2000 variable with the .5 or 2 mfds. condenser?

A.: A thousand ohms is generally considered ample.

5. Is the circuit submitted O.K. or should the grid return of the detector valve be connected to A+ instead of A—?

A.: It should be connected to A+, but if you wish to use single dial control take the grid leak from the grid side of the grid condenser to A+ and earth the grid return.

6. Three r.f. chokes are shown. How should the turns be wound?

A.: You will need 1000 turns for broadcast, but both these and the short-wave chokes have been very fully described in the "Guide," which apparently you have. Follow these descriptions.

7. What value fixed condenser is required in series to reduce .00035 to .0001?

A.: .00015.

8. Could you give me certain coil specifications?

A.: We are publishing either this or next week full specifications, and you can get all the information you require from these.

9. What four-volt valves would you use with a Daniells Cell "A" battery?

A.: Use the UX221 type, which require only .06 of an amp.

10. My 5-valve set uses 1 r.f. and 3 transformer-coupled a.f. stages. There is a high-pitched squeal when using the 5 valves.

A.: This results through using too many a.f. stages. Very little can be done. You could try reversing the connections to the primary of one of the audio transformers. See that your last valve is biased properly and earth the cores of the transformers.

"MAGNET" (Wellington): How can a permanent magnet be remagnetised?

A.: There are several methods. The best is by winding a coil of wire around it and passing direct current through the coil. The current must run from the South Pole to the North. Another way is to take another magnet and stroke the permanent one in the one direction only.

2. Where can a permanent magnet of the size used in a pick-up be bought?

A.: Try one of the local dealers, who will probably get one for you.

3. Is a power or semi-power valve to be used in a three-valve set?

A.: If you want good quality a semi-power valve should be used, but usually a g.p. valve with appropriate bias is good enough to handle fairly weak signals. One of the B406 or the new B409 should be suite suitable.

4. How many turns of 36 d.s.c. tuned with a .0003 condenser are needed for a wave-trap?

A.: We would not recommend 36 d.s.c. wire on a 3in. former. Descriptions have been published in the "Guide" and in the "Record" of good wave-traps. Furthermore, further descriptions will soon be appearing.

5. What volume and distance should a three-valve short-wave set be capable of?

A.: You should be able to get stations all over the world at good phone strength.

6. Where could I get particulars for a transmitting license?

A.: We are soon starting on a series of articles on this topic.

7. One of my valves buzzes when a high loud note comes through.

A.: This is due probably to a defect in the valve itself, but so long as it does not interfere with your reception do not worry about it.

8. My loudspeaker requires 300 volts in the field, and I want to run it from a 600 volt full wave transformer. What value resistance will I need?

A.: 8000 ohms to pass 35 m. amps., and insert the resistance between the filament of your rectifier and speaker coil.

F. F.B. (Roslyn): Is the diagram of my circuit correct? It is intended for all-wave.

A.: You have shown your valves in series, but they would be better in parallel. Possibly you mean them as such. Coil is not advised unless selectivity is a prime factor. The valve combination PM3 and PM4DX is quite a good one, but use the 4DX as detector, for it is specially designed for that socket.

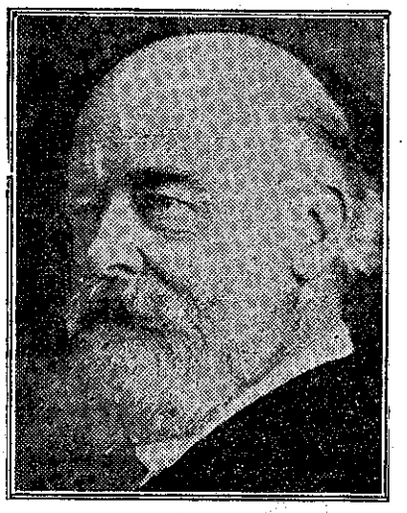
2. Is resistance control reaction as efficient as the condenser method, or does it reduce volume?

A.: It is equally efficient and so long as it makes the set oscillate will not reduce volume. The resistance must be of the finest quality and must work smoothly.

3. I have an aluminium plate and the moving coils of my condenser and the rheostat are connected directly to it. Is this satisfactory?

A.: Yes, but always watch your wiring to make quite certain you are not getting a short circuit, as it is very easily done with an arrangements such as this.

4. Does the Centralab resistance fixture make electrical connection with the instrument?



SIR OLIVER LODGE, who predicts that in the near future the whole world will be linked up by wireless and broadcasts will be received with the same clearness as local programmes.

A.: They usually do, but you can find out for certain by testing the terminals and the part attached to the panel by phones and cell.

5. Hand capacity is bad when the earth is disconnected.

A.: Then do not disconnect it.

6. What type of receiver does Mr. Sellens use?

A.: A fairly straight receiver of the Schnell type.

LIGHT (Christchurch): Could I use an r.c.c. unit between a crystal set and my Loftin-White?

A.: If you had one you could try it, but we very much doubt if it would work.

2. What difference in volume would there be using a good transformer or an r.c.c. unit?

A.: The transformer is the safer to use, but really the best plan for local reception is to use the tuner, comprising a coil and condenser. Are you following our articles on the Loftin-White now running?

D. C.D. (Auckland).—I am interested to see your series of articles on the Loftin-White, and would like you to publish constants for Philips Valves.

A.: Quite an amount of work is involved in changing the valve for the Loftin White, and at the present time we are working with a fair measure of success with the new E406 in the last stage. The constants will be published in due course.

AUDIO (Eketahuna).—Can a screen grid valve be used in the first audio stage of "R. and W.3"?

A.: It cannot be used successfully unless the Loftin White hook-up is employed.

2. Can the super-heterodyne short-wave adapter be used with batteries?

A.: Yes; see our answers to a correspondent last week.

3. When are you going to publish a circuit using a screen grid valve as a detector?

A.: We have committed ourselves for future articles quite a lot lately, and do not feel like making any more rash promises, but we will keep your suggestion "steadily in view."

E. K. (Dunedin).—Could I build a set using all home-made parts except the valves?

A.: Yes, we described an excellent little set of this nature in our issue of September 3, 1929.

2. Where can I obtain a book on making home-made wireless parts?—Te Aro Book Depot, Wellington.

3. Would a 7-valve super het. be equal to a 4-valve B.D.?

A.: Yes, it would be more sensitive.

4. Where could I obtain a circuit diagram of the super het. worked on an outdoor aerial?

A.: "Wireless Weekly." Te Aro Book Depot, has supplies of this number.

FEARLESS (Wellington).—It is bad for an a.c. set to be worked on Wellington's harmonic continually?

A.: No, but it is not a wise plan, because not only are you more subject to atmospheric noises, but the quality is not so good. If you have trouble in controlling the volume, take off the aerial for Wellington.

HAR BO (Wellington).—I have just renewed my valves with the exception of the power valves. Is this damaging the set?

A.: No, but as they are about the first valves to go you are probably losing a good deal of strength.

J. T.S. (Wangaloa).—Would a battery of 9 cells, as described in the "R.R." be sufficient to keep a six-volt accumulator charged, the rate being 1.16 amps?

A.: Your consumption is just a little high but the experiment would be worth trying.

2. Would the Epsom Salts solution be as effective as the sulphuric acid?

A.: The Epsom Salts is worth trying as it is usually lighter on the zincs. Other than this sulphuric acid is the better.

FIVALVE (Napier)—Some time ago I constructed a Daniel Cell A Battery charger as described by "Hard-up". When first assembled the charger gave 8 to 9 volts, but it later dropped to 6, where it has remained ever since.

A.: This is probably nothing to worry about as it may be due to the heavy drain your set is imposing upon it. So long as it keeps your battery charged there is little to worry about.

2. "Hard-up" gives saturated solution of Epsom Salts—your most recent article half saturated.

A.: It was found that the saturated solution of Epsom Salts was little hard on the zincs so the half saturated was recommended.

3. I am using pure copper sulphate which costs 3/- a lb. Would commercial copper sulphate do the job?

A.: It is most unnecessary to use pure copper sulphate. Ordinary bluestone, which sells at about 6d per lb. is perfectly satisfactory.

4. The glass jars are very small and only about 1-8 of an inch away from the porous pots. Is this a possible cause of the voltage drop?

A.: In that you have not a great amount of copper sulphate solution outside the porous pot it is a possible explanation of the voltage drop. Why not use larger jars?

DANIELL (Nelson)—I built the Daniel cell charger described by "Hard-up" and it is working well but lumps of copper formed on the porous pot and in time they grew into it and broke it. Why does this happen?

A.: Are you using pure rain water for it seems that there is chemical action other than that which should take place, operating. Try lessening the amount of blue stone in each pot and watch your porous pots and scrape off the bluestone immediately it is noted. Your copper sulphate solution is probably over-saturated—hence the formation of deposit.

A GRADUAL weakening of reception is often due to a loose or dirty contact in the aerial or earth lead, to the "B" battery running down, or to the phones or speaker becoming de magnetised.

ORDINARY coil plugs and sockets make quite good loudspeaker extension connections, the sockets being mounted upon the skirting-board and the plug attached to the lead of the loudspeaker.

LISTENERS must attach this coupon to all queries sent to the Technical Editor (Box 1032, Wellington). Questions arriving without it are likely to go astray or be delayed.

Name of set .....

Number of Valves .....

Name .....

Address .....

.....

.....

Nom de plume .....

To be kept in subsequent inquiries.

Date .....

Please Note:—

(1) Be specific and brief, tabulating, if possible.
(2) Write legibly, and on one side of the paper.
(3) We do not design circuits, but accept suggestions for feature articles.

Solving trouble, as different from advice, is difficult by correspondence and while letters are given every consideration, answers are not necessarily correct—they are only our opinion based on the matter supplied, which may be quite inadequate. Intricate and involved specifications cannot be supplied without a specialist's fee.