

RADIO

INSTRUCTIONS FOR TROUBLE SHOOTING

Detect and Remedy the Open Circuit, Short Circuit and Leakage.

Radio circuits are subject to the same troubles that the ordinary power circuits are subject to. However, they are not such a difficult task to diagnose, especially if the logical procedure is used.

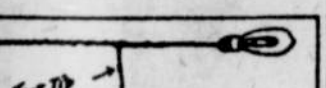
Each receiver is well put together in the first place and all contacts and connections are made over once in a while, so there is no reason why there should be any trouble. But the human being is prone to err, so that for the purpose of this article will be devoted to the explanation of what might happen in a simple receiver and the best way to find it.

The usual troubles of the receiver are under one of the following three headings:

- 1- An open circuit.
- 2- A short circuit.
- 3- Leakage.

An open circuit can most easily be detected by means of a series lamp. Every one has available the ordinary 110 volt lighting circuit. Take an ordinary extension cord and cut it in two at any convenient place and connect these two ends as test clips or leads. The extension cord is plugged into the house lighting circuit at any convenient outlet and when the two ends are held together the lamp will light as the circuit is closed. When the tips are held open the circuit is "open" and the light will go out.

Suppose it is desired to test for an open circuit in a tuning coil. Connect one end of the winding and the other test clip to the slider. As the



Testing the Tune Circuit.

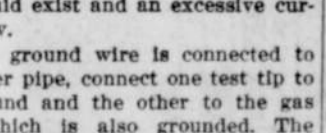
slider is moved back and forth the light should remain lighted. If the light goes out at times there is an open circuit in the coil. If the light goes out when the coil is jarred the slider does not make good contact with the winding.

If a buzzer and battery are available they can be used in testing for an open circuit in the same way that the lamp can be used. Connect the buzzer and battery in series with the test clips or tips and any low resistance circuit can be tested.

The ground connections can be tested with a buzzer and battery, but do not use the house-lighting circuit for test grounds because one side of the lighting circuit is already grounded and if the other side were connected to the ground a short circuit would exist and an excessive current flow.

If the ground wire is connected to the water pipe, connect one test tip to the ground and the other to the gas pipe, which is also grounded. The buzzer should buzz if one has a good ground resistance.

Leakage usually exists between the antenna and the ground. An antenna should be well insulated from its support. The lead-in should be brought down to the point where it enters the wall of the station in such a manner that when the wind causes it to vibrate, it cannot touch any grounded material, and that rain and snow cannot cause a path along which the current can ground. In bringing the lead-



To Test Telephone Cords.

through the wall, insulate it well inside the station use as short a piece of well-insulated wire as is possible to make good connection with the wall.

To test the continuity of the circuit of a pair of telephone receivers, touch the tips of the cord phone to the tongue. If the receivers are in reasonable good condition a slight click will be heard. If the response is one receiver seems to be weaker than the other, examine the diaphragm of the receiver giving the weaker response and see if it is bent toward the other piece. Try tuning the diaphragm over if such is the case. Be careful when the diaphragm of a receiver is removed that the leads of fine wire from the magnet spools to the connection blocks do not become broken or disconnected.

If the continuity of the circuit of a pair of telephone receivers is checked and no response is heard when the test tips are touched to the tongue, try checking each receiver of a double line set separately.

The two receivers are connected in

TIPS TO THE RADIOIST

The higher the aerial the stronger the signals. An increase of five to ten feet in the height of the flat top aerial will increase signals.

Addition of a variable condenser to the secondary or to the primary of a loose coupler often helps to tune out the undesired signals.

The sliders on tuning coils often make poor contacts with the slide rod. Thus much of the signal strength is lost. You can overcome this by soldering a flexible wire to the slider.

Increase length of spreaders of two, three or four-wire aeri- als from six to ten feet for best results. Each wire should be from four to six feet from its neighbor. Two wires one or two feet apart are no better than one wire. Likewise four wires on short spreaders are no better than one wire.

series and to check either one separately, short circuit the tips of the cord leading to the other receiver just outside of the case. Should it appear that there is an open circuit in the cord, short circuit both receivers where the cord enters the case and with a buzzer or lamp connected to the tips on the end of the cord test for an open circuit.

Care should be exercised by the operator when adjusting a crystal detector to see that his fingers do not touch the surface of the crystal or the contact point of the little spring. The oil secretion that exists in the skin together with the dust that it collects will render a crystal detector inoperative by the insulating film that it will cause to form on the portion of the crystal surface that is touched. Should the surface of the crystal get dirty as evidenced by the received signals becoming weaker and weaker, try cleaning the crystal with alcohol and a little brush. Or if this does not seem to remedy the trouble, chip off old surface so that an entirely new surface is presented to the spring.

Care should be exercised by the operator when adjusting a crystal detector to see that his fingers do not touch the surface of the crystal or the contact point of the little spring. The oil secretion that exists in the skin together with the dust that it collects will render a crystal detector inoperative by the insulating film that it will cause to form on the portion of the crystal surface that is touched. Should the surface of the crystal get dirty as evidenced by the received signals becoming weaker and weaker, try cleaning the crystal with alcohol and a little brush. Or if this does not seem to remedy the trouble, chip off old surface so that an entirely new surface is presented to the spring.

AMATEURS SHOULD PLAY FAIR

Radio Inspector Schmidt Urges That They Learn the Laws and Regulations.

Nine out of every ten radio fans are good sports, but the tenth is either a fan with poor judgment or a "rotter." It is up to the amateurs to see that restrictions are not imposed upon them, by playing fair, says Radio Inspector L. R. Schmidt of the Ninth district.

This can be done by observing certain cautions and by becoming posted on the radio laws and regulations. A copy of these regulations may be obtained from the superintendent of documents, government printing office, Washington, D. C., for 15 cents. It is worth while to spend 15 cents in order to be a "square shooter" in the radio game.

The great trouble with amateurs is that when they want to send a message around a corner they put on all the power they have with the hope that some one in Texas might pick up their message. The object should be to use the minimum amount of power to get the message to its destination.

"In all circumstances, except in case of signals or radiograms relating to vessels in distress, all stations shall use the minimum amount of energy necessary to carry out any communication desired."

Amateurs should keep their wave length to 200 meters.

They should use a "pure wave" or, as the regulations state, "if the sending apparatus is of such a character that the energy is radiated in two or more wave lengths, more or less sharply defined, as indicated by a sensitive wave meter, the energy in no one of the lesser waves shall exceed 10 per centum of that in the greater." As to this the regulations state: "At all stations the logarithmic decrement per complete oscillation in the wave trains emitted by the transmitter shall not exceed two-tenths when sending distress signals or signals and messages relating thereto."

Amateurs frequently are at fault in calling stations too often. The law states that they can call three times, send "Q" once and sign their station call three times; but often the amateurs will send the calls a dozen or more times.

HOW TO GROUND AN AERIAL

If Properly Done It Really Protects the Property From Lightning.

Generally speaking, aeri- als do not attract lightning, but they do store up atmospheric electricity, and, of course, this condition does create a hazard. However, when the aerial is properly grounded it then acts as a lightning rod and really protects the property from this electrical hazard.

Briefly, the fire underwriters require that the aerial be grounded when not in use by a copper wire no smaller than B. S. Gauge No. 4 or larger, and run said wire as directly as possible to the outside ground.

This means that water, gas or steam pipes inside the property cannot be used for a lightning ground, because if ever this ground was called into service there is a possibility that fire and loss of life may result. So do not use inside grounds for lightning protection.

When you have a lightning protection system installed, be sure that the ground rods are properly spaced and that the connections are made in a way that will insure a good ground.

When you have a lightning protection system installed, be sure that the ground rods are properly spaced and that the connections are made in a way that will insure a good ground.

When you have a lightning protection system installed, be sure that the ground rods are properly spaced and that the connections are made in a way that will insure a good ground.

When you have a lightning protection system installed, be sure that the ground rods are properly spaced and that the connections are made in a way that will insure a good ground.

When you have a lightning protection system installed, be sure that the ground rods are properly spaced and that the connections are made in a way that will insure a good ground.

When you have a lightning protection system installed, be sure that the ground rods are properly spaced and that the connections are made in a way that will insure a good ground.

When you have a lightning protection system installed, be sure that the ground rods are properly spaced and that the connections are made in a way that will insure a good ground.

When you have a lightning protection system installed, be sure that the ground rods are properly spaced and that the connections are made in a way that will insure a good ground.

Filings

JUNE 3, 1922
D Y Barnett and wife to Western Loan and Bodg Co, \$1500. Lot 4 blk 8, A. A. Miller's addn to Tillamook City. Also lot 1 and east 7 1/2 fee, lot 2, blk 10, D. Stillwell's addn to Lincoln (now Tillamook City). Due in \$1 installments monthly with 10 percent interest.

Q C Deed—Rachel Weston, et-al. to Myra Goeres, \$1000. 5.5 acre tract in sec 34 T 1 SR 9W. Also E 1/4 of NW 1/4 sec 3 T 2 SR 9W.

Mortgage—Margaretha Vatsch and husband to Albert Maroff, \$2850. 30 acres and a small tract partly in the NE 1/4 and NW 1/4 sec 5 T 2 SR 9W. Due 2 notes \$1850 and \$1000 on or before 3 years interest at 8 percent annually.

JUNE 5, 1922
Chattel Mtg—J E Davis to Nehalem Valley Bank, \$850. Covers 9 cows and 1 team of horses. Due on or before one year with interest at 8 percent annually.

War Deed—Ora P Johnson to Enoch J Johnson \$1. Tract 25x15 ft. in size at Rockaway Beach.

War Deed—Clarence L. Cornell and wife to Ida Barbour, \$100. All NE 1/4 sec 28 and NW 1/4 of NW 1/4 sec 27 T 5 SR 9W in Tillamook and Yamhill county, Oregon.

JUNE 6, 1922
War Deed—Clarence L. Cornell & wife to Ida Barbour, \$100. All of NE 1/4 sec. 28 and NW 1/4 sec 27 T 5 SR 9W in Yamhill and Tillamook counties, Oregon. This deed reported as June 5 should be June 6.

War Deed—Werner Michel and wife to Eddie Hessel, \$2700. Lot 5 block 5, Hays addn to Tillamook City, Oregon.

JUNE 7, 1922
War Deed—James A. Iabister and wife to L E Carter, \$250. Lot 16 block 4, Elmore Park.

War Deed—Estate of William H. Snyder to William J. Womelsdorf, \$50. Lot 5 blk 4, Nehalem city.

Sat. Mortgage—State Land Board to H. W. Tooley, rel of mtg bk Q p 350.

Sat. Mtg.—Tillamook Co. Bank to O E McAlpin, rel of mtg bk U p 618.

Sat. Mtg.—Tillamook Co Bank to G B Lamb and wife, rel of mtg bk 2 p 308.

Sat. Mtg.—J S McDonald to J E Reedy and wife, rel of mtg, bk 7 pp 101-2.

Mortgage—J E Reedy and wife to State of Oregon, soldiers bonus loan \$3000. Tract on east edge of Tillamook City, 100 x 300 feet in size. Due 28 yearly installments with 4 percent interest.

War Deed—William Redberg to Ole B. Redberg, \$400. Small tract in sec 7 T 5 SR 10W.

War Deed—Breck Glad and wife to James N. Shaw and wife \$3500. Lot 6 blk 4, H. F. Goodspeed's addn to Tillamook City, Oregon. Due 28 yearly installments with 4 percent interest.

Roseburg to have \$15,000 library.

Corvallis Methodists planning \$100,000 church building.

Bandon promoting American Legion and community building.

Salem—Large industrial concerns withdrawing from operation of state accident commission on account of inability to compete with private insurance companies.

Portland—6 strics to cost \$500, 000 to be added to Pittock block.

Contract let for \$217,751.75 to complete reclamation of 16,000 acre Tumalo irrigation project.

Portland—Meier and Frank Co. to spend \$60,000 in alterations of building.

Classified Advertising

CLASSIFIED AD RATES

All classified ads and readers one cent per word each issue. Such advertising should be in the Office by 10 a. m. Mondays and Thursdays preceeding publication.

Classified ads and readers may be telephoned in and charged on account.

FOR SALE

FOR SALE—Two acre tract in edge of Tillamook City. Fine eight room house, garage, and other out buildings. Inquire of Roy Woods, Beaver, Oregon. 3418

FOR SALE—One three year old registered Guernsey bull. Also one full blooded Guernsey bull calf subject to registry. Wm. Glick, Cloverdale, phone 2ps. 32-1f

VAUGHN DRAGSAWS — HEAVY and light weights, with and without clutch. Prices reduced February 1st. E. G. Krebs. 15-1f

FOR SALE—17 lots in Block 3, Miller's addition to Tillamook City. Inquire of T. H. Goynes, Tillamook, Oregon, for prices. 28-1f

FOR SALE—Three tent frames with floors, doors and windows. Box 133, Tillamook, or call 66J. 37-1f

FOR SALE—Six-room modern house Lot 50x150. For sale at sacrifice. Terms, apply K 110, Headlight. 33-1f

FOR SALE—1921 Chevrolet touring \$500; 1918 Mitchell, fine shape, \$300; Overland 90, \$200; 1917 Chevrolet touring, \$200; 1916 Ford touring, \$150; 1916 Ford touring, \$125; 1918 Ford touring, \$200; 1918 Chevrolet touring, \$325; 1917 Chevrolet touring, \$200; 1920 Ford touring, \$300; Grant Six, \$400. Tillamook Garage. 33-1f

FOR SALE—35 acres choice bottom land, new house and barn costing \$4500. For sale on easy terms. Inquire at this office, H108. 30-1f

FOR SALE—Studebaker auto cheap, or trade for lighter car. This car is fully equipped, has 1922 license. W. A. Southmayd. 30-1f

FOR SALE—A thoroughbred brown Swiss bull calf, seven weeks old. John Meier, Hillsboro, Oregon, R. 4. 35-12

FOR SALE—Light team to sell or trade for a heavier team or good cow. Pigs for sale. J. E. SPERRY, Bardsdale, Ore. 35-12

FOR SALE—Overland truck, will haul about 1500 lbs. Enquire of Albert Johnson, Tillamook. Mutual phone. 35-1f

FOR SALE OR RENT—Five room house and half block of land; loganberries, raspberries, strawberries, also family garden planted. City water and electric lights in house. For particulars inquire of owner on premises or write W. A. McClew, Bay City, Ore. 36-21

FOR RENT

FOR RENT—5 1/2 First St., 2 furnished housekeeping rooms with bath, \$12 per month; 1 furnished single room \$8 per month 201f

FARM FOR RENT—14 cows, farm implements, buildings in fair shape. North of Blaine. 35-2

WANTED TO BUY

WHEN YOU HAVE CATTLE FOR sale call Ed. Hodley, Mutual phone. 18 1f

NOTICE OF SHERIFF'S SALE

Notice is hereby given that the undersigned, as sheriff of Tillamook County, Oregon, by virtue of an Order of Sale and Execution issued out of the Circuit Court of Tillamook County, Oregon, upon a judgment and Order of Sale rendered in said Court on the 31st day of May, 1922, in a cause therein pending, wherein E. J. Claussen, was plaintiff, and Ralph E. Warren and Ruth Warren, his wife, and Tillamook County Bank, a banking corporation, were defendants, and by which Execution and Order of Sale I am directed to sell the property hereinafter described, to-wit:

Lot three (3) in block seven (7) in Park Addition to the City of Tillamook, County of Tillamook, State of Oregon.

Now therefore, I will, on the 15th day of July, 1922, at the hour of ten o'clock a.m., sell the above described property at public auction to the highest bidder, for cash in hand, at the Court House in Tillamook, Tillamook County, Oregon, and by said sale transfer all right, title and interest of the above named defendants in and to said property, and all the right, title and interest the said defendants had at the time of the execution of the mortgage, which said instrument was the subject of foreclosure in the above entitled suit, or at any time since said date.

Dated this 13th day of June, 1922. JOHN ASCHIM Sheriff of Tillamook County, Oregon. 36-15

NOTICE

Notice is hereby given that the undersigned, as sheriff of Tillamook County, Oregon, by virtue of an Order of Sale and Execution issued out of the Circuit Court of Tillamook County, Oregon, upon a judgment and Order of Sale rendered in said Court on the first day of May, 1922, in a cause therein pending, wherein Nestucca Valley Bank, a corporation, was plaintiff, and Earl H. Fouts and Olga H. Fouts, husband and wife, and Ina Uksila were defendants, and by which Execution and Order of Sale I am directed to sell the property hereinafter described to-wit:

The East half of the Southwest quarter of Section 18 and the Northwest quarter of the Northwest quarter and the Lot number 14 of Section 19, in township 4 south of Range 10 West of the Willamette Meridian, in Tillamook County, Oregon.

Now therefore, I will on the 15th day of July, 1922, at the hour of eleven o'clock a.m., sell the above described property at public auction to the highest bidder, for cash in hand, at the Court House in Tillamook, Tillamook County, Oregon, and by said sale transfer all right, title and interest of the above named defendants in and to said property, and all the right, title and interest the said defendants had at the time of the execution of the mortgage, which said instrument was the subject of foreclosure in the above entitled suit, or at any time since said date.

Dated this 13th day of June, 1922. JOHN ASCHIM Sheriff of Tillamook County, Oregon. 36-5f

Pendleton—Hotel sells for \$60,000.

Florence—Berry crop heavy.

Tillamook, Newport and Toledo to have good road connectin.

Milton—New ice plant completed.

Sweet Home to have \$5,000 school building.

Hood River—6.5 miles Loop highway to cost \$115,000.

Rockaway—3 miles coast highway running north to be rockd.

Mapleton-Hatrock road to be graveled.

Halsey-Shedd road being paved.

NOTICE TO CREDITORS

NOTICE IS HEREBY GIVEN that the undersigned has been by the county court of Tillamook county, Oregon, appointed executrix of the last will and testament of W. R. Robedee, deceased. All persons having claims against the estate of said W. R. Robedee are required to present them to the undersigned for allowance within six months from date of this notice at the office of Botts & Winslow, attorneys at law, Tillamook City, Oregon.

Dated this May 25th, 1922. NANCY E. ROBEDEE, Executrix. 33-15

CITATION

IN THE COUNTY COURT OF THE STATE OF OREGON FOR THE COUNTY OF TILLAMOOK.

In the matter of the estate of John Theiler, deceased, to Edmund Theiler, Emil Theiler, Caesar Theiler, Lena Bean, Wendell Bean, Barbara Bean, Lottie Tracy and A. A. Hall, guardian ad litem of Wendell Bean and Barbara Bean:

GREETING

In the name of the State of Oregon, W. J. Riechers, executor of the last will and testament of John Theiler, deceased, having filed his petition for an order authorizing and directing him to sell certain real property belonging to the estate of the said deceased, at private sale, to pay indebtedness of said estate and the court having, by order made and entered herein on the 5th day of June, 1922, fixed the time for the hearing upon the said petition.

Now, therefore, you, and each of you, are hereby cited and required to appear in the above entitled matter on Wednesday, the 19th day of July, 1922, at 10:00 o'clock, a. m. of said day, being the time fixed by said order, to show cause, if any there be, why the following described real premises belonging to the estate of the said deceased, to-wit:

The southeast quarter of the northeast quarter of section 29, in township 2 south, range 9 west of the Willamette Meridian, less tract sold therefrom, the land herein described containing thirty acres, more or less, in Tillamook County, Oregon should not be sold at private sale, subject to the mortgage now thereon, such mortgage to be assumed by the purchaser, upon such terms as the executor may deem to be the best interest of the estate of the said deceased, provided that not less than \$500.00 be paid at the time of the execution of contract of sale, as in the petition of the sale prayed for.

This citation is served upon you by order of the Honorable Homer Mason, Judge of the County Court of the State of Oregon, for Tillamook County, by publication thereof, once each week, for four successive weeks, in the Tillamook Headlight.

Date of first publication: June 9th, 1922; date of last publication: July 7th, 1922.

Dated this 6th day of June, 1922. Seal of County Court.

H. S. BRIMHALL, County Clerk

Bend to get new \$75,000 business block.

Medford—Five new buildings to be erected at county fair grounds.

Sweet Home—Oil drilling to start.

Hood River—Bids called for 3/4 miles concrete paving south of city.

Portland—\$30,000 warehouse to be built on east side.

Eugene building permits for May total \$95,000.

DR. O. L. HOHLFELD Veterinarian Bell Phone 5F2. Mutual Phone Tillamook Oregon

BARRICK & HALL Attorneys at Law National Building Tillamook Oregon

DR. J. E. SHEARER Surgery Suite 110 L.O.O.F. Building Tillamook Oregon

R. T. BOALS, M. D. Surgeon and Physician 1. O. O. F. Building Tillamook Oregon

DR. O. L. HOHLFELD Veterinarian Bell Phone 5F2. Mutual Phone Tillamook Oregon

BARRICK & HALL Attorneys at Law National Building Tillamook Oregon

DR. J. E. SHEARER Surgery Suite 110 L.O.O.F. Building Tillamook Oregon

R. T. BOALS, M. D. Surgeon and Physician 1. O. O. F. Building Tillamook Oregon

DR. O. L. HOHLFELD Veterinarian Bell Phone 5F2. Mutual Phone Tillamook Oregon

Lodge Directory

Silver Wave Chapter No. 18 O. E. S.

Stated communications first and third Thursdays of each month in Masonic Hall. Visitors welcome. CORA L. MILLER, Secretary

Marathon Lodge No. 93, Knights of Pythias. Regular meeting Monday evening at 7:45 sharp. By order of the Chancellor Commander.

W. R. C. Corinth Relief Corps No. 54 Dept. of Oregon, meets on first and third Friday evenings of each month, at 8 p. m., in the W. O. W. hall. Visitors welcome. Mrs. Clarence Stanley, President Elizabeth Conover, Sec'y.

Corinth Post, No. 35, Dept. of Oregon Meets on second and on fourth Saturdays of each month at 1:30 p. m. in W. O. W. J. S. DIEHL, Comdr. H. W. SPEAR, Adj.

Johnson Chapter No. 24, R. A. M. Stated convocations every first and third Fridays. Visitors welcome. I. E. Keldson, Sec.

Tillamook Lodge No. 57, A.F. & A.M. Stated Communication second Wednesday in each month Visiting Brethren welcome. Harvey Ebinger, Sec.

Tuesday eve., 7:30 p. m. Rebekahs Wednesday evening Camp 2-4, Thursday

Chiropractic Consists entirely of ADJUSTING the movable segments of the SPINAL COLUMN to normal position thereby removing the CAUSE of disease. FOREST L. HOWARD CHIROPRACTOR 211-13 Tillamook Building Both Phones Adjustments will be given in the home if patient is unable to come to office.

Light weight VAUGHAN DRAGSAW At E. G. KREBS

H. T. Botts Geo. P. Winslow BOTTs & WINSLOW Lawyers Tillamook Oregon

Phone 76-J DR. C. H. POLLOCK, D.M.D. Dentist 215-16-17 Tillamook Bldg. TILLAMOOK, OREGON

DAVID ROBINSON Physician and Surgeon National Bldg. Tillamook, Ore.

Dwell 121 M Mutual TILLAMOOK IRON WORKS General machinists and blacksmiths H. Sander

DR. J. G. TURNER Eye Specialist Permanently located in Tillamook. Private office in Jenkin's Jewelry store. Latest up-to-date instruments and equipment. Evenings and Sunday by appointment. Complete Lens Grinding Factory on the Premises. Any lens duplicated. Tillamook, Oregon

