

SIMPLE TELEPHONE TRANSMITTER.

NEW TELEPHONE TRANSMITTER.

BY GEO. M. HOPKINS.

The microphone, with pendants, figured and described by the writer in the *Scientific American* of Nov. 16, 1878, was among the earliest of telephone transmitters, and although the device was crude in appearance and exceedingly simple in its construction, it contained the germ of a successful instrument, and was favourably noticed in the scientific papers of Europe.

The transmitter shown in the annexed engraving is based upon the same principle, and, so far as the devices for varying the currents go, it is even simpler than the original microphone. Fig. 1 shows the exterior of the instrument, Fig. 2 the interior, Fig. 3 a detail of the transmitter proper, Fig. 4 a sectional view of the receiver, and Fig. 5 is a diagram showing the battery and line connections. Everything, excepting the battery bell and line connections, is contained in the box. In the centre of the cover is formed the mouthpiece, behind which is placed the diaphragm, consisting of ordinary Russian iron of the thickness commonly used in stove-pipe. It is 2½ inches in diameter, and is held in position in a circular cast iron frame by two springs attached to the frame and pressing the diaphragm. The edge of the diaphragm is bound with soft rubber or felt. This arrangement, however, is not essential to the successful working of the instrument, as equally good results may be obtained when the diaphragm is clamped tightly at the edges between two rings fastened with screws to the front of the box.

To the centre of the diaphragm *a* (see Fig. 3) is attached a metal clamp, *b*, which supports, in a horizontal position, a cylindrical pencil of hard electric-light carbon, 1½ inch in diameter and 1 inch long. A disk, *C*, of battery carbon 1½ inches in diameter and ¼ inch thick, is grooved around the edge and wound with fine copper wire, which terminates in a flexible spiral connected with the upper hinge of the box. The

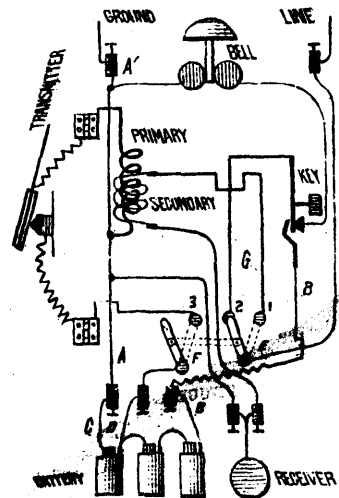


Fig. 5. - Telephone Connections.