William Mover and Minor Davis’s wiring diagram for a button repeater.

Switched) repeater of the era. Edison’s design differs from the standard one by using the sounders only to indicate operation; the main relays do the actual repeating. Two problems could arise from it, however. First, general experience showed that using relays as repeaters reduced signal clarity. Second, the repeater operator could not tell by sound when it was necessary to switch the direction of operation, because at such times both sounders but only one relay would react. Therefore, the repeater operator would have to watch the armatures constantly. In the drawing, the relays (shown in side view) are double coils with a U-shaped core; the freestanding vertical piece perpendicular to the core is the relay armature; and each “Local” is a battery for a sounder.

Notebook Entry:
Repeater

One Sounder Repeater

AX, NjWOE, Lab., PN-69-08-08 (TAEM 6:772).

1. See headnote, pp. 29–32.
2. This one-sounder, button repeater design, which is a simpler version of Doc. 14, eliminates the redundancy of the second sounder. Although it still required the operator’s constant attention, Franklin
Pope—in an appendix to Pope 1869 (Doc. 71)—presented it as suitable for employment in an emergency.

[Cincinnati?, Summer 1867?]  

Notebook Entry: Repeater  

AX, NjWOE, Lab., PN-69-08-08 (TAEM 6:775).

1. See headnote, pp. 29–32. In this drawing Edison has copied almost exactly the standard illustration of Charles Bulkley's automatically switched repeater, which was used in 1848 in the first direct telegraph connection between New York and New Orleans. Edison has omitted one wire on each side of his drawing. The electromagnets are shown in top view. On Bulkley's repeater see Prescott 1877, 461–62, 464.

Charles Bulkley's automatic repeater.

2. The standard illustration of Bulkley's automatic repeater appeared in the Telegrapher for 30 January 1865 ("The Telegraphic Repeater," 1 [1864–65]: 141). The style and ink of Edison's drawing are similar to those of other notebook entries that are clearly from 1867.