

# How your Voice Crosses the Country

*A Bell System Advertisement*

It is almost as simple nowadays to call a person by telephone clear across the country as it is to make a local call. Because it is so simple we are likely to forget the difficulties which had to be overcome before it was possible to send the voice over such long distances.

The electrical currents carrying the voice over telephone lines become weakened with travel, and there is a definite limit to the distance they can go and still be heard in the receiver at the distant end. To give them power to carry on, these voice currents must be sent through vacuum tube repeaters which magnify the feeble currents and send them on their way with renewed vigor. It may be necessary to repeat this process many times before the voice currents reach their final destination.

It has been estimated that it would require more energy than is produced by the heat of the sun to send the voice across the country, if it were not for repeaters such as the vacuum tubes placed at proper intervals along the telephone line.

Every long distance telephone line has its own repeaters. The repeaters for several hundred lines may be located in the long distance telephone office or in special buildings, known as repeater stations.

Out in the open country, your voice may travel along the open wire telephone lines or it may go through a lead-covered telephone cable with several hundred other lines.

Since the telephone was invented, a little more than fifty years ago, it has gradually reached out over greater and greater distances. At first it was possible to talk over just a few miles. Now by means of apparatus developed and perfected by the Bell System engineers and scientists, it is possible to talk between any two of the millions of telephones connected in the Bell System throughout the country.

