can be done by the correspondent himself. We cannot supply the circuit of a trade receiver.

Microphone Amplifier.

INTENDING to construct the microphone button amplifier, I should like constructional details of the 1 to 100 transformer, asks "H.L." (Wellington).

A.: This would not be satisfactory. This type of amplifier has gone out of date long ago, and you would be disappointed with the result. However, if you wish to make the transformer the following details should suffice. Obtain a set of standard stampings (Ballingers), and wind, say, 1000 turns of 42 gauge wire for primary. The secondary would be 100,000 turns of 46 wire. In the opinion of the writer this would be a waste of time and money.

Output Choke v. Transformer.

WHICH is the most satisfactory manner of operating the output of my set, asks "G.B." (Gisborne), as a choke by connecting the primary and the secondary and using the centre as a centre tap, or, as a straight out transformer.

A.: Using the centre has one or two serious limitations. The secondary has probably finer wire than the primary, hence the impedance would be different. This would cause unbalance. The higher impedance on the secondary would no doubt be the cause of uneven plate voltage while with current passing through the secondary would probably burn it out before long. The transformer would be alright in the intervalve stage of the set, but all the amplification would be in the valve itself. The ratio would no doubt be one to one.

Valve Base Coils.

ARE coils wound on the bases of valves as efficient as those on a three-inch former?—Wavemeter (Bienheim.)

A.: Theoretically, no; but the greater convenience of these wins them favour in all recent types of sets. Actually there is little difference between the operating efficiency of a set of these and a set of the larger coils.

2. What are the specifications of a valve base coil to cover the broadcast band when tuned with a .00014 condenser?

A.: Two coils are necessary.

(a) To tune between 550 and 325 metres a winding of three inches of 32 s.w.g. d.s.c. (225 turns).

(d) To tune below 325 metres a winding 1½ inches in length, approximately equal to 100 turns. If the base is not long enough, extend it by strips of celluloid.

3. Could you give me the details of a wave-meter?

(a) The publication of such details would, at the present stage, not warrant the space. The details can be found in "Radio Amateurs' Handbook," obtainable from radio booksellers, or failing them, from the Te Aro Book Depot, Wellington.

Power Line as Aerial.

LATELY 2YA has been coming in irrespective of tuning, states R.M. (East Coast). This does not affect reception, for I can receive the American stations.

(a) It appears that the mains are acting as an aerial. Place R.F. chokes in the back lines from the mains.

Adapting a Filament Winding to A.C.

HAVING made the original "B" eliminator, which, by the way, is giving excellent service, I now desire to use the filament wiring, provided but not in use, to operate an A.C. valve.—A.M.K. (Wellington.)

A.: The filament wiring can be used with a four-volt valve taking up to 3 amps. The introduction of an A.V. volt-meter would save an amount of trouble. Four-volt A.C. valves are at this time made only by Phillips. P.M. series are identical with the American. Use the indirectly-heated type (E415).

A New Invention

Home-made Records

A NEW German invention, by which hours of speech and music can be recorded very cheaply on a small, light apparatus, will very shortly be on the Continental market. The underlying principle is that instead of impressions being made on a given record by cutting or grinding, they are made by pressing. The finished cast is very similar to a gramophone record, and the diamond hammer used for recording the sound impressions is nothing but a pick-up device operated the wrong way about.

The main use of this invention will probably lie in the adoption of spoken, instead of written, communications. For this purpose, a material known as "Cellon" is used. This is a non-inflammable celluloid, and round discs of this material are placed on the turntable, the diamond hammer is set in position, and music or speech is recorded by means of a microphone. When the record is completed, it can be immediately played by means of an electrical pick-up and a loudspeaker. An ordinary gramophone may be used, though wear is greater, and reproduction is not so good.

The record may be rolled up and sent by post, or, if it is small enough, it may be sent by letter. The complete recording and reproducing apparatus does not cost more than a moderately priced radio receiver, and in the near future every business office will probably install this labour-saving device.

A New Regenaformer

I HAVE tried a new regeneraformer on my four-valve N.Z.R. circuit, and as it seems to be a big improvement I thought some constructors might be interested enough to try it out for themselves. The new regeneraformer is a 3 in 1 of 77 turns 26DSC wire (green), with a tickler of same wire (14 turns 26DSC) spaced 3 turns away from the big coil; in reality, it is a twin coupler, Cays plug in broadcast coil. It is a lower loss coil (no former) wire held together by celluloid cement. The plate coil is wound on a piece of celluloid with 30DSC S.W.G. 32 turns centre tapped. The tickler and plate are both at the filament end, the plate coil under the first turns of big coil. I get great results on my short-wave set when worked off the eliminator, smooth and clear and better than with B battery. Is this unusual. —J.H. (Houghton Bay).

[Some eliminators work short-wave sets excellently.—Tech. Ed.]

Care of Batteries

B BATTERIES should not be placed in an exposed position when in use, for not only does the dust which collects become detrimental after a time, but the accidental placing of a metallic object such as a knitting-needle on the battery might either ruin it or give rise to sparking.

A Constructor Suggestion

For Mutual Help

WOULD it be possible to organise the radio amateur constructors into district groups for the purpose of voluntarily assisting one another in matters of set-constructing, and assisting the beginners to put and keep their sets in order? The idea I have in mind is this: There are several enthusiasts in every district who have the interests of radio at heart, and who would, I feel sure, be only too pleased to help any beginner out of any constructional difficulties if the beginner could be brought into touch with the more experienced amateur constructor. I would suggest calling for any amateurs willing to help in this way per means of the YA stations. Perhaps a lecture on these lines would be a good way to start the thing going, and when it has been explained over the air, call for names to be registered in each district, of amateurs willing to help the good work. A beginner then could apply to his nearest helper to assist him out of any difficulty he may get into when building his set. All help to be strictly voluntary.