BELL SYSTEM PRACTICES
Outside Plant Construction and Maintenance

SECTION G57.630.5
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AT&T Co Standard

SUBMARINE CABLE SPLICING
LOADING COIL CASE

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1. GENERAL

1.01 This section covers the method of splicing a submarine loading coil case into a single, double or light wire armored submarine cable. It deals primarily with the method of terminating the armor wires. The other splicing operations can be carried on in substantially the same manner as that followed in splicing land type cases, except for the wire work, as the IN and OUT terminals of the coils in submarine cases appear at opposite ends of the case.

2. TOOLS AND MATERIALS

2.01 The special tools and materials listed below, in addition to those generally carried, are required in splicing submarine loading coil cases.

2.02 **Materials**

Compound, Terminal: For filling splice chambers.

2.03 **Tools**

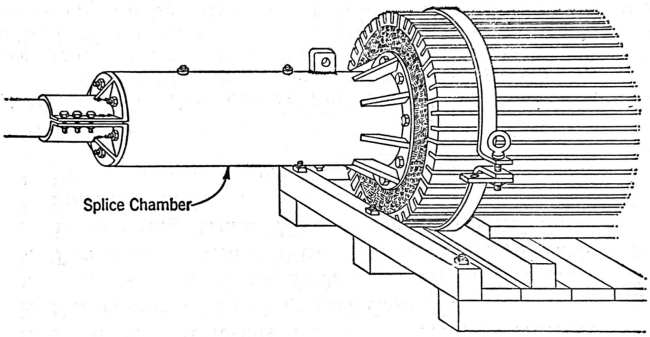
Cutter, Bolt: For cutting armor wires.

Hacksaw, 32 Teeth per Inch: For cutting armor wires.

Wrenches: For tightening 1/2 to 1-inch nuts.

3. DESCRIPTION OF LOADING COIL CASE

3.01 The following sketch illustrates one end of a submarine loading coil case mounted on the shipping board. The case is equipped with two identical stubs. In the cases potting toll loading facilities, the ends are designated "PH" and "SC" by stampings on the two clamping rings that secure the wood cover strips to the case. The "PH" indicates the phantom coil end and "SC" the side circuit end. In cases containing carrier loading coils or units, one end is marked "A" and the other "B". The sequence of the quads in the stub at the "A" or "PH" end looking toward the case is clockwise, and that looking into the "B" or "SC" stub is counter-clockwise. The plans will indicate the manner in which the conductors in the stubs should be spliced to the conductors in the cable.



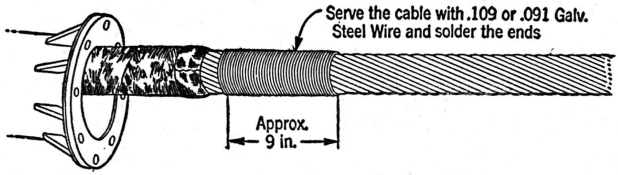
3.02 The case should be set up on timbers at a suitable height above the ground or deck of the boat to provide sufficient room to handle the armor wires and for splicing. Then remove the splice chambers from the case.

4. PREPARATION OF CABLE ENDS

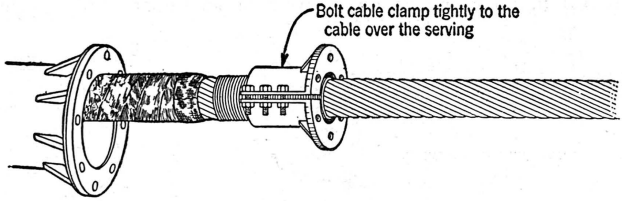
4.01 The cable ends should be supported on horses or by other means so that the ends are in line with the stubs of the case. Slide a splice chamber over each end of the cable and then lash the cable securely to the supports. If the cable is protected by an outer covering of jute, 36 inches of the jute should be removed from the end of each cable.

5. TERMINATING ARMOR WIRES—SINGLE ARMORED CABLE

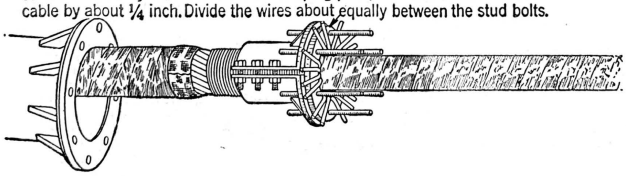
5.01 Serve the armor wires about 30 inches from the end with .109 or .091 galvanized wire as shown in the sketch. Secure the serving by soldering the ends, using soldering paste as a flux.

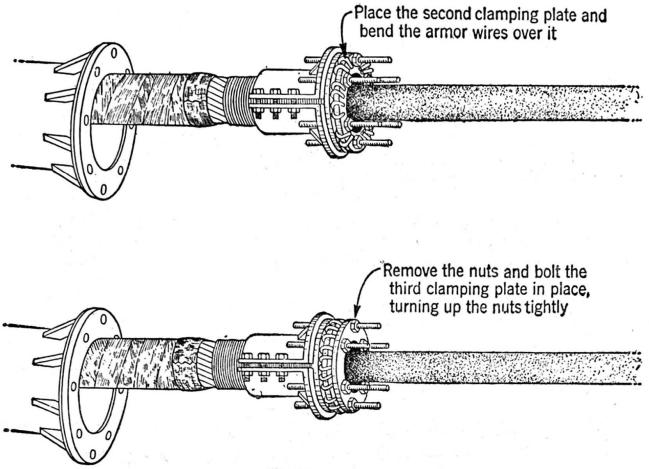


5.02 Attach the two-piece cable clamp over the serving, building up cable with lead sheath where required. Then terminate the armor wires, as shown in the following sketches.



Place the clamping plate and bend the armor wires as shown. Cut the armor wires so that when they are bent over the clamping plate, the ends will clear the cable by about ¼ inch. Divide the wires about equally between the stud bolts.



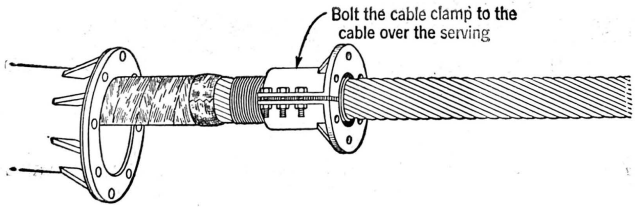


5.03 The second cable end should be prepared in the same manner as the first end.

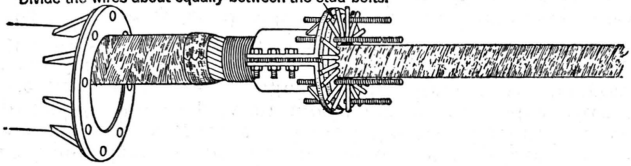
6. TERMINATING ARMOR WIRES—DOUBLE ARMORED CABLE

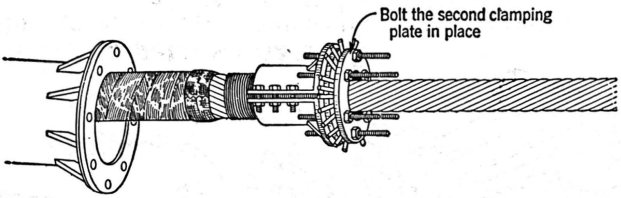
6.01 Serve the armor wires as described in Paragraph 5.01.

6.02 Terminate the armor wires as shown in the following sketches.

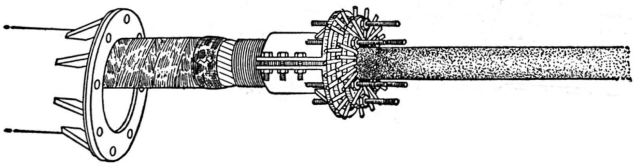


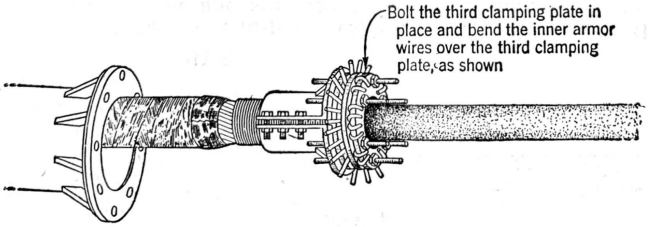
Place the clamping plate and bend the outer armor wires as shown. Cut the wires so that they will project 1⅞ inches beyond the plate. Divide the wires about equally between the stud bolts.

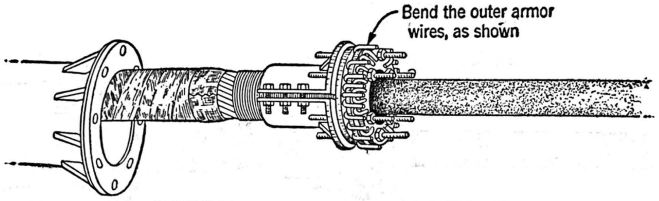




Bend the inner armor wires as shown. Cut the wires so that when they are bent over the clamping plate, the ends will clear the cable by ¼ inch. Divide the wires about equally between the stud bolts.

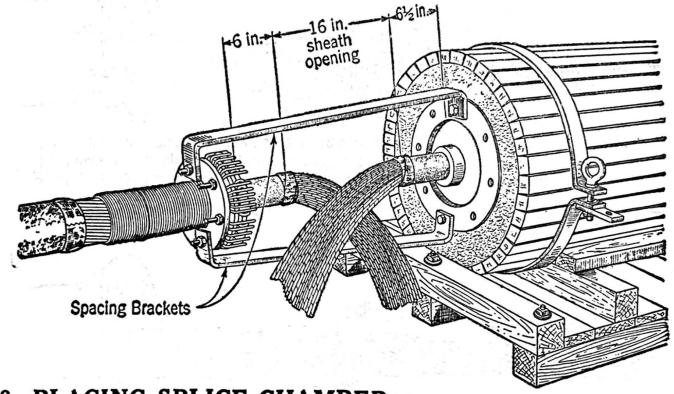






7. SPLICING CABLE

7.01 Remove the two-piece cable clamp and prepare the main cable and stub for splicing. The points at which sheath should be removed are indicated in the sketch below. Then connect the main cable to the case by means of the spacing brackets.



8. PLACING SPLICE CHAMBER

8.01 After the solder work on the lead sleeve has been completed and pressure tested, the seam should be covered for its entire length with a piece of lead sheath about 2 inches wide held in place by wrapping the sleeve with 2-inch friction tape. Then place the wood cable support over the cable between the armor clamping rings and the outer wiped joint. The wood support is used to prevent movement of the cable after the splice chamber has been bolted in place. Remove the temporary spacing brackets and slide the splice chamber over the splice. Bolt the chamber to the case and replace the two-piece clamp.

8.02 **Fill the splice chamber with terminal compound heated to a temperature not to exceed 220° F.** About 45 pounds of compound are required for each splice chamber. Should any galvanizing or asphalt finish on the case become damaged, the surface should be covered with hot terminal compound.