

THE "B MARK I." RECEIVER

adopted, using an "Intervalve" transformer for the input instead of a "Valve-to-Phone" transformer, as described above. For this purpose the existing "Valve-to-Phone" transformer, connected in the circuit of the second valve, can be removed, together with the other parts that are not required, i.e., the grid leak, tuning coils, etc., (as described above), and a new "Intervalve" transformer fitted in the space created by the removal of the 65 metre tuning condenser. The change-over switch can with this method also be used for transferring the telephones, and for joining up the input transformer, as well as for switching on the valve filaments, so that the complete change over of the amplifier into or out of circuit with the detector valve of the existing receiver can be effected merely by moving over the change-over switch, and without disturbing the setting of the filament regulator switch or altering any of the connections.

An additional blocking condenser of about 0.005 microfarad capacity may be fitted across the telephone sockets with this arrangement, as indicated in Fig. 2. In this case the old "Aerial" terminal should be joined direct to the anode of the detector valve, and the "Earth Mat" terminal to the positive terminal of the H.T. battery used with the detector valve. As may be seen from Fig. 2, the lower switch arm of the change-over switch is now used only for closing the circuit of the valve filaments when it is on the right-hand side and the amplifier is joined in circuit. Where the same H.T. battery is used for feeding the amplifier as is employed with the detector valve with which the instrument is to be used, the connection of the old "Earth Mat" terminal to the H.T. + of the detector valve is not necessary, as the connection would be effected inside the instrument. When using common filament batteries as well, care must be taken in joining them up in all cases, since it must be remembered that in these instruments as here described, the negative terminal of the H.T. battery is joined to the positive terminal of the L.T. battery, not to the negative L.T. as is commonly done for detector valve panels. This point should be watched when making the connections, or a short-circuit may be set up.

In both the above described methods of converting this Trench set, as well as for the methods described in the last issue of *The Wireless World*, it is necessary to remove the wood partition dividing off the space previously occupied by the H.T. battery unit, as this space is required for the extra transformer, or grid leak, etc., as the case may be. An external H.T. battery should therefore be used with the converted instrument, by utilising the spare terminals on the left-hand side for this purpose as was described in the first article dealing with this instrument (see p. 560 of last issue of *The Wireless World*). It is evidently desirable in any of these arrangements described to re-mark the terminals by appropriate engraving or labels. Alternatively a key diagram of circuits and terminal marking can be pasted in the lid of the instrument.

When these two-valve note magnifiers are arranged in the manner last described above, it is possible to cascade two or more of them efficiently, by connecting the input terminals of

the second instrument, marked "To Anode" and "To H.T. +" in Fig. 2, to the "Phone" terminals of the previous instrument, taking care that the "To Anode" terminal is joined to the telephone plug socket that is connected to the valve anode, i.e., the right-hand telephone plug socket shown in Fig. 2. If these connections are reversed, part of the circuits would be short-circuited, and the apparatus would not function properly.

The Transatlantic Tests

SUCCESSFUL RECEPTION OF THE SHORT-WAVE SIGNALS.

As we go to press with this issue the joyful news is beginning to come through—the amateur transatlantic signals have been received on this side, not only by the representative of the American amateurs who is over here, but also by members of our own particular fraternity of this country.

Mr. Paul F. Godley has erected his station at Ardrossan, near Glasgow, as this locality had been specially recommended to him for strong transatlantic signals. Mr. Godley made arrangements with the Marconi Company for the results of his watch to be broadcasted by the Carnarvon station daily for the benefit of those on the other side who must have waited in eager expectation to know if their particular stations had been heard by him. The first reports from Mr. Godley were received before it was possible to verify the reception by any British amateurs. Naturally, we have not yet received from any British amateurs their complete logs, and only a few have sent in preliminary reports at the time of writing. When the full logs are received we look for great things from them. The success of Mr. Godley is truly remarkable, complete messages having been copied in some cases, though one or two of the stations received well by him are probably using greater power, and are not included in those transmitting stations actually taking part in the competition. Perhaps a word to the British amateurs regarding the station erected by Mr. Godley is only fair in view of the fact that the aerials of the amateurs in this country are restricted by the Postmaster General; Mr. Godley is employing a special type of aerial full details of which will be published in a later issue, but for the present it suffices to say that the total length is 850 feet, and it is reasonable to suppose that this may be an important factor contributing to his success. Our congratulations to Mr. Godley and to the British amateurs whose energies and patience have been so well rewarded.

In order to adhere to the conditions of the competition it is not possible to notify any competitor of the result of his efforts until all the logs have been checked by the judges.

Competitors may rest assured that the judges will do their utmost to supply full details of the results at the earliest possible moment, and you are asked not to expect anything like a full report in the next issue of the *WIRELESS WORLD*, owing to the fact that the Christmas holidays necessitate that the Magazine should be made up several days earlier than usual.