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MARCH 31, 1924

# Perfect Control Of Regeneration Is Permitted In New Sets That Embrace Superdyne Features

## Cupid Is Riding On Ether Waves For Radio Prize Winner

Ten Marriage Proposals Received By Girl Who Won Beauty Contest at WLW.

Mathilda Brooks, winner of the recent radio beauty contest conducted from Station WLW, is in a position where she can marry a broker in Maine, a merchant in Missouri, a traveling salesman in Chicago, a business man in Louisville, a doctor in Indiana, and five others in other places.

They want to come to see her. They wrote once, they wrote twice and it's probable they'll write again. They sent their pictures and ask for hers.

Even the man from Maine wants to come to see her. He says if she will only say "yes," he'll take the next train to Cincinnati.

A month ago Miss Brooks spoke over the radio from the Crosley station.

Then Judge Joseph Woeste described her to the thousands listening in. Telegrams sent back to the radio station by the radio listeners counted for votes, and of the four contestants Miss Brooks received the most.

All of the men who have written Miss Brooks said they heard her voice over the radio and became immediately smitten. It was a case of love at first sound.

Then Miss Brooks's photograph appeared in various newspapers and magazines, because she was the winner of the first radio beauty contest ever held. Some of those who wrote said they would like her photograph as a remembrance.

"Well, now which of the ten are you going to marry?" she was asked.

She laughed. "None of them," she said. "It's great fun. As Webster says, 'I'm having the thrill of a lifetime'."

In addition to the ten letters Miss Brooks received from her admirers, she was flooded with letters and telegrams from friends and relatives, congratulating her. She is employed at the Procter & Gamble company and lives at 210 Magnolia street.

## Hoover's Views On Broadcasting

Herbert C. Hoover, secretary of Commerce, has issued the following statement:

"I am in receipt of many requests for my views as to issues now before the Courts bearing on the control of radio broadcasting. While it is impossible for me to express any opinion on particular issues that are before the Courts or the Federal Trade Commission, I can state emphatically that it would be most unfortunate for the people of this country to whom broadcasting has become an important incident of life if its control should come into the hands of any single corporation, individual, or combination.

"It would be in principle the same as though the entire press of the country was so controlled. The effect would be identical whether this control arose under a patent monopoly or under any form of combination, and from the standpoint of the people's interest the question of whether or not the broadcasting is for profit is immaterial.

"In the licensing system put in force by this Department the life of broadcasting licenses is limited to three months so that no vested right can be obtained either in a wave length or a license. I believe it is safe to say irrespective of claims under patent rights on apparatus that broadcasting will not cease and neither will our public policy allow it to become monopolized."

## Sunday Night Symphony Concerts Are To Be Broadcast From WLW; Noted Artists Are To Participate

Radio audiences are greater on Sunday night, some people say, than at any other time during the week and for that reason especially fine programs are to be broadcast from the WLW studio of The Crosley Radio Corporation. These programs will begin at eight-fifteen, following the services at the First Presbyterian Church of Walnut Hills. The church services, under the direction of Rev. Frederick N. McMillan, will start at seven-thirty.

The special symphony program will be given under the auspices of The Welfare Association of the home office of The Western and Southern Life Insurance Company in Cincinnati. This program will be for the especial benefit of the shut-ins and those in remote districts who are unable to attend the concerts in the cities, but who have radio receiving sets. There will be special soloists engaged for some of the programs.

The Western and Southern orchestra will be directed by William Kopp, whose reputation of musicianship is world-wide, due to the

broadcasting of concerts at which he has officiated as leader. The personnel of the orchestra will be made up of musicians who are artists in their particular instrumental field and who will, in different concerts, contribute solos, duets and ensemble numbers. The program will be made up of works of the popular variety but not of the jazzy sort.

The soloist for the first program will be Dan Beddoe, Welsh tenor, who was soloist with the famous Cincinnati Symphony Orchestra. He will have Thomie Prewitt Williams as his accompanist. Miss Williams is one of the best accompanists in the musical world and her playing is known to thousands of radio listeners.

The regular Sunday program from the WLW studio will start at 9:30 in the morning with Sunday School Services by The Methodist Book Concern. At 11:00 a. m. the regular service of worship will be broadcast from The Presbyterian Church of the Covenant, with Rev. Frank Stevenson in charge of the service.

## Crosley Receivers Combine Regeneration And Radio Frequency

Super Six and Super XJ Sets Are Announced—Great Volume and Selectivity Are Given.

Many advantages are to be found in the two new Crosley receivers, the Super Six and the Super XJ. These new models are manufactured by The Crosley Radio Corporation under licenses covering the R. S. Miner patents (pending) and Armstrong regenerative patents and have been pronounced by leading authorities to be the most efficient of the latest radio developments, giving perfect control of regeneration. Practical tests have shown the circuit to give unusual volume and selectivity with a minimum number of vacuum tubes and short antenna.

These super receivers embrace the Superdyne features and consist of one stage of radio frequency amplification with a special control, enabling the operator to prevent oscillation of the first or radio frequency amplifier tube. This means that the first tube can be brought in resonance with the incoming signals, giving maximum efficiency which would be impossible without this control. A feed-back coil is used in a reverse direction to the grid of this tube. With the exception of the reversing of the coupling, it is the same principle as employed in the Armstrong regenerative circuit. In the regenerative circuit, this feed-back coil is so coupled as to prevent oscillation.

In the Crosley Super models, the antenna is tuned by means of the book-type variable condenser and varind or vario-coupler. This circuit impresses the energy picked up by the antenna on to the first vacuum tube, where the weak signals are amplified at radio-frequency. The amplified signals are now fed into the second or detector tube, where the radio-frequency current is rectified and changed into audible frequency, i. e., one that is possible to be heard. This is

(Continued on Page 6)

# Crosley WLW Programs For Week of Mar. 30th

## SUNDAY

### RADIO PROGRAM WLW

The Crosley Radio Corporation  
Cincinnati, Ohio  
March 30th. Central Standard Time.  
309 Meters.

9:30 A. M.—  
School conducted by the Editorial Staff of Sunday School Publications of the Methodist Book Concern.  
11:00 A. M.—  
Services of the Church of the Covenant, Dr. Frank Stevenson, Minister.  
7:30 P. M.—Church Services.  
8:15 P. M.—  
Concert by the Western and Southern Orchestra, directed by William Kopp (Under the auspices of the Welfare Association of the Western and Southern Life Insurance Co.)

## MONDAY

### RADIO PROGRAM WLW

The Crosley Radio Corporation  
Cincinnati, Ohio  
March 31st. Central Standard Time.  
309 Meters.

10:30 A. M.—Weather Forecast and Business Reports.  
1:30 P. M.—Business Reports.  
3:00 P. M.—Market Reports.  
4:00 P. M.—Babson Reports.  
8:00 P. M.—  
Special Concert from the College of Music.  
Ladies Quartette:  
Florence Teal Watts, Carry Schaefer, Nora Beck Thuman and Beatrix Williams Chipman.  
Violin Solos by Mr. John Eversman.  
Piano Solos and accompaniments by Miss Dorothy Stolzenbach and Mr. Clifford Lang.  
9:00 P. M.—  
Crosley Theatrical Review, followed by the Woody Meyers Cincinnati Orchestra.  
Ted Kennedy, Director and Violinist  
Ernest Meyer, Manager and Drums  
Wm. Dinkel, Piano  
Earl Vetter, Saxophone  
Robt. Seavers, Saxophone Tenor  
Rudolph Schneider, Trombone  
Cliff Yeager, Trumpet  
Wm. Rieth, Banjo  
Wm. Wilde, Bass Tuba and Violin  
playing: "My Sweetheart," "The End of the Rainbow," "The One I Love," "Somebody Stole My Gal," and others released by National Association of Broadcasters.  
Miss Rose Hoodin will sing several selections.  
George Webb and his popular Hawaiian Entertainers.  
(Baldwin Piano.)

## TUESDAY

### RADIO PROGRAM WLW

The Crosley Radio Corporation  
Cincinnati, Ohio  
April 1st. Central Standard Time.  
309 Meters.

10:30 A. M.—Weather Forecast and Business Reports.

1:30 P. M.—Business Reports.  
3:00 P. M.—Market Reports.  
4:00 P. M.—Topics of Interest to Women. Times-Star News.

10:00 P. M.—  
F. C. Schmidt, Secretary of the Mahogany Association, "The Romance of Mahogany."  
St. Aloysius Male Chorus under the direction of S. V. Eifert.  
(a) Old Black Joe  
(b) In a Garden  
(c) A Little Close Harmony  
Duets: Misses Irma and Myrtle Suhre

10:30 P. M.—  
HALF HOUR OF APRIL FOOL-  
(ishness)  
Conducted by Alvin Plough

11:00 P. M.—  
Entertainment by the Wadsworth Watch-case Dance Orchestra under the direction of Elbert L. Kellum.  
(Baldwin Piano.)

## WEDNESDAY

### RADIO PROGRAM WLW

The Crosley Radio Corporation  
Cincinnati, Ohio  
April 2nd. Central Standard Time.  
309 Meters.

10:30 A. M.—Weather Forecast and Business Reports.

1:30 P. M.—Business Reports.  
3:30 P. M.—Market Reports.  
4:00 P. M.—Special Program for "Shut Ins" by Wurlitzer Concert Company.  
7:50 P. M.—F. C. Schmidt, Secretary of Mahogany Association, "The Romance of Mahogany."

8:00 P. M.—  
The Geringer Band and Orchestra of Miami town, Ohio.

March: Men of Ohio .....Fillmore  
Overture: Northwestern Carnival ... Southwell

Saxophone Sextette:  
London Bridges Falling Down .....Robertson

Carl Geringer  
Robert Willsey  
Earl Geringer  
Dranville Buell  
Victor Geringer  
Russel Knose

Geringer Band:  
Passing Fancy .....Jewell  
American Cadet .....Hall  
SINFONIAN FRATERNITY, E t a Chapter of the College of Music presents a Concert of American Compositions.

9:00 P. M.—  
Choir Program of the Beecher Club, of the First Presbyterian Church, Lawrenceburg, Ind.

Introduction:  
"O Day of Rest and Gladness .....J. W. Lerman  
"As the Mountains Are Round about Jerusalem" .....J. B. Herbert  
"Brightest and Best of the Sons of the Morning" ....G. W. Davies (soprano solo)  
"Saw You Never in the Twilight" (alto solo) .....G. W. Davies  
"Great is the Lord" ..Clara H. Scott  
"Nearer My God To Thee" .....J. R. Sweney  
"In Heavenly Love Abiding" .....Lee G. Kratz  
"Lift Up Your Heads" ..E. K. Heyser  
"Gloria in Excelsis" ....J. B. Herbert  
"Resurrection" .....Floyd St. Clair

9:30 P. M.—  
Geringer's Band.

Billy Sunday's Favorite Song .....Fillmore

Cornet Solo: The Rosary .....Nevin  
Glenn Flowers

Cake Walk: Our Favorite Rag..Huff  
Miami town Orchestra

Two Step: Glenco .....Huff  
Miami town Orchestra

Saxophone Solo: Love's Old Sweet Song .....Malloy  
Dranville Buell

FINALE: March—Poet and Peasant and Light Cavalry (arranged by Fillmore)  
Geringer's Band.  
(Baldwin Piano.)

## THURSDAY

### RADIO PROGRAM WLW

The Crosley Radio Corporation  
Cincinnati, Ohio  
April 3rd. Central Standard Time.  
309 Meters.

10:30 A. M.—Weather Forecast and Business Reports.

1:30 P. M.—Business Reports.  
3:00 P. M.—Market Reports.  
4:00 P. M.—Piano Solos by Miss Adelaide Apfel. Talk by the Representative of the League of Women Voters.

10:00 P. M.—  
Concert from the Cincinnati Conservatory of Music.

Song:  
Moonlight .....Schumann  
Miss Leone Granstaff  
Miss Alice Huebner, accompanist

Violin Solos:  
Canzonette .....Tschaikowsky  
Romanza Andalusia ...Sarasate  
Mr. Homer Fair  
Mr. Emerson Hoffman, accompanist

Piano Solo .....Selected  
Miss Mildred McLachlan

Songs:  
Thou Art Lovely as a Flower .....Schumann  
Cry of Rachel ...Mary T. Salter  
Miss Mary Alice Cheney  
Miss Anna Belle Whiting, accompanist

Cello Solo:  
Salut d'amour .....Elgar  
Concerto (2nd Movement) .....Golderman  
Miss Johanna Danziger  
Miss Anna Belle Whiting, accompanist

Songs:  
Aria—St me chiamano Mimi (La Boheme) .....Puccini  
On the Road ..Augusta Holmes  
Miss Leone Granstaff  
Miss Alice Huebner, accompanist

Violin Solos:  
Ave Maria .....Schubert  
Capriccio .....Chaminade  
Mr. Homer Fair  
Mr. Emerson Hoffmann, accompanist

Piano Solo .....Selected  
Miss Mildred McLachlan

Songs:  
My Heart at Thy Sweet Voice .....Saint-Saens  
Miss Mary Alice Cheney  
Miss Anna Belle Whiting, accompanist

Popular Dance Program by DOHERTY'S MELODY BOYS  
F. A. Pendergast, Piano  
Ridge Bludin, Trumpet  
Leo Bludin, Saxophone  
Bake Holthaus, Drums  
Harry Kennedy, Trombone

J. L. Doherty, Banjo and Manager playing: "My Sweetheart," "Memory's Garden," "At the End of the Rainbow," "Forget Me Not," and others released by the National Association of Broadcasters.  
Others Features to be Announced.

## FRIDAY

### RADIO PROGRAM WLW

The Crosley Radio Corporation  
Cincinnati, Ohio  
April 4th. Central Standard Time.  
309 Meters.

10:30 A. M.—Weather Forecast and Business Reports.

1:30 P. M.—Market Reports.  
3:00 P. M.—Stock Quotations.  
4:00 P. M.—Special Program.

## SATURDAY

### RADIO PROGRAM WLW

The Crosley Radio Corporation  
Cincinnati, Ohio  
April 5th. Central Standard Time.  
309 Meters.

10:30 A. M.—Weather Forecast and Business Reports.

1:30 P. M.—Market Reports.

## DAILY PROGRAM

10:30 Weather Forecast.  
A. M. Fifth-Third National Bank Bond Department Report; financial letter, call money rates on Cincinnati and New York, Liberty Bond opening quotations, Foreign Exchange opening, Chicago opening grain quotations, Cincinnati and Chicago hog market reports.  
Westheimer and Company, opening quotations of New York Stock Exchange.  
Weather Forecast repeated.

P. M.  
1:30 Fifth-Third National Bank Bond Department Report; financial letter, call money rates, on Cincinnati and New York, Liberty Bond, Foreign Exchange and Chicago grain noon quotations. Also closing Chicago cash grain quotations. Complete Indianapolis and Chicago live stock report; Cincinnati cattle market report.  
Westheimer and Company, closing quotations Cincinnati Stock Exchange, giving the bid, offer and sale.

3:00 Henry W. Brown & Company, Cincinnati Cash Grain Market closing quotations with market conditions. Closing quotations of the Chicago Grain Market.  
Westheimer and Company, closing quotations at New York Stock Exchange.  
Bureau of Markets, United States Department of Agriculture, Chicago and New York Butter and Egg Market reports.

Special Half Hour Program and News at 4:00 each afternoon, except Saturday and Sunday, as announced by Radio.  
Sunday School Services at 9:30 and Regular Morning Services of the Church of the Covenant, beginning at 11:00.

Special Program at 8:00 P. M.

## CONDENSED TIME TABLE OF WLW BROADCASTING STATION OF THE CROSLY RADIO CORPORATION

970 KILOCYCLES, 309 METERS CENTRAL STANDARD TIME CINCINNATI, OHIO

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
9:30 A. M.	10:30 A. M.	10:30 A. M.	10:30 A. M.	10:30 A. M.	10:30 A. M.	10:30 A. M.
11:00 A. M.	1:30 P. M.	1:30 P. M.	1:30 P. M.	1:30 P. M.	1:30 P. M.	1:30 P. M.
	3:00 P. M.	3:00 P. M.	3:00 P. M.	3:00 P. M.	3:00 P. M.	
	4:00 P. M.	4:00 P. M.	4:00 P. M.	4:00 P. M.	4:00 P. M.	
	8 P. M. to 10 P. M.	10 P. M. to 12 P. M.	8 P. M. to 10 P. M.	10 P. M. to 12 P. M.		

# Crosley Radio Weekly

Published by The Crosley Radio Corporation, formerly The Precision Equipment Company and Crosley Manufacturing Company, Manufacturers of Radio Apparatus Colerain and Alfred Streets, Cincinnati, Ohio  
 Telephone, West 6370  
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 Robert F. Stayman  
 Editor  
 Alvin R. Plough  
 Associate Editor

## The Dramatic Triumvirate

Radio plays are destined to take an important part in the great dramatic triumvirate with the legitimate stage and moving pictures. We have the stage, with all its shades of art, the direct appeal to the audience by word and gesture, bits of personal "business" that make the beholders feel the drama and be carried along with it, almost as a principal.

Then there is the movie, with its wealth of visualization, the almost limitless appeal to the eye. Here the producer must be sufficiently skillful to capture the eye of the beholder and through his sense of sight to reach his heart. The movies make up for what they lose in the sense of sound by extending and amplifying the senses of sight.

The radio must develop that sense of sound, to a high degree, for it to be a successful dramatic medium. New technique will be necessary, perhaps even a new school of acting, for it will be by composition of the play and by the voice that the "reader" will satisfy his widely scattered audience.

Professor Samuel J. Hume, director of the Greek Theater, University of California, has given a great amount of time and study to the radio play problem, and the following statement issued by him is most interesting:

"I believe that there is a chance for people with a love of the drama and a love of the radio to combine such aptitudes with a willingness to work hard upon a new form of dramatic art, really to do something original and valuable. Only let us hope that they do not make the mistake the motion picture people did—take plays that belong in an entirely different field and try to adapt them to the screen.

"The radio drama must go back to first principles. Here's what you will have: a company of actors reading the play from the broadcasting studio; thousands of people listening in by means of ear-sets or loud-speakers, with nothing but their imaginations to draw upon as a background for the play, no scenery, nothing to make them feel the sway of the drama, except the voices coming to them from out of the ether.

"A difficult problem for the radio

actor! But hark back to the time of the early English drama, to the period when Shakespeare's plays were first being staged during the lifetime of the author. There were no stage sets then, no make-up, no way for the audience to feel that a living drama was being enacted before their eyes except through the skill of the playwright, the timber and feeling put into the voice of the actor, and such gestures as were known.

"There is no reason why the radio actor cannot go back farther than that, if necessary. Expression can be put into the voice and skill can be used in the building of the dialogue which will put the play over. 'Cohen on the Telephone,' a famous phonograph record, the best seller ever recorded, depends upon mere words and mere expression to delight. Perhaps some of the preliminary education for the radio drama has been cared for by the phonograph. Who is unable to visualize Cohen raising Cain about that shutter, and picture the whole proceeding, shutterless window and everything?

"Radio plays must be originated. Motion picture scenarios are constructed so that the picture will tell its story to the eye; the legitimate play depends upon personal contact with the audience by emotional feeling, sight and sound, and the playwright builds his drama with these advantages. The radio-wright, one might call him, has a more difficult task.

"There is no reason why he should not develop a following. A man or woman with a sufficient command of emotional language, of language in all its shades and phases, with the ability to make of his dialogue a picture in words, should do something valuable. Then the acting; it must be a rehearsal of ear, with the producer and his aides repeatedly 'listening in' as the piece is rehearsed until they can 'see' the drama through their ears, before it ever can be put on the air. Merely reading the drama will not put it over.

"It all depends upon those responsible for the play's getting on the air whether such a form of drama will be a success. The chief word of warning that I can voice is that the writer, the producer and the actor must all be sufficiently plastic to 'think' radio in preparing and reciting their play. No thought or consideration of the legitimate stage or of the movies, or of their repertoire, can be entertained, or the whole thing will be a 'bust!'"

## AMUSEMENT

"For beating your wife, I will fine you \$1.10," said the judge.

"I don't object to the dollar," said the prisoner, "but what is the 10 cents for?"

"That," said the judge, "is the Federal tax on amusements."

—Selected.

## Indiana Man Hears London, England, On One Tube Receiver

### Costa Rican Hears Pittsburg On Same Set—Ohioan Hears More Than 60 On Model 51.

Letters praising the operating qualities of the Crosley Model 51 and the Type V radio receivers are piling in from all states of the Union, each telling of the manner in which far-away broadcasting stations are being heard on these one and two tube sets.

The Type V is a one tube Armstrong regenerative receiver, selling for but \$16.00 and the Model 51 is a two tube set consisting of an Armstrong regenerative detector and one stage of audio frequency amplification.

One letter tells of hearing London, England, in Lawrenceburg, Ind., on a Type V. It follows:

"As I thought it would be of interest to you, I am advising you of the reception of Radiophone Station 2LO, London, England, on Friday, March 7. I picked them up at 7:55 p. m. and held them until 8:25 p. m. when they signed off. The signals were strong and clear. They were putting on a musical concert and the announcer said he was in hopes that American listeners were hearing him. The set I was using was a Crosley Type V, formerly known as the Ace Type V. I wish to state that in the past four years, during which time I have been interested in radio, I never have come in contact with a set that I thought was as efficient as the Type V.

"Very truly yours,  
 "George McAdams,  
 "328 Second street,  
 "Lawrenceburg, Ind."

The Melchoir, Armstrong, Dessau Company, New York exporters, recently sent the following letter to the editor of the Weekly:

"We are in receipt of a letter from one of our clients in San Jose, Costa Rico, informing us that

on a Type V, with a Crosley two stage amplifier, he had been able to receive regularly American broadcasting stations, especially KDKA and PWX, both of which come in exceptionally loud. The client's name is Jerome B. Clark."

Now if Mr. McAdams in Indiana, and Mr. Clark, in far-away Costa Rica, are hearing these distant stations, it is certain that every owner living in the States can hear all the powerful broadcasting stations in this country. And the Type V costs but \$16.00, exclusive of accessories.

Here is a letter from J. F. Leach, of Logan, Ohio, regarding the Model 51, which was attached to a sworn affidavit. The letter follows:

"Enclosed please find affidavit regarding the receiving efficiency of my Crosley Model 51. I have but \$45 invested in this set, which includes \$18.50 for the set itself, and I get the same results my friends do on sets costing from \$150.00 to \$200.00. My set is complete with the Brandes Loud Speaker. It truly is wonderful how The Crosley Radio Corporation can turn out a set of this nature at this low price."

His affidavit follows:  
 "The State of Ohio, Hocking County, ss.

"Before me, A. H. Brooks, a Notary Public, in and for said county, appeared J. F. Leach, who, being duly sworn, says that he owns a Crosley Radio Set, Model 51, with which he has heard sixty-five (65) broadcasting stations in the United States, one in Canada and one in Havana, Cuba, on a loud speaker. This set is operated on a storage battery with 100 feet of aerial at an elevation of 35 feet.

"I swear that this is a true and correct statement.

"Signed, J. F. Leach.

"Sworn to and subscribed before me this Seventh day of March, 1924.

"A. H. Brooks, Notary Public."

And another letter comes from Guthrie, Oklahoma, as follows:

"The Crosley Radio Corporation,  
 "Cincinnati, Ohio,

"Dear Sirs:

"Being your agents in Guthrie I am going to take the liberty of

(Continued on Page 6)

## SUBSCRIBE NOW!

Detailed information regarding the development of receiving and broadcasting, interesting news and feature stories and advance programs of W L W are to be found in the Crosley Radio Weekly. This is the must up-to-the-minute paper of its kind in the radio field, and should be in the home of every owner of a radio receiving set. Information contained in every issue is of the greatest value to you. The subscription price is but \$1.00 per year. Subscribe now.

Name . . . . .

Street and Number . . . . .

City and State . . . . .

Attach \$1.00 and mail this to the Crosley Radio Weekly, The Crosley Radio Corporation, Cincinnati, Ohio.

## Old "B" Batteries May Be Salvaged; Some Cells Good

**Thrifty Radio Fan Will Pick Out "Live" Cells Before Throwing Others Into Ash Barrel.**

A partly exhausted B battery may still contain some useful cells and a thrifty radio fan will attempt to salvage some of these before the others are thrown into the ash barrel. There are several uses for the good cells in every B battery, and these may be found by using a 1½-volt flashlight bulb across each separate battery. A good cell will show a fairly bright light, while an exhausted cell will not light the bulb at all.

First carefully break up the top covering of pitch composition, keeping this in an old cigar box, as it may be useful later.

Rip off the outside cardboard or tin covering and free the cells of dirt and sawdust. With a pair of wire cutters disconnect each cell from its neighbor and lay them side by side, after which they may be individually tested with the flashlight bulb.

The exhausted cells should be thrown out, while those with voltage can be soldered together again and may be used as an additional B battery. Each cell delivers about 1½ volts, and the combined voltage may be high enough to make a useful B battery. Very often only a cell or two go dead. These few dead units affect the whole B battery.

Individual cells may be used as C batteries, one or two, and sometimes three, in a series forming a useful grid bias. From the outer coating of zinc we get the negative terminal while the center pole of the cell gives the positive lead.

The cells should be in good condition and not have partly corroded spots or leaks here and there. Such a battery, if used, would set up noises within the receiving set.

If the cells are connected in a series of three they may be used to light the filament of a U. V. 199 for a length of time, while two sets of three series in parallel will light one of these tubes for a longer period.

Cells which are used as B batteries should be tested with the flashlight lamp. Dead cells should be taken out of the circuit or a jumper placed across the exhausted cell.

### GENEROUS BOY

Dear Editor—"After taking my best girl to dinner, theater, supper and taxi home, should I kiss her good-night?"

Answer—"No, you did enough for her."

## There Should Be No Summer Fear Powel Crosley, Jr., Tells Dealers; Aggressive Merchandising Is Urged

By POWEL CROSLY, Jr., Pres., Crosley Radio Corporation.

Summer again looms before us, and the question arises in the minds of many as to the effect it will have on the radio business in 1924. The only safe way to judge the future is by the past. We know the summer of 1922 played havoc with the radio business, but with the record of 1923 behind us, there should be no fear of the summer of 1924.

The improvement in conditions of all kinds last year over the preceding year naturally resulted in improved radio business. These same conditions are still prevailing, so there is every indication that we have but little to fear from the oncoming summer.

Static and absorption are the "bugaboos" of summer reception. Static, itself, becomes more noticeable in the summer, of course. There will be a few nights when static will seriously interfere with reception, but static, as a rule, is but slightly more severe in the summer than it is many nights during the winter.

Unquestionably, the receiving range is greatly decreased in the summer. On the average receiving set, the receiving range is probably reduced about one-half. Distance records become fewer. Range of stations of medium power, heard consistently during the winter over a range of one thousand miles, will be reduced to perhaps one-half that distance in the summer. This, it is said, is due to absorption. Night reception in summer is about the same as day reception in winter.

Now if broadcasting were confined to small stations of low power, as it was in 1922, there would be much to fear, but the power of various broadcasting stations constantly is being increased. While the distant station of low power may fade from the picture in the summer, there will still remain the distant stations of higher power for consistent reception in any part of the United States, almost any night, so that except during severe local static disturbances, the broadcast listener can count on receiving several stations consistently throughout the year, even though the number of stations that he can select from is diminished in the summer.

Nearby broadcasting stations are not seriously affected by either static or absorption. Some day there may be a device developed for the elimination of static, but it is not necessary for such a thing to eventuate, because increased power of the broadcasting stations results in the same desirable condition.

It is quite obvious that if the received signal were weaker than static, it would be blotted out, and it is equally obvious that if there is enough power between a given signal to overcome static at any given distance, static will fade away into the background. So you see the problem of static is being solved by the increased power of broadcasting stations.

The most serious difficulty of radio in the summer is the competition of out-of-door life. Unquestionably people do not stay at home as much in the summer as they do in the winter, so radio has more competition as an amusement in the summer than in winter. But surely the great American public stays at home several nights out of each week, even in the summer time, so there is still the need for the home recreation provided by radio, although to a lesser degree, even in the summer.

Now there is just one answer to this problem, and that is merchandising methods. Radio in the summer time requires more merchandising effort. The dealer can and does—to too great an extent—wait for the buying public to come to him in the winter time. He waits for the prospective radio purchaser to sell himself the idea of buying a radio set.

It is obvious that with more competition from other forms of amusement, there will be less spontaneous demand for radio in the summer than there is in winter. This, however can be overcome by intensive sales efforts being made on the part of the radio dealer to solicit radio sales rather than for him to wait for them to come to him.

From the experiments that we have watched with a great deal of interest, we know that big profitable radio sales can be created in the summer if the same intensive sales efforts are used which are absolutely required at all seasons of the year, as in the sale of phonographs, pianos, washing machines and various other kinds of merchandise that must be sold and really merchandised.

The wise dealer will not let easy winter sales spoil him to the extent that he will quit cold when he finds that the sale of radio apparatus requires some selling effort.

Summer is the time when the dealer shows whether he is a real merchant or just a fortunate possessor of merchandise which the public is scrambling to get. The chances are that during the busy winter months, the dealer has not taken full advantage of his window space, free newspaper publicity, his prospect file, his customers con-

## Invalid Recovering As Result of Radio; Interest Is Aroused

Interest in radio has brought A. H. Arnold, a Chicago resident, from a helpless invalid six months ago to a self-supporting man, able now to sit up, who declares he will be out of bed for keeps in another six months. Mr. Arnold has been confined to his bed for six years.

This change has been brought about by the determination of Mr. Arnold not to be conquered by his ailment and with that determination has been coupled the added interest in radio, which has made for health. Mr. Arnold builds radio sets. He was and still is a stamp collector and made a little money selling stamps, but when radio came along with its absorbing problems he made the stamp business a side line.

He has constructed a dozen sets or more and sold them to friends. The fine part about it all is his customers are satisfied customers. Recently Mr. Arnold decided to enlarge his field of work and instead of making one-tube sets he has undertaken the construction of a four-tube set. It works successfully.

Besides doing himself a world of good through his association with radio, Mr. Arnold has undertaken to interest others who are bedridden. His greatest hope is that a friend, who has been confined to his bed for fourteen years, will take up radio, as Mr. Arnold is sure it will improve his health and his income if he will make a study of radio and learn to build sets.

stantly in the market for servicing, or of his repair department.

I advise every radio dealer to employ one or more specialty salesmen on a commission basis to get out and sell radio apparatus and introduce it into the homes of people who might otherwise wait a while.

### Genuine Radiotron Tubes

WD-11 . . . . .	\$5.00
WD-12 . . . . .	5.00
UV-199 . . . . .	5.00
UV-200 . . . . .	5.00
UV-201-A . . . . .	5.00
UV-202 . . . . .	8.00

We carry a large stock of tubes at all times and will make prompt shipment of any of the above upon receipt of remittance to cover. We also are distributors of radio apparatus made by

The Crosley Radio Corporation.

## THE JOHNSON ELECTRIC SUPPLY CO.

232 East Fifth St., 331 Main St. Dept. A. CINCINNATI, OHIO.

## FOR RADIO DEALERS

At a recent meeting at the West hotel, Minneapolis, nearly 100 radio dealers, jobbers and factory representatives, organized the Northwest Radio Trade Association. Officers were elected, a constitution drawn up, plans for the year outlined and the active campaign to solicit new members started.

The territory included within the scope of the organization is practically the same as the Ninth Federal Reserve District. It includes Montana, North and South Dakota, Minnesota and the western half of Wisconsin. Two directors have been appointed from each state with one additional director from Minnesota.

This new organization plans, among other things, to improve conditions in the merchandising of radio, and to SELL radio to the northwest. Publicity and advertising plans are already under way which should tend to keep alive the radio business during the summer months, particularly in the northwest.

The organization meets every Thursday noon at the West hotel, Minneapolis, and the meetings are open to everyone connected with the radio trade in the Northwest.

Objects of the Northwest Radio Trade Association are:

1. Advertise radio as a necessity for every home in the Northwest;

2. Cooperative advertising of members in newspapers and trade journals;

3. Conduct an annual exposition of radio sets and accessories;

4. Foster research work in radio in schools, colleges and among amateurs;

5. Standardize on reliable sets and accessories;

6. Protect the public against fake sets, circuits and parts;

7. Support government radio inspection in policing the air;

8. Keep members informed on trend of radio business throughout year;

9. Furnish sales assistance to dealers in organizing time payment selling plans;

10. Educate public to proper use of regenerative sets to eliminate interference;

11. Organizing and conducting classes in Radio Communication;

12. Assist broadcasting stations in giving programs desired by public;

13. Cooperate with National Association in promoting radio industry;

14. Jobbers and dealers of association to work in close cooperation;

15. To secure every legitimate dealer in the Northwest as a member.

Following is a list of the officers and directors of the association:

President, Marcus S. Norton, manager radio department, Warner Hardware Company, Minneapolis, Minn.; first vice president, F. J. Miller, manager Willard Storage Battery Company, Minneapolis,

Minn.; second vice president, V. R. Lucas, Radio Equipment Corporation, 117, Broadway, Fargo, N. D.; third vice president, Louis H. Gordon, Central Electric Company, Albert Lea, Minn.; secretary, H. H. Cory, Sterling Electric Company, 33 Fifth street South, Minneapolis, Minn.; treasurer, W. O. McFall, Laird Electric Company, Minneapolis, Minn.

Board of Directors—Chairman, John Hall, Pioneer Electric Company, St. Paul, Minn.; B. F. Fuller, Fuller Radio Company, Marshall, Minn.; R. G. Barnes, Kelley-How-Thomson Company, Duluth, Minn.; Kenneth A. Connelly, F. B. Connelly Company, Billings, Mont.; one to be chosen at Great Falls, Mont.; F. W. Farnham, Fargo Plumbing & Heating Company, Fargo, N. D.; Theo. Quanrud, Quanrud, Brink & Reibold, Bismarck, N. D.; Keller, McLaughlin Electric Supply Company, Aberdeen, S. D.; E. C. Madson, Dakota Radio Appliance Company, Yankton, S. D.; Garnish, E. Garnish & Sons, Ashland, Wis.; B. A. Otte, La Crosse, Wis.

The standing committees follow:  
Membership—Chairman, F. J. Miller, Willard Storage Battery Company, Minneapolis, Minn.; E. R. Smith, manager Radio department St. Paul Electric Company, St. Paul, Minn.; Millard Finlay, Radio Phone Exchange, Minneapolis, Minn.; R. E. Brinsen, Madison Lake, Minn.; Leonard A. Kellogg, Crosley Radio Corporation, Cincinnati, Ohio.

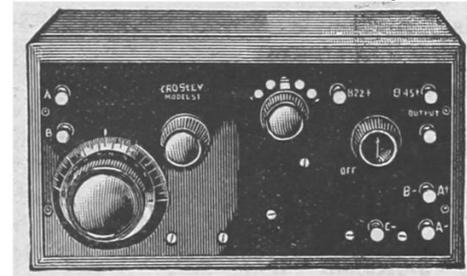
Publicity—Chairman, Robert P. Ahern, Radio Record, 502 Tribune Annex, Minneapolis, Minn.; A. B. Berry, publicity manager St. Paul Electric Company, St. Paul, Minn.; Don C. Wallace, manager radio department, Peerless Electric Company, Minneapolis, Minn.; J. O. Maland, Northwest Farmstead, Minneapolis, Minn.; P. D. McCullough, Findley Electric Company, Minneapolis, Minn.

The new Crosley Super XJ radio receiving set, described elsewhere in this paper, is destined to become the greatest selling receiver on the market as it meets the demands voiced by hundreds of thousands of prospective listeners who actually have been awaiting just such a hook-up. This set, which will retail at the extremely low price of \$65.00, will be in immediate demand, and every dealer is warned to be prepared to meet the desires of his customers. Our suggestion is that you get in communication with your distributor at once and place your order so your distributor can be in a position to serve those who order first, so if you want to cash in on the demand for this new receiver you must act immediately.

# CROSLY

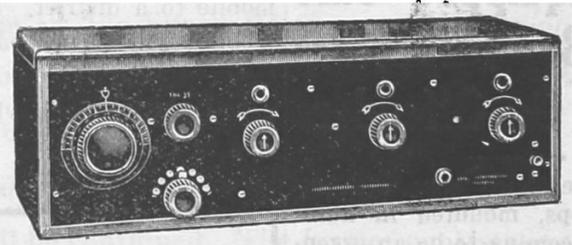
## Long Distance Receivers Better---Cost Less

MODEL 51



The Crosley Model 51 is a new and wonderful two-tube radio receiver, consisting of an Armstrong regenerative detector and one stage of audio frequency amplification, at the remarkably low price of \$18.50. The one stage of audio frequency amplification gives loud speaker volume on local stations at all times and on distant stations under fair receiving conditions. Otherwise head phones should be used for distant reception. The hook-up in the Model 51 is the same as that used in the well-known Crosley Type V, referred to so many times as "The Little Wonder," except there has been added to it one stage of audio frequency amplification. The set is installed in a neat and beautifully finished cabinet. Manufactured under Armstrong U. S. Patent Number 1,113,149.

TYPE 3-B



Price of the Crosley Type 3-B, formerly called the Ace Type 3-B, has been reduced from \$50.00 to \$42.00. This receiver consists of an Armstrong regenerative detector and two stages of audio frequency amplification, making it suitable for long distance reception on a loud speaker. Its dull black panel, engraved in white letters, highly polished black knobs and dials and nickel trimmings, form a pleasing contrast to the beautiful piano finished, solid mahogany cabinet, making it a thing of beauty for the most magnificent home. The Type 3-B, as well as the Model 51, will operate with any type of tubes, the Crosley Multistat taking care of this feature. Manufactured under Armstrong U. S. Patent Number 1,113,149.

FOR SALE EVERYWHERE

## THE CROSLY RADIO CORPORATION

POWEL CROSLY, JR., President

Formerly The Precision Equipment Company and  
Crosley Manufacturing Company

200 ALFRED STREET

CINCINNATI, O.

## Indiana Man Hears London, England, On One Tube Receiver

(Continued from Page 3)

telling you of a record that one of your new Model 51 sets has made here. The set is owned by Vernon Lyons, and is installed in the Eagle Drug store here. The store is just a block from the Bell Telephone Company and about a half block from the Postal Telegraph office. The Interurban line runs in front of the store and along one side, so you can see the location for a radio set is far from being ideal.

"Here is a list of stations that were brought in March 7, 1924, in front of about twenty people.

"Kansas City, Kansas; Omaha, Neb.; two stations in Pittsburg; Oak Park, Ill.; Davenport, Iowa; Memphis, Tenn.; Jefferson City; Schenectady, N. Y.; Dallas, Tex.; Atlanta, Ga.; Chicago, Ill.; Vera Cruz, Old Mex.; Macon, Ga., and Los Angeles.

"The set surely goes out and gets them. I can get the sworn statement from the owner of this set as well as five or six visitors who happened to be in the store at the time, if you should so desire it.

"Yours very truly,  
"Laurin L. Fortna.

"Address of Vernon Lyons is Guthrie, Okla., c-o Eagle Drug Store."

## Radio Equipped Cars Used By Inspectors In War On Offenders

Portable receiving sets, with directional loops, mounted in automobiles, are coming to be an essential part of the equipment of the nine radio supervisory districts, according to officials of the Department of Commerce. Recently, through the operation of a direction-finding set mounted in an automobile in Oakland, a long offending, unlicensed station was located and dismantled.

This station, operating at all

hours of the day and night, sometimes under the fictitious call "6LL," was causing great interference, and was breaking the radio regulations as to fake "SOS" calls, improper messages, and what is constituted as proper language of the air. Many complaints came in, and Supervisor Dillon of the 6th District was at his wits end to close the unknown station.

Inspector B. H. Linden, with the aid of two local amateurs and a portable loop, finally found the house where the set was located by "cross bearings" somewhat after the fashion in which a vessel is located by two shore radio beacons. When the house was searched with the cooperation of the police, two brothers confessed to be the owners, and the set was dismantled and disposed of. Prosecution is yet undetermined, but severe punishment is unavoidable.

This is not the first time portable sets with rotatable loops have been used with excellent results. Unauthorized stations in New York, Detroit and other districts have been run down by enterprising Government inspectors, chiefly with their own or borrowed automobiles and their own sets.

Supervisor Dillon at San Francisco has filed a requisition for an automobile as essential to the inspection of his territory, which covers the States of California, Nevada, Utah and Arizona, as well as Hawaii. It is understood that the Department radio officials will soon make an effort to have their field forces equipped with direction-finding sets and at least one automobile to a district. Several automobiles will be needed in most districts. The 9th, the largest, comprises 12½ states, with headquarters at Chicago.

We broadcast daily at  
10:30 a. m. and 1:30 p. m.  
Financial News  
Market Reports  
Government Bond  
Quotations  
Call Money Rates  
Foreign Exchange, Grain  
and Live Stock  
Quotations.  
Bond Department  
THE  
FIFTH-THIRD  
NATIONAL BANK  
of Cincinnati.

The Gruen Watch Company  
Preferred  
Common  
HIGH CLASS INVESTMENTS  
WESTHEIMER & CO.  
Cincinnati, O.  
Baltimore, Md.

## Crosley Receivers Combine Regeneration And Radio Frequency

(Continued from Page 1)

the method employed in the Super Six and Super XJ.

In addition to the equipment used in the Super Six, the audio-frequency is applied to the first audio-frequency amplifier where the energy is once more stepped-up. A jack is located in the Super XJ output circuit of the first audio amplifier, so that the head-phones may be used if desired, without the volume being so great as to be uncomfortable. The energy is now amplified once more, by a second step of audio-frequency amplification and the output is of such strength that it may be utilized to operate a loud speaker, with good results, from distant broadcasting stations.

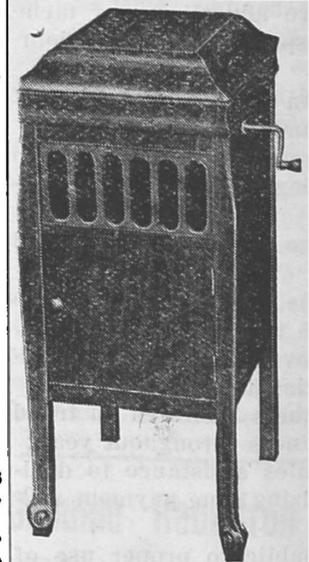
While these sets are extremely selective, they are so simple that a novice can operate them in a short time. The tuning devices consist of two variable book-type condensers, which are controlled by large knobs, making it possible to get very fine adjustment. The inductance switch connecting with the taps, is used as a rough means of adjusting the antenna system. The feed-back coil is controlled by a small knob on a shaft that slides back and forth through the panel. Each vacuum tube is controlled by an individual multistat which is so designed that the filament voltage

of any standard tube may be properly regulated. A filament switch is provided in the Super XJ so that having once adjusted the tubes, it is only necessary to push the switch to start or stop the operation of the set. All connections are brought out on a sub-panel and plainly marked, so that the aerial, ground and all battery leads may be brought in from the back or bottom, if a battery cabinet is used in connection with the set. Loudest signals may be obtained by using 6-volt vacuum tubes, but any standard vacuum tubes may be employed with dry batteries for filament and plate voltage with satisfactory results.

The Crosley Super receivers may be operated successfully with any type of aerial, whether short or long, but the outside type is preferable. It has been found that an aerial not exceeding 150 feet from the receiver to the extreme end, is most serviceable, although a smaller antenna will give satisfactory results. A good ground is essential to any receiving set and this may be obtained by attaching a heavy wire to the street or earth side of the water meter.

Neighbor—Is your mother home?  
Boy—Do you suppose I'm mowing this grass because I want to?

**\$1 DOWN**  
a year to pay



For  
This  
Beautiful  
Cabinet  
Phono-  
graph.  
Balance  
\$48  
On Easy  
Monthly  
Payments

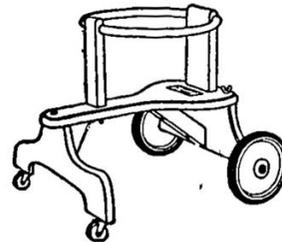
Look at the picture of this 33-inch mahogany finished MARION Phonograph, the phonograph you have been waiting for. Double spring motor. Wonderful tone qualities. Cabinet for records. Two double records free. The MARION was designed to sell for \$75. Large production in our own plant enables us to make this wonderful introductory offer for a limited time only.

We will send the MARION to any responsible person on approval for \$1 with the privilege of trying it out five days for \$1.00. If you decide to keep it at the end of that time pay us \$4.00 per month for twelve (12) months and the MARION is your property. Total price, \$48.00 f. o. b. Cincinnati.

Send one dollar with your name and shipping address to

**MARION PHONOGRAPH CO.**  
1652 Vandalla St. Cincinnati, O.  
Department "A"

## The Go-bi-bi



### MOTHER'S BEST FRIEND

"I received the GO-BI-BI two weeks ago and like it very much. My wife says it is a life saver for her. She can do all her work while the baby is riding around. He is only nine months old and gets around very swiftly. I am glad I learned about the GO-BI-BI.

"Phillip Velanski,  
"Rochester, N. Y."

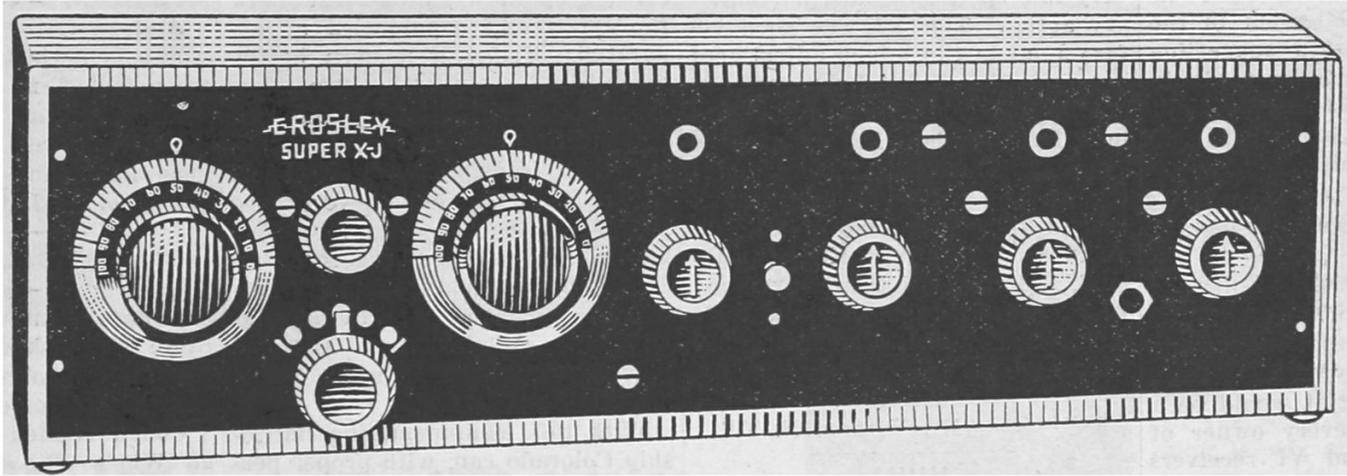
So Daddy appreciates it too. Everybody loves the baby and wants him happy and healthy.

Every store who sells baby things of any kind or children's vehicles should write us for our dealer proposition. Right now is the time to take advantage of the great publicity given the GO-BI-BI through the holiday sales. Write today.

**CROSLY MFG. COMPANY**

GO-BI-BI Dept.  
1629 Vandalla St., Cincinnati, O.

# Announcing the new CROSLEY Super XJ \$65



**BETTER - - - COSTS LESS**

Regeneration without reradiation is permitted in this new Crosley Super XJ. This is the very thing thousands of people have been awaiting, and Crosley dealers must prepare to meet an immediate and tremendous demand for the new four tube receiver, which now is being offered at the remarkably low price of \$65.00.

The Super XJ incorporates Armstrong regenerative and Liner Superdyne features, the circuit having been pronounced by leading authorities throughout the country as the most efficient of the latest radio developments. Perfect regeneration, control of tuned radio frequency amplification with minimum reradiation and increased range, volume and selectivity are the predominating features of the Super XJ, which is described in detail in other columns of this issue of the Weekly.

There are two stages of audio frequency amplification which permit the operation of a loud speaker when receiving

distant as well as near-by broadcasting stations. The Super XJ is manufactured under Armstrong U. S. Patent No. 1,113,149 and R. S. Miner Superdyne patent pending.

Announcement also is made of the new Super Six, which is the same as the Super XJ except there is no audio frequency amplifier. The latter may be added to the receiver at any time. Price of the Super Six is \$29.00.

Of course the nationally known and popular Models XJ and VI will be continued. The former consists of one stage of tuned radio frequency amplification, detector and two stages of audio frequency amplification, and sells for but \$55.00. The Model VI consists of detector and one stage of tuned radio frequency amplification. The price of the Model VI is now \$24.00.

Every radio dealer in the country will be calling for the new Super sets immediately, and we suggest that distributors send in their orders without delay.

## THE CROSLEY RADIO CORPORATION

POWEL CROSLEY, JR., President

Formerly The Precision Equipment Company and Crosley Manufacturing Company

100 ALFRED STREET

CINCINNATI, O.

# Suggestion Printed In Radio Weekly Is Aid To Set Owners

Many Operators Of Crosley  
Model XJ and Model VI  
Benefited—Moral, Sub-  
scribe to the Weekly.

An incident which proves every owner of a Crosley radio receiver should subscribe to the Crosley Radio Weekly has "come to light" as a result of the publication in the Weekly, recently, of a suggestion that a slight change be made in the Crosley Model XJ and Model VI sets that already had been sold and installed in homes.

After a considerable amount of study, Crosley engineers learned that a very slight change in the set would add greatly to its efficiency. Instead of making the change in the sets that were going through the factory at that time, Mr. Crosley thought it would be a good plan to tell every owner of the Models XJ and VI receivers how to reap the benefits that other manufacturers might have given only to future customers.

The manner in which this could be accomplished appeared to be a stumbling block, until someone suggested that the plan be described in the Crosley Radio Weekly, which is read now by 25,000 subscribers and thousands of friends and relatives of these subscribers. In a news story on the first page of the issue of March 10th, it was described how this slight change could be made, and, judging from the response, many owners of the sets involved read the story and reaped the benefits of it. Hundreds of letters have been received from readers of the Weekly, all telling of the improvement in their receivers since the change was made.

Excerpts from a few of these follow:

"Gentlemen:

"You may be interested to learn that I have greatly improved my Crosley Model VI receiver by placing the coil closer to the condenser, as suggested in the Crosley Radio Weekly of March 10th. Amplification is greater and signals are clearer.

"Sincerely,  
"Rev. James T. Root,  
"East Syracuse, N. Y."

"Gentlemen:

"The change suggested in your Weekly of the 10th inst., proved most remarkable and gratifying. The volume is greatly increased, selectivity improved and tuning is made easier.

"Respectfully,  
"C. R. Pelton,  
"Yoakum, Texas."

"Dear Sirs:

"I am writing to you to let you

know that I made the change as you suggested and have found that it is as you say very much better to tune in than before. We are well pleased.

"C. Spori,  
"Chicago, Ill."

"Gentlemen:

"A few lines of appreciation in regard to your advice about a slight change on the Model XJ.

"I bought one from the Central Radio Supply of this city and I believe I could write page after page about it, but will make it as brief as possible. It's a world-beater, compared to some of the high priced sets. Am situated in a very low spot, and have a temporary aerial. The XJ was good before I made the minor adjustment but since then I find I can tune out WHN, a local station, and bring in WDAP, both being on a wave length of 360 meters. Sunday morning at about 2:30 I was tuning around 312 meters and broke in on a dance selection from KGO at Oakland, California. I then moved my first condenser dial back a trifle and heard WSAI, Cincinnati, 309 meters.

"John G. VanOrden,  
"Mt. Vernon, N. Y."

### HUH?

Rastus—"Gal, did you get them flowers I sent you?"

Rastette—"Didn't get nuthin' else."

Rastus—"Gal, did you wear them flowers I sent you?"

Rastette—"Didn't wear nuthin' else."

Rastus—"Then what you pin 'em to?"

"When a mule hez one ear cocked forward and one cocked rearward—keep away from his tail light. He ain't in nootral." Warns the Flagstaff Arizona Rotary Mop.

## FORMICA

The fine finish of the Formica panel, and its unfailing effectiveness as an insulator has contributed to the excellent reputation of Crosley and Precision receivers. It is the leading radio insulation.

The Formica Insulation Co.

Spring Grove Avenue,

Cincinnati, Ohio.

## RADIO COURSE ADDED AT ANNAPOLIS NAVAL ACADEMY

At Annapolis, the Government Naval Academy, a new course was added last week. It is a course in communication, a subject which of late years has come to compare with such essential subjects as navigation, engineering and seamanship. Among the essential divisions of the newly prescribed course for the midshipmen is radio in its practical application to naval and military, war and peace time routine.

While it is not yet held imperative that naval communication officers be operators, they must know the types and capabilities of apparatus. Today a modern battleship has a main transmitter, two secondary transmitters, one auxiliary transmitter and one sound-telegraph transmitter. It also has one receiver for high-power shore stations, three receivers for information and orders, three receivers for division maneuvers and fire control, one receiver for battle-line signals, one radio compass and one listening device and sonic range finder.

With this equipment, the Battleship Colorado can, with proper personnel, simultaneously operate as

follows: Transmit four radio messages, receive seven radio messages from vessels or shore stations, receive one message from a distant shore station, and obtain radio bearings on frequencies not being used by the ship for transmission.

The duties now assigned to communication officers of the Navy require considerable knowledge of radio apparatus and experience in handling radio communication in Naval operations. The Navy is seeking to inculcate into the midshipmen the basic principles before they are graduated as officers.

### WHO KNOWS?

Andrew Carnegie on one occasion was asked which he considered the most important factor in industry—labor, capital, or brains. Carnegie quickly replied, "Which is the most important leg of a three-legged stool?"—Judge.

### STATISTICALLY SPEAKING

A man went into Cohen's Book Store and asked: "Have you a copy of 'Who's Who and What's What' by Jerome K. Jerome?"

Cohen replied—"No, sir, but we go 'Who's Who and What's He Got' by Bradstreet.—Ex.

## A BATTERY CHARGER YOU WILL BE PROUD TO OWN

### GOLD SEAL HOMCHARGER

**5**  
Ampere  
Size  
for all  
Auto and  
Radio  
Batteries



List  
Price  
**\$18.50**  
Complete

Charges auto, radio or "B" storage batteries  
over night for a nickel.

Simple, dependable, almost silent and absolutely safe. Beautifully finished in mahogany and gold—may be used right in the living room.

### WHY PAY MORE—OR GET LESS?

Why buy a 2 or 3-ampere rectifier without ammeter requiring from 40 to 50 hours to charge your battery and costing twice as much to operate, when for the same price you can secure the genuine 5-ampere GOLD SEAL HOMCHARGER, which does a better job in one-third the time and at half the cost? Fitted with high-grade ammeter (eliminating guesswork), charging cable and battery clips—no extras to buy. For sale by all good dealers.

**FREE** Ask your dealer for a free copy of the HOMCHARGER international list of broadcasting stations. Contains call letters, location, name and wave-length of nearly every broadcasting station in the world.

**NOT GENUINE WITHOUT THE GOLD SEAL**

—The—  
**AUTOMATIC ELECTRICAL DEVICES COMPANY**

CINCINNATI, OHIO

Largest manufacturers of vibrating  
rectifiers in the world

FOR SALE BY ALL GOOD  
RADIO DEALERS

