BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G52.145
Issue 1, December, 1931
Provisional Standard

AERIAL CABLE
PROTECTION AT FIRE HAZARDS

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1. GENERAL

1.01 This section covers the placing of Type B Fire-Proofing at locations where fire hazards exist which might result in damage to the aerial cable.

2. STANDARD NAMES OF SUPPLIES

2.01 Standard names of supplies required for use in accordance with this section are given below:

Fire-Proofing (Quantity) **COMPLETE** (Size) **SECTIONS TYPE B FIRE-PROOFING FOR AERIAL CABLE.**
(6-1/2 inch size for cables 2-5/8 inches and less in diameter.)
(8-1/4 inch size for cables larger than 2-5/8 inches in diameter.)
A complete section of Type B Fire-Proofing consists of
2—Half Round Lengths of Asbestos Composition Insulation (4 feet in length).
2—H Section Copper Connectors (4 feet in length).
2—2-inch Copper Clamps with bolts and nuts.
Order about 10 per cent. complete sections extra to allow for breakage.

3. PLACING OF AUXILIARY STRAND

3.01 Place an auxiliary 16000 pound strand as shown in Part 4, extending one span beyond each end of the section where the protection is to be placed, except in cases where 25000 pound strand supports the cable. Under such conditions place an auxiliary 25000 pound strand. Place the auxiliary strand at approximately the same tension as the cable suspension strand.

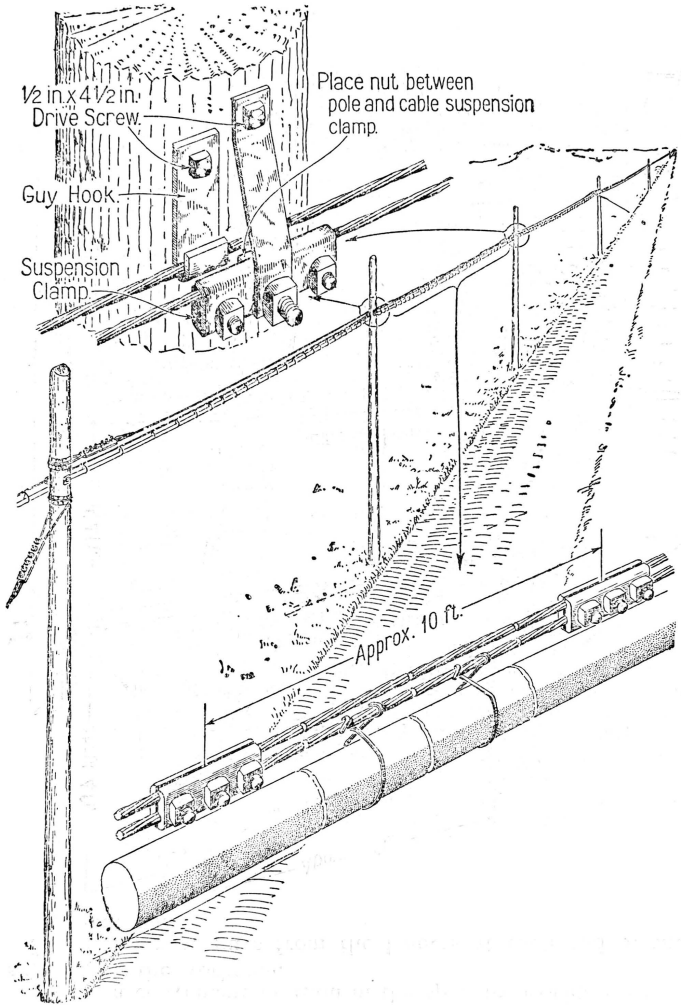
3.02 Place Guy Hooks to support the auxiliary strand on the poles at each end of the section to be protected and at all intermediate poles where the protection extends for more than 1 span. Dead end the strand on the adjoining poles above the through bolt supporting the cable. Place head anchor guys to these poles if practicable, otherwise place pole to pole guys. If the $\frac{\text{Lead}}{\text{Height}}$ is 1 or greater use same size strand for the guy as the suspension strand; otherwise the size of the guy should be determined by the Guy Rule.

3.03 Clamp the existing and auxiliary strands by means of 3 bolt guy clamps at 10 ft. intervals as shown below.

4. LOCATION OF AERIAL CABLE RINGS AND CABLE SHIELDS

4.01 The rings supporting the cable should be left on the existing suspension strand.

4.02 Place cable shields on the cable at the first two rings on both sides of the poles at each end of the fire protection. If the protection does not terminate at the above poles, in addition, place two cable shields on the cable at the first two rings from each end of the protection. Install the cable shields in accordance with the instructions covering the installation of this material.

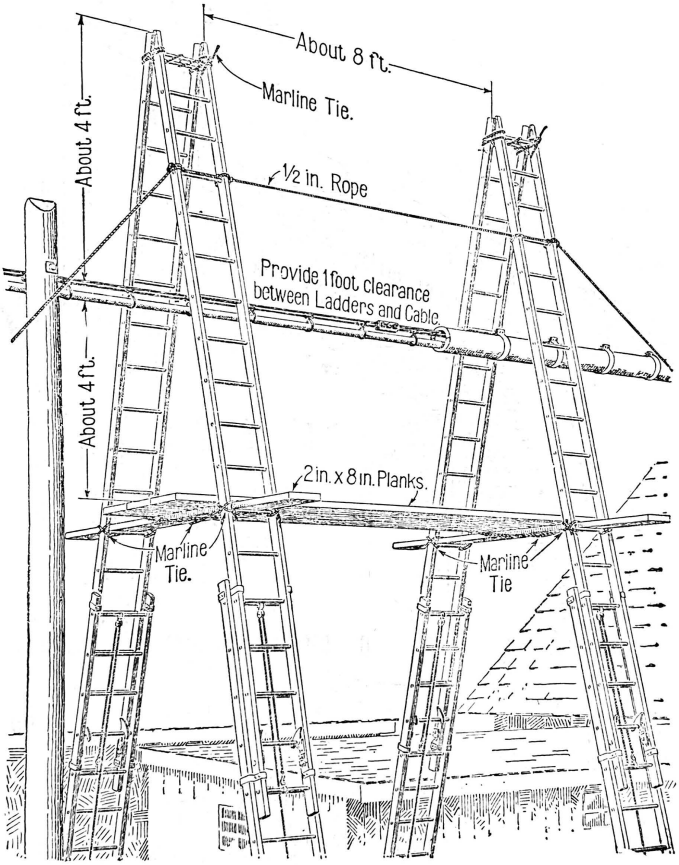


NOTE: 1 in. Bent Thimble Eye Bolts may be used for dead-ending 16000 Pound auxiliary strand and attaching the guy if desired.

5. ARRANGEMENT OF PLATFORMS

5.01 Place 4 extension ladders and planks as shown below at a convenient location in the span to provide suitable support for the workmen.

5.02 Place rope guys from the ladders at each end of the platform.



6. INSTALLING TYPE B PROTECTION

6.01 Raise splice sleeves in all spans where fire-proofing is to be installed so that the bottom of each sleeve will be in line with or slightly above the bottoms of the adjacent cable rings. Place a wire tie at the center of the sleeve and a tie about two inches beyond each end of the sleeve.

6.02 Stagger the upper and lower sections of the protection so that the butt joints of two adjacent lower sections will be at the mid-point of an upper section.

6.03 Assemble the sections as follows:

(1) Place a four foot length of a half section of the fire-proofing equipped with H copper connectors under the cable and rings. Seat the edges of the fire-proofing firmly in the copper connectors.

(2) Place another half section of the fire-proofing, with the end located two feet from the end of the lower half, over the cable.

(3) After seating the edges of the fire-proofing in the copper connectors place one of the two-inch copper clamps with the bolts in the position indicated over the two half sections.

(4) Place another lower half section abutting the first lower section and tighten the copper clamps.

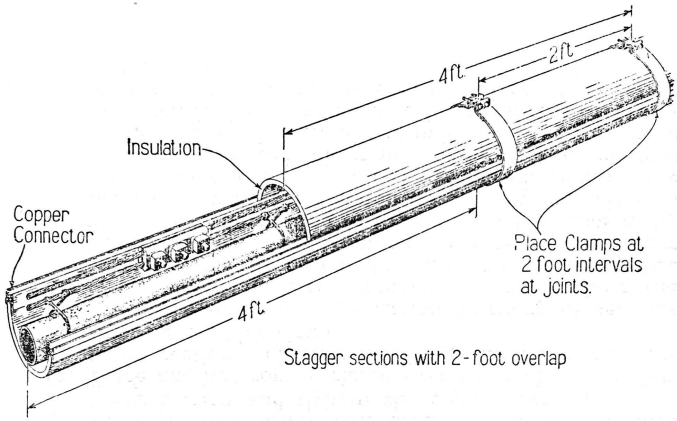
(5) Place another copper clamp over the end of the first upper section and after installing another upper section, tighten this clamp.

(6) As the assembly of each section or group of sections is completed, push the completed sections along the strand so as to permit the assembly of the entire length of protection from one position of the ladder platform. The shifting of the completed sections along the strand can be facilitated by tying a one-half inch rope around the section last assembled, running the rope over a snatch block placed on an adjacent pole at the level of the strand and pulling on the rope from the ground. Use a ladder or cable car if it is necessary to pass the material over a strand splice or other obstruction.

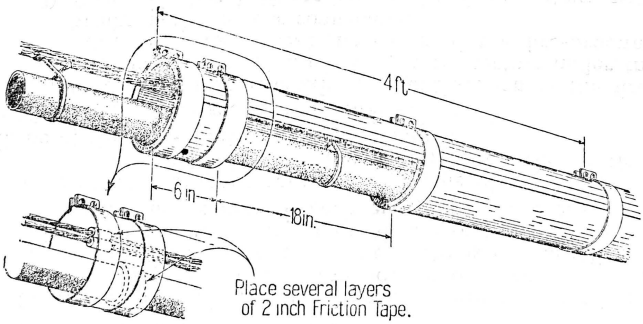
Installing Type B Protection

(7) Proceed in a similar manner until entire section of cable to be protected has been covered.

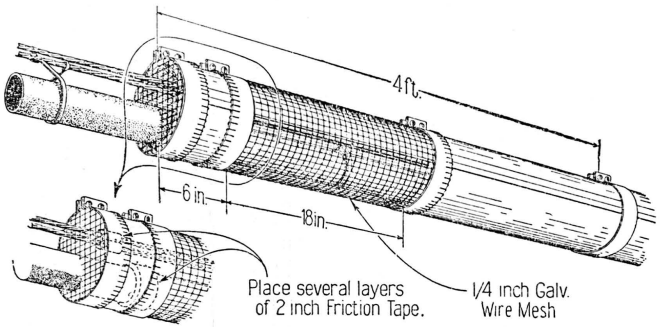
TYPE B PROTECTION



6.04 In order to secure the end of the insulation, place a six inch length and clamps as shown. Place dams of friction tape on the strands and cable within the enclosed ends to prevent the flow of water into the protection. Locate the dam on the cable about 3 inches beyond those on the strands, as shown.



6.05 Place heavy galvanized wire mesh (to be obtained locally) over the ends and the 18-inch open spaces under the cable as shown below, to prevent birds from building nests inside the fire-proofing. In order to secure the wire mesh over the 18-inch opening under the cable, wrap it around the entire structure. Cut the end piece at the top and bottom and fit it around the strand and cable. Place cable shield on the cable where it is in contact with the edges of the wire mesh.



7. MARKING SPLICES

7.01 Place a copper clamp over the fire-proofing at the location of each sleeve in the cable and secure a small brass tag to the clamp by means of lashing wire to designate location of sleeve. Stamp the letter S on the tag if the sleeve is placed over a splice in the wires and the letter T if the sleeve covers only a sheath break.

8. EXTENDING PROTECTION BY A POLE

8.01 If it is impracticable to arrange the poles and span lengths so that it will be unnecessary to extend the protection by a pole, support the cable on a Cable Extension Arm in order to obtain clearance between the cable and pole for the protection. Place the suspension and auxiliary strands as shown below. Cut and fit the protection around the cable and strand.