

An Improvised Speaker

A Correspondent's Successful Adaptation

MR. PERCY BAYLEY, of Silverdale, North Auckland, has arrived upon an idea to successfully tide over periods when the speaker is inoperative. He writes:—

THE following may be of service to listeners, who, like myself, live in the country and suddenly experience speaker breakdown. I have a good quality speaker, horn type, of 4000 ohms impedance. Naturally, the finely wound coils are liable to give trouble in this moist climate, and after a year or two of use may break down altogether. The cost of replacement is very small, but to send the unit away to the dealers takes time and perhaps deprives one of the use of the speaker for a week or more.

My speaker suddenly gave out after two years' use and no sort of adjustment either external or internal would

The two rough sketches should show quite clearly how it can be done and at no cost.

Take a block of close-grained wood about 12 inches long, 6 inches wide, and 2 inches thick. Saw a V-shape 4 inches long. The length and width are of importance only to give weight, but thickness is essential. The whole can be rigged up in half an hour.

The holes in the V-shaped section at the end of the block should be bored clearly and if necessary filed smooth. They should be approximately $\frac{1}{2}$ inch to $\frac{5}{8}$ inch in size. Bore the holes on each side of the V in an upward direction to meet the downward hole from the top of V and again smooth off all internal roughness.

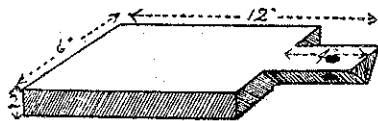
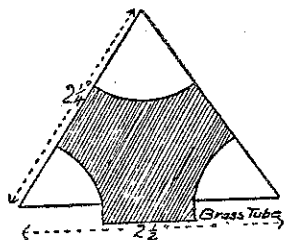
Horns have a different form of attachment to their units. Mine has a split clip bottom tightened up by one screw to grip the tube projecting from the unit. Into the hole bored downwards from the top of the V a small piece of brass tube of correct diameter externally to fit hole and also to fit the bottom of the horn, is driven about $\frac{1}{2}$ inch leaving about $\frac{1}{2}$ inch projecting on which the horn fits.

The two headphone earpieces are removed from their carriers (they can usually be sprung out easily) and are held in position over the two side holes of the V by a stout elastic band (a narrow section cut from a car tube answers admirably). The phone plug or pins are, of course, inserted in set instead of speaker plug or pins.

To assist in making an airtight join for earphones, two $1\frac{1}{2}$ inch diameter rubber or felt washers are tacked around the two side holes in the V. They also assist in correctly registering the holes in the earphones with the holes bored in the sides of the V.

The remainder of the block of wood acts only as a steadying for the horn when mounted.

Those economically inclined (and who is not?) who are just investing in a set capable of running a speaker, may like to try this idea out before purchasing a speaker! Various sizes of cardboard horns can be made and tried out. If the horn is made straight the block of wood should be placed vertical as all horns are very directional. If the earphones are from a good pair of phones the arrangement will excel most of the cheap speakers I have heard.



Method of utilizing phones to replace loudspeaker.

put it right. I immediately posted away the unit for coils to be replaced—guessing the probable cause of the trouble—retaining the horn and then tried to think out some means of using the earpieces of my phones as a working unit. The result was a great success—was used for ten days until my speaker unit was returned—and for the tone quality it was almost impossible to realise that the proper speaker was not in use.

The Counterpoise

An Engineer's Experience

THE advantages of a counterpoise instead of an earth are well known, especially in cases where there is much interference from artificial causes, such as electrical machinery. A well-known radio engineer has recently described his experiences in this direction, in which he found that a suitable counterpoise gave him practically a perfect solution of his problem. His account runs as follows:—

"A counterpoise was decided upon as being the best of a bad bargain. There was simply nothing else we could do. A piece of No. 14 rubber enamelled wire was run out of the window, and strung horizontally around two sides of the building.

"It was attached to several window ledges on the same floor. We hooked up

the set to the aerial, which was located on the roof, and to our new counterpoise as an earth, instead of using a common earth connection of the building; the counterpoise was not connected in any way with the earth, in fact, the set was not earthed at all in the ordinary sense.

Good Results.

"THE result was little short of a miracle. All traces of the artificial static and motor noises absolutely disappeared. Furthermore, the strength of reception was increased about 50 per cent., and there was a marked increase in selectivity.

"The motor noise was coming through the set in the original arrangement through the common earth connection, and not by direct radiation and pick-up from the aerial. By disconnecting the set from the earth, this source of interference was entirely eliminated. As soon as the counterpoise was employed, the signals increased, and the tuning became sharper because the aerial and counterpoise were much lower in resistance than the aerial and the long earth connection previously used."

RADIO DIRECTORY

What to Buy and Where

CITIES

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| ALTONA & HAMMARLUND. | Johns, Ltd. |
| ROBERTS SETS. | 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. |
| CROSLEY SETS | Lewis Eady, Ltd., |
| | Queen Street, Auckland. |
| FERRANTI RADIO COMPONENTS | A. D. Riley and Co., Ltd. Ansac |
| | Ave., Auckland, and all leading dealers. |
| GREBE RADIO | Howie's, |
| | Dilworth Building, Custom st., Auckland. |
| MULLARD VALVES | All Radio Dealers. |
| PREST-O-LITE. Car and Radio | L. J. Purdie & Co., Ltd. |
| Battery Service | 97 Dixon Street, Wellington. |
| RADIOLA RECEIVERS and | Farmers' Trading Co., Ltd., |
| Expert Radiola Service. | Hobson Street, Auckland. |
| T.C.C. CONDENSERS | A. D. Riley and Co., Ltd. Ansac |
| | Ave., Auckland, and all leading dealers. |

COUNTRY TOWNS

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| 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. |
| PHILIPS VALVES AND | |
| APPARATUS | All Good Radio Dealers. |

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