

**"DYNAMIC"** (Lower Hutt) asks the following questions re "Round-the-World" Two:—

1. Can two UX199 valves be used?—  
Yes.  
2. If so, would the amperite be necessary?  
A.: A 30-ohm rheostat would be better.

3. I am using non-insulated buz-bar for wiring purposes. Will this make any difference?

A.: Not as far as the efficiency of the set is concerned, but it will not be as easy to work as glazite or a soft wire of that nature. The fact that it is uninsulated makes it very prone to short circuit.

Note: Re your S.O.S. for a reply by post. We are sorry your letter found its way into the batch for this week's issue. We hope you make the set up on the off-chance.

**"T.J.C."** (Dunedin South) wishes to make the four-valve screen-grid Browning-Drake described in last year's "Radio Listeners' Guide," and he finds that by connecting A+ to one condenser and A- to the other, he will be directly short-circuiting the battery.

A.: The grid return of the detector valve should go to A- and not A+. The 5 megohm grid leak should be connected to A+ as shown. In this manner the positive bias is put on to the detector valve.

**"G.J."** (King Country) complains that his reception is very poor. He states that he cannot use a 199 valve in the first stage as recommended by the makers, as it burns out too rapidly. He can use a 201A and does so without a resistance.

A.: A resistance of some description is essential in the filament circuit of 201A when using the 6-volt battery. An amperite or a rheostat of 10 ohms should be placed in the filament circuit in place of the resistance cartridge. The quality may be effected by many things, but probably because you do not have sufficient bias on your last valve. The impedance-formers in your set are probably giving trouble, as they have seen long service, and they are a weak spot in your type of set. There is very little that can be done except by an expert, as you might go to a great expense in replacing the impedance-formers with transformers and then not get results commensurate with your expenditure.

2. I live in a valley and run the aerial between the surrounding hills, so that in all I have very nearly 200ft. Is this a good or bad aerial?

A.: It is too long. Selectivity will be sharpened by using the lead-in only.

**"PYE"** (Mangaweka) has a five-valve portable set, and has been unable to procure an A battery to fit. The size is 5 x 4 x 4 inches; he wishes to know where he can obtain one.

A.: We do not know of an agent, but the DTC battery should fit your receiver if you can obtain one. Try some of the leading firms in Auckland, Wellington, or Christchurch.

**"ROTARY"** (Gisborne) states that he has tried to add a screen-grid booster to a 8-valve screen-grid receiver. He asks:—

1. How to add a screen-grid booster to the set?

A.: You may have considerable trouble in placing a screen-grid before a set of this nature. You should have defined your troubles more clearly.

2. How can I get better results with a pentode in the last stage. The present results are poor.

A.: A pentode needs fairly high voltage of the order of 135 to 180 volts, and grid bias between 12 and 18 volts.

3. Is it impossible to fit the screen-grid detector? An effort I made resulted in splendid daylight reception, but the set was too unstable for ordinary use.

A.: The set is designed for ordinary valves, and when you commence making alteration of this description trouble is invariably encountered.

**"PUZZLED"** (Gisborne) asks the following questions relative to his 5-valve factory-operated receiver.

1. What is the best combination of valves for the R.F. and A.F. circuits?

A.: You should use a medium power valve in the last stage. The detector should be a special valve, not a 605, which is a last stage valve. Try changing over the 201A in the last stage with the 605 now in the detector socket.

2. Will a moving coil speaker work from a set operated on 90 volts?

A.: Not usually satisfactorily.

3. Can microphonic valves be remedied apart from the cap.

A.: Very rarely.

4. When the plates of an accumulator lose their coating is it worth while applying a new coating, and how?

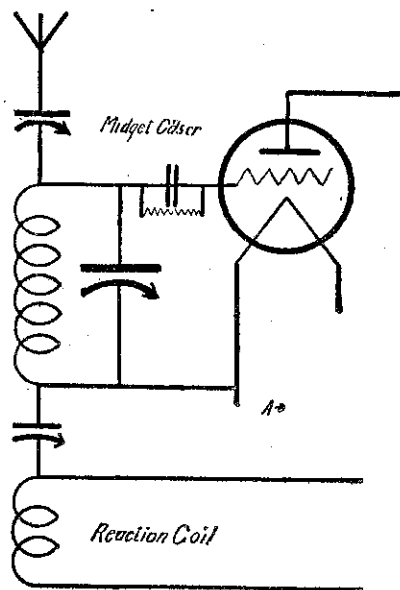
A.: This is a job for a battery specialist, and we would not advise you to attempt it yourself. By examining your battery he can tell whether it is worth while.

**"THICK-HEAD"** (Lower Hutt) wishes to construct "Round-the-World" Three, and using valve base coils. He asks the number of turns for the coil.

A.: The approximate number of turns is as follows:—

Secondary.	Reaction.	Wave-band.
2½	2½	9-16
5½	5½	15-30
8½	10½	28-55
15½	14½	50-110

The figures for the wave-band are approximate only. A diagram accompanying shows how to avoid the tapping on



the secondary coil which would be fairly awkward on coils of this type.

2. What gauge of wire would be required?

A.: The secondary coil is wound with 26 DSC wire, and the reaction coils with 30 DSC.

3. Does this circuit lose any efficiency insofar as short-waves are concerned as compared with a straight out short-wave set?

A.: The valve base coils used in this circuit will slightly decrease the efficiency. As far as the all-wave properties of the circuit are concerned, it is the long waves that will suffer.

4. Will any alteration be required in the wiring if valve base coils are used?

A.: The alterations are shown in the diagram.

**"R.T.D."** (Rununga) has had difficulty with his all-wave receiver. It suddenly bursts into oscillation with the reaction condenser right out. On other occasions, the volume builds until the set bursts into oscillation. On short wave the set does not oscillate freely.

A.: Give the screen-grid valve a slight negative bias by connecting the .0005 condenser now connected to earth to the

## Nelson Radio Club

### An Enthusiastic Body

THE annual meeting of the Radio Club was held in the Institute rooms on Tuesday, the 15th. There was a large and enthusiastic attendance of members and intending members. After the secretary had presented the report and balance-sheet the patron of the club (Mr. W. Lock), who was in the chair, congratulated members on the fine work accomplished during the year, and stressed the importance of listeners joining the club.

The report stated that much had been done during the year in construction work, and several fine lectures delivered. Also after a general meeting of listeners a deputation waited on the local radio inspector to see whether anything could be done to eliminate power-line interference, etc. The club has to thank the inspector for his prompt action in the matter, and also Mr. Fleming, the city electrical engineer, for his help in testing the different power lines.

The committee were fortunate in securing the attendance of Mr. Clive Drummond, 2YA, at a hastily summoned meeting. Mr. Drummond gave some useful and interesting information on broadcasting, and as this was the first opportunity there has been of meeting anyone from the Broadcasting Company here his talk was very much appreciated. The Radio Club wishes to thank Mr. Drummond very heartily for giving up so much of his short time here to them. The club also desire to thank Messrs. Wilkins and Field, Mr. W. Richards, and Mr. C. T. Webley for demonstrations which were greatly appreciated by members.

negative terminal of a bias battery. Check over the connection to the grid of the detector and be quite certain the grid-leak is quite all right. Keep the lead to the grid of the detector as short as possible. We are returning your diagram with some suggested alterations.

**"ANNOYED"** (Taumarunui) gets a shock every time he touches the phones of his battery set.

A.: This can be prevented by incorporating a choke and condenser shown on page 38 of our issue of April 11. Disregard to connections to speaker 2. This will stop all A.C. current getting into the phones. It does not necessarily signify a short-circuit or a leakage.

## Eliminator Construction

### A Word to the Wise

THE following warning with regard to radio apparatus connected to the electric light mains have been issued by the Electric Supply Department in Sydney. It is of interest to New Zealand constructors as it emphasizes the care that must be taken during the making of home built power packs. In our descriptions care is taken that the specific actions, if followed, will ensure perfect safety and comply with New Zealand regulations. They should be followed carefully. The Sydney Department says most of the radio receiving apparatus which has been in use until quite recently has depended, for its electric current, entirely on batteries. This apparatus even when constructed by amateurs is quite safe and suitable for operation by wireless enthusiasts. With the wireless apparatus now coming into use, current is generally obtained from the house lighting mains to operate battery eliminators, trickle chargers, and "all-electric" sets. This apparatus is equally safe if constructed in accordance with well-defined rules, and is connected in a permanent and workmanlike manner. Unfortunately some of this apparatus is constructed and connected in an improper manner by inexperienced persons. When constructing electrical apparatus intended for connecting to the house lighting mains, the following points should receive careful consideration:

"The apparatus must be wired and connected in a permanent manner, or through a proper outlet.

"All flexible conductors used for connecting to the supply must be of A grade—the type suitable for use on 230-volt installations.

"The 230-volt terminals must be completely protected from accidental contact. Where the cases are of metal, they must be connected to earth with a stout wire having proper terminals at each end. This is most important.

"Transformers intended for connection direct to the house lighting mains must be properly designed for their purposes with independent primary circuits and the covers and frames must be effectively connected to earth."

### WANTED AND FOR SALE

For column of casual advertisements see page 31.

## For Your Benefit!

We suggest that you listen to the  
**FARRAND INDUCTOR DYNAMIC**  
before you decide on a new Loud Speaker.

Hear its Full, Rich, Mellow Tone. Note the absence of distortion. It has no moving coil and does not require any separate field excitation.

ASK YOUR DEALER FOR A DEMONSTRATION.

Sole N.Z. Agents: **L. M. SILVER & CO. LTD.,**

Tory St., WELLINGTON.