

RADIO DIRECTORY

What to Buy and Where

CITIES

- AERIAL MASTS** Domestic Radio Co., Ltd.,
Strand Arcade, Auckland.
- ALTONA & HAMMARLUND-ROBERTS SETS.** Johns, Ltd.
Chancery Street, Auckland.
- ATWATER-KENT RADIO** .. Frank Wiseman, Ltd.
170-172 Queen Street, Auckland
- BREMER-TULLY RADIO** Superadio, Ltd.,
147 Queen Street, Auckland.
- BURGESS RADIO BATTERIES,** All Radio Dealers.
- CROSLEY RADIO** Abel, Smeeton, Ltd.,
27-29 Customs St. E., Auckland.
- FERRANTI RADIO COMPONENTS** A. D. Riley & Co., Ltd.,
Anzac Avenue, Auckland, and all leading Dealers
- CROSLEY SETS** Lewis Eady, Ltd.,
Queen Street, Auckland.
- GREBE RADIO** Howie's,
Dilworth Building, Custom st., Auckland
- LOUDSPEAKER AND TRANSFORMER REPAIRS** A. E. Strange,
404 Worcester Street, Christchurch.
- MULLARD VALVES** All Radio Dealers.
- PREST-O-LITE. Car and Radio Battery Service** L. J. Purdie & Co., Ltd.
97 Dixon Street Wellington
- RADIOLA RECEIVERS** Chas. Bennett, Ltd.,
619 Colombo Street, Christchurch.
- RADIOLA RECEIVERS and Expert Radiola Service.** Farmers' Trading Co., Ltd.,
Hobson Street Auckland.
- RADIO REPAIRS AND SERVICE** E. G. Shipley,
185 Manchester Street, Christchurch.
- 'RELIABLE' DRY BATTERIES** Royds-Howard Co.,
Christchurch, Distributors.
- SELECTRA RADIO RECEIVER** Selectra Radio Limited,
Mercantile Chambers, Customs St., Auckland.
- I.C.C. CONDENSERS** A. D. Riley and Co., Ltd. Anzac
Ave., Auckland, and all leading dealers.
- TEMPLE SPEAKERS** Royds-Howard and Co.,
Christchurch Distributors.

COUNTRY TOWNS

- CROSLEY RADIO** J. C. Davidson,
Main Street, Pahiatua.
- CROSLEY SETS** F. H. Jellyman, Ltd.,
Devon Street, New Plymouth.
- CROSLEY RADIO** D. A. Morrison & Co.,
Victoria Avenue, Wanganui.
- MAJESTIC, ATWATER-KENT AND APEX ELECTRICAL SETS. Also Bremer-Tully, Radiola and Browning-Drake** Radio House, Hamilton.
G. S. Anchor. Manager.
- PHILIPS VALVES AND APPARATUS** All Good Radio Dealers.

stallo, panel, clamps, etc., as described in the "Guide," should not exceed 18s.

Sometimes spool ends are dispensed with, and a square cardboard tube made to fit not too tightly over the former, and on this the layers are wound. When complete, the ends are covered with a mixture of equal parts of resin and beeswax melted together for pouring. The composition off the tops of old dry batteries may be used.

Heating Valve Filaments with A.C.

THE filament of any valve heated by alternating current must be protected from any voltage in excess of the stipulated maximum. This applies to both ordinary power-valves and alternating-current valves. The danger to filaments is caused by variations in mains voltage at different times during the day, and by "surges" of short duration at any time. The usual method of making as much provision as possible against such variations is to always keep some reserve in the filament voltage by running a reasonable amount below the maximum. A ten per cent. rise in 230-volt mains, though rare, is possible, and would mean an increase of about half a volt on a 5 or 6-volt filament, so that a half-volt reserve may be considered fairly safe on a power-valve.

Alternating-current valves cannot always be run with this amount of reserve, and some means is usually provided whereby the input voltage to the filament transformer can be regulated to suit the line voltage. One method employs a small auxiliary auto-transformer with variable tapplings, whilst another uses a variable power rheostat of suitable resistance in one of the mains leads. The actual value of such resistance is governed by the mains voltage and the amount of current drawn by the receiver.

Another method easily carried out is to put additional turns on the transformer primary beyond the specified number. On the 14-in. core 150 extra turns could be added, taping at every 25 turns, each tap covering a rise in the mains of 5 volts, a switch providing easy regulation.

This principle of additional primary turns can be used on eliminator experimental transformers, giving an extra means of varying the output by a small amount, or adjusting to suit particular conditions. Very often the specified turns leave room for 50 or 60 turns to complete the last layer, and this space can be wound in, with a tap at the specified number.

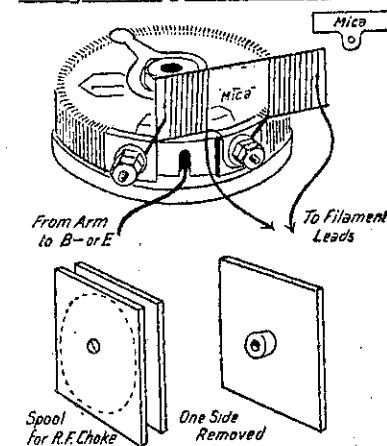
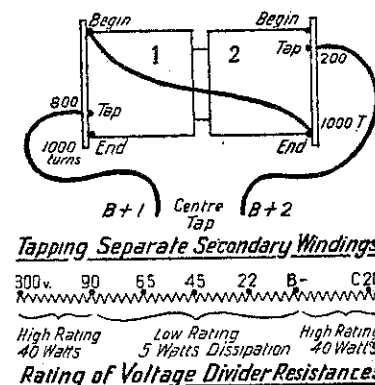
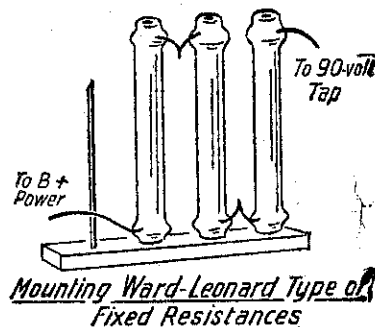
Tappings on Separate Secondaries.

WHEN the two secondary coils of a transformer are wound as a continuous coil with a centre tap halfway, tapplings are taken out, if required, near the beginning and end of the coil, and present little difficulty. In the case of winding each secondary coil separately, each to occupy barely half the total length of the spool, leaving a small space between to be filled with insulation, care is required to ensure that the two coils are connected correctly. Each must be wound in the same direction, and the end of one and beginning of the other are connected together and from this connection the centre tap is taken.

When a tapping is required in each coil so that a lower voltage than the maximum is made available, the posi-

tion of the taps requires careful notice.

Suppose that in each secondary of 1000 turns a tap is to be provided 200 turns below the maximum. The first coil is wound with 800 turns, then the tap taken out, and 200 turns added to finish. The second coil is then wound, turning in the same direction as the first, and when 200 turns have been wound, the tap is taken out, after which 800 more will complete the coil.



The beginning of the first coil and end of the second are connected and the centre tap is taken from this connection. If the lower voltage is to be used, the two taps will be connected to the rectifier to form "B" + 1 and "B" + 2. For maximum voltage the end of coil 1 and beginning of coil 2 will be taken to the rectifier. The beginning of the coil is where winding is commenced when putting the turns on.

Centre of Filament Winding.

CENTRE taps need not be provided on filament windings if the electrical centre is determined outside by means of a 60-ohm potentiometer connected across the filament terminals of the power valve constituting the ideal method, as by adjusting the movable arm, the position giving least or no hum is easily found. A potentiometer for this purpose can easily be made