

Avoiding Unsightly Panels.

WHEN the task of soldering the wiring of a receiver is completed, it is usually necessary to retighten all terminal nuts. This is because the heating of the terminals has softened the ebonite slightly, and thus loosened nuts which may have previously been quite tight. If it has been necessary to hold the soldering iron on the terminal for some time, it will probably be found that the heat has caused a bulging of the ebonite around the terminal head. This disfigurement can be avoided by turning the nuts home only just far enough to keep the terminals steady, while soldering operations are in progress.

An Improved Set-Square.

IN order that the edges of panels and that markings on panels may be made at right angles, set-squares or carpenter's steel squares are always used. But circumstances sometimes arise when neither of these useful instruments is available, as, for instance, when buying a new panel and one wishes to test its "squareness." On these occasions, take a sheet of paper, fold it in half, and make a pin prick through both thicknesses of paper. Unfold the paper, draw a line between the two pin-holes, and the angle between this line and the fold in the paper will be a right angle.

Longer B-Battery Life.

45-VOLT B batteries, connected in series to supply B current to a receiver, do not all run down at the same time. This is because the same amount of current is not drawn from each battery. The one connected to the negative B terminal, for example, carries the maximum load, as it supplies plate current to every valve in the set, including the detector. The battery next to it supplies current to every valve, excluding the detector; and so on, according to the number of blocks and valves used. In order to equalise the load on the batteries so as to obtain maximum service from each block, it is advisable to move, at least once a month, the battery at the positive end to the negative end, not forgetting to reconnect all the leads.

Curing Reaction Overlap.

IT is not much use searching for distant stations on a one or two-valve set if the reaction control is either "ploppy" or has an overlap. On some receivers the usual remedies for this, namely, trying a different size reaction coil or altering the valves of the A and B voltages, are of no avail. If the grid-leak used in the set is, however, of a 2 or 3 megohms value a

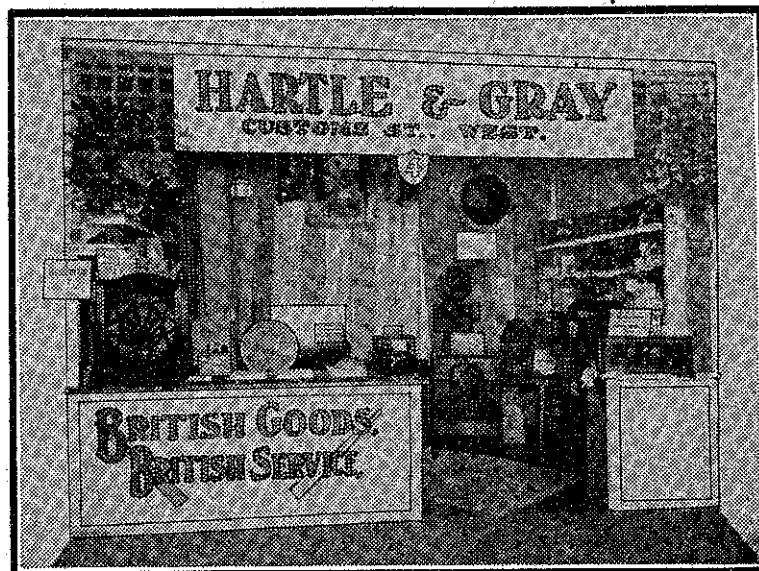
further remedy worth trying is the substitution of a grid-leak of about 5 megohms value. This may not completely cure the trouble, but will materially assist in making the control of reaction quite smooth.

Insulated Aerial Wire.

SO far as reception of ether waves is concerned, it does not matter whether the aerial wire is insulated or bare. It must not be forgotten that air itself is an insulator, and that the ether waves penetrate the insulation round the aerial in just the same way as they penetrate the air. The advantages which are often found in the use

Soldering Water-pipe Earths.

IT is usually a fairly difficult matter to solder an earth wire to a water-pipe, owing to the cooling influence exerted by the water. The task is simplified, however, by the use of a large soldering-iron which will store enough heat to overcome the cooling effect. The surface of the pipe should be thoroughly bright and clean before soldering is commenced. Give the surface of the wire which has to be attached, and the pipe itself, a thin layer of good electrical soldering flux. Tin the wire heavily, and then bind it tightly round the pipe. Have the soldering-iron well heated to a just visible redness, and then lay it on to the junction of the wire and pipe for about a quarter of a minute. Pro-



The home constructor was well catered for by Messrs. Hartle and Gray at the Auckland Exhibition. The photo shows their stand displaying components, with an experimental radiovision set in left foreground.

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of enamelled or other insulated wire are not electrical, but are connected with the deterioration of the copper surface when exposed to the elements.

An ordinary copper or bronze aerial wire, when first erected, is quite bright, but after a time it becomes discoloured, and if examined at the end of six months or more, will be found to be extremely dirty. This is especially the case if the wire has been exposed to the fumes or smoke of a near-by chimney.

This surface corrosion is neither a good conductor nor an insulator, and it may occasion quite appreciable losses. With enamelled wire the original conductivity is preserved almost indefinitely.

A "B" Battery Hint.

BEFORE discarding a run-down B battery, it is advisable to test the individual tappings. This should be done with a voltmeter while the battery is in use on a receiver. If it is found that only some of the cells are run down, while others show nearly their full voltage, it is possible to obtain a new lease of service from the battery by just shorting the cells which are run down. This may be carried out with wander plugs connected with a short piece of wire. If sufficient wander plugs are not available, shorting links may be made out of thick wire.

viding the soldering-iron contains enough heat, a perfect joint will result.

A Panel-drilling Hint.

WHEN drilling a smooth-surfaced ebonite or composition panel many amateurs often experience a very great difficulty in maintaining the drill in a perfectly vertical position, and consequently the hole through the panel is not straight. A good tip to remember when engaged on work of this nature with smooth-surfaced panels is to observe the reflection of the point of the drill on the ebonite surface. If the point of the drill is not entering the panel in a perfectly straight manner the fault will be exaggerated enormously in the reflection. Always, therefore see that the line formed by the drill point and its reflection is perfectly straight, and you will then have no difficulty in obtaining perfectly true holes in the panel. This hint, of course, cannot be applied to dull-surfaced panels, in which

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