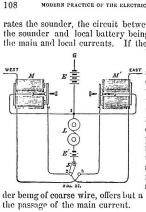
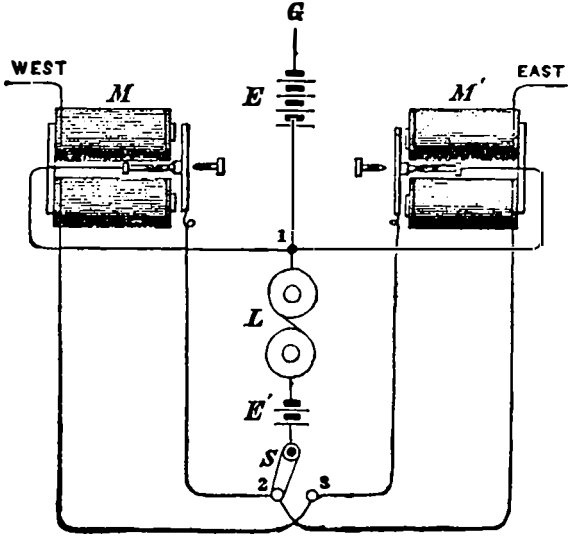
Section from Franklin Pope's Modern Practice of the Electric Telegraph[1]


108 MODERN PRACTICE OF THE ELECTRIC TELEGRAPH.

rates the sounder, the circuit between 1 and 2 through the sounder and local battery being common to both the main and local currents. If the western operator breaks the relay M opens, and consequently the sounder, L, ceases to work. The operator in charge then turns the switch to 3, and the reverse operation takes place; the western relay repeats into the eastern circuit, and the eastern relay operates the sounder. The sounder being of course wire, offers but a slight resistance to the passage of the main current.

New York, March[2] 1869

161. EDISON'S BUTTON REPEATER.[3]—This is a very simple and ingenious arrangement of connections for a button repeater, which has been found to work well in practice. It will often be found very convenient in cases where it is required to fit up a repeater in an emergency, with the ordinary instruments used in every office. Fig. 57 is a plan of the apparatus.



M is the western and M′ the eastern relay. E is the main battery, which, with its ground connection G, is common to both lines. E′ is the local battery, and L the sounder. S is a common "ground switch," turning on two points, 2 and 3. In the diagram the switch is turned to 2, and the eastern relay, therefore, repeats into the western circuit, while the western relay operates the sounder, the circuit between 1 and 2 through the sounder and local battery being common to both the main and local currents. If the western operator breaks[4] the relay M opens, and consequently the sounder, L, ceases to work. The operator in charge then turns the switch to 3, and the reverse operation takes place; the western relay repeats into the eastern circuit, and the eastern relay operates the sounder. The sounder being of coarse wire, offers but a slight resistance to the passage of the main current.

PD, Pope 1869, 107–8.

1. Franklin Leonard Pope (1840–1895), electrical engineer, inventor, and later patent attorney, held positions as telegraph operator, manager, engineer, and writer before becoming superintendent of Samuel Laws's newly formed Gold and Stock Reporting Telegraph Co. on 11 November 1867. He made several improvements to Laws's indicator for gold quotations, substituting parallel wheels for Laws's overlapping discs. As editor of the *Telegrapher* from 15 August 1867 to 8 February 1868, Pope enlarged the journal and introduced scientific and technical articles (see Doc. 26). The first edition of his *Modern Practice of the Electric Telegraph* appeared in May 1869. It became one of the most popular telegraph manuals of the late nineteenth century. Reid 1879, 565–66, 666–67; *DAB*, s.v. "Pope, Franklin Leonard"; "Pope's Work," *Telegr.* 5 (1868–69): 272.

2. Taken from the preface to Pope's book.

3. See Doc. 15.

4. Opens the circuit.