# Trouble Shooting

*By* R. M. SHERRILL

*(Radio Engineer)*

When something happens to your radio receiver and the signals become weak or even cease entirely, what is your usual procedure in an attempt to find and overcome the trouble? Do you feel at a loss to know just where to start to look for the trouble?

Radio receivers operate on certain fundamental radio and electric principles. When a set does not work properly, one or more of these principles are being violated. In other words, when it does not work, there is a good reason for it, and that reason may always be found by a careful and systematic search.

The usual procedure is to isolate the trouble, by general testing, to a particular part of the circuit. The exact trouble may then be found by special tests concentrated on the apparatus in that particular part.

The most likely parts of the receiver to give trouble are the batteries and vacuum tubes. Therefore, a thorough preliminary inspection of these parts will often save a lot of further investigation. The batteries may be most easily checked by meters. The vacuum tubes are not so easy to test, as their filaments may light up all right although the tube is otherwise defective.

Try to determine in what particular part of the receiver the trouble is located. Take, for an example, an actual case, in a receiver consisting of a tuner, a detector and two stages of A. F. amplification. (See Fig. 1.) Signals from this receiver had been operating a loudspeaker but suddenly became scarcely audible. A quick check of the A and B batteries showed them to be in good shape.

**Trouble Isolated**

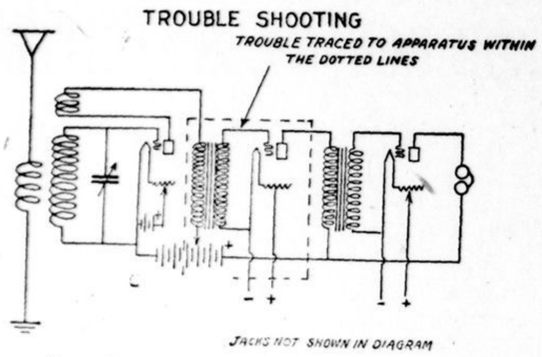
Tests were then made with the head phones plugged in various positions. In the last stage and the one preceding it, the signals were just audible, but when the phones were plugged into the detector circuit, the signals were of normal strength. Thus the trouble was located roughly, as being somewhere between the detector and the last stage of the A. F. amplifier.

Furthermore, since there was no response from the first stagejack, none should be expected from the second, and the probability was that the second stage was all right. Thus, the trouble was traced in short time to a particular part of the receiver (enclosed in dotted lines in the diagram) namely, the first A. F. amplifier circuit. As this amplifier circuit is a comparatively small part of the whole receivig circuit, all of the connections may be easily traced, and if necessary, each piece of apparatus may be taken out and tested separately.

In this particular case, the tube and transformer having been tested and found O. K., the trouble was finally located as a faulty contact in the first jack.

In this same manner, practically every trouble which will arise may be traced down to within a narrow part of the circuit. The testing of the small amount of apparatus in this part will then reveal the trouble with but little difficulty.

The above method of trouble shooting will be found far more effective than the haphazard testing of various pieces of apparatus throughout the whole circuit.

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## RADIO QUESTIONS AND ANSWERS

*Mr. Sherrill will be glad to help you solve your radio problems. Write him, care of The Durham Chronicle.*

M. R. S. says: "My storage battery has not been used for several months, and now I cannot make it take a charge. Are the plates ruined?"

Ans.—It may be that the plates are just "sulphated" and that continued charging will put them in shape again.

—o—

M. L. T. says: "I am using a two tube Harkness Reflex set which gives good results except on the short wavelengths. I cannot keep the tubes from oscillating on these waves unless I turn the filaments down very low. Can this trouble be remedied?"

Ans.—If you remove some of the turns from the primary of the reflex transformer, the tube will not oscillate so easily.

—o—

S. T. P. writes: "I notice that some of the 22½ volt B batteries are considerably larger than others. Are the larger ones any better?"

Ans.—Yes. Although the voltage of the two sizes is the same, the larger ones will last longer.

## The Boy Scouts' Column

EDITED BY GREEN PLUME

**Weekly Meeting**

The regular weekly meeting of the First Durham Troop was held last Tuesday night. There was almost a full turn-out of the Troop. The Scoutmaster tried out the program advocated by the Provincial Scout Council, and it kept things lively during the evening. Dr. Bell continued his instruction in first aid, and reviewed the ground covered during the past few months in this phase of scout training. The Troop has gained quite a wide knowledge of this important aspect of Scout work. They are prepared to resuscitate drowning persons, give first aid in the case of fractures, poisoning, frost-bite, snake-bit; and in a number of other emergencies that may arise. It certainly is about the most useful part of the Scout's training.

**A Scout Is Courteous**

This is the fifth of the Scout laws. A Scout must not be impertinent with his parents or teachers. It shows that he is ignorant of the rules of etiquette for one thing, and gives strangers a very poor impression of a fellow. Another way of looking at it, is that it is much more pleasant for himself and others, if he is polite, courteous and kind; rather than rude, rough and selfish. Think it over. It's a little law, but it helps a lot if you keep it.

**Patrol Leader Ill**

Patrol Leader George (Slippery) Hay of the Owls is quite seriously ill with 'flu. He has been ill for some time, and the Troop miss his smiling countenance from their meetings. We all hope that Slippery will be around again shortly, and, as many of the fellows as possible, should make a trip up the hill to show tht we haven't forgotten him.

## PALMERSTON TO CELEBRATE TOWN'S 50th ANNIVERSARY

Town Clerk Seth Mathers of Palmerston has brought to light the fact that the year 1925 is the fiftieth anniversary of Palmerston's incorporation as a town, and has now in his possession the original minutes of the first Town Council meeting, held on January 20, 1875. There is a strong feeling that the semi-centenary of the town's incorporation should not go unmarked. The Council has been asked to call a public meeting to discuss the situation and to arrange a suitable event.

**Advertise in The Crhonicle, it pays**

## WITH MISS MACPHAIL AT OTTAWA

**Maxine Lyons of Markdale Writes Diary of Interesting Days on a Visit to the Nation's Capital as a Prize in Contest.**

Miss Maxine Lyons, daughter of Mr. and Mrs. W. J. Lyons, Markdale, who won the Miss Macphail Public Speaking Contest in Grey County School Fairs, accepted the prize—the trip to Ottawa to see the opening of the Federal House of Commons on February 5th. The diary follows:

**Wednesday, February 4th**

The train left Markdale at 4.18. The school children and three of the teachers came down to the train to see me off. My mother accompanied me as far as Shelburne. Miss Macphail got on the train at Flesherton. When we got to North Toronto Station, we hired a taxi and went to the Union Station where we checked our grips. We had three hours to wait, and spent the time at a vaudeville show. Then after a light lunch in Walker's Cafeteria, we got on the train about 10.30. I had never slept on the train before, and it was quite an experience, but I think I must have been excited and the train was warm, so I did not sleep well, and the night seemed quite long.

**Thursday, February 5th**

We arrived in the Central Station, Ottawa, shortly before eight o'clock and went direct to Miss Macphail's apartment, where, after breakfast, we rested and got ready for the opening in the afternoon. We went to the Parliament Buildings about two o'clock. I liked Miss Macphail's office. After looking at the House of Commons' Chamber, the Library and a few other principal rooms, I was given a seat on the floor of the Senate. Already many ladies in formal evening dress were in their places, and they kept coming continually until three o'clock. It was a brilliant spectacle, much more wonderful than I thought it would be. The floor of the Senate was packed with people, as was also the galleries. Lady Byng arrived gowned in wine colored lace with court train, and on her head a diamond tiara in maple leaf design. As soon as Lord Byng's party were seated, the Gentleman Usher of the Black Rod was sent to summon the members of Parliament from the Chamber to hear Lord Byng read the Speech from the Throne, which is really a Government's plan of work for the session. All the members stood in confusion at the back of the chamber, except Mr. King who, in Windsor Uniform, stood to the right of Lord Byng. The address was read first in English and then in French, and it spoke of Reform of the Senate, Freight Rates on both land and sea, Immigration, Railway in Peace River and Economy. It took a long time to read it in both English and French, and I was quite tired, and many of the ladies looked as though they were too. The Judges had on red cloaks trimmed with white fur, and sat with their backs to one another. I thought that was queer. At the conclusion of the speech, Lord Byng's party left, accompanied by the Prime Minister. The members went back to their own Chamber. Miss Macphail waited for me, and we went to two receptions, the first given by the Speaker of the Senate and Mrs. Bostock. We were asked to lead the procession in. The tables were beautiful. We had some lemonade. We then went into the gallery of the House of Commons. Two members had died since the House arose, and the Prime Minister, Mr. Meighen and Mr. Forke paid a tribute to their memory. I asked Miss Macphail if they would say nice things about her if she were dead, and she said, "Yes, if I were dead." From there we went to Mr. Lemieux's reception. When Miss Macphail told Mr. Lemieux who I was, he kissed me in his courtly French way. We went to a dinner party that night and to the movies afterwards.

**Friday, February 6th**

I was so tired Friday morning that I slept until nearly noon. I saw all through the buildings that day after lunch, and went on the roof, from where I got a good view of Ottawa. Two ladies came in from the country to see me, one my mother's cousin. We had dinner at the apartment, and I worked crossword puzzles with the member for Victoria Haliburton until bed time.

**Saturday, February 7th**

The two ladies who came in the day before had breakfast with us in the Parliamentary dining-room at 9.30. One gave me a pretty, silver pin. We had a little luncheon party at noon for the member for North Grey and his wife. In the afternoon, two members, Miss Macphail and I went to Fairy Lake to see the skiing. We walked and walked, it seemed to me about five miles, but the high jumping was worth the effort. We went to Mr. Woodsworth's for tea, and I had a good time playing with the children. We went to bed early.

**Sunday, February 8th**

We had a long, lazy morning, and a delicious dinner in the Parliamentary dining-room at two o'clock. In the afternoon we went to a tea, and afterwards to church.

**Monday, February 9th**

On Monday, we came to the Parliament Buildings about 9.30, and Miss Macphail worked for a while, and I wrote a letter to the girls and boys who entered the contest with me. I met the Hon. George. P. Graham, Hon. Mr. Macdonald, Hon. Mr. Robb and Hon. Mr. Stewart. They were very kind to me. I thought Mr. Graham was delightful. I sat in the gallery and heard the speeches. Then a friend of Miss Macphail, Mrs. Barber, took me with her and her little son through the museum, and home with her for supper. It was raining, and the streets were terribly slushy. I went home about nine o'clock. We had a good time playing games.

**Tuesday, February 10th**

I packed my things in the morning and went through some of the shops. I met the Prime Minister, he was gracious, and the Hon. Charles Murphy. He gave me a flower, and showed me his lovely office. We spent a few minutes at Mr. Meighen's office, and he gave me an autographed book of the speeches he made while in England. Miss Macphail and I called on Dr. Keys, the Principal of the Normal School, also on Mr. Pittaway, the Government photographer, and he gave me a photo of the Prince of Wales. It was my birthday, and Miss Macphail gave me a dinner party for six with a birthday cake in the centre of the table. The Chef of the House of Commons made it. It had twelve candles. We had a gay party. Everyone was wonderfully good to me. The trip was better than any medal could possibly be. I was sorry to leave, but glad to go home to see my mother, father and little brother and schoolmates once more.

MAXINE.

## CLAIM HYDRO STORES ARE UNDULY FAVORED

**Hardware Men to Lodge Complaint Respecting Alleged Unfair Competition.**

The hardware men of Ontario are going to stage a fight upon what they deem to be unfair competition by the Ontario Hydro-Electric Commission, according to H. N. Joy, president of the Ontario Retail Hardware Association, which opened a four-days' convention at the King Edward Hotel on Monday.

The contention is made that the Ontario Hydro, backed by the money of the province, is selling almost every conceivable electrical appliance to householders through a province-wide chain of stores in direct competition with the retail hardware merchants, a large part of whose business had been centred on the handling of electrical goods.

The chief cause of complaint, however, is contained in the allegation that the Hydro stores are entirely exempt from the business tax which the retail hardware men of the province have to contend with and that freed of this burden, the Hydro system is enabled to undersell them and reap a profit at the expense of general business.

This will be one of the main subjects to be brought up at the coming convention, and the executive will recommend to the association that the matter be taken up with the Ontario Government with a view to having legislation passed requiring the Hydro system's stores to pay the same business tax as the retail hardware dealers or else cease competing with them.

## LITTLE LABOR GROUP TO FLOCK BY ITSELF

**Three Members Seek to Smoke and Caucus in Strict Seclusion.**

The U. F. O. movement in the Ontario Legislature has lost whatever power of attraction it once held for the representatives of Labor, and steps toward a formal breach between the forces which for four years ruled the Treasury benches, as the U. F. O.-Labor Government became known on Friday last. The formal step toward disalliance took the form of an application by the three Labor members for separate smoking room accommodation from that accorded the U. F. O., in order that they might hold separate caucuses and function an as independent unit.

The rupture between the two groups was heralded on Tuesday of last week at the House opening, when Karl Homuth, elected at the by-election in South Waterloo, was introduced to the House not by Hon. Mr. Raney, the Farmer leader, but by Peter Heenan, the Kenora Labor member.

The leadership of the Laborites will be in the hands of Mr. Heenan for such formal purposes, and the group will consist as well of Mr. Homuth and Mr. J. F. Callan of Rainy River. A place is also declaredly reserved for M. M. McBride of Brantford, who has found a place amongst the Conservative benches since the last election, but for whose return, the Laborites will be prepared.

Egyptologists have discovered by examination of mummies that as far back as four thousand years, surgeons operated for what we now call appendicitis. And even in those forgotten days, although the operation was successful, the patient died.

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Gasoline Drive Complete, regular $285, sale price....$185

This includes motor and gas engine ready to operate. No pipe line required.

**Durham Machine Shop**

F. W. MOON, - MACHINIST

## SEES NO INCREASE IN DRUNKENNESS

**Magistrate Graydon's Opinion on Stronger Beer Plan.—Court Expresses No Opinion on Hinted Mitigation.**

Will the sale of beer containing 2.5 per cent alcohol by weight, equivalent to 4.4 per cent proof spirits, as proposed by Premier Ferguson, increase drunkenness? Will the more severe penalties that are reported to be in store for persons who make their living by trafficking in liquor curb bootlegging? Will the lighter penalties that are also mooted for persons technically guilty of violating the O. T. A. be more equitable?

These are questions with which temperance and "wet" forces of the province are now concerned, following the announcement of the proposed greater strength for beer in the speech from the throne in the Legislature recently.

Magistrate A. H. M. Graydon of London, as reported in The Free Press of that city, has answers for some of the questions. For others, he has not. He said, when questioned as to his opinion on the proposed greater strength for beer, that he did not think drunkenness would be increased as a result. As for the lighter penalties for technical O. T. A. violators and offenses of a minor nature, he has no opinion. He intimated that technical and minor offenses must be more clearly defined before any opinion could be formed.

Thousands of dollars have been added to the police court treasury here since the O. T. A. came into being. The majority of the offenders are charged with being intoxicated, illegal possession of liquor being second in this line. Selling liquor and having for sale come third in O. T. A. violations, convictions on the latter charge being harder to obtain since an actual sale must be proved.

## DUKE OF ATHOLL MAY BE NEXT GOVERNOR-GENERAL

**Rumored That Noble Scottish Soldier May Succeed Lord Byng.—First Scotsman to Hold Position fn Twenty-One Years.**

It is rumored that Canada's next governor-general will be the Duke of Atholl. Lord Byng's normal term of office expires in the fall of 1926, but it is no improbable that His Excellency might relinquish the governor generalship before that time. The Duke of Atholl is of noble Scottish descent, and his wife is a well-known member of British Parliament. They own 202,000 acres of land in the Highlands of Perthshire, mostly moorlands of deer forest. The duke's military career started in 1890 when he joined the Black Watch. In 1892, he transferred to the Royal Horse Guards and saw service with Kitchener in Egypt, and also in the great war. The duchess is M. P. for the Kinross and Western division in the Baldwin Government. In religion, they are Presbyterians, and he was lord high commissioner of Scotland from 1918 to 1920. Should the Duke of Atholl be appointed governor-general of Canada, he will be the first Scotchman to preside at Rideau Hall in 21 years. The Late Lord Minto was the last.

## OWEN SOUND WANTS A TOURIST STEAMER

**Board of Trade Starts Effort to Secure One to Run From That Port.**

Owen Sound Board of Trade started machinery working last week in an effort to secure a tourist steamer to run out of Owen Sound during the coming navigation season. A resolution was passed instructing the secretary to write the Northern Navigation Company and the Canada Steamship Lines, with a view to securing such a steamer to run from Owen Sound, through the North Channel to Sault Ste. Marie.

Another resolution of importance was one calling on the Government to compel all goods to come through Canadian ports before such goods are accorded intermediary freight rates.

**A Great Help**

He discovered a homeward bound reveller searching at the foot of a lamp post and inquired the purpose of the search.

"Dropped me key," replied the happy one. They searched together for a few minutes.

"Exactly where did you drop it?"

"Round the corner."

"Then why on earth are you searching here?"

"Better light," was the reply.—Brockville Recorder and Times.

## TO EXPECTANT MOTHERS

**Letter from Mrs. Ayars Tells How Lydia E. Pinkham's Vegetable Compound Helped Her**

Spring Valley, Sask.—"I took the Vegetable Compound before my last confinement, when I got to feeling so badly that I could not sleep nights, my back ached so across my hips, and I could hardly do my work during the day. I never had such an easy confinement and this is my sixth baby. I read about Lydia E. Pinkham's Vegetable Compound in the 'Farmer's Telegram' and wrote you for one of your books. We have no druggist in our town, but I saw your medicine in T. Eaton's catalogue. I am a farmer's wife, so have all kinds of work to do inside and outside the house. My baby is a nice healthy girl, who weighed nine pounds at birth. I am feeling fine after putting in a large garden since baby came. (She is as good as she can be.) Yours is the best medicine for women, and I have told about it and even written to my friends about it." — Mrs. ANNIE E. AYARS, Spring Valley, Sask.

Lydia E. Pinkham's Vegetable Compound is an excellent medicine for expectant mothers, and should be taken during the entire period. It has a general effect to strengthen and tone up the entire system so that it may work in every respect as nature intends. All druggists sell this dependable medicine. Give it a trial. C

## HYMENEAL

**COWAN—ALEXANDER**

A wedding of interest to relatives and friends of Owen Sound and district was solemnized in Strongfield, Sask., Wednesday, January 28th, at the home of Mr. and Mrs. J. H. Alexander, when their daughter, Mary Ellen, was united in marriage to Martin Ernest Cowan, son of Mr. and Mrs. J. L. Cowan of Little Woody, Sask. The ceremony was performed at 10 a.m. by Rev. J. Russel, pastor of the Presbyterian Church of Broderick, Sask., in the presence of about eighty relatives and friends. The bride wore a charming gown of peach georgette over white satin, with trimming of gold lace, and carried a fragrant and beautiful bouquet of Ophelia roses, narcisse and fern. Her sister, Etta, was bridesmaid, gowned in nile georgette and bouquet of carnations and fern. The drawing-room where the ceremony took place, was tastefully decorated with streamers and carnations, roses and fern. Mr. Archie Davidson supporting the groom. After congratulations and signing of the register, the bridal party led the way to the dining-room, where a sumptuous wedding breakfast was served, the beautiful four storey cake being in the centre. The dinner-hour was merry with speeches, toasts. Later in the afternoon, the bride and groom left on a trip to Moose Jaw en rout to their future home at Little Woody, Sask., the bride wearing a costume of blue canton crepe and fur coat. The bride was the recipient of many useful and beautiful gifts. The groom's gift to the bride was silverware of Community pattern, to the bridesmaid, an onyx ring and to the groomsman, a set of gold cuff links. The bride, previous to her residence in the West, was a popular young lady of Bentinck.

It's funny language. People don't go south for the winter, it's for golf.

**Correct**

As a ship was leaving the harbor of Athens,, a well-dressed lady passenger approached the captain, and pointing to the distant hills, asked: "What is that white stuff on the hills, captain?"

"That is snow, madam," answered th captain.

"Is it really?" remarked the lady; "I thought so, but a gentleman just told me it was Greece."

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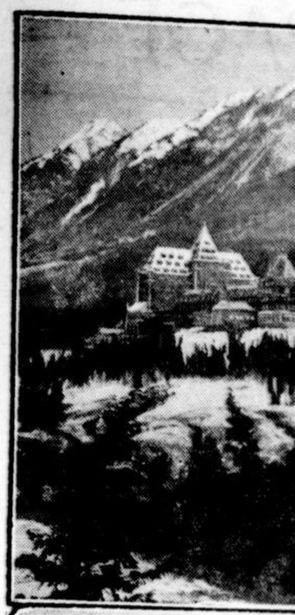
Fresh Groceries — Everything Cash — Fresh Bread



## Calgary and



Top left, Banff Springs Hotel in winter garb
figure skating, snowshoeing and ice yach

Banff. Immediately one conjures u
Bow River, the Valley, sunny s
summer dresses, ponies, excursions into
mountains, swimming in the pools, hi
and bathing suits. There are a t
memories of Banff in summer time. C
however, have any idea of this m
Winter. The thought at this season
feeling perhaps. Yet, after all, hav
better place could be found in which
short vacation after snow has fallen. O
more so than down on the plains where
are sweep uninterrupted.

Sheltered by the rocky slopes on p
high and with a drier atmosphere, th
an invigorating touch that stimulate
where elsewhere the country sleeps t
As Quebec is to the East, so, perhaps
degree, is Banff to the West. The
Sports.

Instead of going to sleep, the li
comes to life with the coming of sno
community effort follows the other
sporting activities culminates in Fe
seven day carnival in which all citi
of enthusiasts from all parts of the W

It will only be the case of a ve
tourists arrange their trips to take

## TWENTY YEARS AGO

From The Chronicle File of February 23, 1905.

James Smith, a resident of Bentinck, near Vickers, died on Friday last at the age of eighty-six years. He had been ill for some time.

Ben Woods will hold a credit auction sale of farm stock on February 28, Lot 15, Concession 2, Egremont.

We are pleased to lea... A. W. Hunter is again successful in taking honors in his medical examination at McGill College, Montreal. Out of the whole class, Archie stands fourth. In one year more he'll come out a full-fleged M.D.

The drug business, carried on for a number of years by the late Mr. Parker, is still being conducted by the estate. Mr. J. R. Gun has charge of it.

We learn that John McDonald has been appointed assessor of Glenelg for this year.

As we go to press this morning at eleven o'clock, Rev. Rural Dean Ryan is tying the knot which makes man and wife of Mr. J. Nicholls of Toronto and Miss Cora McClocklin of town.

We have just heard from Kenneth McKenzie of Port Huron, formerly of Glenelg, and feel pleased to learn that in his eighty-seventh year, he is enjoying better health than he has for many years.

On Friday last, there died in Normanby, Mr. George Johnston, brother of William Johnston of this town. Deceased was a resident of the township for thirty-nine years.

The regular meeting of the South Grey Farmer's Institute was held here Thursday afternoon and evening. About one hundred farmers were present to listen to the subjects discussed by the provincial delegation, Messrs. Kydd of Simcoe and Barbour of Crosshill. President W. J. Young was in the chair, but the convention seemed to sustain loss through the absence of the efficient secretary, George Binnie, who was on duty in Owen Sound—one of the County auditors. Misses Jessie Munro and Ida Wilson rendered pretty selections and were forced on every occasion to re-appear, while Mr. George Wright furnished some splendid music on the organ.

Orchard correspondence—Master Russell Gun of Durham visited at Mrs. A. Schram's last week.

An Thursday, the first meeting of the Women's Institute for 1905 was held in the town hall. After the opening remarks by the president, Mrs. D. McCrie gave a short account of the last meeting. She was followed by Mrs. David Hamilton who gave an excellent report of the meetings she attended as delegate to the convention in Guelph. Mrs. M. Girr gave a short paper on "Children," after which Mrs. C. McArthur spoke on the same subject.

Vickers' corresondence—Mr. Hunt had the misfortune to get one of his horse's legs badly cut while working in the swamp. Our sch