BELL SYSTEM PRACTICES
Outside Plant Construction and Maintenance

SECTION G55.140
Issue 1, March, 1931
Standard

UNDERGROUND CABLE

PULLING CABLE INTO CENTRAL OFFICES

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1. CENTRAL OFFICE HAVING CABLE VAULT

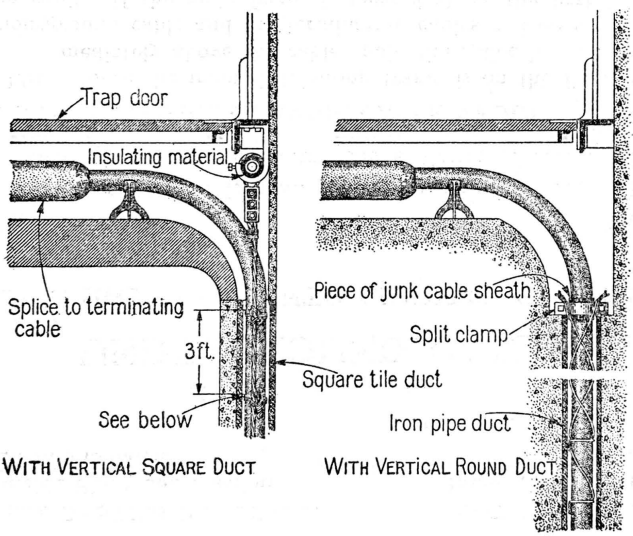
1.01 Where the main distributing frame is on the floor immediately above the cable vault, the splice between the underground cable and the terminating cables will be made in the vault. If the main frame is located above the first floor, the splice between the underground cable and the terminating cables will be made in the splicing chamber back of the main distributing frame, the underground cable being carried up from the cable vault in one of the ducts in the wall of the building. In this case, the underground cable may be placed in one section from the manhole in the subway to the back of the main frame, or in two sections, with a splice in the vault.

1.02 The cable may be pulled from the adjacent manhole to the vault, or from the vault to the adjacent manhole, depending on which is the more practicable. If the cable vault is equipped with pulling-in irons, they may be used in pulling the cable. If there is a window or pulling door in the vault, the cable may be fed through it into the vault, or the pulling rope may be passed through it from the vault to the truck.

PULLING CABLE INTO CENTRAL OFFICES

1.03 Where cables are placed in vertical ducts, the cable should be supported at the upper end of the duct.

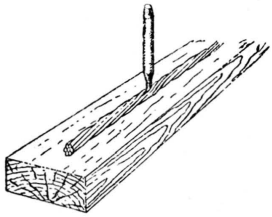
(a) If the duct has a square bore, support the cable with a piece of strand fastened to the cable at intervals of about 3 feet. Fasten the strand to the cable with lashing wire before it is pulled into the vertical duct. Where the distance from the cable vault to the splicing chamber does not exceed nine stories use 2200-pound strand. Where the chamber is located above the ninth floor, use 6000-pound strand. The supporting strand should be insulated from the metal work of the building with fibre board or other suitable material unless the cable has an insulating joint near the duct entrance to the building. The method of supporting cable and of fastening cable to strand is shown below.



WITH VERTICAL SQUARE DUCT

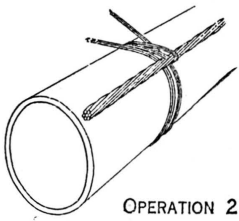
WITH VERTICAL ROUND DUCT

METHOD OF TYING CABLE TO SUPPORT STRAND



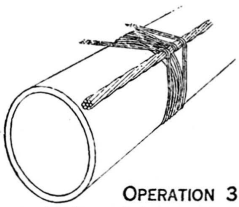
OPERATION 1

Separate wires of strand by means of a center punch or approved tool in the manner shown.



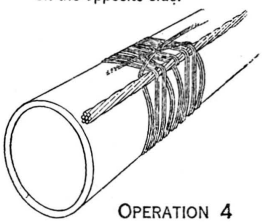
OPERATION 2

Insert double tie wire in this manner, the 2 wires of strand being on the cable side and 5 wires of strand on the opposite side.



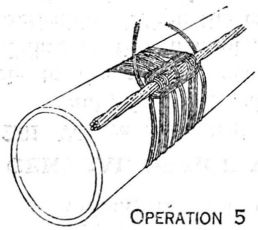
OPERATION 3

Continue winding double tie wire in manner shown.



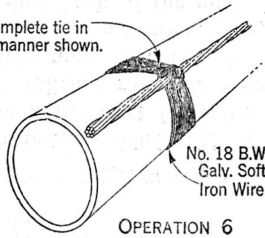
OPERATION 4

Open View - Showing method of making tie.



OPERATION 5

Insert each end of double tie wire between strand and cable for 1 complete turn as shown.



OPERATION 6

Completed tie

(b) If the duct in the wall of the building has a round bore and if the bore is not large enough to permit the use of a support strand, support the cable with 109 galv. B.B. wire and a split clamp as shown in the above figure. Lace the iron wire around the cable before pulling the cable into the duct.

2. CENTRAL OFFICE WITHOUT CABLE VAULT

2.01 Where a central office is not provided with a cable vault, feed the cable through the duct from the manhole to the splicing chamber or splicing rack, or from the building to the manhole, depending upon which is the more practicable. When the cable is placed in a vertical duct, support the cable at the top of the duct back of the main frame with a split clamp, and galvanized iron wire as described above.