

licable proposition to make broadcast coils on such a small former and with such a small condenser. It is far better to use a larger condenser and have in series with it for shortwave, a fixed condenser, such as was recently described for the "Kestrel Three." Full particulars of all coils were published in "Questions and Answers" in radio.

"A BERDONIAN" (Wellington): I have built a three-valve short-wave set taken from the "Radio Guide," 1929, and am using a pentode which requires a lot of current. What other would be suitable?

A.: In the Osram series, PT2.

2. Can I have wound suitable coils for broadcast fitted into valve bases?

A.: Yes. Use valve base extension coils, wind on 180 turns of 30 gauge enamelled wire for the secondaries, and for the tickler 60 turns of the same gauge.

2. I have been told that by having my 30 ampere hour battery rebuilt into an 80 amp. hour battery that four-volt valves will have to be replaced by six volts. Is this so?

A.: Not unless the voltage is changed. Increasing the capacity does not affect the valves in any way.

"NORTHERNER" (Ngāio).—I cannot separate 2YA and 2ZW. I intend to incorporate a band-pass filter to the "Radiogram Five." Is my sketch correct?

A.: For a capacity coupled band-pass filter your sketch is correct, except that you have connected the bottom end of the first tuning coil with earth. This spoils the band-pass effect. A better band-pass filter would be such as described for the "Link Three" in this month's "Radio Times," which we strongly advise you to consult. The coils really need shielding

each with a can, the diameter of which should be twice the diameter of the coils.

2. Would it be advisable to shield each variable condenser?

A.: Such is preferable for best results.

"A DAPTER" (Hastings).—I cannot get the "Sparrow Hawk" adapter described in the "Radio Guide" to work on a five-valve battery set.

A.: Try reversing the connections to the tickler coil, i.e., "C" and filament. Try the effect of a midge condenser in series with the aerial. Lastly, wind extra turns on the tickler coil. The reaction coil is rather small, and you require a large number of turns.

"BUNG" (Arohina): I am using the "Outspan Five," having used 2in. coils in place of the 1½, but I cannot get the set out of oscillation. The trimming condenser also acts as a reaction condenser. The coil is situated over the top of the grid leak and very close to the detector valve.

A.: If you are using 2in. coils, the diameter of the shield cans should be 4 inches, and it would have been better had you used the size stipulated. You have evidently far too many turns on the detector valve. Is each stage properly decoupled, e.g., either a resistance or a choke and by-pass condenser used in the lead, particularly in the screen-grid lead. Examine the method of decoupling used in the "Link Three" in this month's "Radio Times" and you will get some idea of the method of breaking a resistance and using a by-pass condenser. A different r.f. choke may also make the set more workable. It is unlikely that the grid leak is in any way affecting the set.

2DX (Auckland): What information must I supply when applying for Q.S.L. cards?

A.: A typical report is made out in this month's "Radio Times."

2. In estimating the type of set with respect to the valves, is the rectifier included as a valve?

A.: In modern terminology it is usual to include the rectifier, and we think in replying to most stations if you did this they would understand.

"XMITTER" (Marton): In what issue is the description of the broadcast coils of the "Night Owl Three"?

A.: December 18, 1931.

2. Is it a good receiver for an amateur transmitter to use for the reception of shortwave amateurs?

A.: An excellent receiver.

Would a stage of screen grid ahead of the detector make the circuit more efficient?—Yes, but the three-valve set should be all you need to start with.

25MC (Picton): I cannot get Dunedin, as my set will not tune as low as that.

A.: To bring in Dunedin shunt a .0001 condenser across your main tuning condensers. It will be necessary to have one across each condenser.

J. C. (Dunedin).—Will the powerpack in the 1931 "Radio Guide" be suitable for the a.c. "Super Six," using three 227's, two 224's, and one 247 output?

A.: Yes, if you have sufficient heater windings to supply all these currents. You will need three separate windings of 18-gauge wire.

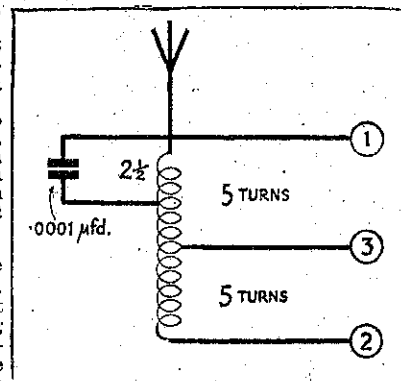
2. Where can I obtain a circuit of the a.c. "Super Six"?

A.: We have not brought out the a.c. version of this, and cannot supply one.

3. Would an output filter do instead of the output transformer for the pentode?

A.: Yes, providing the filter is tapped to match the valve. The correspondent adds: "I have had the battery operated 'Super Six' for about seven months now, and everyone is delighted with it, as it has given every satisfaction both on the medium and shortwaves. Now, I wish to build an a.c. 'Super Six.' I find that a shortwave coupling coil works much better than a small frame aerial, and I have given a diagram of same if you wish to send it to any of your readers. Specifications are for a 2½in. former, 5 turns

from 1 to 3, 5 turns from 3—2, 22 d.c.e. with a .0001 condenser between 1 and half-way up to 3, with 4 feet of wire for an inside aerial.



World Radio News

IN 1931 excellent progress was made in Canadian radio and, according to the latest figures, 40,000 new licenses were issued. During the year production of sets was 70 per cent above that of the preceding year and sales increased by 25 per cent. Owing to the change-over to a.c. operated receivers the sales totalled about 286,000 sets.

AT the end of April this year there were over 1,100,000 receivers in operation in Japan, where the license fee approximates 1/- per month. During the month of April permits were approved for 58,951 sets.

A FRENCH invention that will mark an epoch is an automatic radio. The transmission of messages is made by turning knobs to indicate positions on the dials, which have the letters of the alphabet and numbers inscribed on them. The apparatus is portable and may be incorporated in aeroplanes, motor-cars, launches, army posts and other such places. For submarines it may be attached to a buoy and set in operation, sending out an automatic S O S signal continuously. It can be set in operation merely by pressing a switch in the submarine, and should be of great value should that craft come to grief under the surface.

THE British Standards Institute has produced a set of wireless wiring symbols for architects and contractors. One symbol naturally indicates "Loud-speaker Outlet," which intrigues the home-builder as much as any creation of the architect.



Robbing your Pocket!

SOME valves rob your pocket by requiring frequent renewal. Apart from the disturbance of your radio enjoyment it is false economy to rely on inferior valves when you can get greater distance, longer life and more vocal and instrumental power and purity with **OSRAM VALVES** in your Electric or Battery set.

Made in England for New Zealand conditions **OSRAM 2.5 volt A.C. VALVES** are guaranteed to have the characteristics necessary for all standard American sets.

Osram Valves

MADE IN ENGLAND

Now available from stock in the following

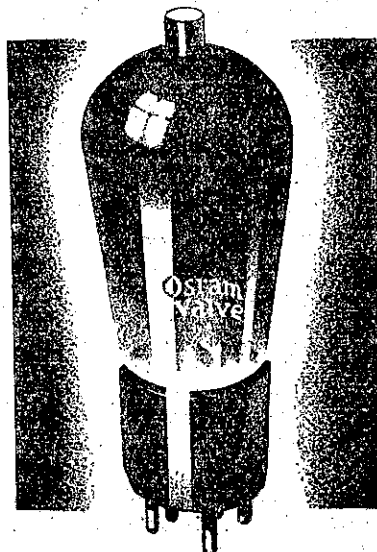
"AMERICAN" A.C. TYPES

MY 224 MY 227 MX 245

MY 235 MY 247 MX 280

Also there is a complete range of **OSRAM VALVES** in 2, 4, and 6 volt Battery Types and Special Types.

Ask your Radio Dealer for **OSRAM VALVE** literature, or write direct to **BRITISH GENERAL ELECTRIC Co. Ltd.**



31-37 TARANAKI STREET, WELLINGTON. BRUNSWICK BUILDINGS, 49 HIGH STREET, AUCKLAND. 145 WORCESTER STREET, CHRISTCHURCH.

OSRAM VALVES ARE MADE IN ENGLAND.

BUY NATIONAL UNION VALVES
THEY ARE GUARANTEED TO BE BETTER THAN ANY OTHER RADIO VALVE ON THE MARKET