



### Single Tube Reflex Receiver

(Part Two)

#### Constructional Details

By R. M. SHERRILL  
(Radio Engineer)

As mentioned in Part One, the single tube reflex should be built to fit the particular amplifier tube that is used. This applies to the reflex transformer, shown as T<sub>2</sub> in Fig. 2. The secondary is wound with 50 turns of 24 gauge DCC wire on a 3/4-inch diameter.

It is desirable to space the turns by the thickness of the wire used. The primary of this transformer is wound with 50 turns of the same size of wire directly on top of the secondary. If the secondary winding has been spaced, the primary winding may be wound in the spaces between the turns of the secondary. This number of turns in the primary will probably be greater than necessary, but the exact number will vary, slightly under different circumstances and for different tubes, and must be determined by experiment. The method for this determination is given later.

The main tuning transformer, shown as T<sub>1</sub> in Fig. 2, is made as follows: The secondary is wound

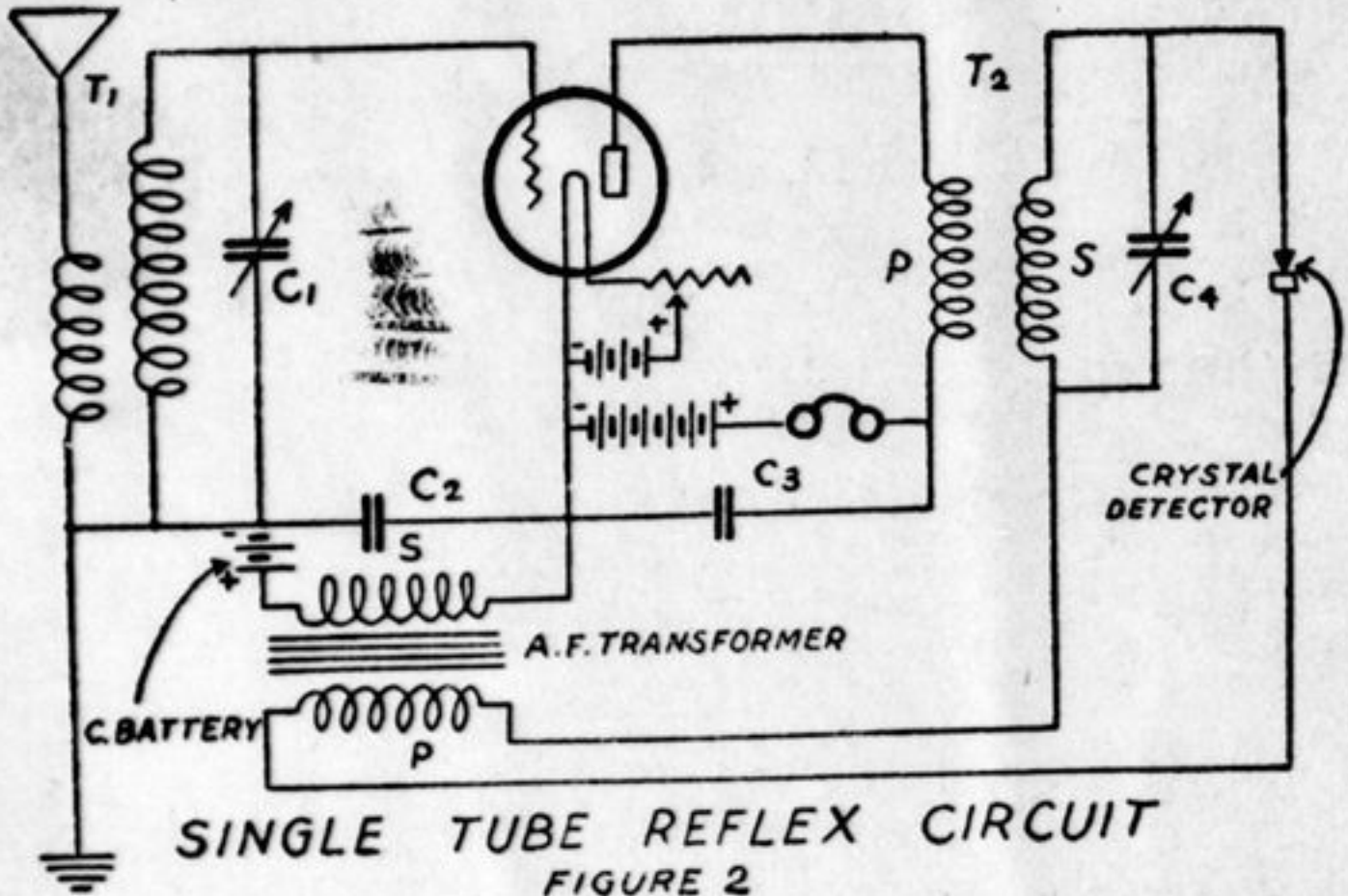
**Better Method**

A still better coil may be made by winding the wire over wooden strips placed symmetrically about, and running the length of the cardboard core. The advantages and details of this type of winding have been described in a previous article.

The primary winding consists of 10 turns of 20 gauge DCC wire wound over the lower half of the secondary coil. It is well to put a layer of paper around the secondary before winding on the primary. The primary winding should be spaced so that it evenly covers the lower half of the secondary.

The connecting of the different parts is comparatively simple if the wiring diagram is followed closely. The fixed condensers C<sub>2</sub> and C<sub>3</sub> are by-pass condensers of 0.001 mfd. capacity.

When the receiver is completely assembled connect up the batteries etc., adjust the crystal detector, and with C<sub>4</sub> in the zero position, tune



with 50 turns of 24 gauge DCC wire on a 3/4-inch diameter. These turns should be spaced by the thickness of the wire. As it is this coil, which, in conjunction with the variable condenser, is chiefly responsible for the selectivity of the receiver, it is well to use special care in its construction.

If the winding is to be on a cardboard core, the cardboard should first be thoroughly dried. It should then be covered inside and out with a thin coat of shellac or collodion and should be allowed to dry before using.

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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.

R. K. says: "I am using an Ultra-Audion built after the one described in your paper. I find it hard to use however, as it will not stop oscillating sometimes. Can this fault be overcome?"

Ans.—You can probably control the oscillating by using a lower resistance grid leak. It may be necessary to use a lower B battery voltage.

J. D. F. says: "I am trying to neutralize a Neutrodyne receiver, but when the filament is out in the first tube, everything is cut out. All the volume is not good now. Will it be better when the set is balanced? Would you advise making up a 5-tube Neutrodyne but with the push-pull in place of the straight amplification in the last stage?"

Ans.—Only very strong signals

should be used while neutralizing the tube capacity. These will not be cut out when the filament is out. The volume of the set will not be improved after neutralizing. The 5-tube set made up as you describe would be very much better.

G. A. T. writes: "I am using a crystal set for receiving local radio-telephone stations. Can I connect another pair of phones to the set? Should the phones be connected in series or in parallel with each other? Will the extra headphones make the signals any weaker?"

Ans.—A second pair of headphones may be used. If the phones are alike, they may be connected in parallel; if different, they should be in series. Try them both ways. The signals will be somewhat weaker with the extra pair of phones in the circuit.

### NORTHERN LEAGUE HOCKEY THIS WINTER

Enthusiastic Meeting of Hockey Players and Fans Decide on Senior N. H. L. Team.

Durham is to have league hockey this year, according to a decision reached at an enthusiastic gathering of fans and players in the Hahn House on Thursday evening of last week.

Despite little or no publicity given there was a big crowd on hand, and little time was wasted in getting down to business.

The following officers were elected:

- President—W. Calder.
  - Vice-President—J. N. Murdock.
  - Sec.—Treas.—M. Steinacher.
  - Managing Committee—J. A. McLaughlin, A. Noble, R. Whelan, R. L. Saunders, J. A. McLaughlin will manage the team this season.
- During the fore time as though no it looked for a time as though no league hockey would be played here this year, but with the prospect of

a good team in sight, it has been decided to play league hockey this winter.

At present, the outlook is very promising for a first-class team, and no doubt, with a few workouts, other good players will be in evidence.

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### HYDRO FOR FARMS IS TO COST LESS DECLARES BECK

Farmers Urge That Government Pay 100 Per Cent of Line Cost.

Impending reductions in the rates of Hydro power in the rural districts were announced, Wednesday of last week, by Sir Adam Beck to the members of the Agricultural Inquiry Committee of the Ontario legislature. The lower rates were declared by Sir Adam, to be the result of the Ferguson Government's legislation of last session, bonusing rural sec- ondary as well as rural primary lines by fifty per cent, and it was said they would go far towards meeting the views of the agricultural community on the matter of cheap power.

Views of farmers as expressed through half a dozen speakers were essentially the same, namely, that Hydro should be made available to the farmer by the government upon a more generous plan. An increase of bonuses to both primary and secondary lines. Exception was also taken to the 20 year contract to which farmers, at present, must oblige themselves.

A further plea was made for greater local autonomy, both in the matter of constructing lines, and in the matter of a group of farmers being given power, which is now given to municipal corporations, of making contracts for the sale of power from their plant, within their own district, where such contracts are approved by the Ontario Commission.

#### SIR ADAM'S THREAT

(The Hamilton Herald)

At the recent meeting of the Ontario Municipal Electrical Association, Sir Adam Beck complained bitterly of attacks on the Ontario Hydro Commission and pin-pricking criticism of himself as its chairman, and he threatened to resign if such attacks and criticism continue. The resolution of confidence in Sir Adam, which the association un- unanimously adopted, probably had the effect of soothing his ruffled feelings.

What he had reference to must have been the charges made by his former secretary, E. G. Settell, in a letter addressed to himself and intended for his eyes only. These are the only charges against the Hydro Commission or Sir Adam which, so far as the public knows, have recently been made. But it is rather odd that Sir Adam should be so much wrought up over what Settell wrote that he threatens to resign. Settell's charges might never have been made public had not Sir Adam himself demanded that they be publicly investigated. And Settell was one of his own subordinate officials.

The only persons likely to be affected by Sir Adam's threat are Hydro officials who, like Settell, have formed the habit of spying on fellow officials and taking notes of little episodes which to them look suspicious—notes which might be of service as blackmailing material some day. This may be the sort of pin-pricking which has got on Sir Adam's nerves.

#### WALKERTON GIRL VICTIM OF ATTACK

Found Unconscious By Roadside South of Town.—Forced into Automobile.—Remembers Nothing After Liquid Poured into Mouth.

Lena Leifso, a Walkerton girl, still in her teens, is alleged to have been the victim of a dastardly attack Sunday night, committed by a person at present unknown.

About 10 o'clock a party of Walkerton motorists found the girl lying on the roadside, just south of the town, in an unconscious condition. They secured medical assistance, and the girl was brought to her home, where her condition was found to be serious.

Although the girl is still suffering from shock and unable to give an accurate account of what happened, she claims that shortly after 9 o'clock she was stopped on the street, and, at the point of a revolver, forced to get into a waiting car. On entering the car a liquid was forced into her mouth, and she knew nothing more until she awakened in her own home some time later.

When she was found, she was raving incoherently and has not yet sufficiently recovered to give the authorities any information on which to start an investigation.

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VETERAN BILLIARD PARLOR

### ABOLISH THE GALLOWS FOR OPERATING TABLE

O. A. C. Professor. Thinks. Science Should Have Doomed Men.

That in order to facilitate scientific research for the benefit of mankind, those convicted by the state to pay the death penalty should instead be obliged to become the subjects on which scientists might make their experiments, was one of the suggestions advanced by Professor Dean of the Ontario Agricultural College, Guelph, in his address Monday evening to members of the Woodstock Rotary Club, who had as their guests the leading farmers of the community.

Professor Dean pointed out that a definite solution of the action of treatments could not be properly evolved by using rats and guinea pigs as the subjects of investigation, since the results had a different effect than they would have upon a human. This difference, he stated, was a perplexing one to solve, and the difficulties in this connection would be overcome when human beings were experimented upon. "I believe that's the only way to solve the problems that confront the scientists," he stated.

A mild outburst of laughter greeted Professor Dean's suggestion, but from the remarks which followed, it was quite evident that he was in earnest.

"The four sides of the dairy industry" was the subject on which Professor Dean addressed the gathering, and it was when dealing with the value of milk as a food product, set forth by the scientists, that he advanced this suggestion.

### PRACTICAL JOKE KING DEAD OF APOPLEXY

New York Rocked With Mirth at Some of His Famous Hoaxes.

Brian G. Hughes, who made the practical joke famous, died Monday of apoplexy at his country home in Monroe, N. Y. He was 75 years old.

The city rocked with civic mirth at two of Brian Hughes' jokes—they were his most famous hoaxes—because they took the wind out of the sails of two very dignified institutions, the Horse Show and the Cat Show.

Seventeen years ago he solemnly entered a horse for the New York show, the plus ultra event of fashionable horsemanship. The horse was a nag Hughes had borrowed from a horse car, and he entered it as "Puldekah Orphan, sired by Metropolitan and Damned by Electricity."

Puldekah got through several trials and almost reached the ring, but a canny judge happened to mull over the name and realized what it meant. But Hughes and the town had the laugh.

He had better luck with Nicodemus, a cat of the genus *Boverius allevisis*. He bought Mick for a dime, gave him a feed and a bath and entered him in the cat show at Madison Square Garden. A footman brought Mick ice cream and fried chicken, and the cat's price was fixed at \$2,000.

He took so many prizes that a woman complained that the judges were showing partiality. Others clamoured for a chance to buy Nicodemus. At the proper moment, Hughes exposed his own hoax and added the further information that

Nicodemus' name was really Josephine.

He and several companions planted a bag of "gold" bearing the stamp of the United States Mint on the beach at Ashbury Park in 1899, and Hughes, in bathing, "found" the treasure. There was nearly a panic among the bathers to grab the bul-

lion which was brass. Hughes and his friends were arrested for the exploit.

The hard part is to be good with- out envying the naughty. In this free country man can maintain his rights if he doesn't care what happens to his fenders.

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| ..... 39, 43, 69, 75, 99, \$1.39, \$1.49, \$1.69 |                          | Men's Silk and Wool Hose                 | ..... .59    |
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