed for what we now call indirect advertising only experience with the reactions of the listeners can tell. I do not believe that there is any practical method of payment from the receivers.

practical method of payment from the receivers. "I wish to suggest for consideration the possibility of mutual organization by broadcasters of a service for themselves similar to that which the newspapers have for their use in the press associa-tions, which would furnish programs of national events and arrange for their transmission and distribution on some source of a financial basis just as the press associations gather and distribute news among their members."

Countless Radiophans heard the broadcast of the addresses at the retirement dinner recently accorded General of the armies John J. Pershing at the Hotel Astor, New York. In his speech General Pershing stressed the need of preparedness. Left and right, respectively, of the general are former Ambassador to Germany James W. Gerard and Mrs. George S. Owens, president of the government club. K. & H. Photo **INNING FOR FANS** 

man closer to his problems of government is as yet a doubtful question and one which will take years to answer.

### AT RADIO CONFAB Suggestions of Atlanta Men Are

Adopted by Government for Third Annual Meeting

ATLANTA. — At the third national Radio conference now sitting in Washing-ton three ideas submitted by Atlanta are helping to iron out the difficulties con-fronting Radiocasting. The first is that the American Radio public have a voice at the conference through a representative speaking solely from the standpoint of the listener in. The second is that Radiocasting sta-tions be given a more adequate repre-sentation. entation

sentation. The third is that the department of commerce conduct a survey of all sta-tions concerning their hours of opera-tion, type of service, past-record and future plans with the view of solving the troublesome question of new wave alloca-tions

These three suggestions, adopted These three suggestions, adopted offi-cially by the government, were submitted jointly by Major Walter Van Nostrand, United States Supervisor of Radio and Lambdin Kay, director of Station WSB at Atlanta. Scientific fact and mechanics will be placed in the background now. All new problems will center around helping the Radiophan. The human clement will be paramount. And benefits accruing to the American

And benefits accruing to the American Radio public conference promise to be equally decisive; if not so fundamental, as the improvements realized from the meeting in 1923.

### **END OF SECRET PACTS?**

**END OF SECRET PACTS?** (Continued from page 1) casting station of the P.T.T., from whence it was broadcast over Europe. It was not until the day before that it became definitely known to the press that such a step was contemplated, ac-cording to advices from the various cor-respondents, and even at that time it was considered doubtful as to whether the plan would actually be carried through. The cause for this uncertainty seems to have been, from statements made by those present, in the strong objection of some of the news agencies to transmitting the speeches if they were also to be broad-cast; as Senator de Juvenel, who first made the announcement, simply let the matter rest. **French Cabinet Hears Every Word** 

matter rest. French Cabinet Hears Every Word The loud speakers and voice amplifiers, which had been used in conjunction with the microphones in the hall to carry the speakers' voices clearly throughout the assembly, were left in running order, however, and the day after the first speeches had been made a typewritten statement was posted on the board in the convention hall that the French cabinet, listening in Paris, had heard plainly every word of them, in addition to the applause and other noises. The experiment is an interesting one, and if not too strongly opposed by both politics and press may gain great head-way. In America Radio is considered to have entered politics to stay. What its influence will be in bringing the average



### Builds Best Circuit Best

Actual construction of Erla Duo-Reflex Circuits now is vested with advantages paralleled only by the matchless reception that is assured.

So much more powerful, tube for tube, these extra-efficient circuits now, too, are easiest to build.

Under warranty, factory sealed, the Erla blue-and-white protective carton brings every last thing needed for success. From synchronizing reflex and audio transformers, tested capacity condensers, balanced crystals, clear through to the drilled and lettered panel, stenciled baseboard and full size blueprint, nothing is lacking for correct, confident, precision assembly by any amateur.

Typifying the perfect simplicity to be expected, are Erla ingenious solderless connectors, which banish soldering; so that the only needed tools are screwdriver and pliers.

The completed receiver is bound to represent in their most intensive, accumu-lated form, all those superiorities of tone quality, selectivity, range, volume and ease of control, which make Erla units preferred in any set. Ask your dealer about Erla knock-down receivers, factory sealed in the blue-and-white carton, fully warranted. Or write direct, supplying your dealer's name.

**Electrical Research Laboratories** Dept. A. 2500 Cottage Grove Avenue, CHICAGO



With marked improve-ment in ease of control. ErlaSelectoformerassures maximum range and vol-ume. Cost and complica-tion are reduced. \$5 each

tion of 3 stages, exclusive in Erla Audio Transform-crs. indicates their vast superiority. Price \$5.00

Millions of Erla Bezels are

BBBB

YOUR

BATTERIES

¶A very exhaustive survey made by a large manufacturer of receiving sets showed that over 60% of all radio trouble is traceable to run-down or poor batteries. Without a testing instrument the best you can do is guess with regard to the condition of your batteries. This is a costly, uncertain,

unsatisfactory and altogether unwise pro-

ceeding when you can know-be positiveand solve much of your trouble by invest-

ing instrument.

ing in a comparatively inexpensive test-  $$7\frac{75}{75}$ 

WATCH

O J Z

OLA

dill m

"ACTUAL SIZE"

for Radiocast Slogan

### Will Use Motto to Broadcast All

Grid Games COLUMBUS.—The football announcer at Station WEAO, the Ohio State univer-sity, wants a slogan. And the slogan is to be used during all football announcing during the grid season. So in an effort to get the best one possible a contest has been announced by the school and a prize of two tickets to the Ohio-Chicago game, or to the Ohio-Michigan game, will be given for the best slogan submitted. The rules are these: The slogan must be of four words and each word must start with a call letter in the regular order of WEAO. All slogans must be mailed to the institution so they will reach there by October 18, when the con-test closes. Mail them to the Football Motto Contest Editor, Ohio State univer-sity, Columbus, Ohio. The contest is open to the public.





li Gross Hdw. Co..... ulding Mfg. Co.... xwell Elco. Co... and Ignition & Radio Co.. as, B. Scott Co... ter J. Constant & Co.... Co.

.Milv .Milv .Milv

No. (7.5 and 150 volts is the popular• range in this double reading portable voltmeter for testing "A" and "B" batteries.) \$10.50



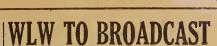
JEWELL "15-A" RADIO INSTRUMENT CATALOG. EVERY RADIO FAN SHOULD SEND FOR A COPY

ORDER FROM DEALER

"25 Years Making Good Instruments



(Use a Jewell No. 85 ammeter (0-40 amps.) for testing your Dry "A" batteries.) \$2.00



### WGY DRAMATISTS IN | Prince of Wales Ardent Radiophan According to Statements of Friends **NEW PLAY TRYOUTS** PLAY NEW SELWYN CROOK Has Two High-Power Sets in England and One at Ranch in Calgary to Keep in Touch with March of World Events- EQUINE AT LATONIA

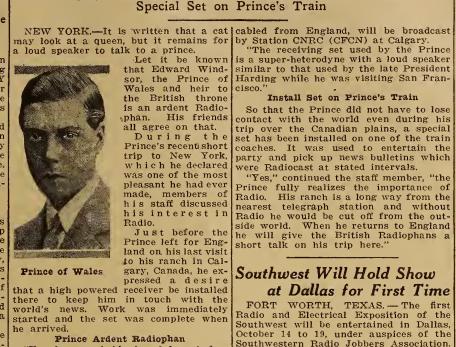
### adio Production of Shows Befor Actual Legitimate Staging Expected to Be Innovation Shows Before Radio

NEW YORK.—Arrangements have been made with one of New York's leading theatrical producers to have the WGY players at Schenectady try out a number of new plays by Radio before they are produced on the legitimate stage this season.

produced on the legitimate stage this season. Through the courtesy of Selwyn and company, "Silence" was Radiocast on October 3. "Silence" is a crook play by Max Marcin. It was played over the Radio before it was produced on the stage. The WGY players interpreted it from the author's script without having first wit-nessed its production. It met with a huge success. **Original Artists on Staff Tractically the same group, of players** as was used last season will make up the company of 1924-1925. They are the oldest Radio players on the air. Since the time of the first experimental play, "The Wolf" was Radiocast over two years ago the company has remained almost in-tact. This season will see the return of Miss Vlola Karwoska, who was the lead-ing woman when the players first started and who has not been heard for over a year. Although numerous other stations are

Although numerous other stations are now broadcasting plays as a regular fea-ture, the experiment of trying out new plays to be used eventually on the stage by Radio, is an innovation. The results should be exceedingly interesting to note. Should the procedure become common it will undoubtedly have a great effect on the ligitimate drama. Listeners in will have an opportunity to choose and decide which shows appeal to them before they attend. attend

attend. Aside from the number of "try-out" plays to be Radiocast before actual pro-duction on Broadway the company has planned a repertoire of its own. Among the plays will be "The New Poor," "Enter Madame," "Friendly Enemies," "Zander the Great" and a special production of "The Jest."



he arrived

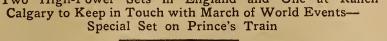
### Prince Ardent Radiophan

Prince Ardent Radiophan "You have probably heard long before this of the keen interest the Prince takes in Radio," said one of his staff members. "A high powered set has been installed for his use at Buckingham palace and another at his residence at St. James palace. The Prince spends much of his time listening to the programs and con-certs generally Radiocast in the British Isles. Hé has, to date, not been fortunate enough to tune in any of the American stations.

enough to tune in any of the American stations. "The set at the Calgary ranch was in-stalled by the Canadian National Rail-ways. It is the intention of the railway to keep the Prince informed on all affairs of the day. According to present arrange-ments all the latest news, including that



Walnart Variable Condensers, plain and vernier, do not "cut out" or develop wobbliness. Plates accurately pressed, permanently aligned and locked in slotted studs fastened in Bakelite ends. List prices: Plain, 3 plate, \$1.25; 5-pl., \$1.50; 13-pl., \$2.00; 17-pl., \$2.50; 23-pl., \$2.75; 43-pl., \$3.00. Vertier, 13-pl., \$4.00; 23-pl., \$4.50; 43-pl., \$5.50.



at Dallas for First Lime FORT WORTH, TEXAS. — The first Radio and Electrical Exposition of the Southwest will be entertained in Dallas. October 14 to 19, under auspices of the Southwestern Radio Jobbers Association. Special features will be the army and navy exhibit, dancing ala Radio. Unique programs will be offered daily. Models for the ensuing year will be shown and the Radiophans of this section will be enabled to see and understand just what Radio is doing for their entertainment and education. Tred Smith thing; the crowds, the celebrated track on which the races will be held, the actual race. In the first race in America, at Belmont Park, Epinard was defeated by a scant half-length. This is considered a remark-able showing by students of the racing game. The horse has always run on the European type turf track which differs greatly from the American type built of dirt. Pierre Wertheimer, owner of Epin-ard, is expected to give a short talk just before the race.

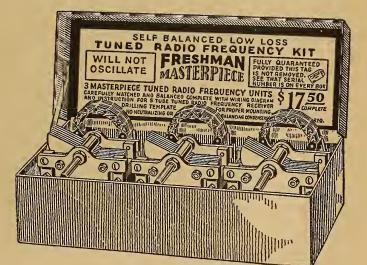
Track Officials and Trainers to Explain Fine Points and Tell Anecdotes of Turf

**NOTED HORSE RACE** 





a five tube radio frequency receiver when you use the Freshman Masterpiece Kit



### NO Neutralizing OR **Balancing Condensers Required**

when you build with this kit to produce a radio frequency receiver that will bring in even the most distant stations with the volume and clarity of locals. So selective that stations can be brought in day after day at the same dial settings. A set that will be the equal, if not the superior, to any  $5^{\circ}$  tube receiver on the market, and what's more, it's the easiest set in the world to operate.

Kit consists of 3 Masterpiece Tuned Radio Fre-quency Units carefully matched and balanced. Complete with wiring diagram and instructions for building any 5 tube tuned radio frequency receiver and also drilling template for proper mounting...



Each and every Freshman Masterplece Coll bears a serial number and Trademark—our guarantee of electrical and mechanical perfection. Every genuine Freshman Coll is made of specially insulated wire to prevent short-circuiting, so often caused by inferior colls. For your protection demand only the genuine. At your dealers, otherwise send purchase price and you will be supplied without further charge.

CHAS. FRESHMAN CO., INC., 106 Seventh Ave., New York

### THE ANTENNA BROTHERS

### Spir L. and Lew P.

NHATS

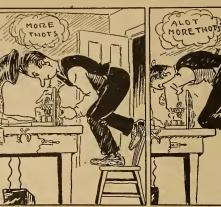
October 11, 1924

THE

WONT IT WORK? 1ATTER







Dramatic Radiocast

Grand Opera Scenes to Be Used

During Winter

During Winter CHICAGO.—With twenty dramatic per-formances scheduled for the month of October, a number of which have already been played, WLS, the Sears-Roebuck Agricultural Foundation station will take its place as one of the country's fore-most dramatic Radiocasters. The light opera season has already been started with the production of "The Mikado" and "The Chocolate Soldier." On October 9 the "Red Mill' will be presented. On October 16, "Robin Hood" and on October 23, "Katinka." With the opening of the Grand Opera season the Thursday evening light operas will be replaced with scenes from the most popular grand operas. Opera stars will be read of all the scenes not pre-sented.

# **CO-OPERATION FITS**

WORDS AND MUSIC

CINCINNATI.—Another case of ex-ceptional reciprocal co-operation was brought to attention when John Marshall of this city tuned in the words and music of a song, each of which was being Radiocast from a different station simultaneously. Marshall tuned in both WLW and WSAI at the same time, although their wave lengths are over a hundred meters apart. "Worried" was the number being used at each station. Coincident-ally they were playing measure for they were playing measure for ally measure.

### Sunday Evening Club Again Holds Services from KYW

**Holds Services from KYW** CHICAGO.—An address by former Chief Justice John H. Clarke, of the United States Supreme Court, solos by Louis Kreidler (a member of the Chicago Civic opera), Mabel Sharp Herdien, and the Imperial Male quartet, patriotic numbers by the chorus of one hundred, and an informal Bible talk by Clifford W. Barnes, marked the opening meeting last Sunday of the eighteenth season at the Chicago Sunday Evening club in Orchestra Hall. KYW broadcasts all meetings.

### Famous Syncopators **Broadcast from WIP**

Members of Orchestra Under 21 Years of Age

PHILADELPHIA. — Syncopated music enthusiasts will welcome the announce-ment that two programs a week will be played by Harvey Marburger and his vaudeville orchestra and Radiocast from Gimbel Brothers' Station WIP. Special telephone wires will connect Station WIP with the Cafe L'Algion where the musicians are engaged for the season. Regularly on Tuesdays and Thursday at 8 p. m. Eastern time, the dance music will be put on the air. Marburger's orchestra is rated as one of the finest in the country and has just returned from a twenty-five week tour with the Keith circuit. The orchestra, composed of eight men, plays twenty-eight different instruments. Because of this all the latest stunts in creating the best dance music is at Marburger's finger tips. Each member of the band, who range

tips. Each member of the band, who range in age from 17 to 21 years of age, is a master of the instrument he plays. The organization also boasts one of the young-est pianists in the country—17 years old. He is an adept at arranging popular airs.

WLS Takes Place as **CONTROL MACHINES REMOTELY LOCATED** 

START ROTARY CONVERTER AT 170-MILE DISTANCE

Experiments May Bring About Central Control of Stations Located at Great Distances

Great Distances LONDON.—Radio control of machinery was demonstrated by one of England's largest electrical machinery manufactur-ing companies at the great Empire Ex-position at Wembley. A 500-kilowatt rotary converter, simi-fra to those used for traction and lighting purposes was installed in the Palace of Engineering. Ordinarily these machines are started and stopped by an exceedingly complicated system of switchboard was in-stalled and the entire outfit controlled by Radio from Manchester, a distance of 170 miles. The switchboard and machine was set by use of valve relay apparatus. The transmitting apparatus sent one signal continuously until time to start the experiment. The starting signal was sent. It consisted of a series of dots and dashes so grouped that they auto-matically connected with the receiving apparatus and were passed on to a special selective relay which responded to that

### WGY Organ Concerts Acclaimed by Fans

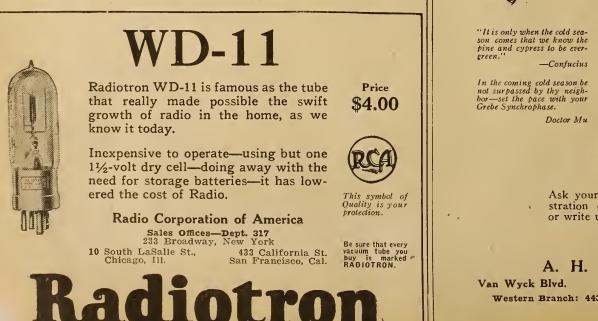
### Will Continue Popular Entertainment Through Winter

SCHENECTADY.—Organ music is rap-idly coming into its own as a favored feature with the Radiophan. Fan letters, the true measure of popu-larity, have swamped WGY with words of approval and requests for more. Dur-ing the summer Stephen E. Boisclair has been heard during dinner concerts every Tuesday and Thursday evening. Tele-phone wires bring the music to WGY from Albany where Mr. Boisclair plays. The Tuesday and Thursday concerts will be continued throughout the winter and the music will be a judicious mixture of \* popular high class compositions and simple songs familiar to everyone.

### Fans Hear World's Series from WGR, Buffalo, N. Y

will be read of all the scenes not pre-sented. Shakespearian plays will be read on Tuesday evenings by Anthony S. Wons. He will also read the principal scenes of the story and explain those parts omitted. "Macbeth" will be read on Octo-ber 7, and "Othello" on October 14. If this venture into classic art is suc-cessful others will be given for the benefit of those who have never had the opportunity to see them on the legitimate stage.

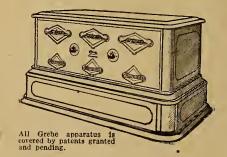
from WGR, Buffalo, N. Y. BUFFALO. — Arrangements have been made at Station WGR with the Buffalo Evening News to Radiocast daily reports of the world series baseball games during the days of play. The game result announcements will be given the right of way. Reports will be sent from the fields of play by tele-graph and put on the air at WGR. Transcribing machines will repeat by di-rect telephone to the studio the various plays as fast as they are made. While remote control is not to be used this method will equal it in rapidity. Station WGR has also resumed its daily afternoon program as a result of a new-co-operational plan between the Western New York Radio dealers, the Province of Ontario dealers and the Buffalo Enquirer and Courier.





### The GREBE SYNCHROPHASE (Trade Mark)

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



Ask your quality dealer for a demon-stration of the Grebe Synchrophase or write us for literature.

craftsmanship.

A. H. GREBE & CO., Inc. Richmond Hill, N. Y. Western Branch: 443 South San Pedro St., Los Angeles, Calif.

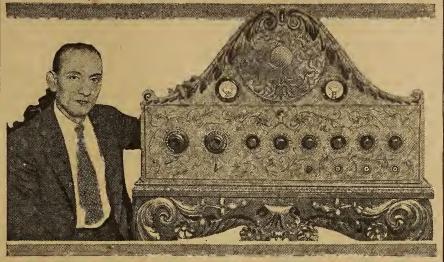
SET IN HAMMERED COPPER CASE

### **ARNOUX OUITS WBAP** TAKE NEW POST

WILL DIRECT NEW STATION TO OPEN IN ARKANSAS

E. L. Olds and W. E. Branch to Assume Director-Announcer Duties Left Open by "G. C. A's" Resignation





This beautiful super-heterodyne receiver is encased in hammered, chased copper and attracted much attention at the New York Radio World's Fair. The builder, beside the receiver, is Alfred Savastano. The grilled work at the top of the center of the panel conceals the horn of a loud speaker. K. & H. Photo

the loud speaker eventually intrigued him more than the bosun's whistle and he returned to Fort Worth.
 At Hot Springs G. C. A. will step into virgin territory. Memphis, St. Louis and Radio will be carried to thousands of small set owners who were unable to tune these in.
 E. L. Olds will assume the duties of Radio editor at WBAP. W. E. Branch, technician at WBAP will take over the work of program direction.

station into one of the best known in the country. From Cowboy to Announcer He was born in New York. While still a boy he moved to St. Louis and then to Texas. After he had decided that colleges were not made for him he turned coal miner. Cow-punching next occupied his attention. From that he dragged a chain with an engineering crew. Then news-paper work and finally into Radio. When the war came G. C. A. got no closer to France than San Antonio despite his pleas for a little more action. When the war closed he started out for himself and tramped around the world, to the South Sea Islands, Borneo, and other corners of the earth. But the sound of



New Call Letters WEEI to Re-place Old WTAT

BOSTON.—After a silence of several weeks Station WEEI, formerly WTAT, of the Commonwealth Edison Light company of this city, opened its new schedule on September 29. The new station was dedicated with an address on "WEEI Policy" by Charles L. Edgar, president of the light company. A popular program of quartet, vocal and instrumental numbers was given, includ-ing dance music by Dok-Eisenbourg and his Sinfonians. Charles Birton is superintendent of broadcasting. C. R. Emery is program director.

It is understood that WTAT will con-tinue to operate as a station of 100 watts. It will use the old call letters. WEEI will broadcast on 500 watts.

**HELPFUL HINTS FOR RAISING THE CHILD** 

PHILADELPHIA.—Radio has taken on a new character—that of nurse-maid. Mrs. James D. Nery of Deepwater, N. J., called Station WDAR, informed them that although she had been an attentive listener to all the baby health talks, the arrival of a new son showed her there was much more to know, and requested WDAR to Ra-diocast more lessons in infant tech-nique. The station obligingly did it.

### Hired Hand and Gang Give Program at WMC

Prominent Texas Business Men Perform with Police Band

MEMPHIS.—Accompanied by a sextet of Texas business men and the Texas Police band, the "Hired Hand" of Sta-tion WBAP at Fort Worth recently took charge of an entire program at Station WMC in Memphis. The festivities started when announcer Jerry Deering announced the coming of the popular "Hired Hand" with three blasts of Hushpuckinny whistle. The singers call themselves the "Saxet." (Texas spelled backwards). As encore followed encore they alternated with the police band, rated as one of the finest in the south. The music was such as grows only in Texas according to re-ports from listeners in. Because of the crowd and the small-

Because of the crowd and the small-ness of the WMC studio, the entire pro-gram was Radiocast from the Scottish Rite Temple.

### Western Radio Company

Sells WOQ to Unity School Sells WOQ to Unity School KANSAS CITY, MO.—Station WOQ here has been sold by the Western Radio company to the Unity School of Chris-tianity and has for some time been fur-nishing religious programs. The Unity school plans to increase the power to be equal to or greater than the other local broadcasters, WDAF and WHB. The station has already been moved into new quarters which are much larger and better furnished than the old. The Unity school is internationally known.

On your guard

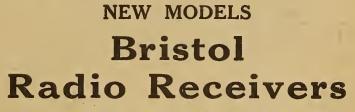


GENERAL INSTRUMENT CORP. 423 Broome Street

NEW YORK CITY

Beware imitations. We have counted 19 imitations of our products. It is up to you to make sure you are getting a genuine General Instrument Corporation condenser.

lirector. It is



**Incorporating the Patented** Grimes Inverse Duplex System

Watch for further announcements in all leading radio publications.

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

Ask for Bulletin No. AY-3017

Manufactured by THE BRISTOL COMPANY Waterbury, Connecticut

GRIMES SYSTEM INSURES NATURAL TONE QUALITY



15-inch Bell ...\$30.00 Price .... Price

C

Junior Audiophone 11-inch Bell ...\$22.50 Price.....

**Baby** Audiophone With Fibre Horn .....\$12.50 9

October 11, 1924

# The campaign was started after the matter had been discussed by the members of the church and numerous listeners in had expressed a willingness to assist in starting the drive to raise funds. Contributions are being solicited from all members of KFIX's audience.

INDEPENDENCE, MO.—A drive to raise \$10,000 for the erection of new Radio buildings and for installation of many new improvements in Station KFIX has been started. The power is to be increased from 259 watts to 1,000. Plans calling for the erec-tion of two new steel towers, each 150 feet high, have been drawn. A new studio, embracing all the latest advanced in the science of acoustics, is to be erected. It is expected that these ehanges will give KFIX a dependable coast-to-coast range. The station owned and operated by the Reorganized Church of Jesus Christ of Latter Day Saints was licensed in 1923. It has maintained a regular schedule.

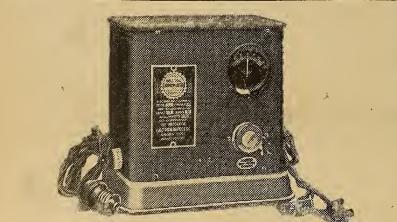


### **START DRIVE TO RAISE Football Radiocasts** FUNDS; PUBLIC HELPS

October 11 Brown-Chicago at Stagg field, Chicago, KYW (536), WMAQ (448). Columbia-Wesleyan at Baker field, N. Y., WEAF (492). Jowa-Ohio at Iowa City, WHAA (484), WBAV (423). Pitt-West Virginia at Forbes field, Pitts-burgh, KDKA (326). October 18 Indiana-Chicago at Stagg field, Chicago, KYW (536), WMAQ (448). Lawrence-Iowa at Iowa City, WHAA (484).

(484)Wesleyan-Ohio at Columbus

Ohio Wesleyan-Ohio at Col WEAO (360). West Point-Notre Dame at grounds, New York, WEAF (492). Polo \_\_\_\_\_



### Anyone can use a storage battery now

HARGING a storage battery ten years ago was a task I needing expensive apparatus and the services of a To-day, anyone can do it in the home. No knowlspecialist. edge of electricity is needed. It can be done economically, simply, automatically, with



morning the battery is charged. What could be easier?

The Gold Seal Homcharger

The Gold Seal Homcharger-simple, efficient, dependable, quick. Cannot injure battery, furnishings, anything or anybody. Handsome, finished in mahogany-red and gold. Approved by Fire Insurance Under-writers. Unqualifiedly guaranteed. Only one moving part, replaceable for \$1 after thousands of hours of use. Silent-its faint hum cannot be heard in the next room. Popularly priced; buy it at your

Popularly priced; buy it at your dealer's for \$18.50 complete; \$25.00 in Canada. For radio at its best, use storage battery tubes, any good battery and the Gold Seal Hom-decrear

just as more than 200,000 satisfied users of Homehargers are doing right now.

If you are one of the many who If you are one of the many who envy the results of storage battery tubes but think you can't enjoy them unless you are a battery expert, go right out now and buy those tubes, a battery and a Gold Seal Homebarger. Homeharger.

Here's all you have to do to main-Here's all you have to do to main-tain a storage battery: add a little water once in a while (your eye will tell you when); eharge it regularly. To use the Homeharger, screw a plug in any lamp socket, slip two spring elips over the battery terminals, go to bed and forget about it. Next

FREE! Send for our interesting free booklet, "The Secret of Distance and Volume in Radio," contain-ing valuable information on this subject and fully describing the GOLD SEAL HOMCHARGER.

charger.

THE AUTOMATIC ELECTRICAL DEVICES CO., 215 W. Third Street Cincinnati, Ohio

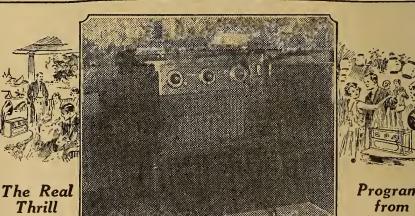
Largest Manufacturers of Vibrating Rectifiers in the World

Station KFIX to Erect New Radio Buildings Soon

the stations in!

IN good radio weather Effarsee Portable antennae has brought in stations 2,000 miles away in loud speaker volume on a four tube set. It stops all the worry about aerials that has prevented many people from, buying radio many people from, buying radio sets. It reduces static, improves the tone of instrument, and increases selectivity. It is much better than a loop. Every set owner should have one to use on nights when static is bad, or to use in series with an outside aerial to stabilize the signals and improve the tone. Three sizes: \$1.00, \$1.50, and \$2.50. Money back if not satisfied! If your dealer can't supply you write direct. Dealers, Jobbers and Manufactur-ers Agents: Effarsee has proved itself in the hands of good houses. It will be a big thing in radio this year. Write for our proposition.





of Radio

Programs

Distant Stations

WHEN you own a Radiodyne you can listen in on programs thou-W sands of miles away. Jazz music from Chicago-speeches from Washington-opera from Boston-"Hits" from Broadway-news from "The Coast"-your Radiodyne brings them to you no matter where you live.

Works Just As **Gets Wonderful** Well Without **Results With** ТАПІ Loop or Aerial 60 Foot Aerial CL L

"I am using a 60 foot outside aerial and the results are wonderful. I use no car phones, Am reaching from coast to coast with a loud speaker." Harry Herz, Milwaukee, Wis.

"With a 30 ft, wire lying on the floor we heard 32 stations in one night, in-cluding Omaha, Newark, Atlanta and Ft. Worth on loud speaker, clear and dis-tinct." H. N. Walker, Detroit, Mich. H. N. Walker, Detroit, Mich.

Write for illustrated folder which describes the RADIODYNE in detail. Every radio fan will be interested in this new type receiver.



**GIVE PLAY-BY-PLAY** 

**GRID YARNS AT KYW** 

"RADIO-FOOTBALL" TAKES

### **GRAND OPERA AT KFI THURSDAY EVENING**

### Wednesday, October 8

Silent night for: CKAC, KGO, WCAL, WFAA, WFI, WGY, WIP, WJY, WMC, WOAW, WRC.
 CHCY, Montreal, Can. (Eastern, 341), 8:43-11 p. m., Royal Canadian highlanders.
 CKAC, Montreal, Can. (Eastern, 425), 1:45 p. u., Mount Royal hotel tuncheon concert.
 CNRC, Caigary, Can. (Mountain, 440), 8:45-10 p. m., Jas. MacIntyre and his Radio orchestra.
 KOKAE. Pittsburgh, Pa. (Eastern, 326), 12:15 p. m., concert, Daugherty's orchestra; 6:30, dinner concert.
 Pittsburgh Athletic association orchestra; 7:15, children's period; 8, program, League of American Pen women; 8:15, "The Role of Chemistry in Every-Day Life," "The Chemistry Storgram Coleses.
 KFAE. Puliman, Wash. (Pacific, 330), 7:30 p. m., Paul E. Christen, barltone; Bernice Metz, planist; "The Prevention in Washington," Lincoln Lounsburg, extension; "Care of the Feet," U. S. Public Health service.

cxtension; "Care of the Feet." U. S. Fublic Health service.
 KFTIce.
 Kerrice.
 Ker

KFSG, Los Angeles, Calif. (Pacific, 278), 2:30-4:30 p.

### Headliners of the Week

Headliners R ADIO will make it easier for find fossils this week if he otober 8 and 10. Professor Ralph V. D. Mafnoffen, president of the will open the New York University broadeast bureau. Fifteen bands and form the microphone of KSD will please the more frivolous this week when the annual street carnival of t. Louis floats over the ether. The music and story of the grand oversite a lovers to KFI Thursday music opera lovers to KFI Thursday music opera lovers to KFI Thursday music band, a nationally famous or paration, will plex instead the con-or of the baton of its director. Whether English or Americans are the mere elouent speakers will be

Whether English or Americans are the more eloquent speakers will be determined Friday night when WEAO

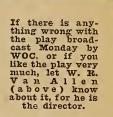
W. A. Mitchell (below) is an-other member of the P. S. C. dramatic club and will take part in the Radio play broadcast by WOC, Monday.

will Radiocast the debate between the Ohio State university and Ox-ford university, England. One of the debaters on the Oxford team is Mal-colm MacDonald, son of the British premier.

premier. Be not surprised if the air reminds you of a pickle or a bean Saturday night. The 57 varieties will be on the Westinghouse stations. The employ-ees of this large company will eat in unison in sixty-two cities all over the world at 5:30 p. m., Central time. (Figure this out if you can.) Presi-dent Coolidge will be the first speaker. Thitteen has no terror for Fred

dent Coolidge will be the first speaker. Thirteen has no terror for Fred Smith's WLW family. Their defiance of tradition took definite form when they decided on this date for the dedication of the new studios. But please note this is Monday and not Friday the thirteenth. The good ship "H. M. S. Pinafore," having sailed the comic opera seas for many years, has been overhauled and will take to the air Tuesday, October 14, at KGO, Oakland.

violinist and Stephen Baloch, planist; 7-7:30, Paul Specht's dance orchestra; 7:50-7:10, Emily's surprise party; 7:40-8:10, Al Raymond and his orchestra; 8:10-8:20 "Bad Boys and Girls," Jess Perluan; 8:20-8:30, songs, Cantor Saul Goldrarb; 8:30-8:45, Signore Landino, tenor; 8:15-9, Kiwanis club boy's period, Wm, J. Stuart; 9-9:15, Alfred Dulin, planist; 9:15-9:15, Plantation screenaders; 9:45-10, Leo Wood's air troopers, 10:10:10, base ball statistics, Al Munroe Ellas; 10:10-11, Clover Gardens dance orchestra.
WHO, Des Moines, 1a. (Central, 526), 7:30-9 n. m. Bankers Life Radio orchestra, W. L. Marsh, director.
WIP, Philadelphia, Pa. (Eastern, 509), 1 p. m., Gimbel tea room orchestra, Ray Steen, divector; 3, recital, Ada Turner Kurtz; tudio; Jshnee Riediger, soprano; Naomi Gilbert, contralio; John Abnet, tenor; Flora Ripbs, accompanist; 6:05, Walter Schwartz orchestra; 7, Uncle Wip's bodtime stories:
WIZ, New York, N. Y. (Eastern, 455), 10-10:20, a. m., housewives daily menu, Mrs. Julian Heath, 10:20-10:30, Housewires Calip Leuipment," Ethel R. Peyser;



m., auditorium service, organ; congregational singing; prayer, testimonies; "Deeper Bible teaching on Divine Healing," Aimee Semple McPherson; attar call; 6:30-7:30, Gray studio children's program, Mrs. Edward Hughes, assisted by daughters, Mary Elizabeth and Betty; Mrs. Rose, pianist, assisting artists.
KGO, Oakland, Calif. (Pacific, 312), 3 p. m., musical program, Cora L. Williams Institute speaker; 4-5:30, concert orchestra, Hotel St. Francts.
KGW, Portland, Ore. (Pacific, 432), 12:30 p. m., Bill Datby's orchestra; 5, children's program; 8, program, Rose City concert company; 10, George Olsen's Metro-politan orchestra.

Coy V. States, as he ap-peared in the part of the Professor in the comedy "Kleptomania," recently broadcast from WOC, Davenport, he will play a leading role in "He's a Lunatic," to be given Monday night.

concert orchestra, Hotel St. Francis.
KGW, Portland, Orc. (Pacific, 492), 12:30 p. m., Bill Dyrby's orchestra; 5, children's program; 3, program. Rose City concert company; 10, George Olsen's Metrovic Structure and State Company; 10, George Olsen's Metrovic State Company; 10, Horis, State Company; 10, Horis, State Company; 11, State Company; 12, State Company; 11, State Company; 11,

WAAM, Newark, N. J. (Eastern, 263), 11-11:15 a. m., plano recital; 11:15-11:30, market reports from Center Market Newark; 8:8:30 p. m., sones, Vietor Wibur; Barit Joe Mag, planist; 8:30-8:15, Shu-Milk Kid, request; 8:45-9, Ben Friedman, barlione; 9-91:5, Burr MacIntosh, speaker; 9:15-9:30, Shu-Milk Kid; 9:30-9:45, Ben Friedman, Jay boy; 9:45-10:13, Ray Southwick Commode dance orchestra.
 WBAP, Fort Worth, Tex. (Central, 476), 7:30-8:30 p. m., concert, School of Music of the Fexas Cbristian university; 9:30-10:45, concert dance music.
 WBAP, Fort Worth, Tex. (Central, 476), 7:30-8:30 p. m., concert, School of Music of the Fexas Cbristian university; 9:30-10:45, concert dance music.
 WBAP, Columbus, Ohio (Eastern, 423), 12 m., Ila Lorbach Owens, planist.
 WBBR, New York, Y. (Eastern, 273), 8 p. m., Hrene Klinepeter, soprano; 8:15, 'Progression of the Divine Plan," Bible study; 8:45, Trene Klinepeter, WBZ, Springfield, Mass. (Eastern, 37), 6 p. m., Westinghouse Philharmonic trio; 1rene ktidies; 7:30, Westinghous, soprano; Willard Clark, barltone; Benjamin Buxton, accompanist; 11:30, Leo Reisman and his Hotel Brunswick orchestra; U. Application, Progressina, Surato, Willard Clark, barltone; Benjamin Buxton, accompanist; 11:30, Leo Reisman and his Hotel Brunswick orchestra; 24, popular songs, Hote Brunswick studio; 12:15 a. m., Leo Rcisma and his Hotel Brunswick (20:4), 3 p. m., Fred Mosenfeid, planist; 6:30, dimer concert, William Penn hote; 7:30, Sunshine girl; 8:30, Grace B. Brown, sonrano.

hotel; 7.30, Sunshine girl; 8:30, Grace B. Brown, soprano.
WCAL, Northfield, Minn. (Central, 360), 9:45 a. m., St. Olaf college chapel services.
WCAP, Washington, O. C. (Eastern, 469), 7:30-7:45 p. m., musle; 7:45-8, address, Warren Irving Glover; 8-10, Bob Lavrence Community concert.
WCX, Detroit, Mich. (Eastern, 517), 4:15 p. m., musleal program; 6, dinner concert; 7, musleal program.
WOAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., the Star's string trio; 6-7, school of the align any least of the Health Conservation association; address, ausplees of the Health Conservation association; address, speaker from the Meat Council of Grcater Kansas City; the Tell-Mea-Story lady; musle, the Hanlein-Knutson Trianon ensemble; 8-9, program, Beatrice Poindexter, Mrs, Jennie Schultz; 11:45-1 a. m., Nighthawk frolle, the "Merry Old Chief," the Plantation players.

mark frohe, the Merry Old Chief, the Flantation players.
 WOAR, Philadelphia, Pa. (Eastern, 395), 11:45 a. m., daily almanae; 12:03 p. m., Stanley theater organ rectal; 12:30, sermon, auspless Philadelphia Federation of churches; Arcadla cafe concert orchestra; 2, Arcadla cafe concert orchestra; 4:30, Edna Finestone, planist; 7:30, Dream Daddy's bedthue storles; 7:55, "The Conversation Corner," Arnold Abbott; 8:30, "Fire Prevention," George Elliott, director of Department of

Fern Winslow is the charming leading lady in the play "He's a Lunatic," at WOC, Daven-port, Monday, October 13.

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10:30-10:50, "Ceneral Hygiene of School Child," Marguerite A. Wales, visiting nurse service; 10:50-11, fashion tafk, Eleanor Gunu; 4:5 p. m., specialty nursers; 5:30-6:30, New York Stock exchange reports. Evening Post News; 7:8, Hring Selzer's Cafe Boulerard orchestra; 8:8:15, Wall Street Journal review; 8:30-8:35, talk, Democratic National committee; 9:05-9:03, Alexander Brackocki, pianist; 10:30-11:30, Greenwich Village Inn orchestra.
 Wis, Ghicago, III, (Central, 345), 12-1 p. m., noon-day farm program; music numbers, Nubs Allan; talk, G. C. Bigrar; 3:15-4:15, houremakers' hour; dress-making hints, study your type; "Holiday Ideas from the City Shops," L. Dunnigu; daily review, market notes; 6:30, Ralph Emerson, organist; 6:45, Ford Ruch, Ghen Rowell; 6:50, Ralph Emerson, organist; 7:35-15; WLS tribe of Lone scouts; 7:15-7:15, boys' and girls hour, program, Campite Girls of America; 7:35-1; 5; WLS tribe of Lone scouts; 7:15-7:15, boys' and girls hour, program, Campite, Girls of America; 7:35-1; 5; WLS tribe of Lone scouts; 7:15-7:15, boys' and girls hour, program, Campite, Girls of America; 7:35-1; 5; Stock; Charles Stewart; 9, Hutter Scool of music; 9:15, Isham Jones and his College Inn orchestra; 10, H. D. Saddler's poen period; 10:30, Tisham Jones and his College Inn orchestra; 10, H. D. Saddler's poen period; 10:30, Tisham Jones and his College Inn orchestra; 10:40, H. D. Saddler's poen period; 10:30, Tisham Jones and his College Inn orchestra; 10, H. D. Saddler's poen period; 10:30, Tisham Jones and his College Inn orchestra; 10, H. D. Saddler's poen period; 10:30, Tisham Jones and his College Inn orchestra; 10, H. D. Saddler's poen period; 10:30, Tisham Jones and his College Inn orchestra; 10, H. D. Saddler's poens period; 10:30, Tisham Jones and his College Inn orchestra; 10, Y. P. m., Lo resourts, Chistago, Tred Smith, international Languange instuctor; concert for shut-ins; 8, Virginia Entertainers; 9, Formica band, Richard Pavey, soloist, Walter Esberger, Micector.
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concert for shul-ins; 8, Virginia Entertainers, 9, 200 mine band, Richard Pavey, soloist, Walter Esberger, director.
 WMAQ, Chicago, III. (Central, 447.5), 1 p. un., speeches, weekly luncheon of the association of commerce; 4, sport results; 4:10, beauty talk, Mme. Grace Earl; 4:30, program; 6, Chicago theater organ recital; 6:30, stories for children, Georgene Faulkner; 8, "The Wave of Lawlessness in America," Prof. Andrew Bruce; 8:30, WMAQ play-night, William Ziezler Nourse, director; 9:15, Mildred H. Hosteiter, soprano; 9:15, talk from one of the Chicago charlies.
 WMC, Memphis, Tenn. (Central, 500), 12:30 p. un. noonday concert, Skyline screenaders.
 WMH, Gienradt, Ohio (Central, 500), 8 p. m., Goodrieh Silvertown orchestra; 9, talk; "Bits of Clincinnati History," Georgo W. Platt; 9:15, cellst; 0 scar kirsche, plano solos; Edward H. Schoelwer; soprane solos, Loretta Steffen; barltone solos, George Ezbers; 10, Jimale Dearley's Rathow orchestra.
 WOC, Davenport, Ia. (Central, 484), 12 m., chime; 7 p. u., sandman's visit. Val McLaughtin; 7:20, "Free Prevention," Eugene Walsh; 8, Erwin Swindell, organist; Dorolly Sunderson, planls.
 WOO, Philadelphia, Pa. (Eastern, 509), 11 a, m., organ reeltal, Mary E. Vogt; 7:30, A. Candeloti eusemble from Hotel Adel- (Continued on page 12)

### **57 VARIETIES ON AIR SATURDAY; OHIO**

### Where to Hear Concerts

### Central Standard Time

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

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from jazz to opera. Wednesday: 6, WCX: 6:30, KOB; 6:40, WEZ; 7, KDKA, WAAM, WBBR, WCAP, WEAF; 7:30, KDKA, KFNF, KYW, KSD, WAAM, WBAP, WCAE, WHAS, WHN, WOR, WOO, WWJ; 7:45, CHYC, WAAM, WBAP, WCAE, WHAS, WHN, WOR, WOO, WWJ; 7:45, CHYC, WAAM, WBAP, WCAE, WHN, WOC; 8:15, WAAM, WOR; 8:30, WGN: 8:45, KYW; 9, KFKB, WBZ, WLS, WLW, WTAY; 9:15, WMAQ, WMH; 9:30, KFAE, KFT, WGR: 9:45, KYW; 10, KFI, KHJ, WCJ, 10:40, WLS; 11, KFI, WEZ, 12, KHJ; 12:30, KYW: Thursday: 6, WCX: 6:45, WEZ; 7, CNRM, WAAM, WBAP, WCAE, WHAS, WWJ; 8, KFKB, WBER, WHAS, WWJ; 8, KFKE, WBER, WCBD, WEAF, WMH, WRC; 8:30, KYW, WEAF, WFAA, WHN, WCN, WMC; 8:45, WBBR, WHN; 9, KFKB, WEZ, WCAL, WJZ, WIAP, WCAE, WHAS, WWJ, 10, KFKE, WBER, WCBD, WEAF, WAH, WRC; 8:30, KYW, WEAF, WFAA, WHN, WCN, WMC; 8:45, WBBR, WHN; 9, KFKB, WEZ, WCAL, WJZ, WMAQ, WOC, WOAW, WWJ, WTAY; 9:15, WMAQ; 9:30, KFI, WBAP; 10, KDKA, KFI, KHJ, KPO, KYW, WHN, WQJ, WSAI, WWJ; 10:15, WHN, WTAY; 10:30, WGN, 10:40, WLS; 11, KFI, KHJ, KPO; 12, KFI, KHJ, WLS, WOAW. Triday: 6, WCX, WEAF, WOER, WTAY; 6:50, WLS, WGY; 7, WEAF, WEBJ, WQJ; 7:20, WLS; 7:30, KDKA, KFN, KYW, WEAP, WCAE, WEAF, WTAY; 6:50, WLS, WGY; 7, WEAF, WEBJ, WQJ; 7:20, WLS, 7:30, KDKA, KFN, KYW, WEAP, WCAE, WEAF, WTAY; 6:50, WLS, WGY; 7, WEAF, WEBJ, WQJ; 7:20, WLS, 7:30, KDKA, KFN, KYW, WEAP, WOC, 8:15, WCAP, WJZ; 8:30, WFAA, WGA, WGAY, WJZ; 8:30, WFAA, WGAY, WHAY; 8:45, KFI, WCAP, WOC; 9, KFKE, WDAR, WBZ, WIZ, WHA, WGY, WHA; 8:45, KFI, WCAP, WOC; 9, KFKB, WDAR, WBZ, WIZ, WHA, WGY, WHN; WAAQ; 9:15, WLS, WJZ; 9:30, KFAE, KYW, WBAP, WGY, WHN;

10, KFI, KHJ, KLX, WEZ, WHN, WQJ; 10:30, KFOA, WGN; 10:40, KYW, WLS; 11, WMC; 12, KFI;
12:30, KGW.
Saturday: 6:40, WEZ; 7, KSD, WBBR, WEAF, WHN, WQJ, WOR, WRC; 7:15, KDKA, WHN, WRC, WC; 7:30, CKAC, KFNF, WEZ, WCAE, WEAF, WGY, WHAS, WHN, WLS, WEAF, WOR, WRC; 8, KYW, WEZ, WEAF, WOR, WRC; 8, KYW, WEZ, WEAF, WIP, WLS, WMAQ, WSA1; 8:15, WEAF, WSAI, WOR; 8:30, WFAA, WGN, WNC; 8:45, WHN; 9, WEZ, WHN, WMAQ, WOAW, WOC, WTAY; 9:30, KYW, WHN, WJZ; 10, KFI, KGO, KHJ, WIP, WMH, WQJ; 10:15, WTAY; 10:30, KFNF, WGN; 11, KFI, KHJ, WOAW; 12, WCAL; 1, KFI.
Sunday: 6, WJZ; 6:30, WGR; 7, WLS; 7:15, WJZ; 7:30, WHO, WJY; 8, WJZ, WQJ; 8:15, WEAF; 8:30, WIP; 9, KSD, WGN, WOAW; 9:15, WFAA; 9:30, WOC.
Monday: 6, WWJ; 6:45, KSD, WGY; 7, WAAM, WDAR, WEAO, WHO; 7:50, WGR; 8, KFKB, KQY, WHO; 7:50, WGR; 8, KFKB, KQY, WHO; 7:50, WGR; 8, KFKB, KQY, WHO; 7:50, WGR; 11, WHN; 02; 8:30, WAAM, WDAR, WFAA; 9, KFAE, KSD, WOAW, WOO; 9:30, KFAE, KSD, WOAW, WOO; 9:30, KFAE, WBAP; 10, KGW, WOO; 9:30, KFAE, WBAP; 10, KGW, WOO; 9:30, KFAE, WEAP; 10, WAAM, WAAW, WOZ; 7:30, WAAM, WDAR, WEAAM, WOAF, WEAP, WOAW, WOB, WHO; 7:30, WEBJ; 6:45

WHO. **Tuesday:** 6, WWJ: 6:30, WEBJ: 6:45, WGY, WTAY: 7, WAAM, WQJ: 7:30, CKAC, KFNF, WAAM, WEBJ, WRC, WSAI: 7:45, WRC; 8, KFKB, WHB, WSAI: 8:15, WAAM, WJY; 8:30, WFAA, WGN, WMC, WRC; 8:50, WMAQ: 9, KFKB, WJY, WCX, WOAW, WSAI; 9:15, WMAQ; 9:30, WBAP: 10, KGO, WQJ: 10:30, KGW, WGN; 11, WLW, WMC; 12, WOAW.

### Wednesday, October 8

### (Continued from page 11)

(Continued from page 11) phla; 3:30, Mary E. Voşt, organist; 9, WOO orches-tra. Robert E. Golden, director; 10, A. Candclort's dance orchestra from Hotel Adelphia. "OR. Newark, N. 1. (Eastern, 405), 2:30-2:45 p. m., Nonoma Talley, pianist; 2:43-3, McK & Jerone; 3:15-3:30, Scomma Talley; 6:15-7, "Musie While You Dine," Jersey collegians, direction Julie Wintz; 7-7:15, Joily Bill Steinke; 8-8:30, Gene Ingraham's orches-tra; 8:30-8:45, Julius Kochl, pianist; 8:45-9, talk, Tom Terris; 9:15-9:30, Julius Kochl, pianist; 10:30-11, Perry and Russell, two man singing orchestra. Perry and Russell, two man singing orchestra. "On the Carl in the Home," Dr. Henry J. Mon-creat; A. Talk on Budgets for the Housewife," Mer-Care of the Cat in the Home," Dr. Henry J. Mon-creat; A. Talk on Budgets for the Housewife," Mer-Care of the Cat in the Home," Dr. Henry J. Mon-creat; A. Talk on Budgets for the Housewife," Mer-Kenne, David Middleton, bass; 10-2, Rahph Williams and his Rahob skyarks; Sandy Meek, Sootch tenor; the Balahob skyarks; Sandy Meek, Sootch tenor; the Melodians, Laurie, Eddle, Benny; George A. Litte, Dolores Edwards, contraito; Rita MeFawn, so-prano; Fred Agard, tenor. He, Washington, O. C. (Eastern, 469), 3, p. m., WQJ, Chicago, Ill.

5) Fred Agard, tenor. Washington, D. C. (Eastern, 469), 3 p. m., on developments of the moment, women's wear; songs: 3:25, report, National Conference board; songs; 3:45, Eleanor Glynn, pianist; 3:56, cur-toples, editor of the Outlook; 4, songs; 5:15, uetion in international code; 6, stories for chil-Paerex Albion. dren, Peggy Albion. WSB, Atlanta, Ga. (Central, 429), 10:45 p. m., grand operatie hour, Emilio Volpi quartet and soloist; Nora

operatic hour, Emilio Voipi quarte du Allen. MTAM, Cleveland, Dhio (Eastern, 390), 8 p. m., pro-mTAM, Cleveland, Dhio (Eastern, 390), 8 p. m., pro-gram arranged by Cleveland Plain Dealer; selections from farorile comic operas; Maurice Spitalny'a Hotel Statier orchestra; Dorothy Maskell, aoloist. WTAY Dak Park, III. (Central, 283), 6:45-7:45 p. m., George Clark, organist; 9-0:45, 10:15-11:15, Axel Christensen, planologues; Guyon's Paradise orchestra; ten minute technical talk, member of Radio Aze. WWJ, Defroit, Mich. (Eastern, 517), 8 a. m., setting-up exercises, R. J. Horton; 9:30, talk, women's editor; 12 m., musical program; 2 p. m., world series base-beil, njay by play; 8:30, Detroit News orchestra;

rerercises, R. J. Horton; 9:30, tark, wonten 12 m., musical program; 2 p. m., world se bail, piay by play; 8:30, Detroit News Templeton Moore, soprano; Helen Vabi, sor

### Thursday, October 9

Silent night far: KGW, KDB. KQV, KSD, WCAL, WCAP. WDAR. WGR, WHB, WHO, WDO. CNRM, Montreal, Can. (Eastern, 430). 8 p. m., Cana-dian National Railwayse mixed quartet; J. Albert Brown, tenor; duet, Mrs. R. W. Biackbird, A. Fry; Mildred l'age, reader: Jock Hunter, Scothe Connedian; "Some l'roblems of European Emigration to Canada," W. D.

Froblems of European Emigration to Canada, ..., Rohb; Mrs. L. Hartley, contraito. (NRC, Caigary, Can. (Mountain, 440), 8:45-10 p. m., Jas. MacIntyre and hie Radio orchestra. K DKA, E. Pittsburgh, Pa. (Eastern, 326), 12:15 p. m., Scalzo's orchestra; 8:30, dinner concart, KDKA Little Symphony orchestra; 7:15, children's period; 7:30. N, prog

Post studio. KFI, Los Angeles, Calif. (Pacific, 469), 5/30-6 p. m., Lada's, Loddsima Flve orchestra; 6/35-7/30, Y. M. C. A., lecture, concert, Bon Ton orchestra; 7/30-8, Harry Porter, barlione and Sylvia Marotta; programs 8/11

n., onera. 'Reinco and Julief.''
 KFKB, Milford, Kans. (Central, 266), 8 p. m., KFKB Factors & 30, 'Gland Transmlantation and Its Ac-concell Journes,' Dr J. R. Brinkley; 0, KFKB artists.
 KFNF, Shenandaah, Ja. (Central, 266), 7:80 p. m. con-cell, Riveries elub.

KGO, Dakland, Calif. (Pacific, 312), 4-5:30 p. m., eoncert orchestra, Hotel St. Francis; 8, "Turn to the Right," KGO players; 10-1, dance music, Henry Halstead's orchestra.
 KGW, Portland, Dre. (Pacific, 492), 12:30 p. m., con-construction of the state state of the state state of the state

gram. KFDA, Seattle, Wash. (Pacific, 455), 8:30 p. m., Seattle

KFDA, Seattle, Wash. (Pacific, 455), 8:30 p. m., Seattle Post-Intelligencer.
KPO, San Francisco, Calif. (Pacific, 423), 1-2 p. m., Rudy Selger's Fairmont hotel orchestra; 2:30-3:30, musical matinee; 4:30-5:30, Rudy Selger's Fairmont hotel orchestra; 5:30-6:30, children's hour stories, lig Brother; 7-7:30, Rudy Selger's Fairmont hotel orchestra; 8-9, Theodore J. Irwin, organist; 9-10, Norman Simon, barltone; 10-11, E. Max Bradfield's Versatile band.
KFSG, Los Angeles, Calif. (Pacific, 278), 3:30-4:30 p. m., organ recital and program, courtesy, B. Earnest Bailard and assisting artists; 7:30-9:15, auditorium service, organ; congregational singlns; prayer; announce-ments; sermon, Aimee Semple McPherson; water bap-tismai service; 9:15-10, Gray studie ocnect, featuring the temple silver band, direction, G. N. Nichols; 10-11, mrgan recital and program, courtesy, Esther Frieke Green, artists.

ments; sermon, Aimee Semple MePherson; water baptismal service; 9:15-10, Gray studio concert, leaturing the temple silver band, direction, G. N. Nichols; 10-11, mrgan recital and program, courtesy, Esther Fricke Green, artists.
 KHJ, Los Angeles, Calif. (Paeifie, 395), 12:30-11:15 p. m., concert, Coy Barkley end Palace balinoon orchestra, Ocean Park, 2:30-3:30, matinee musicale; 6-6:30, Art Hickman's concert orchestra. Edward Filzpatriek, direer or; 6:30-7:30, children's hour, "American History," Prof. Walter Sylvester Hertzog; Dickle Brandon, screen juvenile; pupils of Carter Weaver, drama department, Earle Wallace theatrical dancing studio; 8-9, concert, courtesy, Radio Corporation of Southern California, arranged through courtesy of the Sandmar; 10-11, Art Hickman's dance orchestra. Earl Burtnett. director.
 KLX, Dakland, Calif. (Paeifie, 509), 8-10:20 p. m., artists' program.
 KYW, Chicago, III. (Central, 536), 11:35 a. m., table talk, Mrs. Anna J. Peterson; 2:35-4, afternoon frolic; 6:35-7, children's bedline atory. Uncle Bob; 7-7:30, dinnor concert, Congress hotel; 8-8:20, "Twenty Minutes of Good Reading," Rev. C. J. Pernin; 8:20-9:15, Marguerite Gotthardt, sopramo; George D. Horne, baritorio; Ruth McBride, pianis; 9:15, eafely first talk; 10-11:30, at home program.
 WAAM, Newark, N. J. (Eastern, 263), 11-11:15 a. m., plano recital; 11:15-11:30, market reporte; 8-8:30 p. m., concert, Texne hotel orchestra; 9:30-9:15, Marguerite Gotthardt, soprano; George D. Horne, baritorio; Ruth McBride, pianis; 9:15, eafely first talk; 10-11:30, at home program.
 WAAW, Dmaha, Nebr. (Central, 266), 8-9 p. m., educational program, talks, liter. Rrown, J. W. Kriss.
 WBAP, Fort Warth, Tex. (Central, 266), 7:30-8:30 p. m., concert, Texne hotel orchestra; 9:30-10:35, Thorp Spring Christian college.
 WBAY, Columbus Dhia (Eastern, 423), 12 m., religious service, Columbus Councel of churches, Rev. J. A. Persinger, Chiaego Areune Chur

piano tuning-in number on the Duo-Art; travelogue, Edgar Allen Linton; readings, Cecle Burton; the Tell-Me-a-Story lady; music, the Hanlein-Knutson Trianon ensemble; 11:45-1 a. m., Nighthawk frolic, the "Merry Old Chief"; Plantation players; Eddie and Bobbie Kuhn's Kansas City Athletic club orchestra.
WDAR, Philadelphia, Pa. (Eastern, 335), 11:45 a. m. daily almanac; 12:02 p. m., Stanley theater organ recital; 12:30, Arcadia eafe concert orchestra; 2, Ar-eadia cafe concert orchestra; Edma Finestone, Planist; 7:30, Dream Daddy's bedtime stories.
WEAF, New York, N. Y. (Eastern, 492), 11-11:30 a. m., musical program; 11:30-11:45, talk, Aivin Silver company; 4:4:30 p. m., Pauline Freistein, bric evano, 4:4:30 p. m., Pauline Freistein, bric Waldorf-Astoria hotel; 7-7:30, services, Greater New York Federation of churches; 7:30-8, Messner hrothers' dance orchestra; 8:8:15, Joseph Mezo, monologist; 8:15-8:30, talk, Bank of America; 8:30-8:45; "Touring with the Packard," Chas, D. Isaacson; 9:9:15, Mabel Cor-lew, soprano; 9:30-9:45, Kathleen Stewart, planist; 7:1-12, Vincent Lopez and his Hotel Pennsylvania or-chestra.
WEAO, Columbus, Dhio (Eastern, 360), 9 a. m., musice

tew, soprano; 5.00-2 and his Hoter and the source of the s

m. musie, Sledel artists; 1.30 p. m., artists.
 (FAA, Dallas, Tex. (Central, 476), 12:30-1 p. m., "Training," Charles E. Osborne; 8:30-9:30, "Fire "Training," S. W. English; Mrs. Albert E. Smith, Prevention," S. W. English; Mrs. Albert E. Smith,

Prevention," S. W. English; Mrs. Albert E. Smith, soprano. **VFI**, Philadolphia, Pa. (Eastern, 395), 1 p. m., Meyer Davis Bellevue Stratford concert orchestra; 3, report elosing prices Chicago grain market; Loretta Kerk, pianist; 6:30, Meyer Davis Bellevuo Stratford concert orchestra; 7, Sunny Jim, the kiddles' pal; 8, John Vandersloot, baes; Loretta Kerk, planist. VGN, Chicago, ill. (Central, 370), 8:30-0:30 p. m., Otto Moore, Agnes McLaughlin, entertainers; Mary Brown, soprano; Evelyn Bush, accompanist; John Clark, tenor; 10:30-11:30, Jack Chapmen dance or-chestra.

<text><text><text><text><text>

Leo Reisman (left) is the director of the ensemble, two regular features of WBZ, Tune in for WDAR, Philadelphia, and e ladies. Jaroslav Cimera is one of the larly at WTAS, Elgin, and WQJ, Chicago

a. m., hallowe'en party, Beity Crocker; 2, world serle baseball geme; 4, "The Mazurka," McGrath, 5:30 children's hour, Gold Mcdai ledy; 6, basebell score and sport hour; 6:30, dinner concert. Sem Helman' Golden Pheasant orchestra, 7:30, feed talk; fire prevention telk; 10, HoHo orchestra, Stanley F. Staples director; Hoo Hoo clee elub, Martin L. Jordan, director WLM, Gineinnati, Dhio (Central, 423), 4 p. m. French esson, Madame Teinpidis, instructor; plano recital Adelaide Apfel; 10, mesage from United Stetes eity service bureau; 10:03, Doherty Melody orchestra; 10:30 Milnor trio; comic radario, "Lights Out," Senato Schultz; 11, Milnor trio.
WLS, Chicago, HI. (Central, 345), 12-1 p. m., musi numbers, Harry Davis; 3:45-4:45, "Sunday Nigh Suppere," Merina Logan; "The Last Word in Dres Accessories," L. Dunnigan; houschoid binta, marke notes; 6:30, Raib Femerson, organist; 6:45, Ford Rush Glenn Rowell; 6:50, Raibh Emerson, organist; 7:20, Car Craven studios; 7:35, Isham Jones and his College Inn orchestra; 10:30, Tsham Jones and his College Inn orchestra; 10:30, Fisham Jones and his College Inn orchestra; 10:30, Fisham Jones and his College Inn orchestra; 10:30, Fisham Jones and his College Inn orchestra; 12, uld night Mardi Gras; Relph Emerson, organist; 6:31 Sham Jones and his College Inn orchestra; 12, uld night Mardi Gras; Relph Emerson, organist; 6:34 Hotei LaSalle' orchestra; 8, first of a sorfies of talk from the western raliways; 8:45, "Automohile Trails," Rockwell R. Stophens; 9, University of Chleago; 9:15 Whit, Cineinnati, Ohia (Central, 447.5), 4:10 n. m., would night where troo.
WMAQ, Chicago, 114, Central, 447.51, 4:10 n. m. household hour, Mrs. Elizabeth O. Hiller, director 4:30, muisheite of thester organ recital; 6:33
Hotei LaSalle' orchestra; 8, first of a sorfies of talk from the western raliways; 8:45, "Automohile Trails," Rockwell R. Stephens; 9, University of Chleago; 9:15 Whitney trio.

Rockwell R. Stephens; 9, University of Chicago; 9:15, Whitney trio.
WMH, Cincinnati, Dhia (Central, 309), 8 p. m., varled program, Christian Young People's Iederation; 8:30, "Work for the Bilnd," Judge Samuel W. Bell; 8:45, soprano solos, Margaret Bronson; vocal duets, Ora Wall, Margaret Bronson; Wrs. George Dunning, accompanist; 9, Avon Danco orchestra.
WMC, Memphis, Tenn. (Central, 500), 12:30 p. m., noonday concert, Skyline ecrenaders; 8:30, Chisea hotel orchestra.

orchestra. WDAW, Omaha, Nebr. (Central, 526), 6 p. m., evory child'e etory hour, Grace Sorenson; 6:30, dinner pro-gram, G. R.'s radio orchestra; 9, program, auspices of Nebraska Powoce company; 12, midnite Irolic, Omeha Nichtingales.

Davenport, la. (Central, 484), 12 m., chimee; 7 a., sandman's visit; 9, the Palmer School Radio

Nightingales.
Nightingales.
WOC, Davenport, Ia. (Central, 484), 12 m., chimee; T
p. m., sandman's visit; 9, the Palmer School Radio orchestra; Ralph W. Fuller, barlfone.
WOO, Philadelphia, P.a. (Eastern, 509), 11 a. m., organ recital, Mary E. Vogt; 12:02 p. m., Wanamako crystal tea room orchestra; 5:15, organ recital, Mary E. Vogt; 12:03 p. m., Vanamako solos; 3:30, Rita Lownsberry; 3:15-3:30, Josephine M. Evans; 6:13-6:30, 'Kadlo for the Layman.'' Albert E. Sonn; 6:13-6:30, 'Music While You D'ho,'' Tom Cooper's Country club orchestra.
WQI, Chicago, III. (Central, 484), 11-12 m., 'One Dish Meal,'' Erna Bertrams; 'Dressing Your Children Smartly and Incerponsively,'' Eleanor Chalmers; 3-4 p. m., 'Deep Fat Frying,'' Cora Beeman; 7-3, Rabh Williams and his Rainbo Garden orchestra; Manuel Rodriquez, tenor; Kathryn Synder, reader; 10-2, Kaiph Williams and his Rainbo Senary Hughes, gorrano; WHI Rossiter, tonor; Durothy Rae, contraita, "RC, Washingtan, C. C. (Eastern, 469), 6 p. m., children's hour, Peggy Aiblou; 7:45, motoring talk, auspieses, Amorican Automobile association; 8, Gorgada MacHargue, mezzo-soprano; 8:15, liettor Oie club orchesters; b. E. S. Kinsella, baritone; 9:15. muse soloe, George Mulhauser; whistior, Billy Hobson; plaws soloe, Edith Sponsher; whistior, Billy Hobson; plaws soloe, Edith Sponsher; whistior, Billy Hobson; plaws soloe, Edith Sponsher; baritone eolos, San Pusateri.
WSB, Atianta, Ga. (Contral, 429), 8 p. m., Atlanta Community chest; Atlanta Mais oustet; 10:35, Genry gis

W H 8:15, WA KPO WLS WJZ 10, WM WB2 WLS 12, TI WL WA. WJZ WH CNF WS WT WG WH 12, F W H WC WH 10, WQ 10:3 W ( WL WL Sa WM 9:30 10, W Q W T WG WF KG M WL WM WH WO WG KS

T W S WA 9:30 WL

### **DXFORD DEBATE AT WEAO THURSDAY**

ptian Room orchestra and Hotel Lenox classical gfield. The Celesta trio deserves its name. he instrumental music of these three young r trombone soloists in Chicago. He plays regu-

KLX, Oakland, Calif: (Pacific, 509), 8-10:20, sonTs. Darid Zimet; Mrs. George P. Williams, soprano; Mrs. Waiter Chesterman, accompanist; "Women's Pashions," Gertrude Barnett; Alex Doig, soprano; Mrs. Charlotte W. Givens, contraito; George Eldredce, bas; Mrs. Alex Dolg, soprano; American theater orchestra; Clem-ent Barker, organit.
KOG, State College, N. Mexico (Mountain, 360), 7:30-8:30 p. m., musicale. Adelaide Dampiere, director; Dr. Asa Funsen, tuberculosis speciallst.
KPG, San France, Calif. (Pacific, 423), 1-2 p. m., Rudy Seiger's Faitmont hotel orchestra; 2:30-3:30, Theodore J. Irwin, organist; 4:30-5:30, Rudy Seiger's Fairmont hotel orchestra; KQ, Pittsburgh, Pa. (Eastern, 270), 9-10, ragular ere-ning artists program.
KSO, St. Louis, Mc. (Central, 536), 11:35 a. m., table talk, Mrs. Annel. Ebot; 7-7:30, dinner cohcert, Con-tress hotel; 7:30-8, program, Duncan Sisters Music Publishing combany: 8:20-8:45, speeches, ausplees, American Farm Bureou federation; 9:30-10:30, mid-night revus; 10:30-10:45, around tha town with KYW; 10:45-12:30 a. m., midnight revue; W. Remington Welch, organist.
WBAP, Fort Worth, Tex. (Central, 476), 7:30-8:30

American 2.10:30-10:45, around the town when the first organist.
 WBAP, Fort Worth, Tex. (Central, 476), 7:30-8:30 p.m., monthy concert, North Texas A. & M. College band; 9:30-10:45, old time fiddlers.
 WBAV, Columbus, Ohio (Eastern, 423), 12 m., 1la Lorhach Owens, planist.
 WBZ, Springfield, Mass. (Eastern, 337), 6 p. m., dinner concert, Westingbouse Philharmonic trio; 7:10, current book reriew, Court Square Book stories; 7:20, "What Types of Lighting Fixtures Gire Best Service"; 7:30, hedtlme story for the kiddles; 10, J. K. Murray, tenor; Clara Lane, soprano; 11, Westinghouse Philharmonic trio; Alwyn E. W. Bach, barlinge; Katherine Gravelin, accompanist; 11:30, McEnelly's singing orchestra.

Gravelin, accompanist; 11:30, McEneity's singlars of chestra. WCAE, Pittsburgh, Pa. (Eastern, 462), 6:30 p. m., dinner concert, William Penn hotal; 8:30, program, pupils, studio of Mrs. Anna Viehmier. WCAL, Northfield, Minn. (Central, 360), 9:45 a. m., St. Olaf chapel services; 8:30, book talk, Joseph Col-lins, Dr. George Welda Spohn. WCAP, Washington, O. C. (Eastern, 469), 7:30-9 p. m., United States Nary band orchestra, Charles Benter, leader; 9-9:15, "Foreign Affairs," Capt. Gordon Gordon-Snith; 9:15-9:30, music; 9:30-9:45, "Science News of the Waek;" 9:15-10, music; 10-12, Irving Boemstein's Wardnan Park hotel orchestra. WCAY, Milwaukee, Wis, (Central, 266), 8-9 p. m., program sponsored by the Oswald Jaeger Baking com-

WGAY. Milwaukce, Wis. (Central, 266), 8-9 p. m., program sponsored by the Oswald Jaeger Baking comparist Detroit, Mich. (Eastern, 517), 4:15 p. m., musical program; 6, dinner concert; 7, musical program; 1, dinner, dinner, special features from Philadelphia's leading theaters; "Morning ellory Club", concert.

Happiness Boys, o. 500-54, Jihler Order and conceptstra.
Steher and company, Astor Coffee dance orchestra.
WEBJ, New York, N. Y. (Eastern, 273), 7-7:10 p. m., reviews of new plays on Broadway, Blybrun, Radlo dramatic critic: 7:10-7:20, Charles Tobias, tanor; Edna Gladstone and company of entertainers; 7:30-8, Circie quintatte, direction, Jerry Antonocci, 8:10-8:20, Philip Krumboltz, railroad barltone; 8:20-9, May Singhi Brean and her syncopaters.
WEAO, Columbus, Ohio (Eastern, 360), 9 a. m., music, Marguerite Marley Siedel School of Music talent; 11 a. m., music, Siedel artists; 1:30 p. m., music, Siedel artists; 4 p. m., farm taik, Ohio State university and Orderd university, England. Subject. "Resolved, that this House condemns the Franch nolicy toward Germany since the War."
WFAA, Oailas, Tex. (Central, 476), 12:30-1 p. m., address, Dr. Robert Stewart Hyer; 8:30-9:30, Walter J. Friad, violinist.
WFI, Philadalphia, Pa. (Eastarn, 335), 1 p. m., Meyor Davie Bellevue Stratford concert orchestra; 3, report closing pricee Chicago grah market; Caroline Hoffman, pisnist; 6:30, Mayer Davie Ballavue Stratford concert orchestra; 7, Sunny Jim, the kiddles' pal.

### Where to Hear Talks

Central Standard Time

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

daily and below are listed the stat
 wednesday: 5:30, KFSG; 6, WFI,
 WIP: 6:10, WBZ; 6:30, KOB, WDAR,
 WEAF; 6:55, WDAR; 7, WHB; 7:10,
 WHN; 7:15, WBBR; 7:30, KFKB,
 WDAR, WJZ, WOC; 7:45, KFKB,
 WHN; 8, WLS, WMAQ; 8:30, KFKB,
 WHN; 8, WLS, WMAQ; 6:30, KFKB,
 KYW, WMH; 9:15, KYW, WDAR;
 9:30, KFAE; 9:45, WMAQ; 10, KHJ;
 10:15, WTAY; 10:30, KFOA.
 Thursday: 6, WEAF, WFI, WIP;
 6:10, WBZ; 6:30, WDAR; 6:45, KLX,
 WGY, WRC; 6:55, WJZ; 7, KDKA,
 CNRM, WEAF; WIP; 7:15, KDKA,
 CNRM, WEAF; WIP; 7:25, KDKA,
 WWAQ, KFI; 10, KYW.
 Friday: 5:45, WOR; 6, WEBJ,
 WEAAF, WFI, WIP; 6:30, WDAR; 7,
 WEAA, WDAK, 7:45, WGR; 7:50, WJZ;

WGN, Chicago, III. (Central, 370), 3 p. m., rocking chair hour, Wayne Myers, Impersonations and char-acter songs; 5:30, Skezix time; 6:30-7:30, dinner concert; 8:30-9:30, Mable Burrie Swenstrom, soprano; Maldwyn Brazillo, tenor; Mrs. Leo Mauncr, planist; Pershing quartet; 10:30-11:30, Jack Chapman dance

Baldwyn Brazillo, lenor; Mrs. Leo Mautner, pfanist; Pershing quartet; 10:30-11:30, Jack Chapman danee orchestra.
WGR, Buffalo, N. Y. (Eastern, 319), 12:30-1 p. m., George Albert Bouchard, organist; 2, world series baseball game; 6:30-7:30, dinner music; 8:45, "Your Responsibility as a Volet," Mrs. Chauncey Hamlin, Erie County League of Women roters; 9-11, concert, Heirloom Plate band, William Rogers company, Ltd., Niagara Falls, N. Y., F. G. Blakelock, director; 11:30, supper-dance music, Vincent Lopez Hotel Statler orchestra, Harold Gieser, director.
WGY, Schenectady, N. Y. (Eastern, 360), 2 p. m., "Hints for the Home Maker;" 6:30, stories for children; 7: international Sunday school lesson; 7:45, health talk; 7:50, Remington Typewriter band; 10:30, Remington Typewriter band; 10:30, Remington Typewriter band; 10:30, and the store or chestra, 3:45-3:50, Uncle Robert's chat to children; 3:30-4, Mabel Litinston, children's poet; 4-15, Arthur Ball, tenor; 4:15-4-30, Joseph C. Wolfe, bartone; 4:30-5, Generiere Williams, coloratura soprano, Charles Strickland, planist and Sam Steinberg. riolinist; 5-6, Chas. B. Allen and his Chantecler orchestra; 6:30-7, Olcott Vall, violinist, Stephen Baloch, planist; 10:30-11, Fletcher Henderson's Roseland orchestra; 10:30, Paul Specht's Alamac orchestra; 10:30-10, Dan Gregory's crystal Palace orchestra; 10:30-10, Dan Gregory's crystal Palace orchestra; 10:30-10; Jonestor, Statler, 11:15, Jack Morissee, tenor; 11:15-11:30, Locw's raudeville stars; 11:30-12, Sam Wooding's club Alabam orchestra; 12-12:30, Parody club, orchestra.
WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., selections, Jamo Marker, Greger's areare, Harry, Scurple, 7:30-9.

club Alabam orchestra; 12-12:30, Parody elub or-chestra.
WHAS, Louisville, Ky. (Central, 400), 4-5 p. m., selections, Alamo theater orchestra, Harry S. Currle; 7:30-9, instrumertal trio, Geraldine McNeeley, divector; William Fries, flutist; Edward Lutton, violinist.
WHB, Kansas City, Mo. (Central, 411), 2-3 p. m., ladles' hour program, Sweeney Radio orchestra; 7-8, music, Sweeney Radio trio; address, reprosentative of the W. C. T. U.; "Fire Prevention Week," William Buckholz, president Fire and Water hoord.
WHK, Cleveland, Ohio (Eastern, 283), 8 p. m., musical program and educational forum.
WHO. Oes Moines, Ia. (Central, 526), 7:30-9 p. m., artists from Des Moines university, Dean Raymond N. Carr, director: Oratorio, Elijah, Myrtle Williams, so-prano; Stewart Watson, baritone; Helen Birmingham, accompanist.

wH0. Oes Moines, Ia. (Central, 526), 7:30-9 p. m., artists from Des Moines university. Dean Raymond N. Carr, director; Oratorio, Elijah, Myrtle Williams, soprano; Stewart Watson, baritone; Helen Birmingham, accompanist.
wIP, Philadelphia, Pa. (Eastern, 509), 1 p. m., Bimbel tea room orchestra, Hay Steen, director; 3, songs, Harry Links, 4, "The Psychopathic Child," Dr. N. W. Winkleman; 6:05, Jordan-Lewis dance orchestra, direction, Bob Lewis; 7, Checle Wip's bedime stories.
wJY, New York, N. Y. (Eastern, 405), 7:30-8:30 p. m., Billy Wynne's Greenwich Village Inn orchestra; 8:30-8:45, looseleaf current toples, William H. Alten, 8:55-9, "Income Taxes," Frank Shevit; 9:15-0:30, Democratic National committee talk.
wJZ, New York, N. Y. (Eastern, 455), 10-10:20 a. m., housewiras leagu menu, Mrs. Julian Heath; 10:20-10:30, Arts and Decorations, Milse Roberts; 10:30-10:30, Arts and Decorations, Milse Roberts; 10:30-10:30, Arts and Decorations, Mise Roberts; 10:30-10:30, Arts and Decorations, Mise Roberts; 10:30-10:40, Store Taxes, 2:30-6:30, Naw York Stock Exobange reports, Evening Post news; 7-8, Lafayetta hotel orchestra; 8:8:15, Vul Street Journal review; 5:30-8:50, May Singhi Breen, banjo; 8:50-9, "Chats with tha Editor," Ernest A, Zadig; 9-9:15, May Singhi Brene, banjo; 8:50-9, "Chats with tha Editor," Ernest A, Zadig; 9-9:15, May Singhi Brene, banjo; 8:50-9, "Chats with the Community Fund Does for the Boys," G. T. Wyckoff; 2:30, world series baseball game; 4, magazina reading, "His Doctor;" 5:30, children's hour, Ellen Nye; 6, basebali scores and sport hour; 6:30, dilnne concert, Sam Heiman's Golden Pheasant orchestra; 7:45, Natura Dees for the Boys, "G. T. Wyckoff; 2:30, world series baseball bauty hints, Ellen Rose Dickey; "What Colors Can unbers, Ted Brow; G. C. Bitgar, aditor; "Keeping the Boy on the Farm," C. T. Crofton; "Home Baking the So on the Farm," C. T. Crofton; "Home Baking the Boy on the Farm, "C. T. Crofton; "Home Baking the Boy on the Farm, "C. T. Crofton; "Home

ikegan. Memphis, Tenn. (Central, 500), 12:30 p.m., noon-concert, Skyllne serenaders; 8:30, Britting's cafa-a novelty orchostra; 11, inldnight frolie, Frad WOAW, Omaha, Nebr., (Central, 526), 6 p. m., story hour, Doris Clairo Secord; 6:30, Scward, Nebr., 9, hour, Doris Clairo Secord; 6:30, Seward, Nebr., 9, Seward, Nebr. WOÇ, Davenmort, Ia. (Cantral, 484), 12 m., rhimes; 7

7:55, WJY; 8, WLS, WCAP; 8:15, WJY; 8:30, KFI, KFKB, KYW, WLAP; 9:30, KFAE; 10, KGW, KFI; 10:30, KYW. Saturday: 6, WEAF, WFI, WIP; 6:30, WDAR; 6:45, WRC; 7, KDKA, WHN, WBAP, WFI, WIP; 7:15, WBBR; 7:30, WHN; 8, WJZ, WHB; 8:30, WHN, KHJ; 8:40, WMAQ. Sunday: 6:30, WFI, WIP; 6:45, WCX; 7:30, WDAR; 8, KFKE, KGW, WHE. Monday: 6, WIP; 6:20, WDAT

Monday: 6, WIP; 6:30, WDAR, WFI; 7, WHB; 7:30, KFKB, WGR; 7:45, KFKB, WOR; 7:50, WDAR; 8, WLW, WDAR; 8:30, KFKB; 9:30, KFAE.

KFAE. Tuesday: 6, WEBJ, WFI, WIP; 6:30, WDAR; 7, WGY; 7:15, WJY, WTAY; 7:30, KFKB; 7:45, KFKB; 7:50, WDAR; 8, WRC, WMAQ; 8:20, WMAQ; 8:30, KFKB; 9, WIP; 10, KGW.

n. m., sandman's visit, Val McLauchlin; 7:20, "Girks' Club Work," Luhu Tregoning; 8, Rahph Jacnicke and his orchestra.
WOO, Philadelphia, Pa. (Eastern, 509), 11 a. m., organ recital, Mary E. Voct, 12:02 p. m. Wanamaker systal tea room orchestra, Robert E. Golden, director; 5:15, Mary E. Voct, organity; 7:30, A. Candelori ensuble, Hotel Adelphia: 5:30, Harriet G. Ridley, planits', 9, J. W. C. 1, Dand; 9:45, organ recital, Mary E. Voct; 10: Amarker orchestra.
WOR, Newark, N. J. (Eastern, 405), 2:30-3:30 p. m., Landau serenaders; 6:13-6:30, Ottalle Winn, soprano; Mabel Ford, accompanit; 6:45-7, man in the moon backs for children; 7-7:16, Ottalla Winn and Mabel Ford, accompanit; 6:45-7, man in the moon backs for children; 7-7:15, Ottalla Winn and Mabel Ford, accompanit; 0:24, planits, 10:25, 0:

Stiling orchestra; 8-12, Harmon's Dreamland orchestra; community chorus.
WTAY, Oak Park, III. (Central, 283), 6:45-7:45 p. m., melody night: Glenn Bruce, reader; Sandy Meek, baritone; Black Cat orchestra.
WWJ, Detroit, Mich. (Eastern, 517), 8 a. m., setting-up exercises, R. J. Horton; 9:30, talk, women's editor; 12 m., musleal program; 3 p. m., Detroit News orches-tra; 8:30, Detroit News orchestra; Donaid Pratt, bari-tone; Deora Wolfe, pianist.

### Saturday, October 11

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WTAS, Elgin, III. (Central, 286), 6-8 p. m., Tip-Top String ordestra; 8-12, Harmon's Arcadians, Sol Wagner, director; Sammy Williams, soloist.
WTAY, Oak Park, III. (Central, 283), 6:35-7:45 p. m., Susan Murray Pond, soprano; Dell Himshaw, dramatic reader; Live Dryer, planist; 9-9:45. Siloam Knikht Templar Commandery Band; 10:15-11:15, Roland Hinkle, tenor; Guyon's Paradise orchestra.
WWJ, Octroit, Mich. (Eastern, 517), 8 a. m., setting-up exercises, R. J. Horton; 9:30, talk, women's editor; 12 m., musical program; 3 p. m., Detroit News orchestra; 11, Detroit News orchestra; 11, Detroit News orchestra. Friday, October 10

1 41

9:45,

15

8:30

IAZ 30 KGO

Silent night for: CKAC, KGO, KPO, WAAM, WBBA, WFI, WIP, WLW, WMH, WRC, WSAI. CKAC, Montreal, Can. (Eastern, 425), 1:45 p. m., Mount Royal hotal luncheon concert; 4:30, third lio lesson. CNRC, Calgary, Can. (Mountain, 440), 8:45-10 p. m..

Mount Royal hotal luncheon concert; 4:30, third lie lesson.
 CNRC, Calgary, Can. (Mountain, 440), 8:45-10 p. m., Jas. Masintyre and his Radio orchestra.
 CNRT, Toronto, Can. (Eastern, 400), 8 p. m., "Soma Problems of European Emigration to Canada," W. D. Robb; Lois Erle Watson, contralto; A. Clarke, planlst; Clifford Lewis, tenor; William Hardiman, violinist; Brahm Sands, cellist.
 KOKA, E. Pittburgh, Pa. (Eastern, 326), 12:15 p. m., concert, Daugherty's orchestra: 6:30, Paul E. Fleeger, organist; 7:15, children's period; 8, "What Types of Lighting Fixtures Gira Best Service": 8:15, "Foot-ball Coaching," Guy M. Williamson; 8:30, Westing-house band, T. J. Cos. hardone; poweram closes 9:55.
 KFAE, Pullman, Wash. (Pacific 330), 7:30 p. m., Mar suchte Miller, soprano; Jean, Seerest, planist; "Sido-lighting, U.S. Public Health service; talk on mew books, Ver L. Wybb.

5. C. S. Forker Heard Scheer, each ar hear and the second for the second scheme and s

dance program. Seattle, Wash. (Pacific, 455), 8:30 p. m., Seattle uartet, Mmc. Marlon London Milholin, director; Bentley Dow, violinist; James Dow, accom-

Emily Bentley Dow, violinist; James Dow, accompanist.
 KFNF, Shenandoah, Ia. (Central, 266), 7:30 p. m., program, Thurman, Ia., Fred F. Flatt. director.
 KFSG, Los Angeles, Calif. (Pacific, 278), 3:30-4:30 p. m., organ recital, Ikoy Reid Brignani; vocal selections; 7:30-9:15, auditorium service, organ; silver band; crusader'a chorus; address, Judge Carlos S. Hardy; sermon, Almee Semple McPharson; altar cali; 9:15-10, Gray studio concert; 10-11, organ recital and concert featuring B. Earnest Ballard.
 KGO, Oakland, Calif. (Pacific, 312), 3 p. m., etudio musical program; 4-5:30, concert orchestra, Hotel St. Francis.

Francis. KGW, Portland, Ore. (Paelfic, 492), 12:30 p. m., con-cert; 5, cbildren'a program; 8, popular lecture, Uni-versity of Oregon; 10:30, Moot Owis. George Olsan'e

cert; 5, cblutters a property of the construction of the

Ailison Phelpe; 10-11, Art Hick direction, Earl Burinsta



### 57 VARIETIES ON AIR SATURDAY; OHIO-OXFORD DEBATE AT WEAO THURSDAY

### Where to Hear Concerts Central Standard Time

THESE are the stations for music lovers to dial, and you can hear, pro-viding you dial correctly and read the programs carefully, everything

Wednesday, October 8

### Continued from page (1)

Thursday, October 9

nt night for: KOW, KOR, KOV, KSO, WGA CAP, WOAR, WAR, WHB, WHO, WOO, M. Mentroel, Can, (Fisher, 490), S. a. m. Can

LX, WBZ, WHN DA, WGN; 10:40 WMC; 12, KF1

WEAF: 8:30, WOAW: 8:15, KSD. WEAO

(FOA; 11, WHN; 11:15,

8:45, 7:30 WRC WHP

the mayptian Boom orchestra and Hotel Lenox claesical Z. Springfield. The Celesta trio deserves its name, enjoy the instrumental maslo of these three young e Dorelst trombons soldists in Chicago. He plays reguadiee. Jaroslav Cimera is one of the po arly at WTAS, Elgin, and "QJ, Chicaro

IL WHIN

DANCING Wednesdsy: WHN:

WMH, WQJ; 10:30 WBZ, WON, WI;R WLS; 11:15, WBZ; 12, KGW.

aht lor: CKAC, KCO, KPO, WAAM, WOE WIP, WLW, WMN, WRC, W8AI, Moniteal, Can, (Eastern, 425), 1:45 p.

10:30

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.

P: KFOA, KLX, KQV, KOH, WAAN

Saturday, October 11



Friday, October 10

Thursdayi 8, W.L.W. (8:30, WAAM: 9, WHN, WJZ, WMH: 9:30, WHN, WJZ: 9:45, WDN, 10, WOI

0, WQJ

DIGEST-Illustrated, October 11, 1924.

### **DXFORD DEBATE AT WEAO THURSDAY**

Where to Hear Talks

> "Girls ke and

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soprano; the moon and Mabel 11-12 m., Fred m., 'Hallowe'en ner, 'Hallowe'en ner, 'Rainier Ber; 7-8, Raiphe Testra, 'Dorothy W. Ward, tenor; ph Willams and , steel guitarista; con'railo; Lester, Molnaire, tenor; igan and O'Hara, 469), 3 n. m., , women's wear.

3:25, eurnent topics,
3:25, Ethel Grant,
street; 4, songs, 6,
8, p. m., Travelers e university Stormy
6-8 p. m., Tip-Top Dreamland orchestra;
33), 6:45-7:45 p. m.,
ader; Sandy Meek,
4.8 a. m., setting-up alk, women's editor;
Detroit News orches;
bonald Pratt, bari-

### ober 11

### KQV, KOB, WAAM, WGR, WHO, WJY,

25), 7 p. m., kiddle: 7:30, Rex Battle and t orchestra; Herbert Isereau, cellist; S.30, Joseph C. Smith and estra; George Fisburg,

rn, 326), 1:30 p. n... Vest Virginia football :45, World's Uniform yer Jobnson; 8, sport 'Heinz Demonstration

469), 2 p. m., grand ina Schiechi," 6:45-8, Webb; 8-9, Raymond on Chamber of Comclub; 11-12, Cocoanut

286), 8 p. m., KFKB 1 makers. 1, 266), 7:30 p. m., Yoodward Candy come bunch. cifle, 278), 3:30-4:30 an recital, Roy Reid wrice, special musical looists; congregational

Mrs. George Farwell, ompanist; Contessa Acguitarist; Carl Ander-Halstead's orebostra, 92), 10 p. m., Georgo sific, 395), 12:30-1:15 ater-Kent Radio comus: 2:30-3:30, matineu

6:30-7:30, ehildron s Prof. Walter Sylvester t; bedtime story, Unclenithentail National bank. 9-10, concert, courtesy sesociation; 10-11, Art (Pacific, 509), 2:30 p. m., Pomona14

### (Continued from page 13)

(Continued from page 13)
E. Max Bradhed's Versatile baud; 8-12, Art Weldner and his popular artists.
KSO. St. Louis, Mo. (Central, 546), 7 p. m., orchestral music, specialities, Missouri theater.
WBAV, Columbus, Ohio (Eastern, 423), 12 m., Ha Lorbach Owens, planist; 2:30 p. m., play by play report of lowa-Ohio State football game, received by Wiro from tield at lowa City, Iowa.
WBBR, New York, N. Y. (Eastern, 273), 8 p. m., A. Martens, mandolinist; 8:15, Bible questions and an-swers, Judge J. P. Ratherford; 8:45, A. Martens, mandolinist.

- Swers, Jungo J. I. Infinition, 6:30 p. m., BZ. Springfield, Mass. (Eastern, 337), 6:30 p. m., Leo Reisman and his Hotel Brunswick orchestra; 7:30, heddiue story for the kiddles; 7:30, Hotel Kimball tiol. Jan Geerts, righthist; Arnold Janser, cellist; Lioyd Stoneman, planlst; 8:30, Women's Philharmonic orchestra; J. Weltuam, Conservatory Junifor orchestra;
- orchestra; 9. Weltrunn Conservatory Junior orchestra;
   10. Albert Edwards, baritone.
   WCAE, Pittsburgh, Pa. (Eastern, 462), 3 p. m., Prof.
   Otto Kattels, pinalist; 6:30, dinner concert, William Penn hotel; 7:45, popular songs, Lew Kennody; Irene Setzler, accompanist; 8:30, musical program.
   WCAL, Northfield, Minn. (Central, 360), 9:45 a. m., chapal services; 12 midnight, musical to worked.
   WCX, Octorit, Mich, (Eastern, 517), 4:15 p. m., musical program; 6, dinner concert.

- Hell and City Athletic elub orchestra. Philad: phia, Pa. (Eastern, 395), 11:35 a. m., almanae; 12:02 p. m., Stanley theater organ ; 12:30, Arcadin cafe dance orchestra; 2, Arcadis oncert orchestra; 2:30, Charles E., Silverthorn, a. Joseph Earnshaw, pianist, Emil Fritz, flutist Arcadia rchestra : Earnsh
- Concert concert arrishaw, planist, Emili Fritz, flutist; baritone, Joseph Earnishaw, planist, Emili Fritz, flutist; 7:30, Dream Daddy's bedtime stories. FAF, New York, N. Y. (Eastern, 492), 1:45-4 p. m., game, direct from Baker field, New York eity; 4-5, Clifford Lodge dance orchestra; f., dinner music, Clifford Lodge dance orchestra; f., dinner music, Waldorf-Astoria hotel, 7-7, 30, thrilling adventure stor-ies for boys, Fred J. Turner; 7:45-8, Charles Wold, musical glasses; 8:15-8:30, Josiah B. Free, baritone; 8:30-8:45, Nancy McCord, soprano; 8:45-9, Virginia Masselink, planist; 9-9.15, Rube Davis, violinkst; 9:15-9:30, Wolse Gilber, planist, and Ahner Silver; George concert orchestra; 11-12, Vincent Lopez and bie Hotel Pennsylvania orchestra.
- Hotel Pennsylvania orchestra. , Columbus, Ohio (Eastern, 360), 9 a. m., music querite Manley Siedel School of Music talent music, Siedel artists; 1:30 p. m., music, Siede
- artists. WFAA, Oallas, Tex. (Central, 476), 12:30-1 p. m. "The Place of Athleties in Education," Ray Morrison 8:30-9:30, Elizabeth Gay Jones, pianlst; 11-12, Adol
- biological, Eurapenth Gay Jones, pianlst; 11-12, Adoi-phus hotel orchestra. (Eastern, 395), 1 p. m., Meyer Fl, Philadelphia, P.a. (Eastern, 395), 1 p. m., Meyer Davis Bellevue Stratiord concert orchestra; 3, playlet, pupils Margaret Dichon Blessing; Loretta Kerk, planist; 6:30, Meyer Invis Bellevue Stratford concert orchestra; 7, Sunny Jim, the kiddles' pai; 8, "Annual Competition for Rhodes Scholarship," Dr. Frank Adelette; Swathnore College lee club.

- pupils Margaret Eleanor Blessing; Loreua Rebs.,
   pianist; G:30, Meyer Davis Bellerue Stratford concert orchestra; 7, Sunny Jim, the kiddles' pal; 8, "Annual Competition for Rhodes Scholarship," Dr. Frank Adelotte; Swathmore College glee club.
   WGN, Chicago, HL. (Central, 370, 1:40 n. m., luncheon concert; 2:30, rocking chair hour, features of interest to women; 5:30, Skeezix (Luc; 6:30-7:30, dinner concert; 8:30-9:30, R. E. Silas, J. P. O'Meara, solotist; Mary Hartley, reader; Thora Marteners, contralto; 10:30-11:30, Jack Chapman dance orchestra.
   WGR, Buffalo, N. Y. (Eastern, 319), 12:30-1 p. m., George Albert Bionchard, director; 2, world series baseball came; 6:7:30-dinter bdel.
   WGY, Scheneetady, N. Y. (Eastern, 360), 8:30 p. m., dance music, Remmer bdel.
   WGY, Scheneetady, N. Y. (Eastern, 360), 8:30 p. m., dance music, Remmer bdel.
   WHS, Louisville, Ky (Central, 400), 4-5 p. m., Alano theater orchestra; 7:30-9, Svitian trio, Famile Elizabeth Stoll, Myrl Chrisman, Evelyn Kaiser.
   WHK, Geveland, Ohic Eastern, 283), S p. m., Rainbow WHK, Geveland, Ohic Eastern, 283, S p. m., Rainbow WHK, Geveland, Stolp Central, 400, 2-3 p. m., Hales' hour program, Sweeney Radio orchestra; 8-9:30, Christian Science services, Concention hall.
   WHK, Geveland, Ohic Eastern, 283, S p. m., Rainbow WHK, Gleveland, Ohic Eastern, 283, S p. m., Senos, Bittle Bugbce, Violet Owens, Lucille Phillips, Betty Booth; Dean Smith, Jaalst; John Peartie, Janlost; 200, Sonss, Bittle Bugbce, Violet Owens, Lucille Phillips, Betty Booth; Dean Smith, Jaalst; 24:0-4:45, Kathryn Connelly, soprano; 4:45-5, Kiwanis Club boys' period, Wm. J. Stuart; 5-6, Johnston-Davidson soclety orchestra; 5:0-30, Christ, Stephen Halogh, planist; 5:1-5, Sio, Arthur Stone, Sind, Stephen Halogh, planist; 5:1-5, Sio, Arthur Stone, Stephen Halogh, planist; 5:1-5, Sio, Arthur Stone, Stephen Halogh, planist; 5:1-5, Sio, Sio, Tom Brackem, Hok King, Sons, Tom Brackem, Kel
- 11:30-12, Pictuler Jitherson's Faschard tante control tra.
  IP, Philadelphia, Pa. (Eastern, 509), 1 p. m., organ recital, Kari Bonawitz; 3, play by play description of football game between University of Pennsylvania and Swarthmore college; 6:05, St. James, dance orchestra; 7, Uncle Wip's bedtime storles; 3, "The Ballet and It's Development in America," Florence Cowanova, permiter dansense; 8:15, Al Zensay and his orchestra; 9, Mason-Hefin male quartet, Roy MacClellan, first tenor Frederick Ainne,; second tenor; Albert Hirst, haritone; Henry L, Booth, hass; 10:05, Harvey Mar-burger's dance orchestra; 11:05, organ recital, Karl Bonawitz.
- witz, New York, N. Y. (Eastern, 445), 4-5:30 p. m., music; 5:50-6:50, New York Stock Exchange ro-s, Evening Post news; 7-8, Waldorf-Astoria hotel e orchestra; 9-9:30, "The Cost to Business of en Math," Owen A. Keen; 19:30-11:30, Hotel r. dance orchestra.
- dance orchestra; 9-9430, the tot, 10:30-11:30, Hote Stolen Mail," Owen'A. Keen; 10:30-11:30, Hote Astor dance orchestra. LAG, Minneapolis-St. Paul, Minn. (Central, 417), 10:43 Minneapolis-St. Paul, Minn. (Central, 417), 10.2.
   a. m., girls club, Betty Crocker; 2 p. m., football game. Haskell indians and U. of M.: 6, baseball scores and sport hour; 8, fire prevention talk; 8:30, insperial quartet, D. Grenchul, director; Aifred E. Nelson, tenor; J. H. Larsen, barlione: Walter K. Peterson, bass; Carl Jensen, accompault; Helen L. Anderson, planist; 11, Sam Hleman's Golden Pheasant orchestra,
   WLS, Chicago, III. (Central, 345), 7:45 p. m., iuliaby time, Glenn Rowell, Ford Rush; 8:1 a. m., Saturday night Mardi Gras; Halph Emerson, orsanist; barn dance fiddlers; tsham Jones and his College Inn or-chestra; Carpenter and Ingrani, "The Harmony Girls";
- ord Rush. . (Central, 447.5), 6:30 p.m., estra; S. Salvation Army band ' Dr. Max Henius; 9, weekly, Chi-Chicago, III. LaSalle urches
- Biter, J.B. and B. Hitteshn, G. Matthendor, J. Weekly, Chi-cago theater review.
  WGC, Memphis, Tenn. (Central, 500), 12:50 p. m., noon-day concert, Sprine roof cafe, Skydhe serenaders; 8:50, Memphis Picerum orchestra; Friel Ilughes, tenor.
  WOC, Oavenport, Ia. (Central, 484), 12 m., chimes; 7, sandman's visit, Val McLaukilin; 9, the Palmer School Radio orchestra; Rahh W. Fuller, barltone, WMH, Chiennati, Obio (Central, 309), 10 p. m., Ha-wailan guitar duets, Juel Hubbell, Harold Collins; whistling solos, Mrs. Bridgeford; tenor solos, Raymond Kuss, Mrs. R. L. Kuss, accompanist; 11, Auburn's orchestra, Lawrence Alsholz, director.
  WOAW, Omaha, Nebr., (Central, 526), 6 p. m., popular half-hour: 6:30, dhane program. Girls' Tech High quintet; 9, program, First Christian church orches-tra, Joseph F. Woolery, Jr., director; 11, Wowl frolie, Omaha Nightingales.

WOO, Philadejphia, Pa. (Eastern, 509), 11 a m., veramereital tea room orelestra. Robert E. Golden, director; 5:15, Mary E. Vozt, organist.
WOR, Newark, N. J. (Eastern, 405), 2:30-3:30, p. m., Renneth Klichen's club orehestra; 6:15-7:15, Willy Creager and his Anbassadors; 7:15-7:30, Jolly Bill Steinke; 8-8:15, Lena Kaufman, violinist; 8:15-8:30, Rabbi Joseoh Glushak, bartone; 8:30-8:45, Lena Kaufman, violinist; 8:15-8:30, Rabbi Joseoh Glushak, bartone; 8:30-8:45, Lena Kaufman, violinist; 8:15-8:30, Rabbi Joseoh Glushak; 10:30-11, Ben Friedman entertainers.
WOJ, Chicago, Ill. (Contral, 448), 11-12 m., "Pressure Cookers," H. F. West; 3-4 p. m., 'Koffee' Klatsch, 300 ladios will be cartertained in the Radio room of the Rainbo gardens; 7-8, Otis Pike Jester, soprano; Mary House, pinalist; William Moinaire, tenor; 10-2, Rablt Multimas and his Rainbo skylarks; Jerry Sullivan, song writers; songs, Lew Butler.
WBC, Washington, O. C. (Eastern, 469), 6 p. m., children's hour, Peggy Alhion; 7:45, Bible talk; 3, Panny Shreve Heartsill, bass; 8:45, to be announced; 9:55, timo signals.
WSAI, Cincincinnati, Ohio (Central, 309), 8 p. m.,

signals. WSAI, Cincincinnati, Ohio (Central, 309), 8 v. m., chimes concert; 8:15, barltone solos, George Clifford Cook; vioin solos, Ora May Ballinger; cornet solos, Virginia Bush; 9, weekly news review, Rutherford H, Cox, male quartet; 12, Freda Sanker's Toad Stool or-checter:

WSB, Atlanta, Ga. (Central, 429), 8 p. m., old time string band, Porterdale; 10:45, Journal Hired Help

skylark. WTAM, Cleveland, Ohio (Eastern, 390), 9 p. m., WTAM dance orchestra. Ky Jones, director. danco orchestra, Kv Jones, director. WTAS, Elgin, III. (Central, 286), 6-8 p. m., Tip-Top String sextette; 8-12, The Arcadians, Sol Wagner, director; Harmon's Arcadia ballroom.

Dreamland orchestra. WTAY, Oak Park, III. (Central 283), 6:45-7:45 p. m., Dorothy Cutler, planist; Mark K. Chrlstl, soprano; Frank Sortino, accordionist; 9-9:45, 10:15-11:15, Polly Willis, soprano; Art Linick, song writer; Guyon's Para-

dlse orchestru. WWJ, Octroit, Mich. (Eastern, 517), 8 a. m., setting up exercises. R. J. Horton; 9:30, talk, women's editor; 12 m., musical program; 3 p. m., Detroit News or-chestra; 5, football scores.

### Sunday, October 12

Silent night for: CKAC, KGW, KOB, KQV, WCAE, WHN, WHO, WMC, WOR, WWJ. CHYC, Montreal, Can. (Eastern, 341), 7-8;45 p. m., from the people's forum, Milss Slattery, CKAC, Montreal, Can. (Eastern, 425), 4;30 p. m., sacred concert

Sareted concert.
KFI, Los Angeles, Calif. (Pacific, 469), 10-10:45 a. m., L. A. Church Federation service; 6:45-7 p. m., "Musi-cal appreciation talk," Paul Reese; 7-8, Metropolitan theater program; 8-9, Ambassador hotel concert orches-tra; 9-10, Examiner studio concert; 10-11, Packard six orchestra.

six orchestra. KFKB, Milford, Kans. (Central, 286), 10-12 m., re-ligious services, First Congregational elurch, Dr. Slade, pastor; 8-10 p. m., International Bihle Students asso-

ciation. KFNF, Shenandoah, la. (Central, 266), 3 p. m., sacree concert, Mrs. C. H. Amick, director; 6:30, regular

ciation.
KFNF. Shenandosh, Ia. (Central, 266). 3 p. m., sacred concert, Mrs. C. H. Amick, director; 6:30, regular sacred song service.
KFSG. Los Angeles, Calif. (Pacific, 278), 10:30-12:30 moon, morning service, organ, Esther Fricke Green; congregational singing; prayer; choir anthem; triple male quartet; announcements; vocal solo; sermon, Aimee Seuple McPherson; 2:30-4:30 p. m., aftermon auditorium service, organ, Roy Reid Brignall; silver band; congregational singing; narrow, invocation, reception of members, announcements, silver band, congregational singing, choir, silver band, usical hour with congregational singing, choir, silver band, with assisting artists in vocal selections.
KGO, Oakland, Calif. (Pacific, 312), 11 a. m., service, First Baptist church, 3:30 p. m., KGO Little Symphony orchestra, Calif. (Pacific, 342), 10 a. m., service, First Baptist church.
KGW, Portland, Ore, (Pacific, 422), 6 p. m., church service; rom KHJ studie; 10:30-12:30 noon, organ recital and service from First M. E. church, Arthur Blakeley, organist, Rev. E. E. Helms, pastor; 6:30-7 p. m., Art Holdenard, Fitzpatrick, director; 7:7:30, special de luxe concert orchestra, Edward Fitzpatrick, director; 7:7:30, special de luxe concert program.

de iuxe concert program. KSO, St. Louis, (Central, 546), 9 p. m., Grand Central

Koo, Gr. Land, Central, 536), 11 a. m., Central ehurch service; 2:30 p. m., studio chapel; 7, Chicago

church service; 2:30 p. m., studio clapel; 7, Chicago Sunday Evening elub;
 WCBO, Zion, III. (Central, 345), 8 p. m., mixed quartet; duet, Bishon, Sparrow; Glen R. Sparrow; tenor; cornet and euphonium duet, Stewart and Dunn; cornet and trombone duet, Mason, Mason; Paul Stewart, cornetist; Gerald Mason, cornetist; William C. Dunn, euphonium soloist; Danlel Mason, trombonlst, UMCX, Oetroit, Mich. (Eastern, 517), 4 p. m., Radio chapel service at Detroit Free Press. studio; 7:45, services central M. E. Church, Dr. Lynn Harold Hough; Hudson quartette.
 WOAF, Kansas City, Mo. (Central, 411), 4-5 p. m., farst of serles of Forum talks, proulment speakers.
 WEAF, New York, N. Y. (Eastern, 492), 5-5 p. m., serv-

first of series of Forum talks, prominent speakers. WEAF, New York, N. Y. (Eastern, 492), 3-5 p. m., serv ices; 7:20-9:15, Capitoi theater; 9:15-10:15, Skinne

organ recital, WFAA, Oallas, Tex. (Central, 476), 6-7 p. m., Radlo Bible class, Dr. Willam M. Anderson, pastor; 7:45-9:15, sorvice, City Temple Presbyterian church, Dr. L. D. Young, pastor; 9:15-9:30, Wendeli Hali; 9:30-11, Foxineters.

Foxtrotters.
 Foxtrotters.
 WFI, Philadelphia, Pa. (Eastern, 395) 4:30 p. m., services, Rev. William L. McCormick; 7:30, services, Arch Street Presbyterian church, Dr. D. D. MaeCatney, subjects.

WFI, Philadelphia, Pa. (Eastern, 395) 4:30 p. m., services, Rev. William i. McCormick; 7:30, services, Arch Street Presbyteriam church, Dr. D. D. MacCatney, minister.
WGN, Chicago, III. (Central, 370), 11 a. m., Uncle Walt's comiles; 11:45, Chicago Theater symphony concert; 2:30-5:30 p. m., Tribune Master artists concert; 9-10, Drake Concert ensemblo; Olga Menn, soloist.
WGR, Buffalo, N. Y. (Eastern, 319) 3 p. m., resper services, auspices of Buffalo Council of churchos, W. W. Shamon and C. H. Wleand, speakers; 7:20, organ recital and church service, Central church, (Presbytorian), featuring William Wall Whildlt, organist, and the Rev. William J. MacAlpine in sermon, "Worrs-America's Arch Enemy."
WGY, Sclenectady, N. Y. (Eastern, 380), 10:45 a.m., Pirst Methodist church. Dr. Philip L. Frick, pastor; 7:30, services, First Methodist church.
WHB, Kansas City, Mo., (Central, 411), 9:15-11 a. m., services of the Linwood Boulevard Christian church, Dr. Burris Jenkins, pastor; 8:9:15 p. m., Evangelicat services, enducted by Cart C. Walker, WHK, Cleveland, Ohio (Eastern, 283), 8 n. m., chapel service, investion; 9, Mary E. Black, soprano; 0. A. Bryan, bachton; 9, Mary E. Black, soprano; 0. A. Bryan, bachton; 9, Mary E. Black, soprano; 0. A. Bryan, bachton; 9, Mary E. Black, soprano; 10. A. Bryan, bachton; 9, Mary E. Black, soprano; 10. A. Bryan, bachton; 9, Mary E. Black, soprano; 10. A. Bryan, bachton; 9, Mary E. Black, soprano; 10. A. Bryan, bachton; 9, Mary E. Black, soprano; 10. A. Bryan, bachton; 9, Mary E. Black, soprano; 10. A. Bryan, bachton; eurent religious topics; sacred music; invocation; 9, Mary E. Black, soprano; 10. A. Bryan, bachton; 9, Mary E. Black, soprano; 10. A. Bryan, bachton; 9, Mary E. Black, soprano; 10. A. Bryan, bachton; 9, Mary E. Black, soprano; 10. A. Bryan, bachton; 9, Mary E. Black, soprano; 10. A. Bryan, bachton; 9, Mary E. Black, soprano; 10. A. Bryan, bachton; 9, Mary E. Black, soprano; 10. A. Bryan, bachton; 9, Mary E. Black, soprano; 10.

McMahon, accompanist. WHZ, New York, N. Y. (Eastern, 455), 9-11 a. m., children's hour; 11-12, church services; 2:30-3:30 p. m., hadlo Bible class, suspices of Federation of churches; accounting, specialty numbers; 7-8:15, Hotel Pennsyl-vania orchestra; 8:15-8:30, Belva Jacger, violinist; 0-10, specialty numbers.

WOO, Philadelphia, Pa. (Eastern, 509), 11 a m., organist.
WIP, Philadelphia, Pa. (Eastern, 509), 730 p. m., service of the second orchestra is the second orchestra is the second orchestra is the second Karl Bonawitz, organist.
WJY, New York, N. Y., (Eastern, 405), 8:30-9:30 p. m., specialty numbers.
WLAG, Minneapolis-St. Paul, Minn. (Central, 417), S p. m., Mrs. McFvin A. Campbell, contraito; Elsenor Freemantel, accompanist; Elste Wolf, pianist; Marion Bernstell Bearman, violinist.
WLS, Chicago, III. (Central, 345), 7-8 p. m., program, Robert W. Stevens, director.
WLW, Gincinnati, Ohio (Central, 423), 9:30 a. m., Sunday school; 11. (Sentral, 423), 9:30 a. m., Church of the Covenant; 7:15 p. m., sermon, Rev. P. L. Damfeldt, Emmaus Evangelical Luthoran church; 8:45, Western & Southern orchestra.
WOAW, Omaha, Nebr. (Central, 526), 9 a. m., Radio charge service, Rev. R. R. Brown, pastor of the World Radio congregation; 9 p. m., musleai chapel service, North Presbyterian church.
WOC, Oavenport, Ia. (Central, 484), 9 s. m., sacred chimes concert; 1:30 p. in., the Palmer School Radio orchestra; 8, church service; 9:30, the Palmer School Radio services, Bethany temple; 6:30 organ reeltal, Clarence K. Bawden.
WOJ, Chicago, III. (Central, 443), 10:30 a. m., People's

services, Bethany temple; 6:05 organ reeltal, Clarence K. Bawden.
WQJ, Chicago, III. (Central, 448), 10:30 a. m., People's church, Dr. Preston Bradley; 8-10, Ralph Williams and his Rainbo garden ordenstra; Langton brothers, guitarists; Lancaster Smith, bass; Mrs. Lancaster Smith, accompanist; The Premier quartet; James Whalen, tenor.
WSAI, Cincinnati, Ohio (Central, 309), 3 p. m., sermonette; 3:10, sacred chimes concert.
WSB, Atlanta, Ga. (Central, 229), 8 p. m., songs, Henry Pirst Presbyterian church; 5-6 p. m., Jonesboro Nethodist church choir; 7:30, Wesley Memorial church.
WTAS, Elgin, III. (Central, 286), 5:30 p. m., Villa Olivia star Sunday afternoon concert; 6-8, Tip-Top Inn String sextette; 8-12, Harmon's Dreamland orchestra, WWJ, Octroit, Mich. (Eastern, 517), II a. m., services St. Paul's Episcopal church; 2 p. m., Detroit News Orchestra.

### Monday, October 13

Silent night for: CKAC, KFSG, KYW, WEBH, WFI, WGN, WHAS, WIP, WJY, WLS, WMAQ, WQJ, WRC, WTAY.
CKAC, Montreal, Can. (Eastern, 425), 1:45 p. m., Mount Royal hotel luncheon concert; 4:30, fourth lio lesson.
KFAE, Pullman, Wash. (Pacific, 330), 7:30 p. m., Gladys Fraser, violinist; Norma Sparlin, pianlst; "The Future's Hope," Mary Sutherland; "Washboards in the Highways," Prof. Homer, J. Dana.
KFKB, Milford, Kans. (Central, 286), 7:20 p. m., college of the air; 7:30, "The Development of the Shorthorn Breed," D. L. MackIntosh; 7:45, "Growing Grapes," R. J. Barnett; 8, KFKB ortiekstra; 8:30, "Gland Transplantation as an Adjunct to General Surgery," Dr. J., Brinkley; 9, KFKB artists; 10-12, dance music.

lance musie. Seattle, Wash. (Pacific, 455), 8:30 p. m., Scattle Intelligencer. Post Intelligencer. (GO, Oakland, Calif. (Pacific, 312), 3 p. u., studic musical program, Parent-Teacher association speaker 4-5:30, Henry Halstead's orchestra, 5:30-6, Auni Betty stories, KGO kiddies kluh; 8, educational pro-gram; Arion trio; 10-1 a. m., Henry Halstead's or-beaute

gram; Arion tro, is reaction, 492), 5 p. m., children's chestra.
 KGW, Portland, Ore., Pacific, 492), 5 p. m., children's program; 8, Elks quartet, Ernest Crosby, first tenor; Ross Fargo, second tenor; Charles Thomson, first bass; Walter Hardwick, second bass; Matt Howard, acompanist; Elsie Cramer, mezzo-soprano; Margaret Notz, pianist; Marle Chapman McDonald, violinist.
 KHJ, Los Angeles, Calif. (Pacific, 395), 12:30-1:15 p. u., concert features.

m., concert features, KQV, Pittsburgh, Pa. (Eastern, 270), 9-10 p. m., reg-ular artists' program.

ular artists' program. KSO, St. Louis, (Central, 546), 6:45 p. m., Statler Hotel orchestra; 9, Scela Call, soprano; 11, Gene Redemich de ne enterter

unit artists program.
(KSO, St. Louis, (Central, 546), 6:45 p. m., Statler Hotel orchestra; 9, Scela Call, soprano; 11, Gene Rodemich dance orchestra.
KYW, Chicago, III. (Central, 536), 11:35 a. m., table talk, Mirs, Anna J. Peterson; 6:35-7 p. m., children's bedtime story, Uncle Bob, 11:35 a. m., thile talk, Mirs, Anna J. Peterson; 6:35-7 p. m., children's bedtime story, Uncle Bob, 8:30-8:45, Nuclear Marie; 9-9:30, Original Palisades serenaders; 9:30-10, Adde Grassgreen, soprano; 10-11, Sterling dance orchestra.
WAAW, Omaha, Nebr. (Central, 286), 7:30-8:30 p. m., program, Mrs. Edward Morearty.
WBAP, Fort Worth, Tex. (Central, 476), 7:30-8:30 p. m., ''Moments from the Majestic;'' 9:30-10:45, con-cert, Foster Merril Music house.
WBAV, Columbus, Ohio, (Eastern, 423), 12 m., 11a Lor-bach Owens, pianist.
WCED Zion, III. (Central, 345), 8, m., Zion band;

Smith and his Mount Royal hotel orchestra.
KFI, Los Angeles, Calif. (Pacific, 469), 6:45-8 p. m., Acalin organ recital.
KFKB, Milford, Kans. (Central, 286), 7:20 p. m., college of the alr. 7:30, "Hotation for Wheat," L. E. Call, 7:45, "Winter and Spring Culling of Pullets," H. H. Stoup; 8, KFKB orchestra; 8:30, "Diseasos of Middle Age," Dr. J. R. Brinkley; 9, KFKB artists; 10-12, dance nusic.
KFNF, Shenandoah, Ia. (Central, 266), 7:30 p. m., concert, Henry Field Seed company.
KGO, Oakland, Calif. (Pacific, 312), 4-5:30 p. m., concert, Henry Field Seed company.
KGO, Oakland, Calif. (Pacific, 312), 4-5:30 p. m., concert, Henry Field Seed company.
KGO, Oakland, Calif. (Pacific, 312), 4-5:30 p. m., concert, SGO Opera company: Arion trio; 10-1 a. m., Henry Halstcad's orchestra.
KFSG, Los Angeles, Calif. (Pacific, 278), 3:30-4:30 p. m., organ recital, Esther Fricke Green; Strah Karcher, violinist; 6:30-7:30, Gray studio children's program, presenting Harry James Beendisley (Cousin Jiao) and associates; Eugene Lamb, planist.
KGW, Portland, Ore. (Pacific, 492), 12:30 p. m., concert, 5, chillien's program; 8, agricultural lectures, Oregon Agricultural colege extension service; 8:30, concert, 5, chillien's program; 8, agricultural lectures, Oregon Agricultural colege extension service; 8:30, concert, 2:30-3:30, white recorr, 6:30-7:30, children's program, 'American History,'' Prof. Walter Sylvester Hertzog; the Sandman 'K'YW, Gheago, III. (Central, 560, 11:35 a. m., table tak, Mrs, Anna J. Peterson; 4 p. m., attermoon frolic; 6:30-7:30, children's spreene, auspiced American Ju, at home program; 8:45-9:30, musical program, and Queen Titania; bedtime story. Unde John; 8-10, special de luxe concert; 10-11, Art Hickman's dance orchestra, Lar Burnett, director.
WAAM, Newark, N. J. (Eastern, 263), 11-11:15 a. m., Anao, Califor 19, 11:51 a. m., Anao, Califor 19, 11:51 a. m., Mano, Ceital, Market quotations;

mixed program sponsored by the Holeproof Hosiery company. WCBr, Zion, 11. (Central, 345), 8 p. m., Zion band; Dorothy Bull, soprano; Ralph Bull, tenor; Erma Rey-nolds, soprano; Evelyn Uhllk, contralic; Mark White-side, baritone; Bessie Wiedman, planist; Lillian De-tienne, reader. WCX, Oetroit, Mich. (Eastern, 517), 4:15 p. m., musical program; 6, dinner concert; 8:30, musical program; Bertha Bright Knapp, contraito. WOAF, Kansas City, Mo. (Central, 411), 3:30-4:30 p. m., the Star's string trio; 5-5:30, weekly Boy Sout program; the Knaras City council; 6-7, school of the air, plano tuning-in number on the Duo-Art; per-sonal message, Roger W. Babon, statistical expert; the Tell-Me-a-Story lady; music, the Hanlein-Knut-son Trianon ensemilet: 8-9:30, semi-classical program, Gilbert Jaffy, violinist; vicalists; 11:45-1 a. m., Night-hawk frolic, the "Merry Old Chief"; the Plantation WOAP.

WOAR, hildelphia, Pa. (Eastern, 395), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ re-clata; 12:30, Arcadia cafe concert orchestra; 2 Ar-cadia cafe concert orchestra; Selections, Stanley the-ater; 4:30, Edna Pinestone, planist; 7:30, Dream Daddy's bedtime stories; 7:50, moving picture review, James A. Nassau; 8, banquet Republican Woman's ur-ganization of Pennsylvania, Mrs. Hamme, speakev; 9:30, recital, Welsh singers; 10, Howard Lanin's Ar-cadia cafe.

9:30, recital, Welsh singers; 10, Howard Lamin's Arcadia cafe.
WEAO, Columbus, Ohio, (Eastern, 360), 9 a. m., music, Marguerite Manley Siedel School of Music talent; 11 a. m., music, Siedel artists; 1:30 p. m., music, Siedel artists; 1:30 p. m., music, Siedel artists; 1:30 p. m., music, Siedel artists; 1:40 p. m., Meyer David Bellevuo Stratfort concert orchestra; 3 report, closing prices Chicago grain market; Loretto Kerk, Juants; 6:30, Bellevuo Stratford concert orchestra; 7, Sunny Jin, the kiddies' pal.
WGA, Chicago, HI, (Central, 370), 1:40 p. m., luncheon concert; 2:30, Lyon & Healy artists concert; 3, rocking chair hour, features of interest to women; 5:30, Skee-zlx time.

do, at home program.
and Queen Titania; bedtinie story, Unele John; 8-10, special de luxe concert; 10-11, Art Hickman's dance orchestra, Earl Burnett, divector.
WAAM, Newark, N. J. (Eastern, 263), 11-11:15 a. m., piano recitai; 11:30, Center Market quotations; 11:30-11:45, unusic; 8-8:15 p. m., Altec Rincke, violinist; 8:15-8:30, Lillian Spitzer, planist; 8:30-8:45, Narcisse-de-Chine; 8:45-9:15, Canadians dance orchestra; 9:15-9:30, Narcisse-de-Chine; 9:30-11, Camdians dance orchestra and entertainers.
WBAP, Fort Worth, Tex. (Central, 476), 7:30-8:30 p. m., concert; 9:30-10:15, old-timo music, Tom Bean Fiddlo band.
WBAV, Columbus, Ohio, (Eastern, 423), 12 m., 1h Lorbach Owens, planist; 8 p. m., Scarlet and Gray orchestra, dance music.
WCAY, Milwaukee, Wis. (Central, 266), 9:15-10:30 p. m., musical program with dance.
WCA, Kansas City, Mo. (Central, 411), 3:30-4:30 (Continued on page 18) 

supper-dance nusle, Vincent Lopez Hotel Statler or-chestra, Harold Gleser, director. WGY, Schenetady, N. Y. (Eastern, 380), 2 p. m., "Better Bedding," Leo J. Sinon; 7:45, Earl Rice, planist; Isabelle Franklin, soprano; Frederick A. Clin-nick, cornetist; Walter Reagles, tenor; Isahelle Frank-lin, soprano.

In, soprano. WHAZ, Troy, N. Y. (Eastern, 380), 9 p. m., Columbus ehd Italian band; "The Man on the Tall Tower," William G. Howard; 12, transcontinental and inter-national program, Campus accendens.

October 11, 1924

WHB, Kansas City, Mo. (Central, 411), 2-3., ladlos' hour program, Sweeney Radio orchestra; 7-8, "Storage Battorics," W. G. Robetson, member of the facuity of the Sweeney School; banjo solos, Clarence Olingor; nusic, Sweeney Radio trio.
WHK, Cleveland, Ohio (Eastern, 223), 6 p. m., Mar-jorte Moore's Melodious maids, from Grobe's Rath-skeller.
WHN, New York, N. Y. (Eastern, 360), 7:50-8 p. m., Hotel Carlton Terrace orchostra; S-8:50, Roseland dance orchestra; 9:50-10, Crystal Palace orchestra; 10-11, Jack Shack orchestra; 12-2 a. m., midnight Bohemia show.

show. WHO, Oes Moines, la. (Central, 526), 7:30-9 p. m., Sclota McAdow Herndon, soprano; Churlotto Van Gin-kle Dye, accompanist; D. H. Lewis, tenor; Jennio Hines, accompanist; Scotch Kilitie band; artists, Drake Conservatory of Music, Dean Holmes Cowper, director; 11:15-12, Carlos Meier, organist. WHO, Philofelphia Ba (Scater, 500), In p. Giunda

who, des Molnes, ia. (Central, 326), 1:0:3 p. m., Selota MeAdow Herndon, soprano; Charlotto Van Ghike Dye, accompanist; D. H. Lewis, tenor; Jennio Hunes, accompanist; C. Catos Meier, organist.
wHP, Philadelphia, Pa. (Eastern, 509), 1 p. m., Gimbel WLAG, Minneapolis-St, Paul, Minn. (Central, 417), 10:45 m. m., Hetty Crocker; 2 p. m., women's hour; 2:35, musicale; 5:30, etidien's hour, Mrs. Robert Cargilli: S. Hamlin Hunt, organist.
tea room orchestra, Ray Steen, director; 3, Flora Ripka, planist; 6:05, Hotel St. Janes orchestra; 7, Uncle Wip's bedLine stories.
wLW, Cincinnati, Ohio (Central, 423), 4 p. u., Jlo lesson, Fred Smith, Instructor; 8:12 m., dedication new WLW studios; concert, Western & Southern orchestra.
Tenth Infantry band; Milnor electric tric; Cooper male quarter; special musical numbers, College of Mussle and Conservatory of Musle pupils; invocation, Dr. Frank Stevenson; dedicatory address, Poweil Crosley, Jr.; conclusion, Rev. Frederick McMillin; solos, Adelaid Apfel, Lela LeMar, Robert Alter, Marjory Garrigus Smith, William Stores, Itosemary Elleptrock, accompanist; dance music, Alvin Koelar's, Bernie Cummins, ChubbSteinberg, Doherty orchestra, Virginia entortainters.
WMAQ, Chicago, Ill. (Central, 500), 8:30 p. m., better English, Mrs. J. E. Jenkins; 6, Chicago thater organ recital; 6:30, Hotel La Salie orchestra.
WMAQ, Chicago, Ill. (Central, 500), 8:30 p. m., Gayoso hotel orchestra.
WOAW, Omaba, Nchr. (Central, 500), 8:30 p. m., Gayoso hotel orchestra.
WOAW, Omaba, Nchr. (Central, 526), 6 p. m., popular half-hour; 6:25, dinner program; 10, musical program; trastic program; trastic program; recital, Mary E. Vogt; 12:02 p. m. Wananaker erystit a room orchestra from Hotel Adelphia.
WOC, Oavenport, Ia. (Central, 484), 10 p.

Meadows, S-9 p. m., Jintee Acars a Day, Heini H. Downing.
WSAI, Cincinnati, Ohio (Central, 309), 10 p. m., popular songes, Billy While, Bert Lindsay; 10:30, Cliff Burns Country club orchestra.
WSB, Atianta, Ga. (Contral, 429), 8 p. u., Turners: entertainment.
WTAM, Cleveland, Ohio (Eastern, 390), 8 p. m., Edna Dunlam Willard, soprano; Alice Dugan, contralito; James McMalon, baritone; Harold Branch, tenor; L. W. Zimuerman, reader.
WTAS, Eigin, Ill. (Central, 266), 6-8 p. m., Tip-Top Inn string sextette; 8-12, WTAS Kimball Hall all-star program.

Inn string sextetle; 8-12, WTAS Kimball Hall all-star program.
WWI, Octroit, Mich. (Eastern, 517), 8 a. m., setting-up exercises, R. J. Horton; 9:30, talk, would series base ball, play by play; 7, Detroit News orchestra; Leland Olmstend, tenor.

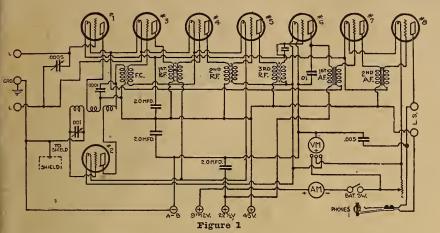
Tuesday, October 14

Silent night for: KQV, KSO, WOAR, WGR, WHO, WMH, WOC, WOO. CKAC, Montreal, Can. (Eastern, 425), 7 p. m., kiddies stories in French and English; 7:30, Rex Battle and his Mount Royal hotel concert orchestra; Rex Battle, planist; 8:30, La Presse studio concert; 10, Joseph C. Smith and his Mount Royal hotel orchestra, KFI, Los Angeles, Calif. (Pacific, 469), 6:45-8 p. m., Aeglin organ recital.

### **Eight Tube Super-Heterodyne Receiver**

Chapter I-The New Multitube Circuit

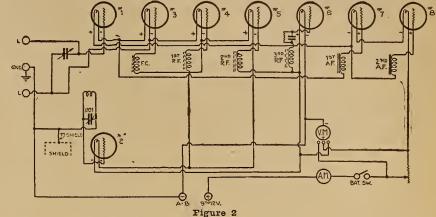
By Harry J. Marx

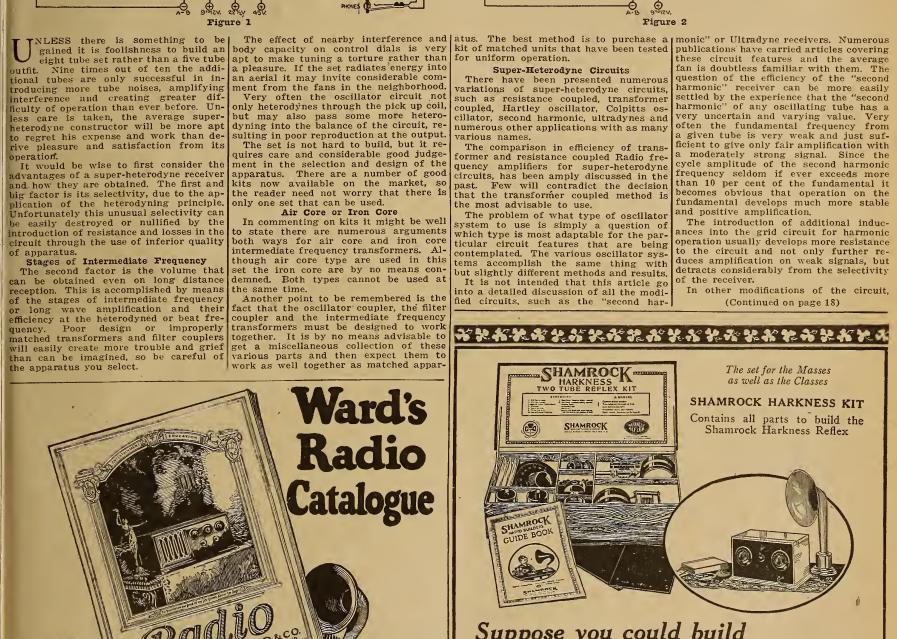


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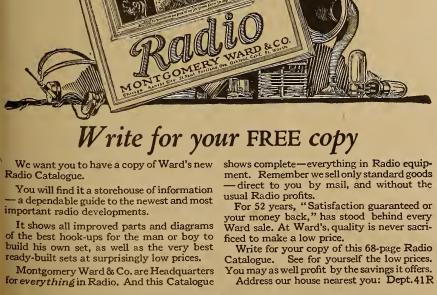
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Chicago, Saturday, October 11, 1924 No. 1 Vol. XI.

### **English Vocabulary Enlarged**

Five Thousand New Words Result of Radio THE English language has been increased by 5,000 words by the event of Radio. Radio not only has parcipitated the exchange of ideas, but it has enriched our very speech with a vocabulary indispensable to those that would understand the mechanism. Who ten years ago ever concerned himself with Radio fre-quency problems? Who today would neglect to tune in and get his favorite station? We may have known of atoms, of electrons, of protons and of triodes; but we now have a knowledge of inductance, of crystal detectors, of tuning coils, of variometers, of triode detectors and of autodynes. Audion and potentiometer were once Greek to most of us and the amplifiers, Radio amplification and Radio triodes were little less than a dead letter. Five Thousand New Words Result of Radio

than a dead letter. Today the Radio world has enriched us by contrib-uting not merely the working knowledge of these terms themselves, which every live wire in leicography has placed on record, but by compiling new, useful and educational words to our language.

### Fooling with Radio

Playing with the Science Is What Has Made It

Playing with the Science Is What Has Made It PROBABLY one of the commonest expressions heard in American households today, when the whereabouts of father or his son is sought, is, "Oh, he's fooling with the Radio." It is quite fortunate for the new science that he is. There is more in the phrase than is realized. Radio owes a larger part of its development to this so-called "fooling" than can ever be estimated. Not only "fooling" by father and other novices, but by experts and engineers. and engineers.

and engineers. It is easy to understand how a man who has been busy in a store or office all day is glad to get home at night and "fool with the Radio." It makes him forget the cares of the day. But it is not quite so easy to understand why Radio experts and research men who have worked at top speed all day on Radio problems of one kind or another start in as soon as they have had their dinner at night to "fool with the Radio" at home home

home. Radio widows may not all agree, but, of course, the real answer for their strange conduct is that they are impelled by the urge of experimentation. To members of their families who are waiting to go to the movies or to be taken out in the car, they are simply "fooling with the Radio," but in reality they are conducting the practical experiments from which so many of the improvements of the last five years have resulted. They are certainly striving to make the set work better, to make it simpler, to eliminate minor diffi-culties, to increase its range, and above all to perfect the quality of the tone. It is the never ending quest for perfection which is bringing Radio, in common with other public utilities, to new stages of efficiency and usefulness.

### Short Wave Broadcasting

Less Powerful Wave May Not Supplant High Power Less Powerful Wave May Not Supplant High Power UPON the return to this country of Mr. Sarnoff, of the Radio Corporation of America, after complet-ing his trip through several of the European countries and studying Radio matters, at first hand we are in-formed of his conclusion regarding the experiments with short waves. He sees no likelihood of less power-ful short waves supplanting those of high power and long in so far as commercial use is concerned. Yet he does grant to these tests the probability of dis-closing some very interesting and valuable data on the exact character of an electromagnetic wave. The reported reaction of foreign Radiocast directors favor-able to Mr. Sarnoff's suggestion to use greater power for transatlantic reception may result in our being able to pick up some of their programs.

### **RADIO INDI-GEST**

### Wuxtre-e-e-e-e-e-e!

**Exclusive Interview with Third Trombone Player** MILWAUKEE.—Languidly flicking the ash from his Mecca, the Third Trombone Player gave the following interview to a representative of Radio Indi-Gest in his paiatial mansion situated in Milwaukee's newest and most aristocratic residence district, Bootlegger Heights. Q.—"Who will be our next President?" A.—"Judging from the papers, the Prince of Wales." Q.—"What will be the future demand for nine tube sets?" A.—"The birth rate keeping up. fine."

Q.—"What will be the future demand for nine tube sets?" A.—"The birth rate keeping up, fine." Q.—"What do you think of prohibition?" A.—"Really, we have so little of that sort of thing here in Milwaukee that I can not form a fair opinion. However, I intend to take a trip to Chicago where the law is enforced and at that time will be able to give you my idea of it." Q.—"What criticisms do you make of the present day Radio stations?" A.—"None, except that they might have a few Irish-men in the Calumet Rainbo Baking Powder Garden station. One tires of Jerry Sullivan, O'Hare, Flannigan and the other German comedians. Let us have a few Irishmen. Q.—"What are your plans for the future?" A.—"Cultivate a Greek accent and open a fruit stand. Gawd knows this is a heliuva country for Americans." \*\*\*\*\*\*\*\*\* Ah yes,—and so it goes. "The flower once blown forever dies," as my old time friend O. K. used to remark on such occasions. It is a pity that he died before Radio was invented. Reckon it would have cheered the oid boy to have a portable Radio set singing beside him in the wilder-ness. Well, they named a cigarette after him which is a darn sight more than they will do for either of us. With which sentiment I sign off. What Are the Night Winds Saving?

What Are the Night Winds Saying? On the broad north western prairie, Not so many years ago-Lo, the red-man, pitched his tepee Midst the herds of buffalo.

And he hunted in the sunlight With his arrows and his bow, Tiil the darkness drove him homeward To his campfire's ruddy glow.

Then he hears the night winds whisper, As they softly come and go; And he wonders what they're saying; But he cannot teil—poor Lo.

He can read the signs of sunset, And of plants that bloom and grow; But he cannot tell the meaning Of the evening winds that blow.

So he listened and he pondered, But there seemed no way to know What would have been, oh, so sin Had he known of "Radio." simple

Changes have come o'er the prairie Since that day—not long ago— When the red-man pitched his tepee Midst the herds of buffaio.

Now, when evening breezes whisper, And their song we want to know; We just turn the aerial westward And tune in on K. P. O.

E. H D.

### Boy! Page Mr. Marconi

Dear Indi: A guy I know (he ain't no friend of mine, because he has a single circuit set) sez that he put his finger on his detector jack and the signals came in burder louder.

louder. This boob decided he would put a wire under said jack and hold it in his hand. He loosened up the jack and put the wire around it, then he put the other end in his mouth so that he could tighten up the jack. The boy then see that the signals knocked his ears off. His nightly occupation now is sitting with a wire in his mouth getting the distant ones. R. E. FLEX.

### -Or Write Your Own Verses

The soup's in the fork, The spaghetti's on the tree. The air's fulia Radio That ain't no good to me.

Chorus I ain't gonna tune no more, no more, I ain't gonna tune no more. If the squeels in the air Don't stop their nolse, I ain't gonna tune no more.

I tun 'er in the morn, I tun 'er in the night. The squawks the air turns up Are an awful fright.

### After Me, You Come First

-5XV

Dear Indi: Tell Soozee that if Sir Arthur has escaped, permanent, I might sight her to a substitute eligible, this prospect for a fast worker only. River road flivver method would only cramp her style here. SIGNING OFF.

### Stop, Stop, You're Killing Me!

Dear Indi: Laboratory experiments have shown that Sol Lution is Ju-ice and positively comes from Nega-Pole-and goes direct over various circuits even though this act is sometimes shocking. ALUMNUS.



RUSSIA TAKES UP RADIO

### Condensed **By DIELECTRIC**

WHN is conceded to be—. You're right! Much of their past was forgotten when Will Rogers came across with his original brand at the testimonial dinner to Commissioner Enright of New York city. Nothing guite takes the place of a Radiocast dinner, I mean, of course, where you hear from men not usually guests at your own table. Little remarks passed from behind a guarding hand are heard by mike—and the rest of us.

I don't know why they send soft music with KDKA's Radiocast of a tour around the world, unless to en-tertain those not caring for a picturesque description of some of the beauty spots of Europe. Told in so interesting a style most anyone would wish to hear more of this style of feature. It rests an overjazzed loud speaker, to say the least.

Some credit is due WTAM for selecting the Cleve-land musical association to provide an evening's en-joyment. It was a joy to hear well trained voices in well suited selections. A "Love Dream" voice scatters and flows all around the Jewel Song from Faust. Then, too, this Radiocast station has much to offer in careful modulation.

"The Eveready Hawaiian Orchestra through WEAF." Precisely !!

Of all the neo-Heifitz fiddlers there are, standing before dozens of mikes night after night, it is decidedly refreshing to tune to a station presenting an artist in his or her own right. Such a case was that of Rose Becker, whose playing at WEAF makes me think now of faultless intonation—oh, such a rarity !—and a tone that warms one. You don't tire of listening to many numbers with such a violinist.

Stribling and Robson fought a good fight with the aid of WBZ's announcer and no listener in was sur-prised to hear the decision given to the Georgia boy. Then Tunney and Greb discussed physical prowess out of reach of KDKA except through wired description, nevertheless, the smoky air of Pittsburgh pervaded most of the "Pioneer's" announcements until we finally realized Tunney was the victor.

Several million people in these good old United States are fast becoming blase who never thought of the term before. If that ain't so, then why did so many folks take the trouble to wire their appreciation to WOS for the Old Time Fiddlers? A surfeit of new things makes the old ones take on an attractive flavor. There's something homey anyway about "Jeff-erson City, Missourah" wherever you live.

It's about time Calvin came on the air again. We've had John trying out the various Radiocast systems of the country until the regulars can recognize his voice instanter. Of course, if it wasn't for proper decorum, no one would have to introduce the President. Every mike in the land knows enough to come to attention at the sound of the first sylable spoken by the occu-pant of the White House.

One evening when every jazz band was wailing through the same piece and all the singers were "sad and weary," at least one fan found comfort in the declared fact that prize ewes and exceptional ears of corn were to be seen at the Chicago Fair. Now a ewe may bleat and corn ferment but—jazz goes on forever and ever.

### **Console and Cabinet Making for Receiving Sets**

### Chapter IV-Inexpensive Table Stand for Set

By Charles F. Smisor

W HEN it comes to making up stands, tables and elaborate housing for the receiving set it is more of a prob-lem in designing than it is in the making of the piece of furniture. A few designs will be given in the succeeding chapters and they will cover in almost every de-tail the construction of cabinets and con-



soles, so that if you have the creative ability you can design something that will meet with your requirements for a set and something that will fit in and harmonize with your present furnishings. The piece of furniture for this week is a table or stand on which to place the receiving set cabinet. This piece of furni-ture was constructed entirely of the leaves from a discarded oak dining table. These leaves were for use in making an extension when guests came and more table top space was needed. **Brenaring the Wood** 

### Preparing the Wood

26

24

ONE PIECE NEEDED

ONE PIECE NEEDED

**Preparing the Wood** Again the preparing of the wood is the most essential part of the making of this stand. If new boards are used the task will not be so dificult in getting a finish. The old leaves had to be planed to remove all the wear and stains. Hand planing would be too much of a task for the average person to do; however, if there is a nearby mill the boards can be planed easily and quickly and they will planed boards were used. Follow out the instructions as they were given in chapter three for preparing the surfaces, after which the boards are laid out and cut to the dimensions given. Two end pieces are required, as given. The lower part of these pieces are cut

simply to form feet, but if the builder so desires any fancy cutting on the lower ends will add greatly to the appearance of the finished stand. The top is just a little longer than the shelf piece so that it will overhang the ends. A good piece should be selected for the top, one with a fine figured grain. The doors enclosing the shelf part are just alike, therefore two pieces will be required 12 inches each way One edge is notched for the hinges, as shown, the depth being such as to receive the hinges wing that is to be used. The hinges are fastened in the usual manner so that the door will swing outward freely and not bind. Assembling the Parts The assembling of the parts is a simple matter, for the top and shelf joins the end

1-30

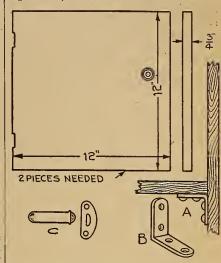
12"-

2 PIECES NEEDED

Shelf for the B Batteries There was no back used in this stand, the B batteries were placed on the shelf



and the wires run from them to the set through the back opening. If the builder so desires a back can be put on made of thin boards or veneer boards. When using a back, holes will need to be made in



the boards for the wires coming from the batteries. If the boards have been planed and well sandpapered and care used in putting sandpapered and care used in (Continued on page 18)

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### **CABINET MAKING**

**CABINET MAKING** (Continued from page 17) the pieces together the work of final finishing will be lessened. In chapter three full details were given for the final finishing and varnishing. This little stand will make a suitable place for the receiving set and the ex-pense of huilding it is practically noth-ing, not considering the time in its con-struction. The size is suitable for a cabinet set having a panel of 21 inches. It will accommodate a larger size, but anything larger than 21 inches in length does not harmonize with the outlines of both set and stand. (In the next article a stand of some-what similar construction will be de-scribed, but on more elaborate details. It will require more work to build, but it will require more work to build, but it will pay to construct this cabinet stand.-Editor's Note.)

### SUPER-HETERODYNE

(Continued from page 15) tubes are intended to perform double duty by means of reflexing or the com-bining of the two distinct functions for the same tube. This, of course, presents distinct advantages, but when it is con-sidered that the amateur has had more than sufficient trouble in the simple type of reflex circuit, it will readily be ap-preciated that the difficulties are decidedly multiplied when adapted to a more ad-vanced type of circuit operation as the super-heterodyne. For these reasons, no effort has been made to conserve tubes, but to present a simple receiver that will give good clear reception with minimum amount of noise and interference, but a high degree of selectivity. (Continued from page 15)

selectivity.

The Circuit The circuit is shown in Figure 1. Two distinctly unusual features immediately become apparent. The one, namely, the series connection of tube filaments and the grid biasing system, will be taken up later.

The principal of the fitter coupler is con-nected in series in the plate circuit of the socillator tube number 2. Tuning of the primary of the fitter coupler is con-nected in series in the plate circuit.

The balance of the circuit, with the filament and blasing connections, con-forms to the standard type of circuit. In order to simplify the filament and grid wiring throughout the entire circuit, the illustration shown in Figure 2 was made up. In this diagram all other wire and apparatus has been omitted. The various parts making up this hook-up are shown in the same relative positions. The Pilament and Grid Circuits

and apparatus has been omitted. The various parts making up this hook-up are shown in the same relative positions. **The Filament and Grid Circuits** First—all tubes are connected in series. Starting from a negative A terminal the series connections arrange the tubes in the order: detector number 6, oscillator number 2, amplifier number 3, amplifier number 4, amplifier number 3, amplifier number 1, then to audio amplifier number 7, audio amplifier number 8 and through the master rheostat, battery switch and ammeter to the positive filament terminal. The small peanut type of vacuum tubes, 215A, are used. These draw 0.25 ampered at about 1.1 volts each. Connected in series they still draw 0.25 ampere, but re-quire a potential of 8 to 9 volts. Using a 30-ohm rheostat, two 6 volt storage bat-terics, or better still, 8 dry cells connected in series, permits very satisfactory adjust-ment and most economical operation for not only the A battery but also the B batteries. Since no potentioneter is used, some method of biasing becomes essential. The method illustrated in this circuit is not original, but is covered by patents for commercial production and used by only one manufacturer. By connecting the grid return of each tube to the negative terminal of the tube ahead of it in the series connection, a bias of one volt is obtained. This not only improves the operation of the tube, the quality of reception, but also produces economy of plate battery current con-sumption. In order to more easily understand the bias the order of the series connections of the tubes starting from the negative side is shown in the first column of tube num-bers—the second column shows the tube number to which the grid return of each tube is made. **Tube 6 grid return goes to positive 6** 

Tube	6	grid	return	g'oes	to	positive	6
Tube	2	grid	return	goes	to	negative	6
Tube	5	grid	return	goes	to	negative	2
Tube	4	grid	return	goes	to	negative	5
Tube	3	grid	return	goes	to	negative	4
Tube	1	grid	return	goes	to	negative	3
Tube	7	grid	return	goes	to	negative	1
Tube	8	grid	return	goes	to	negative	7
-							

With the exception of the detector, the grid return of which goes to the positive side of its own filament, all the grid cir-cuits couple up with the tube ahead, giving a 1-volt negative grid bias. (For those who would rather use the standard A or 99 type of tubes the hook-up diagram will be presented in the next article.--Editor's Note.)

One of the best-known French Radio periodicals remarks that French inventors should cease "hiding their lights under a bushel" and assert their claims to their inventions. It is stated that the famous Hartley circuit was actually invented by a Frenchman named Ditte.

### Tuesday, October 14

### (Continued from page 14)

(Continued from page 14)
 p. m., the Star's string trio; 5-5:30, weekly child taiont program, Mrs. Estelle Logan, director; 6-7, school of the air, piano tuning-in number on the Duo-Art; the Tell-Me-a-Story lady; music, the Hanlein-Knutson Trianon ensemble; 11:45-1 a. m., Nighthawk frolic, the "Morry Old Chief"; the Plantation players.
 WDAR, Philadelphia, Pa. (Eastern, 335), 11:45 a. m., daily almanac; 12:02 p. m., Stanley theater organ re-citia; 12:30, Arcadia cafe concert orchestra; 2, Ar-cadia cafe concert orchestra; 7:30, Dream Daddy's bedtime stories; 7:50, "Both Sides of the Footlights," Armold Abbott.
 WEBJ, New York, N. Y. (Eastern, 273), 7-7:10 p. m., reviews of motion pictures on Broadway, Bibbrun Radio dramatie critics; 7:30-8:15, Jimmy Clarko and his White Way entertainers; S:20-9, Rivoli Theater en-semble personal direction of Hugo Riosenfold.
 WEAO, Columbus, Ohio, (Eastern, 335), 1 p. m., Music, Marguerite Manley Siedel artists; 1:30 p. m., music, Marguerite Stationd concert orchestra; 3 Caroline Hoffman, planist; 6:30, Meyer Daris Bellevue Strat-ford concert orchestra; 7, Sumy Jin, the kiddles' pal, WGM, Chicago, Ill. (Central, 370), S:20-9:30 p. m., Martha Bjoru, soprano; F. W. Schmidt, teuor; Pre-mier quartet; Rosemary Hughes, soprano; 10:30-11:30, Jack Chapman dince orchestra.
 Weffab, N. Y. (Eastern, 319) 12:30-1; p. n., Course Albert Duarkand

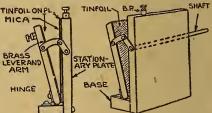
<sup>9</sup>, program from vocal studie of Walter B. Graham;
<sup>9</sup>, dance program, Frank W. Hodek, Jr. and his otchestra, Rosoland gardens.
<sup>9</sup>WOO, Philadelphia, Pa. (Eastern, 509), 11 a. m., orgam recital, Mary E. Voct; 12:02 p. m., Wanamaker erxstait tea room orchestra, Robert E. Golden, director; 5:15, organ recital, Mary E. Vogt.
<sup>9</sup>WOR, Newark, N. J. (Eastern, 405, 2:30-2:40, p. m., Matilda Rosenstrauch, planist; 3:3:16, Matilda Rosenstrauch, jelanist; 3:4:10, Matilda Rosenstrauch, jelanist; 3:4:20, Matilda Rosenstrauch, jelanist; 3:4:20, Matilda Rosenstrauch, jelanist; 3:4:20, Matilda Rosenstrauch, jelanist; 3:4:20, Matilda Rosenstrauch, jelanist; 10:2, Ralph Goda, J. J. Andruss; 3:4 p. m., "Croquettes for Supper;" Cora Beeman; talk, Alexander M. Damon; 7:5, Ralph Williams and his Ralnbog garden orchestra; James Mitchell, bartione; Merie Boyd Mitchell, soprano; Carl Linner, planist; 10:2, Ralph Williams and his Ralnbog arden orchestra; James Mitchell, Roster; Nubs Allen, contraito; Malle and Liftle, song writers.
WRC, Washington, D. C. (Eastern, 469), 5:15 p. m., ode Instruction; 6, children's hour, Peggy Ablion, 7:35, danee program; 8:15, songs, Flora McGill Keefer, contralto; 3:30, music; Flora McGill Keefer, contralto; 9:30, music; Flora McGill Keefer, contralto; 9:30, invise, Sins, Kine McGill Keefer, entralto; Malle and Liftle, song writers.
WSAI, Ginelnnati, Ohio (Central, 309), 7 p. m., Hotel Gilbson orchestra, Robert M. Visconti, director; 7:30, chanes concert; 1:43, bedtime stories, Ethel Knapp Behrman; 8, Gibson orchestra; 9, mixed musical program.
WSB, Atlania, Ga. (Central, 429), 8 p. m., songs, Henry Sulling, baritone; 10:25. Radjovl entertajtainet.

lever and arm are cut in the shape shown Homemade Variable Condénser

Homemade Variable Condenser The size of the condenser will depend on the capacity required. Only three main pieces are necessary, these being the base, the movable and the stationary plate, all of which may be made of wood. The stationary plate is fastened in an upright position to the base. The mov-able plate is fastened to the base with press solidly together and the movable one may be swung to and away from it. The two surfaces of the plates that press together are covered with tinfoil or metal (such as copper or brass). On the two plates are arranged two binding posts as shown, each of these making contact with the metal or foil on the plate. On the stationary plate over the metal (or foil) is glued a piece of thin mica to prevent the two plates from shorting. A brass

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8:30, "Current Evenis," Prof. R. D. Smith; 9:15-0:30, Jack Silverstein, violinist; 9:45-19, Time Pop Ques-tion game; 10-11, Plaza Theater's concert orchestra, Eugene Conte, difector.
WLAG, Minneapolis-St. Paul, Minn. (Central, 417), 10:15 a. m., Betty Crocker; 2 p. m., league of women voters; 5:30, children's hour, Gold Medai Indy; 6:30, George Osborne's Hotel Nicolet orchestra.
WLW, Cincinnati, Ohio (Central, 423), 10 p. m., Cum-mins orchestra; Ohio Rubber male quartet; 11, In-strumental trio; Cummins orchestra; 11:35, Uncle Jake Rutz Puupkin Vine orchestra; 11:55, Chubb-Steinberg orchestra.

Ruz Puunpkin Vine orchestra; 11:55, Chubb-Steinberg orchestra.
 WMAQ, Chicago, Ill. (Central, 447.5), 4:10 p. m., lecture, Red Cross; 4:30, pupils, Gunn School of Music;
 G. Chicago theator organ regita; 6:30, Hotel La Salle orchestra; 8, Harry Hansen, literary editor;
 s:20, travel talk, Clara E. Laughin; 8:40, tenminute talks, Association of Commerce of Chicago 9:50, U. S. etvil service commission; 9:155, music.
 WMC, Memphis, Tenn, (Central, 500), 12:30 p. m., noonday program, Skyline serenaders; 8:30, old-fashloned songs, Mrs. E. W. Scott; 11, midnight frolle, Ernest F. Hawke, pipe organist.
 WOAW, Omaha, Nebr. (Central, 520), 6 p. m., dramatic hour, Davis Studio of expression; 6:30, dinner program, Is, andali's Royai orchestra, Brandeis store restaurants; 9, program from vocal studio of Walter B. Grahan; 00, dance program, Frank V. Hodek, Jr. and his orchestra, Rosoland gardens.

WGR, Chicago, III. (Central, 370), 5:30-9:30 p. im., Martha Bioru, soprano; F. W. Schmidt, tencry pre-mier quartet; Rosemary Hughes, soprano; 10:30-11:30, Jack Chapman dance orchestra.
WGR, Buffalo, N. Y. (Eastern, 319) 12:30-1: p. m. George Albert Bouchard, organist, 2:30-4:30, the Radio Dealers Musical program, A. J. Erisman, di-rector; 6:30-7:30, Hallpryd Stringed quartete.
WGY, Schenetady, N. Y. (Eastern, 360), 2 p. m., "When Should We Vote," Irene B. Taylor; 7:45, "Your Child's Education," Angelo Patir, 7:55, Chin-ese might: WGY orchestra; descriptive probace, Ed-ward H. Smith; "New York's Chinatown a Quarter Century Ago," Edward H. Smith; "Mel Lee, the Beauliful," Edward H. Smith; "Mel Mel, Sigo, Smith, Beather WHO, Des Moines, Ia. (Central, 520), 5:0,

### Helpful Hints to Get the Most from Radio

Chapter IV, Part Two-Radio Inductance and Tuning

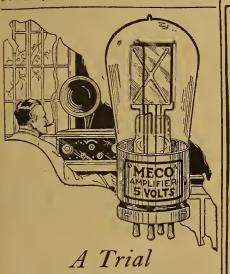
IN THIS series of articles set opera-tion will be told in so simple a man-ner that the uninitiated can follow in-structions and get the most out of re-ception, whether or not he knows any-thing about electricity or its applica-tion to broadcasting and reception. The series consists of thirteen chapters, of which the six next will be:

Chapter V—Variable Condensers. Chapter VI—Crystal and Tube De-tectors. Chapter VII—Sockets and Rheostats. Chapter VIII—Grid Leaks and Bias-ing.

ing. Chapter IX—Jacks and Switches. Chapter X—Amplifying the Signals.

THE several types of inductances de-scribed in the last chapter are com-bined in practice to form the numer-ous types of tuning devices in use at present. The simplest form of tuning is that shown in Figure 7, where a single inductance, either of the coil wound, spider web or low loss type is tapped at a num-ber of points and leads brought to switches. The adjustable inductance so formed is connected to the aerial, which furnishes the capacity to form a tuned oscillatory circuit. The detecting device, in this case a crystal detector, is con-nected across the inductance. Such a tuner, being the common single circuit tuner, has many outstanding disadvan-tages.

tuner, has many outstanding disadvan-tages. In the first place the aerial capacity is bound to have a fairly high resistance which gives broad tuning. Tapping the coil leads to losses because the unused turns absorb energy again, reducing the sharpness of the tuning. Disadvantages of the Single Circuit The disadvantages of the single circuit tuner led to the development of coupling devises whereby the tuning circuit was not connected to the aerial and with all the factors of resistance under control permitted sharp tuning. The earliest form known as the loose coupler was used for years by both amateur and commercial



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By Thomas W. Benson

operators, but the advent of broadcasting with the short waves used led to the use of the variocoupler. Designed originally simply as a cou-pling device, it consists of an outer tube supporting an inductance tapped to per-mit of tuning the aerial circuit by means of tap switches, while pivoted at one end of the tube was a wood ball on which was wound the secondary winding. The aerial currents flowing through the outer fixed or primary winding would set up a

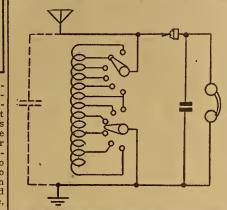


Figure 7—The simplest tuned circuit using a tapped inductance.

magnetic field that would induce currents of the same frequency in the winding on the rotor ball. By rotating the ball the relation between the fields of the two windings was varied and thus the magnetic effect of the pri-mary upon the secondary circuit was changed, permitting the change of cou-pling between the two circuits. The variocoupler then is essentially a cou-pling device, but it was very inefficient in its earlier forms. An efficient vario-coupler should be built with a low loss winding as the primary with a similar winding or a spider web as the rotor or secondary.

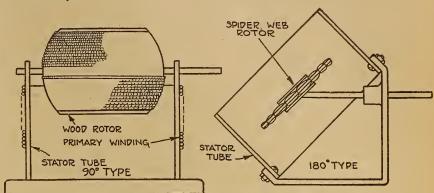


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### Figure 8-Two types of variocouplers.

Tuning the Secondary Some method of tuning the secondary of the vario-coupler is necessary when it is used as a coupler. The variometer was developed for this purpose and is essen-tially a variable inductance without taps. Its principle of operation is to mount one inductance inside the other, winding them on ball-shaped supports, and arranging the inner ball or rotor on pivots. In one position the fields of the two inductances coincide and, assisting each other, have a maximum inductive effect, but when the ball is rotated this mutual action is gradually reduced, reducing the induct-ance until a point is reached where the magnetic fields of the two coils oppose Tuning the Secondary

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when the inductance is at a minimum. The older wood type and the later moulded type are open to criticism on ac-count of high hysteresis losses in the forms, but the introduction of the low loss variometers with the honeycomb windings have overcome this defect. The circuit employing variometers for tuning is known as the three circuit regenerative shown in Figure 9, where a variometer is (Continued on page 20)



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RADIO RECEPTOR CO. 59 Bank St. New York

**GET MOST FROM RADIO** (Continued from page 19) also used to tune the plate eireuit to ob-tain regeneration. As a general rule all circuits employing a tuned aerial circuit requires adjustable coupling to obtain maximum range and selectivity. This is due to the fact that when two tuned circuits are coupled there is a certain degree of coupling that gives

Figure 10—The tuned plate regenerative circuit using a fixed primary eliminating the coupling and retaining efficiency.

### Adjustment of the Feedback

Adjustment of the Feedback Much of the satisfaction from a tickler regenerative eircuit depends upon the ae-curate adjustment of the feedback. To aid in this respect we have what is termed the 180 degree coupler. The usual type of variocoupler as shown in Figure 8 allows of but a quarter or 90 degree turn from maximum to minimum cou-pling. But by mounting the stator at a 45 degree angle and mounting the rotor on the shaft at a similar angle it requires a half turn to swing from close to loose coupling. Nearly all of the above effects of cou-pling and feedback can be obtained with honeycomb coils or spider webs arranged in the proper mounts. Thus a coupler is made up by arranging two coils or spider

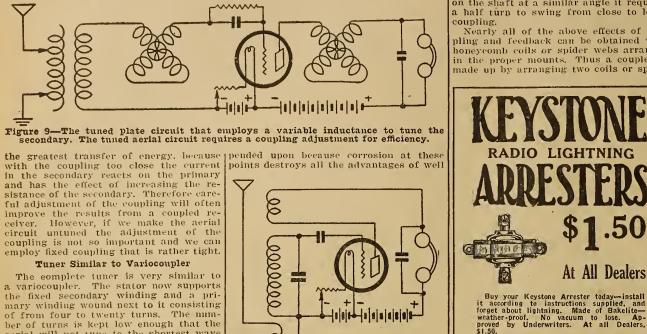
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**Tuner Similar to Variocoupler** The complete tuner is very similar to a variocoupler. The stator now supports the fixed secondary winding and a pri-mary winding wound next to it consisting of from four to twenty turns. The num-ber of turns is kept low enough that the aerial will not tune to the shortest wave lengths to be received. Thus the aerial tuning as well as the coupling adjustment is eliminated. Pivoted inside the stator of the tube as shown in Figure 10, which is a rotor connected in the plate circuit controls the regeneration.' This is the tickler feedback regenerative tuner. Here again the inductances are subject to the same conditions mentioned in con-nection with the variocoupler and the efficiency of the instrument is controlled entirely by the losses in the windings. The



20

### Iomemade Low Power Transmitter

CIRCUIT AND PANEL LAYOUT

### Sending Set for Short **Distance Amateur Work**

Prospective builders of transmitters who have direct current at their homes find themselves considerably handicapped for the lack of suitable power to work

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entirely original, not copied. RADIO KINKS DEPARTMENT Radio Digest, 510 North Dearborn St., Chicago

the average power tube, as direct current cannot be stepped up to the required plate

Materials Necessary

- Tube socket. Electric light receptacle. Single circuit jacks. .005 mfd. mica condensers.
- Rheostat.
- Rheostat. Single pole double throw switch. 11-plate condenser. UV-201A tube. Homemade coupler. 7 by 72 panel. 3-inch dials. Binding posts.

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voltage and it becomes necessary to use a motor generator, which is sometimes prohibitive considering the expense.

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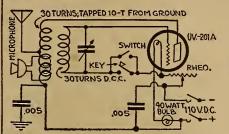
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Herein is described a low power transmitter of fairly good range that need only be connected to an aerial and a 110-volt direct current line to be in operating condition. **Construction of the Coupler** Trocure a piece of cardboard tubing about 4 inches long and a wooden rotor to fit into the tube. Wind the tube with 30 turns of number 18 dcc. wire, tapping off at 10 turns from the ground end as shown. Wind 3 turns of the same wire next to the first coil and connect the ends to the binding posts mounted on the tube. The ends of this coil are connected to the jack A which is for the microphone. Wind 30 turns on the rotor of either the same wire or 'some other dcc. wire that will fit. I used number 22. **Arrangement of the Panel Layout** In arranging the panel layout A is the single circuit jack for the microphone, B is the jack for the key. C is the switch to short circuit the key when the microphone is to be used, E is the dial to which the rotor of the coupler is condenser and D is the knob of the rheostat. The ground shown in the hook-up is not necessary, but if you prefer to use a ground be sure to insert a reliable mica condenser in series with it. You will have much trouble if you do not do this. After the set is complete connect if the switch on the switch on the rouse if you do not do this. After the set is complete connect it up, close the switch on the panel and listen to your set on your receiver. You

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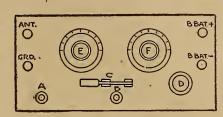
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should hear a high pitched whistle. Ad-just the transmitter until you hear the whistle the loudest and you have the set

working. Make sure that you are within the al-loted wave length and that you have an amateur operator's license before trying to transmit.—Chas. Belsky, Detroit, Mich.

### Short Aerial Best

Radio frequency receivers operate much better when using a short antenna. In fact, when using a long antenna a variable condenser of the large balanced type should be employed in order to cut down the wave length to that of the broad-cast waves.

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### **Making Holes in Glass** for Transparent Panels

Having read many articles on the drill-ing of glass for panels I find they tell of ways unreliable and not at all practical As an old glass worker I speak from experience. The only way is to take a three cornered file that will drill the size hole wanted and break it off about I inch from the end and sharpen the end to a point. In grinding this point be careful not to draw the temper. Withe file into a carpenter's brace, dip the pointed end into turpentine often while drilling and do not turn too fast. If you are using clear glass, such as '4-inch plate glass, turn the glass over before you drill through. This will save shelling, which will happen if you pass the file through from one side. A very nice panel can be made from '4-inch white glass which looks well with the black dials and is cheaper and will drill easily. Keep the drills sharp, put a little weight on while drilling but not enough to break the glass. The drill will get quite hot if you do not watch it closely.—R. Compton, Los Angeles, Cal.



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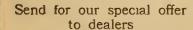
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Corrected Every Week-Part V

State, City, Call Alabama :	State, City, Call Elgin, WTAS	State, City, Call Michigan:	State, City, Call New Mexico:	State, City, Call WIAD, WIP, WNAT, WOO,	State, City, Call
Auburn, WMAV Mobile, WEAP Montgomery, WKAN		Michigan: Ann Arbor, WCBC Berrien Springs, KFGZ Dearborn, WWI Detroit, KOP, WCX, WWJ East Lansing, WKAR Flint, WEAA Grand Raplds, WCBK Houghton, KFMW Kalamazoo, WLAQ Mit, Clemens, WABX Petoskey, WBBP Port Huron, WBBH Saginaw, WABM Minnesota:	New Mexico: Albuquerque, KFLR State College, KOB New York: Buffalo, WGR Cazenovia, WMAC Ithaca, WEAI Kingsten WDRZ	WWAD Pittsburgh, KQV, WCAE, WCBF,	Osseo, WTAQ Sisiht, WAR St. Croix Falls, WRAL Stevens Point, WLBL Superior, WDBP, WEBC
Arizona: Phoenix, KFAD, KFCB Tucson, KFDH	Eureka, WFBB Galesburg, WRAM Monmouth, WBBU Moscheart, WJAD Oak Park, WTAY Peoria, WJAN, WQAX Rockford, KFLV, WIAB Streator, WTAX Tuscola, WDZ Urbana, WRM Zion, WCBD	Detroit, KOP, WCX, WWJ East Lansing, WKAR Flint, WEAA Crand Bacida, WEBK	Buffalo, WGR Canton, WCAD Cazenovia, WMAC Ithea WEAT	Reading, WBBD, WRAW Scranton, WQAN State College, WPAB Wilkes-Barre, WBAX	Laramie, KFBU
Arkoncoci	Streator, WTAX Tuscola, WDZ Urbana, WRM	Houghton, KFMW Kalamazoo, WLAQ Mt. Clemens, WABX	Kingston, WDBZ Lockport, WMAK New York, WBAY, WBBR,	Rhode Island: East Providence, WKAD Providence, WCBR, WEAN, WJAR, WKBF, WSAD	Alaska: Anchorage, KFQD Juneau, KFIU Kukak Bay, KNT
Conway, KFKQ Fayetteville, KFMQ Fort Smith, KFOZ Little Rock, KFLQ, KFMB, WCAV Pine Bluff, KFPX	inutana.	Petoskey, WBBP Port Huron, WBBH Saginaw, WABM	WDBX, WEAF, WEBJ, WFBH, WHN, WJY, WJZ, WNYC, WQAO, WSAP	WJAR, WKBF, WSAD South Carolina: Charleston, WBBY Clemson College, WSAC	Alaska: Anchorage, KFQD Juneau, KFIU Kukak Bay, KNT Hawaii: Honolulu, KGU, KYQ Porto Rico: San Juon WKAO
California: Bakersfield, KDZB Backelay, KBE	Fort Benjamin Harrison, WCBN Fort Wayne, WDBV Greencastle, WLAX	Minnesota: Carver, KFRA <u>Collegeville, WFBJ</u>	Rochester, WABO, WHAM Schenectady, WGY, WRL Syracuse, WFAR, WLAH	Clemson College, WSAC South Dakota: Brockings, KEDY	San Juan, WKAQ Australia: Sydney, 2FC Britich Islas:
Burlingame, KFNZ, KFQH Culver, KDBG, KFQI El Monte, KUY	Laporte, WRAF Marion, WIAQ Mishawaka, WOAO	Carver, KFRA Collegeville, WFBJ Hutchinson, WFAN Minneapolis, KFDZ, KFEX, KFMT, KFQF, WLAG, WLB	fthaca, WEAI Kingston, WDBZ Lockport, WMAK New York, WBAY, WBBR, WDBX, WEAF, WEBJ, WFBH, WDN, WJY, WJZ, WNYC, WQAO, WSAP Richmond Hill, WAHG Rochester, WABO, WHAM Schenectady, WGY, WRL Syracuse, WFAR, WLAH Tarrytown, WRW Troy, WHAZ Utica, WSL North Carolina:	South Dakota: Brookings, KFDY Rapid City, WCAT Vermilion, WEAJ Yankton, WNAX Tennessee:	San Juan, WEAQ Australia: Sydney, 2FC British Isles: Aberdeen, 2BD Belfast, 2BE Birmingham, 51T Bournementh, 6PD
Fresno, KMJ Hillsbourgh, KFQH Hollywood, KFAR KFQZ Holt Clin VFOU	Anderson, WEBD Fort Benjamin Harrison, WCBN Fort Wayne, WDBV Greencastle, WLAX Indianapolis, WBBZ Laporte, WRAF Marion, WIAQ Mishawaka, WOAO South Bend, WGAZ Valparaiso, WRBC West Lafayette, WBAA	Moorhead, WPAU Northfield, KFMX, WCAL St. Cloud, WFAM St. Paul, AV7, KFOY	North Carolina: Charlotte, WBT Fort Bragg. AT9 Wilmington WBBN	Columbia WDDW	Bournemouth, 6BM Cardlff, 5WA Glasgow, 5SC
California: Bakersleid, KDZB Berkeley, KRE Burlingame, KFNZ, KFQH Culver, KCDBG, KFQI Ei Monte, KUY Fresno, KMJ Hillsbourgh, KFQH Hollywood, KFAR KFQZ Holy City, KFQU Long Beach, KFON Los Angeles, KFCL, KFI, KFPG, KFPR, KFQG, KFSG, KHJ, KJS, KNX Oakland, KGO, KLS, KLX, KZM	lowa: Ames, WOI Atlantic, KFLZ	I MISSISSINDI:	Victe, WSL North Carolina: Charlotte, WBT Fort Bragg. AT9 Wilmington, WBBN North Dakota: Fargo, WDAY, WPAK Grand Forks, KFJM, KFJQ Dio:	Lawrenceburg, WOAN Memphis, WCBO, WMC Nashville, WCBQ Tullahoma, WCBV Texas:	Bournemouth, 6BM Cardiff, 5WA Glasgow, 5SC London, 2LO Manchester, 2ZY Newcastle, 5NO Płymouth, 5PY Sbeffield, 6FL Canada -
KJS, KNX Oakland, KGO, KLS, KLX, KZM Paso Robles, KFNL	West Lafayette, WBAA lowa: Ames, WOI Atlantic, KFLZ Boone, KFGQ Burlington, WIAS Cedar Rapids, WJAM, WKAA Davenport, WOC Des Moines, WHO For Dodge, KFER, KFJY Iowa City, KFQP, WHAA Lamoni, KFFV Marengo, KFOL Marshalltown, KFJR Ottumwa, KFJL Shenandoah, KFFNF Sioux City, KFMR, WEAU Waterloo, WRAN Kansas:	Coldwater, KFNG Hattlesburg, WDBT Oxford, WCBH RuiceIlle, WCBG Missouri:	Chio: Canton, AQ6 Cambridge, WEBE Cincinnati WAAD WHAG	Texas: Amarillo, WDAG, WQAC Austin, KFQM Beevile, KFRB College Station, WTAW Dallas, WFAA, WRR Denison, KFPQ, KFQT Dublin, KFPL El Paso, WDAH Fort Worth, KFJZ, KFQB, WBAP Gaireston, KFLX, KFQO, WAC	Sbeffield, 6FL Canada: Bellerue, CFCO
AJS, KNX Oakland, KGO, KLS, KLX, KZM Paso Robles, KFNL Richmond, KFOU Sacramento, KFBK San Diego, KDPT, KDYM, KFBC	Davenport, WOC Des Moines, WHO Fort Dodge, KFER, KFJY	Butler, WNAR Cape Girardeau, WSAB Carterville, KFPW Columbia, WAAN Fayette, KFQK	Canton, AQ6 Canbridge, WEBE Cincinnati, WAAD, WHAG, WLW, WMH, WSAI Clereland, KDPM, WHK, WJAX, WTAM	Dallas, WFAA, WRR Denison, KFPQ, KFQT Dublin, KFPL	Soffield, SFL Canada: Bellevue, CFCO Calgary, CFAC, CFCN, CHBC, CHCM, (KCX Edmonton, CFCK, CJCA Halifax, CHAC
KFBC San Francisco, KFPV, KFRC, KPO, KUO San Jose, KQW San Luis Obispo, KFBE Santa Ana, KFAW Santa Barbara, KFHJ Santa Barbara, KFHJ Santa Barbara, KFHJ	Iowa City, KFQP, WHAA Lamoni, KFFV Marengo, KFOL Marshalltown KFJB	Columbia, WAAN Fayette, KFQK Independence, KFIX	Columbus, WBAV, WCAH, WEAO, WMAN, WPAL Dayton, AW5, WABD, WDBS Crastillo, WDD	El Paso, WDAH Fort Worth, KFJZ, KFQB, WBAP	Hamilton, CHCS, CKOC Iroquois Falls, CFCH Kingston, CFRC
San Luis Obispo, KFBE Santa Ana, KFAW Santa Barbara, KFHJ Santa Rosa, KFNV	Ottumwa, KFJL Shenandoah, KFNF Sioux City, KFMR, WEAU	Independence, KFIX Jefferson City, KFPN, WOS Joplin, WHAH Kansas City, WDAF, WHB, WOQ	Hamilton, WEBO, WRK Lima, WOAC Newark, WBBA	Gaveston, KFLX, KFOQ, WIAC Gavenville, KFPM Houston, KFCV, WCAK, WEAY, WEV, WSAV	London, CFCW, CJGC Mont-Joli, CJCM Montreal, CFCF, CFUC, CHYC, CKAC
Santa Baloata, KFNV Santa Rosa, KFNV Stanford Univ., KFCH Stockton, KJQ, KWG Taft, KFQC Whittier, KFOC	Waterloo, WRAN Kansas: Anthony, WBL Belolt, WPAR	WOQ Moberly, KFFP, KFOJ St. Louis, KFEZ, KFQA, KSD, WCK, WEB, WEW, WMAY, WRAQ	WTAM Columbus, WEAV, WCAH, WEAO, WMAN, WPAL Dayton, AWS, WABD, WDBS Granville, WJD Hamilton, WEBO, WRK Lima, WOAC Newark, WBBA Pomeroy, WSAZ Sandusky, WABH, WQAF Springfeld, WNAP Toledo, WABR, WTAL Wooster, WABW Yellow Springs, WRAV Youngstown, WDBF Dklahoma:	WBAP Gaveston, KFLX, KFOQ, WIAC greenville, KFPM Houston, KFCV, WCAK, WEAY, WEV, WSAV Orange, KFGX San Antonio, WCAR, WOAI San Benito, KFLU Tyler, WOAF Waco, WJAD Wichite Feuls, WKAF	New Westminster, CFXC
Whittier, KFOC Colorado: Noulder, KFAJ Colorado Springs, KFKZ, KFQE Denver, AA3, KFAF, KFDL, KFFL, KFLE, KFPO, KLZ Greeley, KFKA Gunnison, KFHA Manitou, KFQS Trinidad, KFBS Connecticut:	Beloit, WPAR Manhattan, WTG Milford, KFKB Russell, KFQO Topeka, WJAQ, WPAM Wlchita, KFOT, WEAH	Montana ·	Wooster, WABK, WIAL Wooster, WABW Yellow Springs, WRAV Youngstown, WDBF	Tyler, WOAF Waco, WJAD Wichita Falls, WKAF Utah:	Olds, CJCX Ottawa, OA, CKCO, CNRO Quebec, CFCJ, CHCD, CKCI Begina CKCK
Denver, AA3, KFAF, KFDL, KFEL, KFLE, KFPO, KLZ Greeley, KFKA	Topeka, WJAQ, WPAM Wichita, KFOT, WEAH Kentucky:	Butte, KFKV, KFLA Harre, KFBB Helena, KFNY, KFSY Missoula, KFLW	Youngstown, WDEF Dklahoma: Bristow, KFJK Chickasha, KFGD Juskogee, KFQL Norman, WNAD Oklahoma City, KFJF, KFQJ, KFQR, WKY Okmulgee, WPAC Tulisa, WGAF, WLAL Dregen,	Wienitä Fails, WKAF Utah: Ogden, KFCP Salt Lake City, KDYL, KFPT, KF00, KFPH Vermont: Springfield, WQAE Virginia Fortrees Monroe WNAW	Olds, CICX Ottawa, OA, CKCO, CNRO Quebee, CFCJ, CHCD, CKCI Regina, CKCK St. John, CJCI Sadbury, CFCR Toronto, CFCA, CHCB, CHNC, CJCD, CJCN, CJSC, CKCE Vancouver, CFCQ, CFYC, CHCL, CJCE, CKCD Victoria, CFCL, CHCE Winnipeg, CKY Cuba:
Gunnison, KFHA Manitou, KFQS Trinidad, KFBS	Kentucky: Louisville, WHAS, WLAP Louisiana: Alexandria, KFFY	Nebraska: Belden, KFQY	Muskogee, KFQL Norman, WNAD Oklahoma City, KFJF, KFQJ, KFOB WKY	Vermont: Springfield, WQAE Virginia Fortress Monroe WNAW	Toronto, CFCA, CHCB, CHNC, CJCD, CJCN, CJSC, CKCE Vancouver, CFCQ, CFYC, CHCL,
New Haven, WPAJ Storrs, WABL	Louisiana: Alexandria, KFFY Baton Rouge, KFGC Franklinton, KFLD Jennings, WCBJ	Nebraska: Belden, KFQY David City, KFQR Fremont, WOAE Hastings, KFKX Lincoin, WFAY, WJAB, WMAH Norfolk, WJAG Oak, KFEQ Omaha, KFCZ, KFOX, KFQY, W A W, WIAK, WNAL, WOAW Tecumseh, WTAU	Okmulgee, WPAC Tulsa, WGAF, WLAL Dregon:	Virginia Fortress Monroe, WNAW Norfolk, WBBW, WTAR Radio, NAA Richmond, WBBL Roanoke, WDBJ Washington: Bellivetone KDZP	Victorla, CFCL, CHCE Winnipeg, CKY Cuba:
Wilmington, WHAV, WOAT District of Columbia: Washington, WABE, WCAP, WDM, WIL, WRC Elorida:	New Orleans, WAAB, WAAC WABZ, WCAG, WCBE, WEBP, WTAF, WWL Sbreveport, KFDX, WGAQ	WMAH Norfolk, WJAG Oak, KFEQ	Arlington, KFGL Astoria, KFJI Corvallis, KFDJ Used Bing KOD	Roanoke, WDBJ Washington: Bellingham, KDZR	Caibarien, 6EV Cienfuegos, 6AZ, 6BY, 6CX, 6DW
WDM, WIL, WRC Florida: Miami, WQAM Pensacola. WGAN	Maines	WAAW, WIAK, WNAL, WOAW, WIAK, WNAL, Tecumseh, WTAU University Place, WCAJ	Dregon: Arlington, KFGL Astoria, KFJI Corvallis, KFDJ Hood River, KOP Marshfield, KFOY Medford, KFAY Pendleton, KFFE Portland, KDYQ, KFEC, KF1F, KFQN, KGG, KGW	Washington: Bellingham, KDZR / Everett, KFBL Lacey, KGY Neah Bay, KFHH North Bend, KFQW Olympia, KFPP Pullman, KFAE Seattle, KFHR, KFJC, KFOA, KFPB, KFQX, KHQ, KJR, KTW	Camaguey, 7AZ, 7BY Colon, 5EV Elia, 7SR Hayana, PWX, 2AB, 2BX, 2BY,
Florida: Miani, WQAM Pensacola, WGAN St. Petersburg, WCBK, WDBI Tampa, WDAE West Palm Beach, WBBJ Winter Park, WDBO	Bangor, WABI, WDBN Houlton, WCRL Portland, WTAJ Skowhegan, WDBU Maryland	Nevada: Sparks, KFFR	Portland, KDYQ, KFEC, KF1F, KFQN, KGG, KGW Pennsylvania:	Olympia, KFPP Pullman, KFAE Seattle, KFHR, KFJC, KFOA,	2CX, 2DW, 2HC, 2HS, 2JQ, 2KD, 2KP, 2LC, 2MG, 2OK, 2OL, 2TW, 2WW, 2XD
Winter Park, WDBO Georgia: Atlanta, WBBF, WSB Macon, WCBW, WMAZ	Maryland: Baltimore, WCAO, WCBM, WEAR Salisbury, WEBI	New Hampshire:	Allentown, WCBA Altoona, WFBG, WGAW Arnold, WCBU Buck Hill Falls WCBV	KFPB, KFQA, KHQ, KJR, KTW Spokane, KFIO, KFPY Tacoma, KFBG, KGB, KMO	Elia, TSR Havana, PWN, 2AB, 2BX, 2BY, 2CX, 2DW, 2HC, 2BS, 2JQ, 2CD, 2CP, 2LC, 2MG, 2OK, 2OL, 2TW, 2WW, 2XD Santiago, 3AZ, 8BY, 8DW, 8EV, 8FU, 8GT Tuinucu, 6KW, 6XJ Czeche Slovakia: Prague, KBELY Einland;
Kellogg, KFEY Wallace, KFOD	Salisoury, WEB1 Massachusetts: Dartmouth, WMAF Fall River, WSAR, WTAB Lowell, WQAS Mattapolsett, WBBG Mediord Hillside, WGI New Bedford, WDAU Springheld, WBZ Taunton, WDBB Worcester, WCBT, WDAS, WDBH	Victuality, WKAV New Jersey: Atlantic City, WHAR Camden, WABU, WFB1 Gloucèster City, WRAX Lambertville, WTAZ Newark, WAAM, WBS, WCBX, WOR New Brunswick, WEBA	Arton, AGO, ROW Pensylvania: Allconaw, WFBG, WGAW Arnold, WCBU Buck Hil Falls, WCBY Butler, WBB East Pittsburgh, KDKA Erie, WOAY Gurge City, WSAI	KTW Spokane, KF10, KFPY Tacoma, KFBG, KGB, KMO Walla KFCF Yakima, KF1Q West Virgina: Charkeston, WPAZ Clarkestorg, WHAK Martinsburg, WDBD Wicconcie	Tammerfors, 3NB
	Fall River, WSAR, WTAB Lowell, WQAS Mattapoisett, WBBG Medford Hillside, WGI	Gioucester City, WRAX Lambertville, WTAZ Newark, WAAM, WBS, WCBX, WOR	Erie, WOAV Grore City, WSAJ Harrisburg, WABB, WBAK Haverford, WABQ Johnstown, WBBV, WTAC Lancaster, WDBC, WGAL McKeesport, WIK Parkersburg, WQAA Philadelphia: WABY, WBBT, WCAU, WDAR, WFI, WGL,	Clarksburg, WHAK Martinsburg, WDBD	France: Lyons, YN Paris, CW, ESP, FL, FPTT
Cambridge, WTAP Cambridge, WCAZ Chicago, KYW, WAAF, WDBY, WEISH, WGN, WJAZ, WLS, WMAQ, WQJ, WTL Chicago Heights, WCBZ Decatur, WBAO	New Bedford, WDAU Springfield, WBZ Taunton, WDBB	New Brunswick, WEBA North Plainfield, WEAM Paterson, WBAN Salem, WDBQ Trenton, WMAL, WOAX	Lancaster, WDBC, WGAL McKeesport, WIK Parkersburg, WQAA	Wisconsin: Fond du Lac, KFIZ La Crosse, WABN Madison, WHA Milwaukee, WCAY, WHAD, WSOE	Mexico City, CYB, CYL, CYX Monterey, CYO Switzerland:
Chicago Heights, WCBZ Decatur, WBAO	Worcester, WCBT, WDAS, WDBH	Salem, WDBQ Trenton, WMAL, WOAX	Philadelphia: WABY, WBBT, WCAU, WDAR, WFI, WGL,	Milwaukee, WCAY, WHAD, WSOE	Geneva, HB1 Lausanne, HB2

2B7, Havana, Cuba. 260 meters. 200 watts. Frederick
2WW, Havana, Cuba. 210 meters. 50 watts. Amadeo Saenz de Calahorra.
2CX, Havana, Cuba. 320 meters. 20 watts. Frederick
2XD, Havana, Cuba. 345 meters. 50 watts. Dr. Ed-uardo Sanchez.

### PART IV

(Continued from last week) Manhattan, Kan. 273 meters, 50 watts. Kan. te Agri. College. Daily, 9:55 am, 4 pm, weather.

(ale Agri, Conec, Data, entral, entral, L. Chicago, Ill. 268 meters. 10 watts, H. G. Ial Co. Daily ex Sun, Mon, 10-12 uildnight, music, nes, Sat, 12-1 pm, French lessons. Central, AD, Philudelphia, Pa. 300 meters. 100 watts, right & Wright, Inc. Mon, 8 pm. Thurs, 8:30 pm. Safern.

2DW1 Zayas

2FC,

2HS,

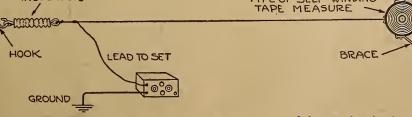
right & Wright, Inc. Mon, 8 pm. Thurs, 8:30 pm. astern.
I. Dearhorn, Mich. 273 meters. 250 watts. Ford olor Co. Wed. 8:10 pm, music, lectures. Eastern.
I. Detroit, Mich. 517 meters. 500 watts. The De-oit News. Daily ex Sun, 3:8:30 am, setting up ex-rcises; 9:30:9:43, household hints; 9:45-10:25, health liks; 10:25:10:30, weather; 11:55-12, time; 12:05-2:45 pm, music; 3:30:4:50, music; 3:50-4:15, mar-tes; 5:-6; sports. April 22, and every other week; :30:10 pm, concert. Sat. 7:8:30 pm, concert. Thurs, -12 pm, "midnight special"; Sun, Fill in weeks, :8:30 pm, concert; Sun, 11 am, 7:30 pm, church rrices; 2:-4 pm, or 4:6, concert. Eastern.
I. New Orleans, La. 280 meters. 5 watts. Loy-a Univ.

### Soldered Connections Make Good Reception

When building a receiver be certain to solder all connections, as corrosion will eventually make the connections poor and cause noises in your receiver. Do not use acid flux, but purchase resin core solder. A small quantity of solder will go a long way when used properly. To make a good connection be certain that both contacts are well heated and hold these connections together with a pair of pliers after removing the soldering iron for a period of approximately 30 sec-onds. onds

Simplified Wiring To many fans who are just building their first set the most difficult problem encountered in the construction is the determination of just which wires are connected and which are still to be con-nected. To eliminate this uncertainty as each wire is laid in the set the cor-responding line in the diagram should be crossed out with a colored pencil line. GROUND GROUND GROUND Control of the aerial is attached to the interior wheel, while the other protrudes out of an opening, to be pulled out and let in at will. A small hook at the end where the the device is a strong spring on the same principle of the tape measure. One end of the aerial is attached to the interior wheel, while the other protrudes out of an opening, to be pulled out and let in at will. A small hook at the end where the the device is a strong spring on the same principle of the aerial is attached to the interior wheel, while the other protrudes out of an opening, to be pulled out and let in at will. A small hook at the end where the the device is a strong spring on the same principle of the aerial is attached to the interior wheel, while the other protrudes out of an opening, to be pulled out and let in at will. A small hook at the end where the the device is a strong spring on the same principle of the aerial is attached to the interior of the aerial is attached to the interior the device is a strong spring on the same principle of the aerial is attached to the interior the device is a strong spring on the same the interior of the device is a strong spring on the same the device is a strong spring on the same the interior of the device is a strong spring on the same the interior of the device is a strong spring on the same the interior of the device is a strong spring on the same the interior of the device is a strong spring on the same the interior of the interior of the device is a strong spring on the same the interior of the interior of the interior of the interior of

 2 ZD, Havana, Cuba. 345 meters. 50 watts. Dr. Eduardo Sanchez.
 2 ZY, Manchester, Eng. 375 meters. British Broadcasting Co. Daily er Sun, 2:30 pm. B. S. T.
 3 NB, Tammerfors. Finland. 300 meters 20 watts.
 i Nuoren Voiman Lilton Radioyhdistys.
 5 EV, Colon, Cuba. 360 meters. 10 watts. Leopold V. Figueroa. Sun, 9-11 pm. Eastern.
 5 T, Birmingham, Eng. 475 meters. British Broadcasting Co.
 5 ND, Newcastie, Eng. 400 meters. British Broadcasting Co.
 5 PY, Plymouth, Eng. 325 meters. 200 watts. British Broadcasting Co. Announcer, Henry Hudson. Daily er Sun, 3:30-4:30 pm, orchestra; 5:30-6:30, children's hour; 7-11:30, music. Sun, 3-5:30 pm; 8-10:30.
 5 SC, Giasgow, Scot. 420 meters. British Broadcasting Co. Daily ex Sun, 8:11, concert.
 5 WA, Cradiff, Wales. 353 meters. Dritish Broadcasting Co.
 6 AZ, Cienfuegos, Cuba. 200 meters 10 watts. Valentin. WWL, New Orleans, La. 280 meters. 5 watts. Loy-ola Univ.
Daza.
Colling Colling, Colling Colling, Colling Colling, Colling Colling, Collin Tape Measure Aerial A new inside aerial is one on the order of a self-winding tape measure or clothes-line. Any time one wants to "listen in" all that is necessary is to pull out the end of the collapsible aerial to which is at-WOOD INSULATOR TYPE OF SELF WINDING



Havana, Cuba. 300 meters. 100 watts. Pedro

cyas. C, Sydney, Australia. 1,100 meters. 5,000 watts. Tarmer & Co., Ltd. Daily ex Sun, 12:55 am, chimes; 2:53, time; 1 pm, markets; 3:30, chimes; 3:33, music; 2:45, weather, stocks, news; 6:30, chimes; 6:33, chil-ren's hour; 7, markets; 7:35, chimes; 8, music; 9, rehestra; 10, national anthem.

Havana, Cuba. 180 meters. 20 watts. Julio 210, Havana, Cuba. 150 meters. 10 watts. Paul Perez leon. , Havana, Cuba. 350 meters. 100 watts. E. Sanchez Fuentes, , Havana, Cuba. 200 meters. 10 watts. Alvaro

cherchan, 10, nacional antiem. 2HC, Havana, Cuba. 275 meters. 500 watts. Heraldo de Cuba.

WOOD

### Radio Circuits Book Useful

Ravelo.
8DW, Santiago, Cuba. 275 meters. 20 watts. Alberto
8DW, Santiago, Cuba. 275 meters. 15 watts. Pedro C. Andux. Dally, 4:30-8:30 pm, 10:30-12.
8EV, Santiago, Cuba. 180 meters. 75 watts. Eduardo Mateos.
8FU, Santiago, Cuba. 225 meters. 15 watts. Andres Vinent.
8GT, Santiago, Cuba. 260 meters. 50 watts. Juan F. Chibas.

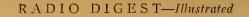
Terry.
6EV, Cabarien, Cuba. 225 meters. 20 watts. Maria Josefa Alvares. Daily, 10:30 pm.
6FL, Sheffield, Eng. 303 meters. British Broadcasting Co. Daily ex Sun, 3:30-4:30 pm, 5:30-11. Sun, 3-5 pm; 8:30-10.30. B. S. T.
6KW, Tuinucu, Cuba. 332 meters. 100 watts. Frank H. Jones. Slogan, "It You Hear the Koo of the Cuckoo You Are in Tune Wilt Tuinucu." Mon, Tues, Fri, Sun, 10 pm, music. Wed, Thurs, Sat, 8 pm, music. Sat, 12 midnight, dance music. Eastern.
6XJ, Tuinucu, Cuba. 275 meters. 100 watts. Frank H. Jones.

7AZ, Camaguey, Cuha. 225 meters. 10 watts. Pedro Nogueras.

Nogueras. 78 Y, Camaguey, Cuba. 350 meters. 500 watts. Yeuro Rionda. 78 R, Elia, Cuba. 309 meters. 250 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 Brooks. 8BY, Santiago, Cuba. 200 meters. 20 watts. Alberto Ravelo.

Radio Circuits Book Useful Neutrodyne sets may not give good re-sults on the first placing of tubes. Try switching the tubes around until you get the best results. One bad tube in a neu-trodyne set will throw it all out of whack. If you are a newcomer in the game buy a good beginner's book on Radio circuits and the fundamentals of the game. Your re-ceiver is a wonderful piece of apparatus, but don't "just turn the dials." Under-stand what happens when you turn the dials. You will like the game better and get more pleasure if you know what you are doing and not only improve the qual-ity of your reception, but also the range of your set. The best distance records are not obtained on the most sensitive re-ceivers. A three- tube set in the hands of a person with a thorough knowledge of Radio will get more reception than an eleven-tube set in the hands of a person that does not understand its operation.

Phone cords have a habit of becoming kinked after being in use for a short time. These kinks steadily grow worse as time passes unless they are straightened out.



AND here we have her—the one and only woman Al Jolson. And to all appearances the only real competitor he has. She's Miss Rosetta Duncan of "Topsy and Eva" fame. The other half of the black and white combination is her equally famous sister, Li'l Eva. Or as she is more commonly known, Miss Vivian Duncan. They are probably the most popular honest-to-goodness sisters in musical comedy today. Not only are they known to thousands of theater goers but to more thousands of Radiophans who listen eagerly for their semi-weekly songs and dialogue from Station KYW at chicago where they have been one of the regular features during their year's stay there. Their songs are known by heart to every listener in within hundreds of miles of Chicago. So strenuous did the business of dashing from the theater to the studio become that they had a studio of their own installed just outside the stage doors. Themselves ardent Radiophans, they have expressed a few of their ideas and opinions of Radio in this issue. They tell the amusing story of their first time before the "mike" at Ossining, New York, when Radiocasting was in its swaddling clothes.

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