A. T. & T. Co.'s
Specifications 4170
Supplement A

December, 1924

(Insert this Supplement before Specifications 4170)

STATION AND PRIVATE BRANCH EXCHANGE PROTECTOR INSTALLATION

New Supplies and Methods

Contents

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New Supplies and Methods

GENERAL

1. Reasons for issuing supplement. Several changes in materials have been made since Specifications 4170 were issued which necessitate changes in the practices included in these specifications. The use of a copper sleeve in place of a soldered joint for connecting the ground wire to the tail wire of the ground rod has also been standardized.

STANDARD SUPPLIES

Supplementing Section 1.

2. Standard names of new supplies included in this supplement are given below in alphabetical order. These items are listed for the convenience of field forces in ordering and checking supplies required for the work covered by this supplement.

Clamp: **GROUND WIRE CLAMP.**
Small clamp replacing 3/16 in. cable clamp.
3/8 IN. CABLE CLAMP.

Knob: **C PORCELAIN KNOB.**
A rectangular porcelain knob replacing cylindrical knob.

Sleeve: **104 X 064 COPPER HALF SLEEVE.**
For connecting ground wire to ground rod.

Staple: **GROUND WIRE STAPLE.**
For fastening ground wire to woodwork in place of 3/16 in. clamp.

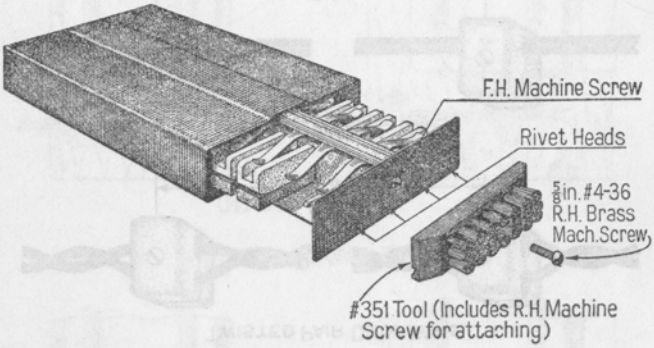
Tool: **# 351 TOOL.**
A brush for cleaning protector blocks.
To be attached to # 3-A carrying case.
Includes screw for attaching to case.

Wire: **(# LBS.) LASHING WIRE.**
051 tinned annealed copper wire.

INSTALLING PROTECTOR PARTS

Supplementing Sections 27 and 28.

3. The #351 tool provides a more convenient means for cleaning protector blocks than the typewriter brush. Attach this tool to #3-A carrying case as shown below.



1 Remove F.H. Machine Screw from end of case.
2 Place #351 Tool on end of case with slot in tool over rivet heads.
3 Fasten with R.H. Machine Screw.

INSTALLING LINE WIRES FROM TUBE TO PROTECTOR

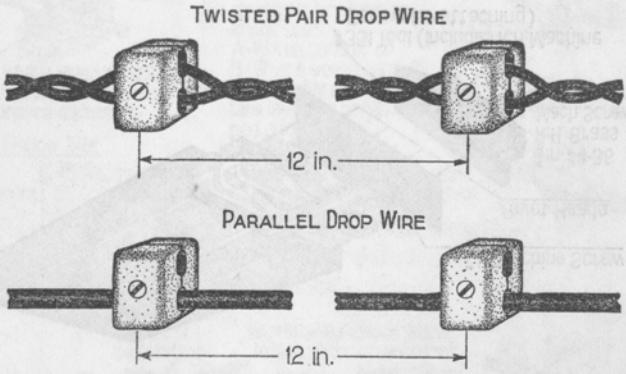
Supplementing Section 29.

4. The C porcelain knob has been changed from a cylindrical to a rectangular shape and so as to take either the parallel drop wire, the twisted pair drop wire, or the ground wire. The rectangular knob shall be used with the parallel drop wire, as the cylindrical knob is not suitable for this wire.

Sections 5 and 6 of this supplement show the methods of using the rectangular C knob for fastening the parallel and twisted pair drop wires from the entrance to the protector and at the protector. Wherever the cylindrical C knob is shown in Specifications 4170 it shall be understood that the rectangular knob may be used instead and as shown in this supplement.

Supplementing Section 30.

5. Attaching line wires from entrance to protector.

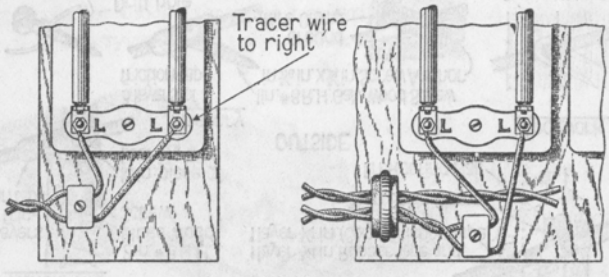


Fasten rectangular knob to surfaces with fasteners specified for cylindrical C knob in Section 30.

Supplementing Section 31.

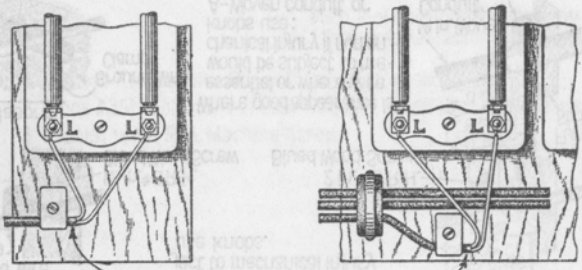
6. Terminating line wires at protector.

TWISTED PAIR DROP WIRE



Use both grooves

PARALLEL DROP WIRE



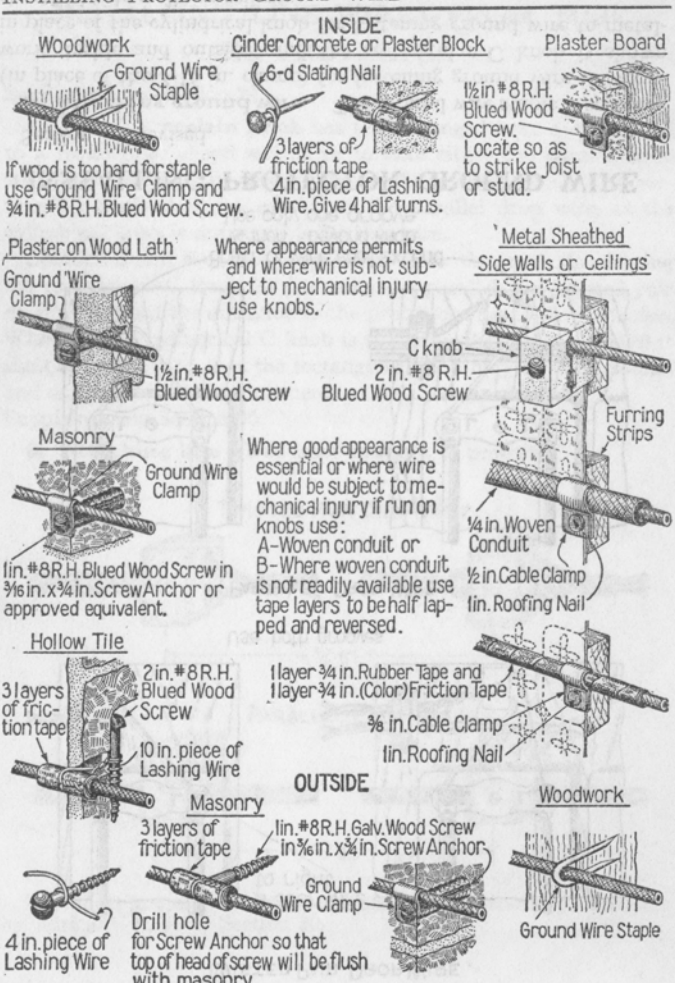
Braid of wire shall extend 1/4 inch beyond knob.
Use only one groove.

INSTALLING PROTECTOR GROUND WIRE

Section 33 Revised.

7. Attaching ground wire. The ground wire staple is specified (in place of the 3/16 in. clamp) for fastening ground wire to woodwork, inside and outside, and the rectangular C knob is shown in place of the cylindrical knob for fastening ground wire to metal-sheathed side walls or ceilings.

Installing Protector Ground Wire



Section 40 Revised.

8. Installing ground rod. Drive rod vertically into the ground.

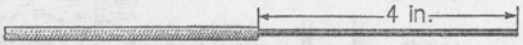
Locate rod in cellar if floor is not cemented or waterproofed, otherwise locate rod outside of the building.

Locate rod and attached ground wire where least liable to injury and tampering. Avoid placing rod in public alleys or on street or sidewalk line.

Inspect rod after driving and make sure that joint on rod is not broken. If joint is broken remove rod and install another rod.

Make joint between ground wire and tail wire of ground rod as shown below. Joints should be above ground in all cases except as specified in Section 24.

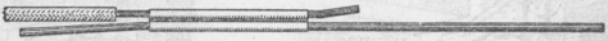
1 Remove braid and rubber insulation on ground wire for about 4 in. Be careful to avoid nicking conductor.



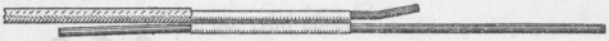
2 Clean ground wire and also tail wire on ground rod thoroughly preferably with emery cloth.

3 Place 104 × 064 combination copper half sleeve on ground wire and push back to within ½ inch from end of insulation. Bend up end of wire slightly.

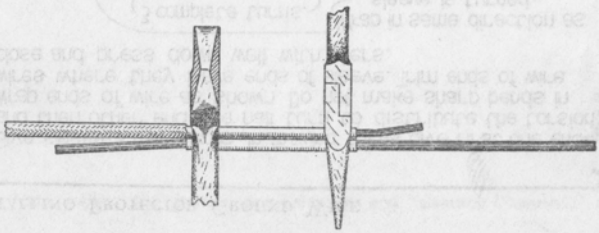
4 Insert the tail wire of ground rod in the sleeve and push wire through until it is about 3 in. beyond end of sleeve.



5 Pull end of ground wire through sleeve with pliers until insulation is tight against the sleeve.

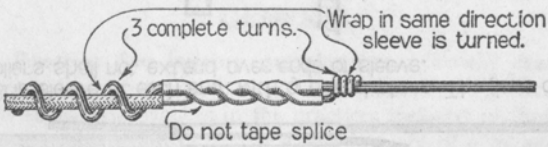


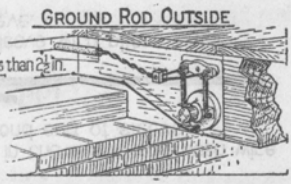
6 Grip sleeve at each end with grooved pliers. The jaws of pliers shall not extend over ends of sleeve.



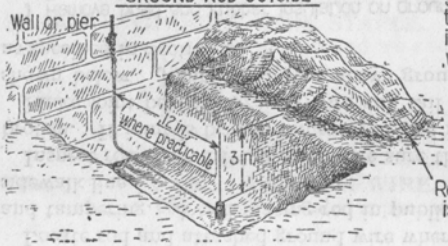
Installing Protector Ground Wire

7 Give sleeve 3 half turns. In making turns give first one end and then other end one half turn to distribute the torsion. Wrap ends of wire as shown. Do not make sharp bends in wires where they leave ends of sleeve. Trim ends of wire close and press down well with pliers.





In ground rod installations, all protectors shall be strapped together with ground wire.
A ground rod and ground wire shall be placed for each protector.
Drive rods at least 12 inches apart.



Protect ground wire outside of building with station ground wire moulding where wire is near walk or other thoroughfare

Replace earth after rod is installed.