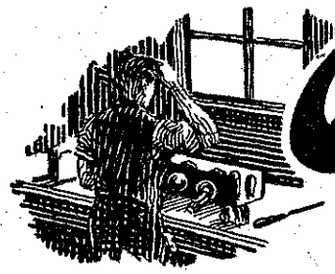

Questions and Answers

In Brief.

W. J.P. (Hokitika).—You can obtain a suitable unit from Rodger Importing Company, Christchurch.

J. I. BILTON, Lowburn Ferry, Otago, would like to hear from a listener who has assembled a 4-valve A.C. Browning-Drake in regard to volume, range, etc.

Speaker Terminals.

"WAIKAWA" (Picton) asks the reason of three terminals on a Baby Grand speaker. He states that he heard an explanation from the Gisborne station one evening, but the critical part was spoiled by static.

A.: The three terminals consist of a common and an alternate for the positive, which connects with either of two impedances so that the speaker impedance may be as nearly matched to that of the last valve as possible.

2. Why does a Ford generator run hot after charging for one or two hours?

A.: This is quite usual in this type of generator. On some occasions they get so hot that it is impossible to bear the hand on the body.

Obtaining an Earth.

WISHING to obtain the best earth possible "Earth" asks if the following is quite in order:—I intend running a wire under the aerial, buried about a foot and connected to four plates, each about six feet under the surface. Is there any need to have the lead wire of each plate to the main earth exactly the same length and spaced evenly?

A.: This will make a good earth. It is, of course, working on the large condenser plan, and the plates may be regarded as being one over the other. In this matter optimum capacity of aerial and earth system may be obtained. There is no need to have the spacing and the wires exactly the same. The correspondent states that he will have to deviate slightly from his original plan, and take some of the earths to an angle. This will not appreciably affect the working of the set.

Coil Design.

"W. H." (Otago) finds that he cannot tune the whole of the broadcast band with his .00015 condenser, so asks the specification of a suitable coil. He states that 4QG is the lowest frequency station he can get. He just misses 2YA.

A.: With a small condenser it is impossible to cover the whole broadcast band with one coil. Condensers of this type have the advantage of being able to separate the stations better than the larger type, but it is impossible to construct one coil that, in conjunction with this condenser, will cover the broadcast band. Another will have to be designed. and although the correspondent has not stated the diameter most suitable, we offer the following as a suggestion:—Diameter 2½in., size of wire 24 gauge DSC, number of turns 100. The lower frequencies may now be covered satisfactorily.

Circuit Required.

COULD you oblige me with the circuit for an Airzone 3 coil tuner? asks "A Radio Enthusiast."

A.: It is not clear which you mean, one for a DC or an AC set. As soon as possible we shall publish a circuit of a three-coil tuner for an AC set. If you require DC, please write again.

ANOTHER correspondent, "G.M." (Christchurch) asks for such a circuit as the above to work from AC. This correspondent should see the answer to the above.

Pentode's Push-Pull Amplifier.

I INTEND to construct the push-pull amplifier described by "Pentode," writes E.H.B. (Inglewood) but am not clear on two or three points. In my set the A+ and B— are connected together, while on another terminal B— ground and C+. In the push-pull amplifier A—, B— and C+ are in the same terminal. What shall I do?

A.: Take your A+ off the B— terminal, and put it on one by itself. Connect A— to B—, C+ and ground. If this is not convenient, disregard the B— to the amplifier.

Questions and Answers

OUR Question and Answers Department are always prepared to give consideration to the problems of our readers. This service is gratuitous, but a few courtesies are asked.

1. All technical correspondence should be addressed Technical Editor, "Radio Record," Box 1032, Wellington.

2. Be brief, do not make apologies for writing, and where possible, set out the questions in tabular form and state name.

3. When diagrams to be returned or a query of a nature that is not suitable for discussion in the columns is sent, include a stamped and addressed envelope.

4. In general we cannot undertake to discriminate between competitive trade apparatus.

5. If you prefer to use a nom-de-plume keep the same one if writing again. This helps in the entering of the queries for future reference. All letters must be signed with full address. Initials will be used in answering.

Another Push-Pull Problem.

HAVING read your article on push-pull, I would like to incorporate it in my set, which uses 201A and a 603 as a power-valve. Can I use another 603 in push-pull?

A.: Yes, C603 is the equivalent of 171A, and is quite a good power-valve, especially when used in push-pull.

Transformer Problem.

O. L.C. (North Otago) wishes to construct an amplifier using Ferranti Transformers, but he is at a loss to know the designations of the transformer to use.

A.: Input AF3C, output, if an ordinary speaker OP3C (1 to 1). If for a dynamic cone speaker, which is not provided with an output transformer and yet requires one, an OP4C with a 25 to 1 ratio. If the correspondent wishes at some future date to use a dynamic speaker he could use OP4C and disregard the secondary terminals connecting the plate terminals of the primary directly to the speaker. This is a method of output filter arrangement now becoming very popular. It is technically known as choke output.

2. Can you supply the data for constructing an RF choke?

A.: As several correspondents have asked for these details, "Cathode" will devote an article to this subject.

See notice published on this page.

Circuit for a Charger.

COULD you supply a circuit for a Tungar bulb? asks "F.G.V." (Masterton).

A.: Sorry, Mr. "F.G.V.," but this is a trade circuit, and we are unable to publish any details; in fact, you are not allowed to make it up. A and B battery chargers can be obtained for a ridiculously low sum, and it would not be worth while making one.

Connecting a Microphone.

HOW can a microphone be connected to an amplifier, asks "S.E." (Taranaki).

A.: There are two types of microphones, having two and three connections. The cheaper carbon microphone has two terminals, one is connected directly to the primary of a suitable transformer, and the other to a small battery to the transformer. Such a transformer has a step-up ratio of 1 to 100 or 1 to 200. Their manufacture would be very laborious, but they could be obtained from certain dealers. Try Hartle and Gray, Auckland.

2. What is the amperage of a 6-volt dynamic speaker? What trickle charger would be best to use for it?

A.: About half an amp., so that an ordinary ½-amp. trickle charger will do the job. If there is any hum, shunt it with an electrolytic condenser, or one with a very high capacity.

3. What B battery do they work best with?

A.: As high as possible. Very satisfactory results can be obtained from 135 volts upwards, but for power amplification 250 at least should be used with the UX245 type of valve.

4. Which will give the more volume, C603 or B605?

A.: The latter, but it will not be able to handle the same undistorted output as C603. Unless used in push-pull, 605 is not suitable for a power amplifier.

Connecting Audio Transformers.

WHAT are the correct connections to the audio transformers of a neutrodyne set?—T.H. (Houghton Bay).

A.: The terminals marked "G" on each transformer are connected directly with the grid of the following valve. GB is connected with a grid bias negative of suitable value, or, if this is not provided, to F—. Of the primaries P is connected to the plate of the preceding value and B is connected with the power supply in the case of both transformers. In the first case, it should be about 40 volts, in the second, about 90.

2. I have found that amperites are unnecessary with Philips valves.

A.: Yes, naturally. Amperites are merely resistances, designed to cut down the voltage from a 6-volt battery to 5 volts for various American valves. Where the voltage of the value is 6, and is used with a 6-volt battery, a resistance is obviously unnecessary. A simi-