

5. How many turns would be required for the coils for the Browning-Drake?

A.: They are given in the "1930 Radio Listeners' Guide."

AERIAL (Greymouth).—The signals come through my set irregularly. Sometimes they are loud, other times inaudible.

A.: A fault such as this is difficult to locate when the set is not to hand. Your only method is by searching, preferably with a continuity tester. It may be a broken-down condenser.

2. I intend building a short-wave receiver which would give loudspeaker reception from all parts of the world. Where could I obtain a circuit, how many valves, what would it cost to operate, and what would be the approximate cost to build?

A.: We can recommend no better than the 4-valve screen grid receiver described in the "1930 Listeners' Guide." It would cost from £10 to £12 to build, and operation costs would include say, two sets of B batteries a year and the constant charging of your A battery.

C.W. (Christchurch): Should I be able to get American stations with a commercial receiver with a good aerial.

A.: If you looked for them at the right time and your set was sufficiently tuned up you probably would get them.

B.H.W. (Oamaru): Would you send me a diagram for a one-valve short-wave adaptor to plug in a six-valve set?

A.: An adaptor was described in the "1929 Guide," but omit the by-pass condenser between the plate and A-1 shown in the lower diagram. The theoretical is correct.

YALE (Wairoa): I like to listen to 2BL on Saturdays, but am interfered with by 1YA. Can this be remedied?

A.: Only by the use of a wave-trap.

2. Is there any way of eliminating or modifying blasting noises?

A.: A properly biased set should not blast. Check up and see if it is not the station.

SUBSCRIBER (Christchurch): Where could I obtain information as regards electric clocks?

A.: The Te Aro Book Shop, Wellington, has a volume priced less than 2/6 which would suit your requirements.

A Practical Scratch-Filter For the Radio-Gramophone

ALTHOUGH a new gramophone record of high quality gives very little scratch noise when reproduced by the medium of a pick-up, there are others that are less free from the necessary high frequencies constituting the scratch noises. Much-used records of any kind may be included in this class. If we reproduce all frequencies up to 5500 cycles per second, the recorded music will not be impaired, and by cutting out all frequencies above that figure it is possible to remove entirely the high-pitched "swish" that accompanies gramophone reproduction when a scratch-filter is not incorporated. When a test is carried out by connecting and disconnecting the filter during the playing of a record, the improvement effected by the filter is easily noted, and those constructors whose aim is to make reproduction as nearly perfect as possible, will recognise that the addition of a filter is worth while, especially as the task of construction is a comparatively small one.

It must be emphasised that the filter should not have any effect upon the reproduction of good, new records, but the older the record the more will the cleaning-up effect be noticed.

A honeycomb coil of 1500 turns in combination with a condenser of .008 m.f.d. capacity tunes to 5500 cycles, but a coil of this inductance (200 millihenries) is difficult to make, and at the present time is extremely difficult to procure.

By placing a small amount of iron in the centre of the coil the by-passed band is slightly broadened. This is an advantage, so a small audio choke of low inductance with a total of 1500 turns was decided upon. Taps are

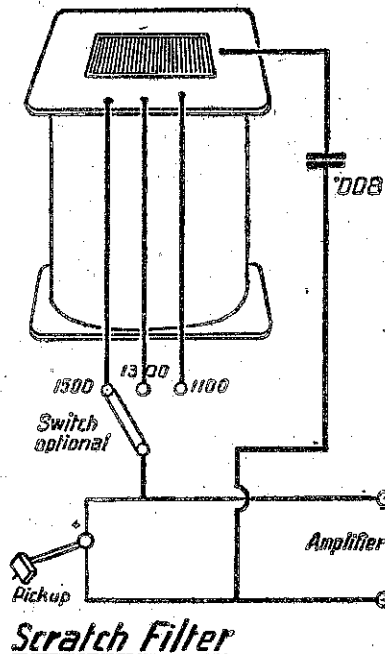
provided at 1100 and 1300 turns. For convenience in placing the spool on a winder, a core 5-8in. square was used, and in order to keep the inductance low and have easily-accessible material for constructors the core was constructed of common tin cut into strips 1 3/8 by 5/8 (bare) inches. On the wooden former, which is not less than two inches long, two thicknesses of stout paper 1 7/16in. wide are placed, securing with seccotine. Manilla or similar hard paper should be used. Spool ends 1 1/4in. square are made of cellu-

up leads, either at the gramophone or at the amplifier end. The taps on the coil may be brought to studs of a selective switch. Normally, 1500 turns are used, but for very noisy records it will be found necessary to switch over to a lower number. Values are not very critical in this piece of apparatus. It will not cut out scratch noises of a frequency below about 5000 cycles without considerably affecting the quality of the music.

Tests were made with numerous condenser values higher and lower than .008, but this figure was found to give best results.

If alternating-current is used to run the amplifier, the coil and condenser should be placed in a small tin box which is "earthed," otherwise the coil will probably pick up a small amount of hum. This was the writer's experience, but the tin box cut out every trace.

Coil—Actual Size



Operates a Good Station

ZLIBB, Auckland

THE call-sign ZLIBB is well known among New Zealand short-wave listeners and belongs to the amateur transmitting station operated by Mr. R. Beazle, Alexandra Avenue, Auckland. The station has been on the air since May, 1928, and has operated on three different wave bands. For the first six months it was on the 80-metre band, for the next three on the 30-metre band, while since then it has worked on the 40-metre band. The receiving valves used during the first year proved of insufficient power, so a UX852, 200-watt valve was installed and has been in constant use ever since. The power input is now 275-300 watts.

Considering that ZLIBB has never been operated on the 20-metre band it has put up a really excellent record. While working on the 30-metre band contacts were established with U.S.A., Australia, and Japan. On its present band it has been in communication with 24 countries, and has had over 200 QSO's with U.S.A., all these contacts being made before 9 p.m. The best contacts were made about last Christmas when Belgium, Germany, Siberia, Algiers and Morocco were worked, while many reports were received from listeners in England and Holland.

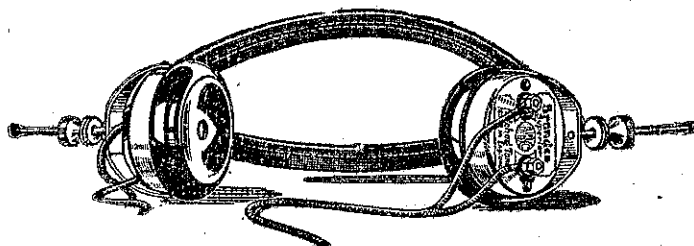
laid or other material, to fit over the ends of the manilla, leaving a space of 1 5/16 between. Wind with 36 s.w.g. enamelled wire. The original was layer wound, but the turns may be "run in." Insulate tap joints with tissue-paper and cover the coil with adhesive tape.

Half-fill the core space with laminations, filling the remaining space with a slip of wood or strips of cardboard, packing fairly tight.

THE coil and condenser are connected in series and across the two pick-

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