

When finished either empire cloth or electricians' tape should be wound round the whole, and the spool finished off ready for assembling the core.

The core is built up by placing a short and long strip alternately. The next section of stampings should be arranged so that the joints cover those of the previous layer. Four pieces of wood $3\frac{1}{2}$ inches long, $3\frac{1}{8}$ -inch thick and $\frac{1}{4}$ -inch wide will provide means for clamping the whole core together. Bolts, two inches long, are arranged as shown. Having got this far the most tedious part of the work is finished, and we can proceed with the eliminator itself.

Full details of transformer assembly are given in the "Listeners' Guide," and any constructor in doubt as to arranging the laminations should refer to that publication.

Assembling the Unit.

FOR simplicity the whole has been arranged upon a board with a special screening box for the power transformer, but there is no reason why the ingenuity of the constructor could not be called into play to design a container, in which the whole is enclosed. Unlike a radio set, the actual

positions of the components does not matter greatly so long as the point to point connections are adhered to.

When constructing apparatus to work from the a.c. mains, it is essential to include a fuse in the input leads so that in the case of an electrical error or breakdown, no damage will be done. A small ebonite or fibre strip carrying four terminals answers the purpose quite well, and is to be seen on the diagram fixed close to the power transformers.

The board on which the whole is fixed needs to be about 12in. x 8in., and the transformer screwed by two small brass brackets close to one corner. The small connecting strip containing five terminals or soldering lugs, is screwed to the board on the opposite side of the transformer to the fuse block. Slip short lengths of insulated sleeving over the leads from the transformer, and connect to the five terminals (see diagram). A cover of sheet-iron or aluminium to protect the transformer can be made with flanges round the base to fasten to the board. The dotted line shows the position this will take. "U"-shaped pieces will have to be cut in this screen corresponding

to the terminals where the leads are to be brought out.

Chokes and Condensers.

THE next components to be considered are the chokes. These can be purchased ready for use, but if the amateur has a couple of old audio-frequency transformers these can be rewound. Dismantle the old transformer and construct a bobbin in which the core can be assembled. Wind this bobbin full of 38 or 40 s.w.g. enamelled wire winding straight on with no further attempts at insulation than that between the core and the wire. The two ends of the wire can be brought out to two terminals and when the core is assembled the choke is ready for use. Old transformers having the greatest amount of iron should be chosen, and if two similar makes are available the iron from each can be used to make one core. Discard the wire in the old transformer, as besides having a high resistance it would not carry the current.

Proceed to arrange the condensers in one block on the board, and screw the various components in place as shown. The resistance used to cut down the "B" supply for the detector valve should preferably be of the wire wound variety and valves of 50,000 to 100,000 ohms should be tried, depending upon the voltage required for the detector.

By following the diagram the wiring will be comparatively simple, and is carried out throughout by lengths of copper wire insulated with sleeving. It will be noted that the grid and plate terminals on the valve holder have been connected together. A slightly greater output is obtained when this is done. Check over carefully before plugging into the light and when in use it is as well to turn on the amplifying valves before the eliminator and to turn off the eliminator before turning off the set. The output taps are as

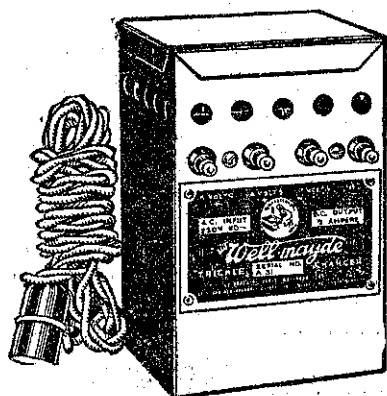
Interference Elimination

I CONSTRUCTED the stalloy core transformer, wound to give 180 volts output. The results by test on a voltmeter drawing approximately 25 milliamps is 220 volts. Besides the ordinary primary and secondary windings, I put on a filament winding for the power valve and also a second filament winding and secondary tapped at every hundred turns to provide voltage for grid bias gear later on.

When I first connected the eliminator to the set, electrical interference was very bad, only very loud reception being possible, so that by reducing power to make the broadcast volume comfortable, the interference was reduced. Other set owner in the district complained of the same type of interference. We therefore arranged a set one night in a car with a loop aerial and went trouble tracking. The result was rather surprising, as instead of finding one source of interference we found many. After some discussion, etc., we came to the conclusion that in every case of interference it emanated from a house or building which did not have the water service inside the house, but merely a tap in the garden. We considered from this that the lighting circuit would be earthed merely on to a short pipe driven into the ground instead of as usual on the water mains.

I may mention that quite a number of houses in this district are of the old type described above, having been rushed up in the hectic days of the dredging boom. Coupled with this is the fact that this is a very difficult district in which to obtain a satisfactory earth for any purpose. You will therefore, realise that interference is very prevalent.—R. McINTYRE.

follow:—B—, B+1 (detector voltage), B+2 (first audio stage), B+3 (last stage only).



FREE
5/-
Coupon

SAVE MONEY TWICE!

Use this Coupon and Save 5/-
when buying a

"WELL-MAYDE"

Battery Charger.

Then save the full cost of the charger in one year. The "Well-Mayde" keeps your "A" battery always charged. It never wears out, for it embodies the highly-efficient Westinghouse rectifier unit. Battery charging costs only a few pence a week. A "Well-Mayde" is always on the job. For 230-volt A.C. supply (110 volts 5/- extra).

NEW COMBINED "A" and "B" Charger— £6/10/-

JOHNS Ltd.

RADIO
SPECIALISTS

CHANCERY ST.
AUCKLAND

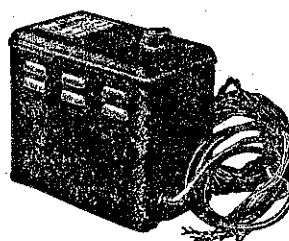
5/- Coupon

MESSRS. JOHNS, LIMITED,
Box 471, AUCKLAND.

Enclosed you will find "Record" 5/- FREE COUPON and 50/- cash. Please send me post free one of your "Well-Mayde" 4 amp. CHARGER, which is fully guaranteed by you.

Name
Address

If wanted on terms, send 5/- coupon and 5/- in cash. Balance 5 monthly payments of 10/-. Available till July 31, 1929.



EMMCO

Maxum "B"

Eliminator

Fully Guaranteed

BANISH YOUR "B" BATTERY TROUBLES by installing an EMMCO MAXUM "B" ELIMINATOR, which surpasses all higher-priced Eliminators.

The MAXUM is designed to OPERATE UP TO AND INCLUDING 7 VALVES. Knob control allows for a variation of 20 volts for all tapings, together with the total output. This control is invaluable for checking line voltage variation.

PRICE (complete with Cord and Plug), £8/15/-

MADE BY ELECTRICITY METER MANUFACTURING CO., LTD.

Distributors for New Zealand:

JOHNS, LTD., Chancery Street, AUCKLAND.

THOS. BALLINGER & CO., LTD., Victoria St., WELLINGTON.

L. B. SCOTT, LTD., Worcester Street, CHRISTCHURCH.