Cone Loud-speakers

Cause of Chattering

GOOD as they are, balanced-armature loudspeaker units occasionally develop a form of "zizzing" or chattering, the cause of which may be exceedingly hard to track down. One of the most obscure faults which may cause this extremely unpleasant accompaniment of speech and music is a defective joint.

In all units the armature takes the form of a strip of soft iron to which the connecting rod is fixed either directly or through a lever mechanism. Now lightness is essential in the armature and its associated parts, hence makers usually solder the rod or the lever to the armature.

Iron is difficult material to solder well, and what is known as a "dry" joint may easily escape detection at the factory. The joint looks all right, and at first feels all right. When the component has been in use for some little time the vibration to which the armature is subjected causes the joint to give way, with the result that the lever of the connecting rod itself becomes loose in its seating. "Zizzing" then sets in, growing steadily worse as the looseness increases.

Tips and Jottings

AMONG the chief factors influencing the degree of reaction employed is the spacing from the tuning coil of the reaction coil and the number of turns in the latter. The greater the turn number the stronger the reaction, but the greater the distance between the coils the weaker the reaction.

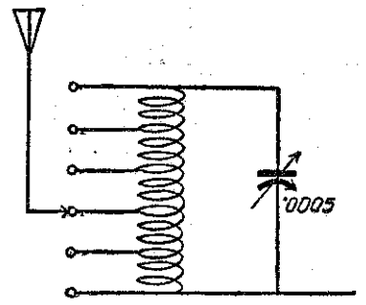
EVERY listener who is interested in the reception of overseas stations should calibrate his set, for a tuning chart is very easily made, and is invaluable for telling you the wavelengths covered at various degrees.

Separating the Local Stations

A Simple Wavetrap For Crystal Sets

OWING to an unforeseen demand, we have sold completely out of the issue of May 22, which contained a description of a simple wave-trap, and we have been asked to repeat the description. Here are the particulars:—

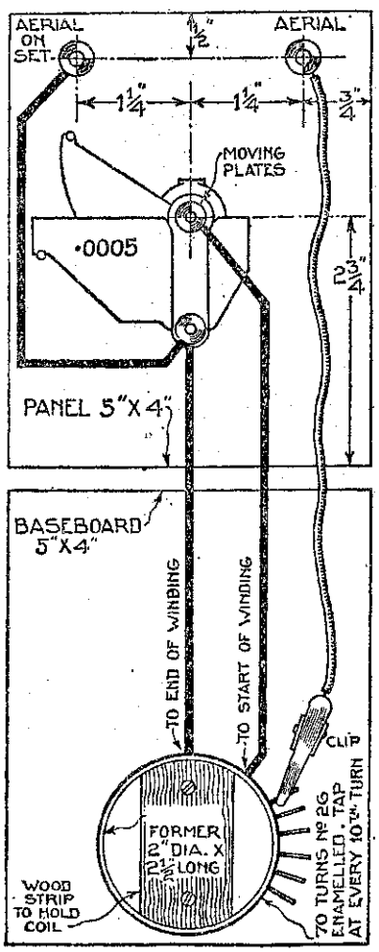
The materials needed are one variable condenser, capacity .0005, ¼lb No. 26 enamelled copper wire, 1 three-inch length of cardboard former, 2in. in diameter, 2 terminals, 1 crocodile clip, baseboard 4in. x 5in., and panel (wood or ebonite) 4in. x 5in.



Theoretical Diagram.

Winding the Coil.

THE coil consists of 70 turns of No. 26 enamelled wire, close wound, and tapped every tenth turn, making six tappings in all.



Commence winding operations by piercing two small holes, about ¼in. apart, with a bradawl or knitting needle, about ¼in. from the end of the coil. Thread the wire through these holes, leaving two or three inches for connecting purposes, and wind on ten turns. At the tenth, keeping the wire taut, make a twist in the wire, forming a small loop about ¼in. long.

Proceed thus, making a tapping at every tenth turn, until the 70 turns are wound on. The seventieth turn is, of course, not tapped, but the wire is threaded through two small holes similar to those used at the beginning, and broken off, again leaving two or three inches for connecting purposes. At each tapping scrape the loop of wire bare of enamel. The coil is now complete, and may be mounted on the baseboard, either upright by means of brackets or on its side, fastened with two wood screws to the baseboard.

Completing the Trap.

THE condenser and terminals may now be mounted on the panel, and the latter screwed to the baseboard. Everything is now ready for wiring up. This may be performed with the aid of the layout diagram, or by following these instructions.

A piece of flexible wire is attached to the terminal on the left, and a crocodile clip fastened to its free end. This clip is taken to the most suitable tapping, to be determined by experiment. One end of the coil is taken to one terminal of the variable condenser, and the other end to the other terminal. A wire is then run from one of the condenser terminals—either is suitable—to the terminal mounted on the right of the panel. The trap is now ready for operation.

Using the Wavetrap.

TAKE the aerial off the receiver and attach to the left-hand terminal of the trap. Join with a length of wire the right-hand terminal and the aerial terminal of the receiver. Now tune to the loudest point of the station it is desired to eliminate. Then, by varying the wavetrap condenser and attaching the clip to different tappings in turn, a position will be found where the station signals fade into inaudibility. The trap is then left so adjusted, and the wanted station tuned in.

Questions and Answers

"DINK" (Helensville): Would the one valve transmitter described in Handy's Handbook be suitable for New Zealand conditions?

A.: Yes, though that described in the recent series of transmitting articles would probably be more so.

2. Would it suffice, when used in conjunction with the Differential s.w. set, for working New Zealand?

A.: Yes.

3. What would be the approximate cost of both?

A.: Roughly about £10.

A Radio Typewriter

Ingenious Invention

A DEMONSTRATION with a wireless typewriter was given at Detroit recently. The typewriter, invented by Mr. Glen W. Watson, and known as the "Watsongraph," enables an operator sitting at a typewriter to type out a message which is automatically and simultaneously conveyed by shortwave wireless to another typewriter at any distance. The receiving typewriter automatically types out the message as sent.

A transmitter for ordinary commercial use can be made, to weigh only about 20lb. Speed of transmission is limited only by the skill of the operator, since the typewriter can record 1200 letters a minute. Any receiving typewriter, synchronised with the transmitter, could be tuned in wherever the receiver might be, and the message could be typed simultaneously on several receivers. If secrecy is desired, it can be arranged that only the transmitter and the required receiver are synchronised. The owner would thus be independent of all public means of communication.

The inventor pointed out the usefulness of the typewriter for police work; it could be carried on patrol cars and used for sending messages to headquarters in absolute secrecy without code.

A "Melodious" Recipe.

(To the Editor.)

THE advent of two Wellington stations broadcasting simultaneously, and the difficulty at first experienced by crystal-set owners in cutting out one station completely, has led to some amusing results. On putting on his headphones one morning last week, this is what one listener heard:

". . . and now I will run over the ingredients again, and you can check them off:

"Two cups of flour, two tablespoons of treacle, two tenor solos," chimed in. 2YA giving to the recipe a promise of a tuneful flavour which was certainly not apparent when the subsequent "mixture" came over the air.—A.M.