potential may result. The three methods are shown in a diagram. One is a bunch of turns of the requisite diameter, bound together in places with twine. The second method is to build up a slotted former of cardboard. the slot round the periphery measuring barely 3-16in, each way. The third method is to turn a similar former out of wood. Rotating ticklers are closewound upon a short former of small dimensions; the turns should not be spaced on ticklers. There is no need to endeavour to make the tickler as large as can be rotated in the end of the secondary. A small tickler with a few more turns to compensate will give even better results.

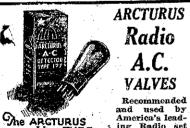
Wireless and Talking Pictures

THE Radioscope, the invention of Mr. G. V. Dowding (technical editor of "Popular Wireless), which, it is understood, is shortly to be demonstrated before British Post Office experts, is an interesting attempt to link up broadcast reception together with the home kinema so as to produce what is, in effect, the "home-talkie."

Mr. Dowding's inventions for synchronising a gramophone and a small kinema projector were recently demonstrated in London and gave a remarkable imitation of the "talkie" in minia-In this case the gramophone fore used was one of the standard portable models.

The Radioscope is a development of this type of qual reproduction in which the "talkie" part is received on an ordinary wireless set. With the hometalkie in which the gramophone is used it would be necessary to buy or hire both the film and its corresponding record to get the dual reproduction, whereas with the Radioscope it would only be necessary to buy or hire the kinema film, the single record in the B.B.C. studio being sufficient for all users within the service area of the station.

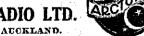
It is claimed that the introduction of Radioscope items in the B.B.C. programmes will not interfere with the normal service for those listeners who do not posesss home kinema projectors.



and used by America's lead-ing Radio set manufacturers, The ARCTURUS

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RADIO LTD.



Two-way Communications

Interesting Address

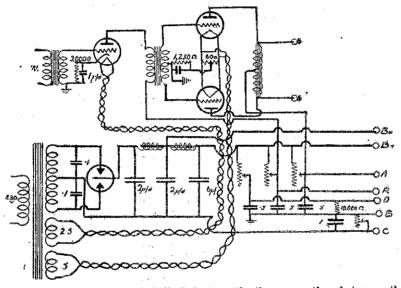
MR. E. T. FISK, Australia's greatest authority on wireless, and Managing Director of Amalgamated Wireless (Australasia) Limited, delivered an interesting address from 2FC on Sunday, September 15, from 6.40 to 7 p.m., 8.10 to 8.30, New Zealand Time, on "Bridging the Gulfs of Distance."

BEFORE the advent of cable communication, said Mr. E. T. Fisk, days of sailing ships, Australia and

nel, which was followed soon after by the transmission of a very faint signal across the Atlantic Ocean.

The first great application of wireless communication was between the shore and ships at sea, thus destroying the isolation which had previously been the greatest handicap of the seafarer. The next step was the establishing of regular communication between Great Britain and North America, but in spite of the remarkable strides made by the new discovery, very few people could accept the idea that it would ever be possible to send a wireless message direct across the world between Australia and Great Britain.

As a result of the pioneering efforts managing director of A.W.A., speaking of a very few people who had faith from 2FC on Monday night, and in the in the further development of this of sailing ships, Australia and great science, not only have wireless Zealand was extremely isolated messages been transmitted between



In the power amplifier described last week the connection between the transformer end and the valve electrode was shown as between the electrode and the common positive. The above is the corrected diagram.

from the rest of the world, and consequently her development was slow. The first cable connection between Australia and Great Britain made an astonishing difference, because, although the cost of communication was very high and the time of transmission was great, it enabled urgent messages to be sent with greater certainty and rapidity than by the long and precarious oversea route. Additional cables were laid as time went on, the cost was reduced, and the speed of transmission was increased. More news could be received from the outside world, and the transaction of important business was facilitated.

Extension of the cable service, however, involved capital expenditure of several millions sterling, and the great distance between Australia and important centres of the outside world involved the necessity of relaying messages at several intermediate points, with the result that the speed of communication was limited and the cost remained relatively high.

Thirty-three years ago Marconi de-monstrated in England the first practical system of telegraph communication without connecting wires. In the early stages he communicated across a distance of five miles. His next step forward was the transmission of a wire-

Australia and Great Britain, but a regular high-speed telegraph service is now in full operation, eliminating all intermediate relays, carrying messages at a higher speed than any other longdistance telegraph service, and at the same time very materially reducing the cost of communication.

This great advance in world-wide wireless telegraphy has been followed by an equally startling development in wireless telephony, with the result that two persons-one in England and one in Australia—can now converse by this accomplished quite satisfactorily.

less message across the English Chan- means as easily and clearly as we speak by telephone between Sydney and a nearby suburb.

By means of modern wireless stations, Australia can now be put into telegraphic and telephonic communication direct with any place on the face of the earth, without having to lay costly cables and by using the ether as a medium through which the elecromagnetic waves travel at a speed greater than one million miles minute.

It may safely be said that distance and isolation have been greatest and perhaps the only serious handicap to Australia and New Zealand, and the development of wireless has now arrived at such a point that distance is practically annihilated and isolation no longer exists. This means that our country of vast potential wealth can be brought into close contact with the great masses of humanity in other parts of the world, that it will be better understood, more effectively advertised, and the development of our trade and commerce will be facilitated to a far greater extent than ever before.

No other country has so much to gain from the full development of wireless communication, and Mr. Fisk considers that wireless is the greatest gift of science to Australia.

Accurate Tuning

Speaker at a Distance

IT is often a difficult matter to tune a receiver effectively in those cases in which the loudspeaker is situated in another room, or out of doors at some distance from the set. In such instances, the amateur generally brings the speaker near to the set whilst he conducts the tuning operations. Then, after the controls of the receiver are set, the loudspeaker is removed to its required distant position.

Without going to all this trouble, however, there is a very useful method of effecting the same end. It will be noted that one of the loudspeaker terminals goes to the plate of the last To this terminal attach, in advalvė. dition to the distant loudspeaker lead, one tag only of a pair of headphones.

Under these conditions, a comfortable volume of reception will be heard in the 'phones, and the necessary tuning can be effected in this manner. Thus, the loudspeaker can remain untouched in its distant position, but the tuning of the set can, nevertheless, be

