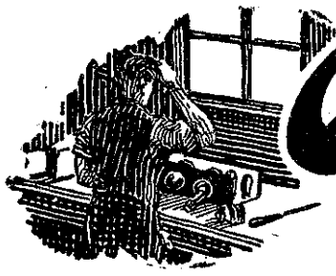

Questions and Answers

Power Transformer Problem.

WHY is it, writes H.M. (Wanganui) that I cannot draw more than 15 milliamps from a transformer that I have built for an eliminator? I am using an old core filled with 38 gauge wire for a choke.

A.: We suspect the choke; it should be of a coarser wire, say, 34. It is possible that the condensers have broken down or at the least are leaking. You should have stated what the voltage drawn at this drain was. The windings would have better had they been on one leg instead of two; construct a choke such as described in the Radio Listeners' Guide.

Screen Grid Short-wave Set.

WOULD it be possible to construct a four-valve a.c. screen grid short-wave set using the same speaker that is used with a broadcast receiver?

A.: Short-wave screen grid sets are difficult to construct and difficult to handle. We would not advise any amateur to undertake the task.

Trouble after Rebuilding.

I have rebuilt my receiver, but find that although results are good, the condenser controlling the radio coil is not tuning as it ought to.—C.G.L. (Palmerston North).

A.: Is the dial moving the condenser? The writer has found this quite a common cause of trouble with this stage. The redisposition of the parts might have introduced stray capacities that might have altered the capacity of the coil and condenser, and thus altered the resonance points. This is not unusual and it is quite likely the difficulty in this instance. It cannot altogether be altered unless the set is rebuilt and if it is giving satisfactory service there is no point in changing.

Pentode's Crystal and Amplifier.

I HAVE had good results with the crystal set and amplifier described by Pentode, writes Carborundum (Wellington), but I have had trouble with the reaction. This I cannot get to function, though I have tried the usual methods of attack. Would I be able to embody condenser controlled reaction?

A.: See the description of the "Tetrode" crystal and amplified in our issue of August 9, 1929, and use the same method of applying reaction in the "Pentode" circuit. In fact, the "Tetrode" set is the same as the "Pentode" with the exception of the condenser controlled reaction and the tetrode valve.

Short-wave Problem.

I AM building a short-wave adapter and am employing a .0001 tuning condenser. Can I use a grid condenser of .00025 mfd. and a leak of 3 megohms?—"J.P.B." (Patea).

A.: The grid condenser is all right, though for the very best results you should try several to see which functions best in your circuit. We are afraid that the grid leak is a little too small; usually eight megohms are required for efficiency.

Short-wave Circuit.

I SHOULD like your views on the enclosed circuit, writes "Crystalline" (Wellington). What is meant by the numbers on the coils?

A.: The circuit is one designed specially for English conditions and, we are afraid, would not meet with the approval of the Post and Telegraph Department. The coil numbers refer to coils specially designed for English sets and which are not generally obtainable in this country. The wavelengths are usually greater than those to be received out here, with the result that the coils are much larger than required here. American sets are usually more suitable for our conditions.

Applying "C" Battery.

I AM operating a factory-built receiver and want to apply the correct amount of bias in the right place, states "Radio Fan" (Levin). One post is marked C— 0—40 and th other C— 0—6, but this latter is joined to the C+ terminal. II have two "C" batteries with tappings at 4.5 and 3 volts. What is the best arrangement for the tappings?

A.: It all depends on the type of the valve in the last stage. You should have noticed what this was and then we could have given you some material help. As it is, we can only approximate. Join the two "C" batteries together so that the positive of one is to the —4½ of the other. Connect the remaining C+ to the C+ post of the set. Disconnect the connection between C— 0—6 and take a lead to this from the intersection of the two batteries. If this arrangement does not give the required quality, try varying the taps. If the last tapping (—9) for the last valve (0—40) tap gives the best results, but is yet not good enough, obtain another bias battery and add this in the manner already described (the last negative tap of the existing combination, —9, to the positive on the new battery), and take the lead to the 0—40 terminal on the set.

2:I have seen many "Umbrella" aerials. Are these superior to the usual L or T type?

A.: No, they are usually a compromise when cramped for space.

Defective Speaker.

I CAN obtain good phone strength from my set, but it will not operate a speaker from which there is not the slightest sound. Is the speaker inseisitive?—C.M. (Granity).

A.: Probably. You do not state the make or type, so that we can only guess. Of course, it cannot be expected that the speaker will be as sensitive as the phones.

Adding Another Valve.

I HAVE a six-valve commercially made receiver and I wish to add another valve and later turn it into an electric set by adapter harness. I shall then combine my gramophone with it. I propose to use 201A valves with the harness.—L.H. (Mercer).

A.: We do not advise you to attempt to add another valve to the existing combination as the whole set is designed round the valves and there is probably no room for the extra one. As for the conversion, there is probably a mistake regarding the valves. It is evident that you imply 226 type when you say 201A for these latter are not suitable for an a.c. set. Furthermore, the 226 is more or less out of date and the results are not equal to those of the 227, for the use of which we do not know any harness. Before purchasing the harness try it out (your dealer will probably co-operate here) and compare the result with an a.c. receiver of an equal number of valves. The life of valves under proper conditions and with ordinary care should last 1000 hours of continuous service.

2: I have a magnetic speaker. Would it be essential to use the dynamic with the electric combination?

A.: No, the dynamic can be used with either d.c. or a.c., likewise the magnetic (Musicone), but in each case the dynamic is the better.

Neutralisation Difficulties.

WOULD you answer the following questions relative to a five-valve kit set that I made up? asks B.P. (Hokitika).

1: The neutralising condenser makes no difference and I cannot advance the rheostat without the set bursting into oscillation.

A.: It is presumed that you have carefully examined the neutralisation circuit for possible opens or breaks, and that this condenser is in the position specified by the manufacturers of the kitset. Try one of the new vertical mounting neutralising condensers, a 201A valve in the first socket, radio sockets. It is probably the fault of the neutralising condenser.

2: Is there any difference in the way the primary of the r.f. transformer is connected?

A.: Yes, reverse the connections till the best results are obtained.

3: Could I attach a screen grid booster to my small set (diagram enclosed)?—Yes.

Bell Ringing Transformer.

I WISH to make a bell-ringing transformer. What are the particulars? asks E.H.B. (Opawa).

A.: See Listeners' Guide "Transformer Construction" for constructional details. You will require a core of 1½-inch stalloy, primary winding 1070 turns of 36 guage wire, secondary 64 turns tapped at the 52nd. Use 22 d.c.c. for this.

D.C. Eliminator.

WOULD you give me the particulars of a d.c. eliminator to work from d.c. lights?—H.G. (Hamner Springs).

A.: There have been several requests for a circuit of this type, so we shall publish one in the course of a week or so.

"ELIMINATOR" (Auckland) asks some questions for a d.c. eliminator, but we shall defer answer of these in view of the publication of the full constructional details in a future issue.

Radio as a Career.

DOES radio as a career offer any prospects? asks J.B. (Palmerston North), and what is the best way of learning it?

A.: Radio is passing from the hands of the amateur into those of the skilled engineer and as such you should have a good opportunity for progress. Wireless operating aboard ship provides an excellent chance for you to see the world. For full particulars as to study, write the Director, Johnston's Wireless School, Brandon Street, Wellington.