

connect the aerial lead to a pin socket and solder each lead to a pin. The aerial tapping can then be varied at will. The top terminal, the terminal common to the reaction and the aerial coil, and the reaction coil terminal are not connected with pins.

Mount the components in the cabinet as indicated. The two condensers and

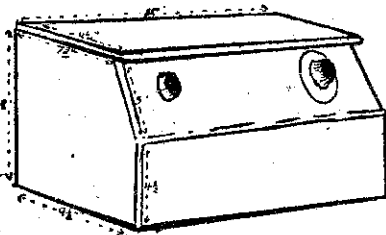


Diagram I.

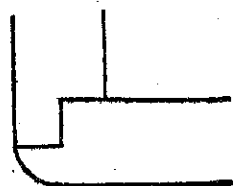


Diagram II

The diagram illustrates the cabinet for the original set. The same dimensions apply, but a reaction dial replaces the rheostat which is to be centred.

the rheostat are mounted on the sloping front, the remainder on the bottom with the exception of the crystal, which is mounted on the side. A permanent crystal is to be preferred to any other for this set.

### Wiring the Set.

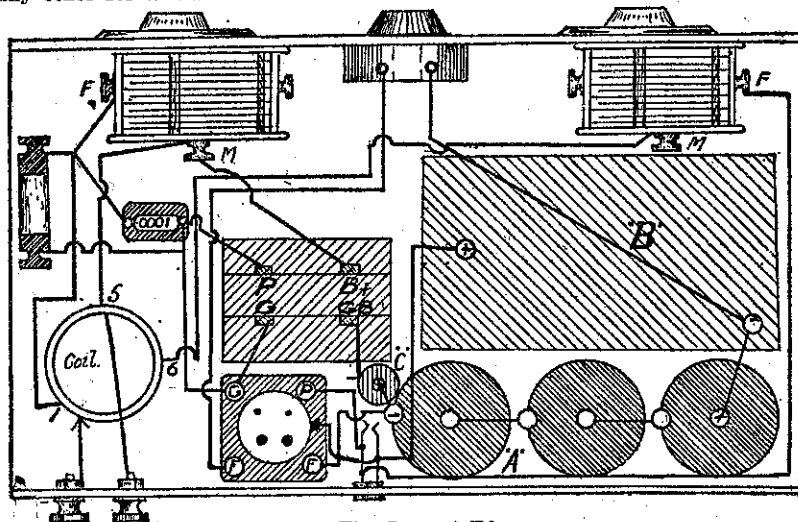
WITH the aid of the diagrams the wiring is simple. Connect the aerial terminal to a tapping on the coil, usually number 4. From the top of the coil (1) run to the crystal. This end of the crystal is connected with the fixed plates of the condenser, "B" of the transformer. The other side of the crystal is connected with "P" of the valve, and with one side of the fixed condenser. The lower end of the coil (5) is connected with "B" of the transformer, the earth, and the moving plates of the condenser.

"G" of the transformer passes to one end of the fixed condenser and to "G" of the valve socket. "GB" of the transformer goes to the zinc covering of the torch cell. The brass cap of this is joined with the negative terminal of the "A" battery. From this point a wire goes to the rheostat, which in turn is connected with "T" of the valve socket. The other "T" terminal is to be joined to "A+." A connection is now made between this point and "B" negative.

"B" positive runs direct to the output jack or terminal. The lower end of the reaction coil connects with the moving plates of the reaction condenser, the fixed plates of which are joined with the "P" terminal of the valve and with one side of the R.F.C. if it is used. The free side of this passes to the jack. If this component is not used connect directly the plate to the jack.

One connection remains. "B+" is to be joined to the terminal on the side of the valve, and now all is ready to try out.

If, on trying out, it is found that the loudest point is at "100" more



The Layout Diagram.

The coil is best mounted vertically. If it is secured to a small mount of wood by Meccano angle brackets its manipulation within the cabinet is facilitated.

Likewise the transformer and the valve base might be secured to a movable piece of wood.

### A Unique Distinction

MR. W. M. DAWSON, of Philips Lamps (N.Z.) Limited, has been elected a member of the Institute of Wireless Technology. Prior to this election, Mr. Edwards, of Selectra Radio, Limited, Auckland, was the only member in New Zealand.

turns should be added to the aerial coil. Remove the aerial coil and solder a little more wire to this point and wind on a few more turns. If the condenser reads at "0" turns will have to be removed. Try first by connecting the lead to the crystal to tapping No. 2, and if this brings the local station in more to the centre of the dial make a permanent connection and remove the surplus wire.

It will be found that when the batteries are new the maximum strength will be obtained with the rheostat only partly on. Do not pass this point or the valve will be impaired. To shut off the set merely turn off the rheostat

If the constructor wishes he may connect wires from P and B+ of the transformer to another jack. Ear-phones may thus be worked from the crystal alone.

It may be an improvement to earth "A—."

### List of Components.

Permanent crystal.

1lb. 20 gauge D.C.C.

Variable condenser, .0005 mfd.

Variable condenser, .00035 mfd.

Fixed condenser, .0001 mfd.

Rheostat, 30 ohms.

Transformer.

Valve base.

Valve A441.

"B" battery, 22½ volts.

Three "A" cells.

Torch battery.

Jack, terminals, clips.

For Sale or Exchange.

See page 32 for column of casual advertisements.

# RADIO DIRECTORY

## What to Buy and Where

### CITIES

- |  |  |
|--|--|
| <b>AERIAL MASTS</b> .....                            | <b>Domestic Radio Co., Ltd.,</b><br>Strand Arcade, Auckland.                           |
| <b>ALTONA &amp; HAMMARLUND-ROBERTS SETS.</b>         | <b>Johns, Ltd.</b><br>Chancery Street, Auckland.                                       |
| <b>ATWATER-KENT RADIO</b> ..                         | <b>Frank Wiseman, Ltd.</b><br>170-172 Queen Street, Auckland.                          |
| <b>DAYTON All-Electric Radio</b> ...                 | <b>Superadio, Ltd.,</b><br>147 Queen Street, Auckland.                                 |
| <b>BURGESS RADIO BATTERIES,</b>                      | <b>All Radio Dealers.</b>  |
| <b>CROSLY RADIO</b>                                  | <b>Abel, Smeeton, Ltd.,</b><br>27-29 Customs St. E., Auckland.                         |
| <b>FERRANTI RADIO COMPONENTS</b> .....               | <b>A. D. Riley &amp; Co., Ltd.,</b><br>Anzac Avenue, Auckland, and all leading Dealers |
| <b>CROSLY SETS</b> .....                             | <b>Lewis Eady, Ltd.,</b><br>Queen Street, Auckland.                                    |
| <b>LOUDSPEAKER AND TRANSFORMER REPAIRS</b> .....     | <b>A. E. Strange,</b><br>404 Worcester Street, Christchurch.                           |
| <b>MULLARD VALVES</b> .....                          | <b>All Radio Dealers.</b>  |
| <b>RADIOLA RECEIVERS</b> ....                        | <b>Chas. Bennett, Ltd.,</b><br>619 Colombo Street, Christchurch.                       |
| <b>RADIOLA RECEIVERS and Expert Radiola Service.</b> | <b>Farmers' Trading Co., Ltd.,</b><br>Hobson Street, Auckland.                         |
| <b>RADIO REPAIRS AND SERVICE</b> .....               | <b>E. G. Shipley,</b><br>185 Manchester Street, Christchurch.                          |
| <b>METRODYNE RADIO—7v. and 9v. Elec.</b> .....       | <b>Royds-Howard Co.,</b><br>553 Colombo Street, Christchurch.                          |
| <b>T.C.C. CONDENSERS</b> .....                       | <b>A. D. Riley and Co., Ltd.</b> Anzac Ave., Auckland, and all leading dealers.        |

### COUNTRY TOWNS

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|---|--|
| <b>CROSLY RADIO</b> .....   | <b>J. C. Davidson,</b><br>Main Street, Pahiataua.              |
| <b>CROSLY SETS</b> .....  | <b>F. H. Jellyman, Ltd.,</b><br>Devon Street, New Plymouth.    |
| <b>CROSLY RADIO</b> .....   | <b>D. A. Morrison &amp; Co.,</b><br>Victoria Avenue, Wanganui. |
| <b>MAJESTIC, ATWATER-KENT AND APEX ELECTRICAL SETS. Also Bremer-Tully, Radiola and Browning-Drake</b> | <b>Radio House, Hamilton.</b><br>G. S. Anchor, Manager.        |
| <b>PHILIPS VALVES AND APPARATUS</b>   | <b>All Good Radio Dealers.</b>                                 |