

ment at the other end of the line. A very cheap and serviceable telephone for a line not exceeding a mile in length can be made out of two cigar boxes and enough common stovepipe wire to make the line. Support the boxes, one at each end of the line, by means of strips fastened to the ends of the boxes, leaving the bottoms free to vibrate. Fasten one end of the wire to the center of one of the boxes and extend it to the other box, drawing it tightly and being careful to support all parts of it by some flexible substance as cotton or silk. See that there are no sharp turns in the wire, and that it does not touch any wood or metal excepting the boxes. A few sharp blows on the box with a pencil will serve for the call. A diaphragm of parchment may profitably be substituted for the cigar boxes. The electrical telephone demands that a person have a thorough knowledge of electricity in order to be completely understood. The sound wave is turned into an electrical wave, which travels along the wire; the electrical wave is then changed to a magnetic wave, the magnetic wave to a sound wave, which is heard.

