

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G52.123.1
Issue 2, August, 1957
AT&T Co Standard

PRELASHING
GENERAL

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1. GENERAL

1.01 This and other related sections cover the pre-lashing method of placing and lashing aerial cable. The section is reissued to include minor changes and to include instructions on the use of Portable Radio Equipment formerly covered in Addendum G52.123.1 which is cancelled. Issue 1 of Section G52.123.1 is replaced.

1.02 The pre-lashing method differs from other aerial cable placing methods principally in that:

(a) The strand and cable are placed and tensioned at the same time instead of placing and tensioning the suspension strand in advance of cable placing operations.

(b) The lashing operation is performed as the strand and cable are pulled from their respective reels mounted on a cable-reel trailer instead of pulling the lasher along the strand.

1.03 For installation and maintenance information on the trailer-mounted pre-lashing equipment, see the appropriate Section in the G90 Series. Procedures as outlined pertaining to pre-lashing equipment can be applied to the truck mounted units as well as those mounted on a trailer.

1.04 The pre-lashing method can be used to place lead sheath cables up to 1.1 inches in diameter and alpeth and stalpeth cables up to 1.3 inches in diameter on either the field or road side of the pole line. Larger diameter cables should not be pre-lashed.

1.05 The equipment will accommodate up to No. 417 cable reels and all reel sizes of 6,000- or 10,000-pound strand. The equipment is not designed to handle other sizes of strand.

1.06 The maximum length of cable that can be prelashed without relocating the trailer or the truck depends on the length of cable on the reel and the length of winch line that can be stored on the winch drum; the shorter length will be controlling.

1.07 As the suspension strand is worked under tension, greater care must be exercised in dead-ending and splicing the strand. All tools used, such as strand pullers, wire rope slings, manila rope, etc., must be in good working condition and capable of handling the loads imposed upon them.

1.08 Where a section of prelashed cable is to be joined to another section the suspension strand is dead-ended temporarily. Pole-to-pole or other forms of temporary guying are required to hold the unbalanced load on the pole. To avoid delays during prelashing, temporary guys of 6,000-pound strand should be placed in advance. Ends of suspension strands may be joined by terminating on a strand connector (at the pole or in the span) or by use of a strand link.

1.09 Split sleeves are required at splices except at locations where cable ends are to be joined.

1.10 B Cable Guards are provided to protect cable sheath from abrasion at strand attachments. See Section G52.140.1, Mechanical Protection, for sizes of guards and associated cables.

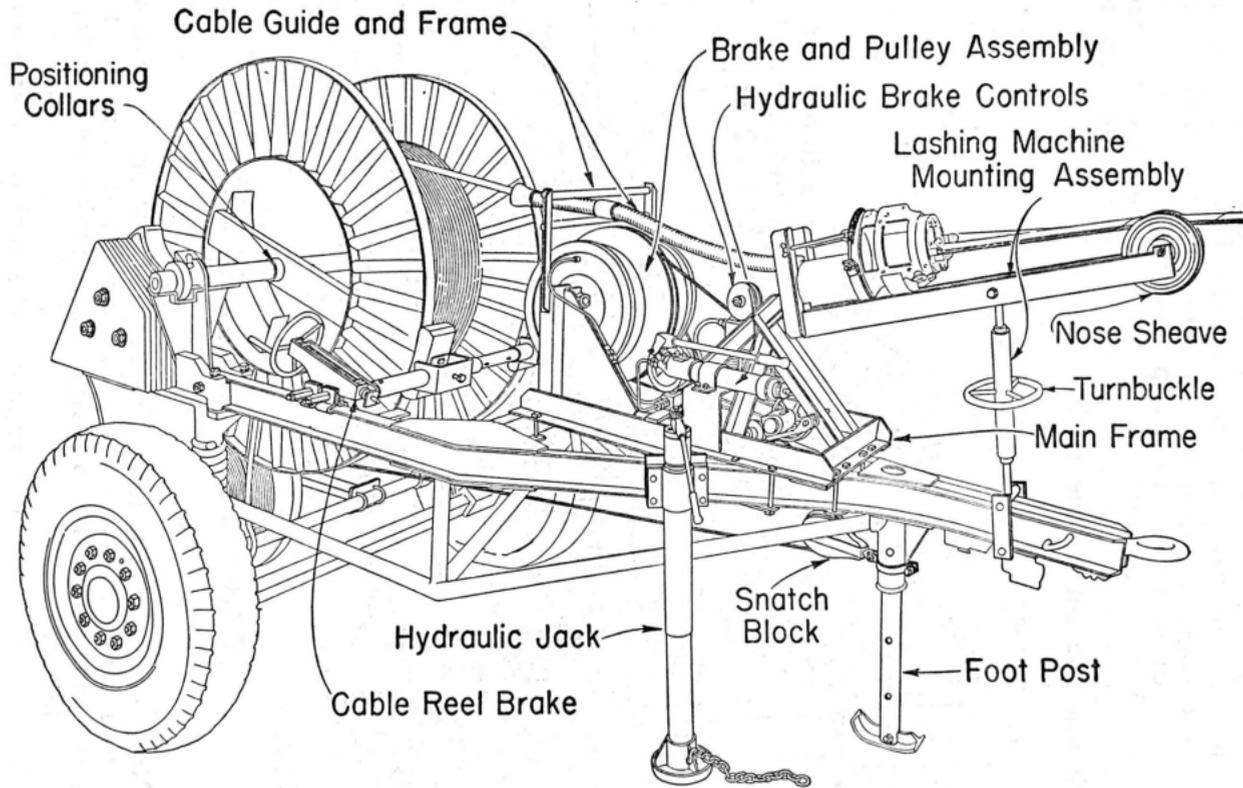
2. DESCRIPTION OF EQUIPMENT

Trailer Mounted Equipment

2.01 The trailer-mounted equipment consists of the E Cable Lasher and the B Counterbalance.

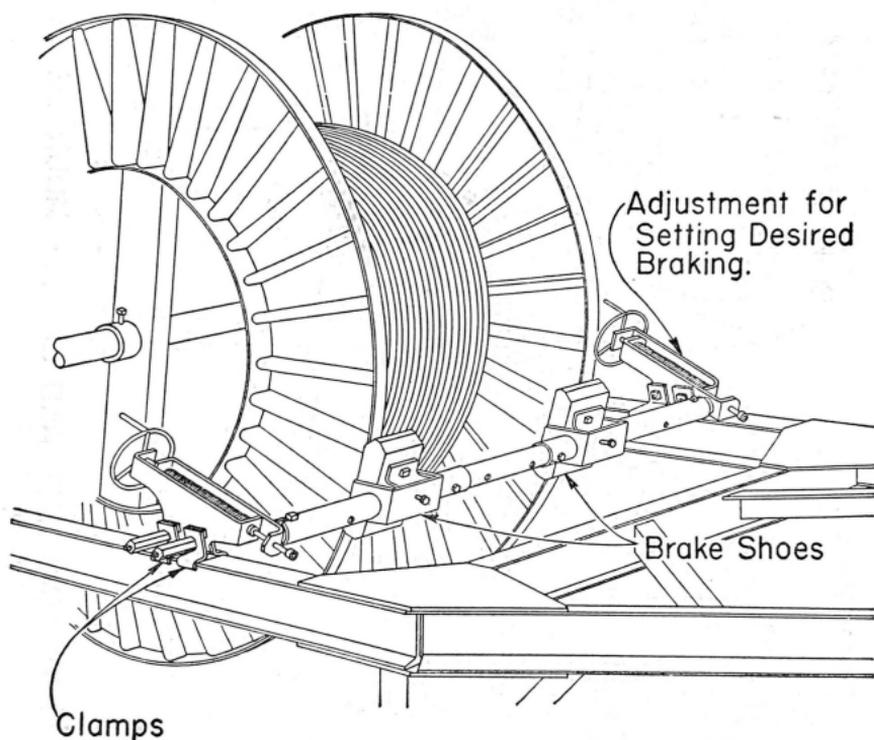
2.02 **E Cable Lasher:** The lasher includes the following three units:

(a) The Strand Tensioner and Lasher Mounting Unit consists of strand pretensioning rollers, hydraulic brake and pulley system and associated equipment for controlling the tension in the suspension strand. It also includes a cable guide for feeding the cable into the lashing machine, the lashing machine mounting for supporting a C cable lasher and aligning it to the desired direction of pull, a hydraulic jack and replacement foot post for raising and lowering the trailer tongue, the mountings for the counterbalance, positioning collars for positioning the cable reel on the spindle, the strand meter and a tool box.



STRAND TENSIONER AND LASHER MOUNTING UNIT

(b) The Cable Reel Brake Unit serves the dual purpose of tensioning the cable as it passes through the cable lasher, and preventing overrunning of the cable on the reel when it becomes necessary to stop the lashing operation. The brake may be adjusted to accommodate any diameter and width of reel used in the pre-lashing operations. The braking effort is applied to the rims of the reel through wooden brake shoes attached to a spring-loaded frame which may be set to the desired load.

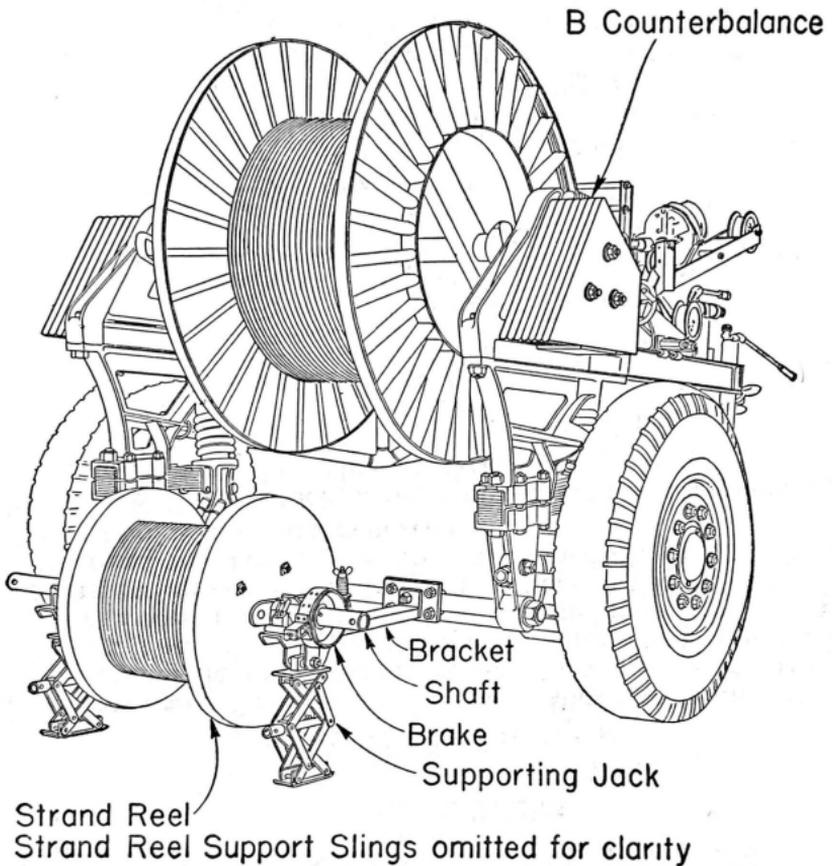


CABLE REEL BRAKE UNIT

Note—For information on the installation, operation and maintenance of the B Cable Reel Brake and the clamp for the B Cable Reel Brake, see Section G93.225.1.

(c) The Strand Reel Unit supports the reel of strand and includes a brake to prevent overrunning. The two jacks are used to raise or lower the strand reel and to level the

reel and shaft assembly. Under proper conditions, when the trailer is moved to a new location, the strand reel and strand reel unit may be supported by two wire rope slings.

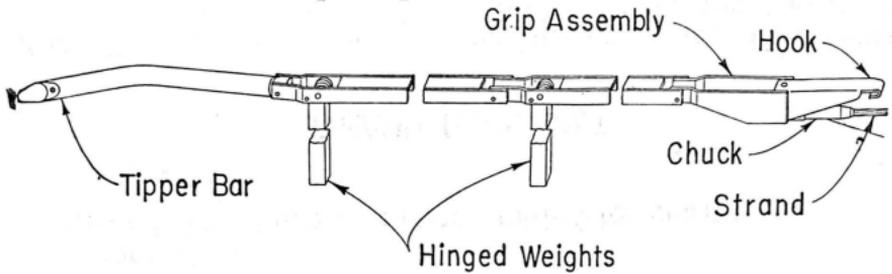


STRAND REEL UNIT

2.03 **B Counterbalance:** It consists of a set of weights mounted as required on either side of the trailer as shown in the preceding figure and is intended to restore the normal balance of the trailer on which an E lasher has been mounted.

2.04 **D Cable Leader:** This unit consists of six hinged weights which normally hang vertically to resist cable and strand rotation, a tipper assembly and a grip assembly.

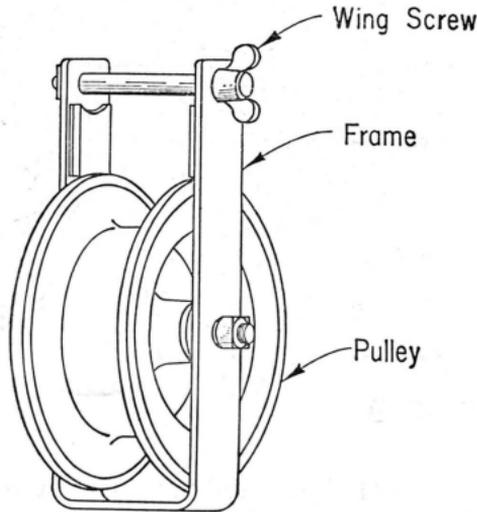
The weights are arranged to fold into the supporting frame work when passing over a roller at a pole. The grip assembly is for connection to the cable and strand, and accommodates two sizes of chucks and a chuck adapter for gripping the strand. The forward end of the tipper has a hook with a screw keeper for connection to the pulling line.



D CABLE LEADER

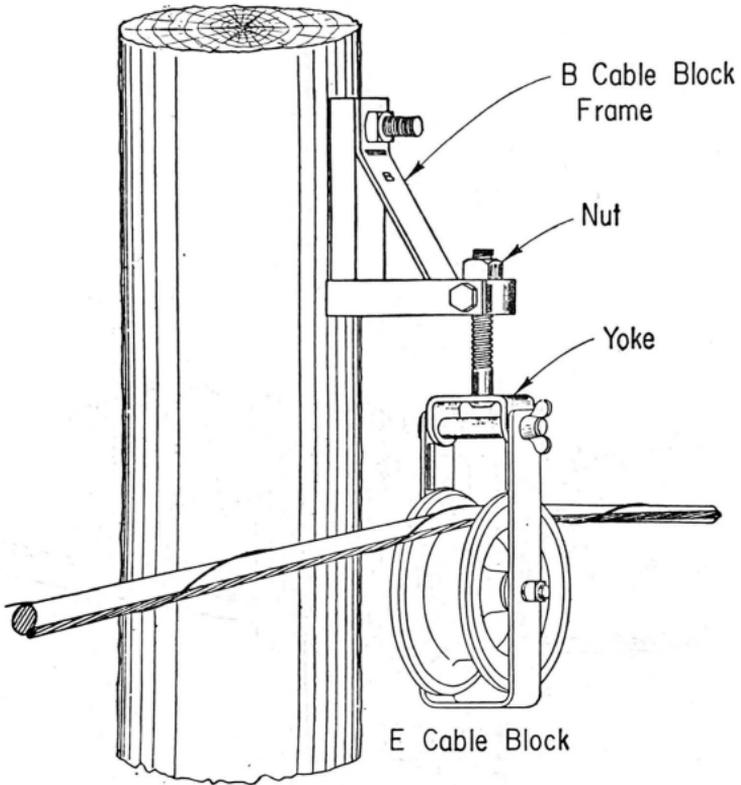
2.05 **Temporary Rollers:** The E Cable Block with an appropriate cable block frame serves as a temporary roller at each pole. The rollers serve initially to support the pulling-in line, then the winch line, and finally the lashed cable and strand. After transferring the strand from the rollers to the pole attachment (suspension clamp, pole strand connector, or guy bolt) the blocks and frames are removed.

- (a) The E Cable Block, a neoprene coated roller assembly, is used with the cable block frames.

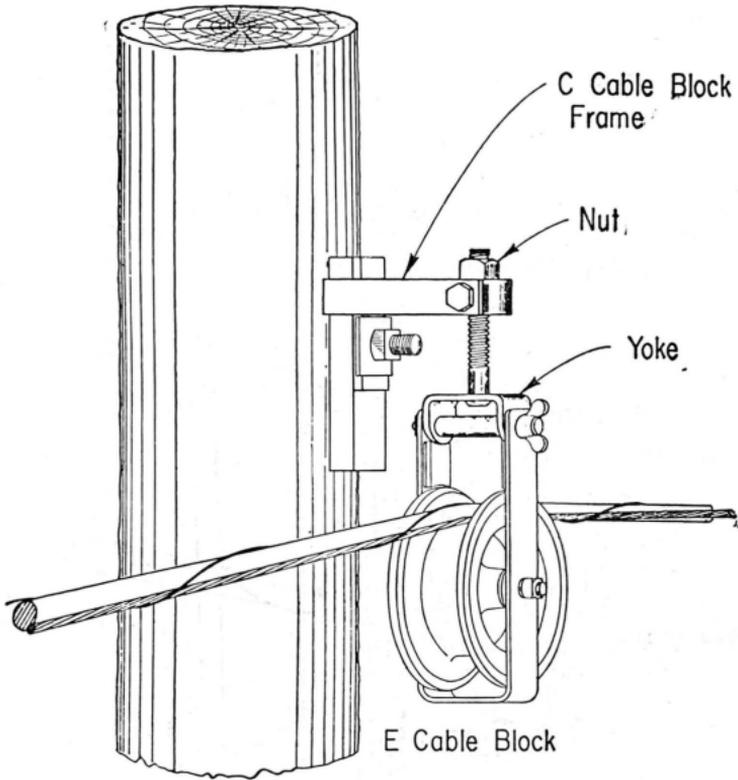


E CABLE BLOCK

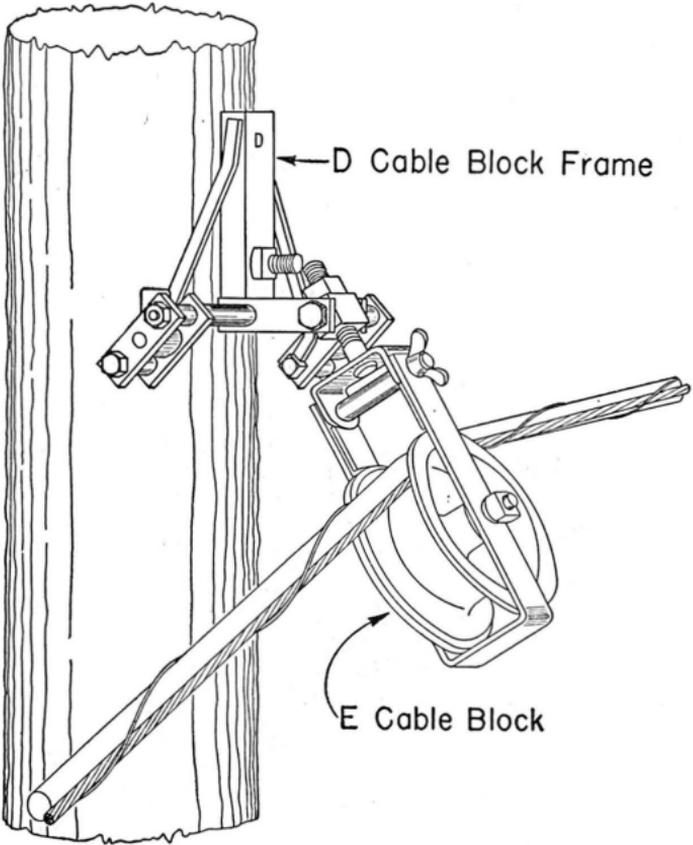
(b) The B Cable Block Frame is used at the first and last pole of the pull.



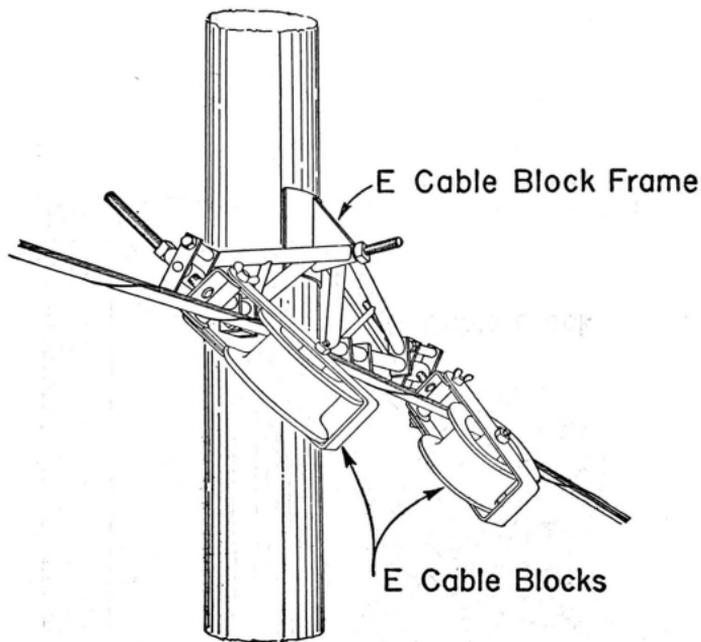
(c) The C Cable Block Frame is used at all in-line poles and at corners where the pull is less than 3 feet.



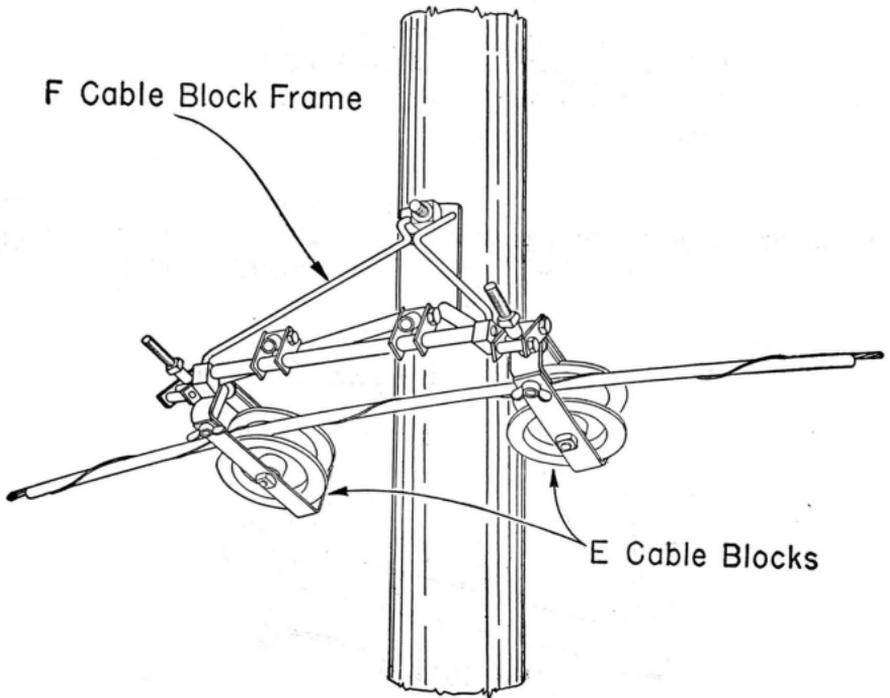
(d) The D Cable Block Frame is used at light corners where the pull **away** from the pole is from 3 feet to and including 8 feet.



(e) The E Cable Block Frame is used for **heavy corners** with over an 8-foot pull **away** from the pole. A maximum pull of 50 feet can be accommodated by this frame. For pulls greater than 50 feet, dead-end the strand.

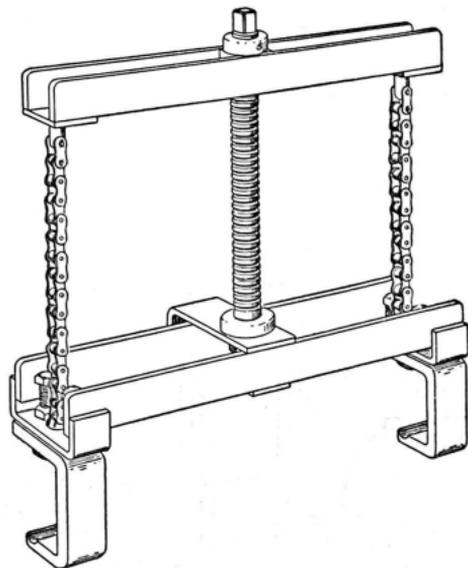


(f) The F Cable Block Frame is used on all corners where the pull **against** the pole is 3 feet or more, but not to exceed a maximum of 50 feet. For pulls greater than 50 feet, dead-end the strand.



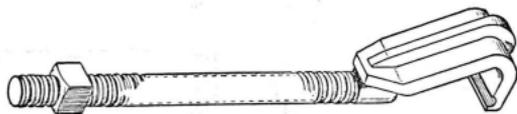
2.06 **Strand Shifters:** Two types of strand shifters are used when transferring the strand of the prelash assembly from the temporary rollers to the permanent pole attachments.

The D shifter consists essentially of a frame with two strand hooks, each secured by a flexible chain to a threaded take-up member. In use, it is mounted on the C cable block frame for in-line poles.



D STRAND SHIFTER

The E shifter consists of a pair of strand hooks with threaded members for engaging in trunnions of the cable block frames used at corner poles.



E STRAND SHIFTER
(2 Required)

2.07 **Communication:** It is highly important that workmen at the pulling-in truck, at the prelashing trailer, and following the cable leader (front end of the cable) maintain an adequate system of signaling and communicating with each other. Where hand signals are inadequate, "portable radio equipment" should be used.

When using portable radio equipment in prelashing cable observe the following precautions to avoid difficulty in maintaining adequate communications.

(a) At the pulling-in truck place the radio set outside the cab, preferably on top of the cab or truck body and run handset cord down to the truck operator.

(b) When choosing the truck location avoid dips and depressions or setting up near or closely behind metal signs, buildings, trees, etc., whenever practicable. Check transmission and reception between truck and trailer before the pull begins. When necessary, moving the truck as little as 15 to 25 feet sometimes results in greatly improved communications.

(c) At the trailer, locate the radio set in a position to enable the operator to perform his work operations with a minimum of difficulty.

(d) In patrolling the cable as the pull is made, avoid passing behind parked cars, trees, etc., wherever practicable. Stand still while transmitting. By observing these precautions, signals of sufficient clarity to stop operations in emergencies can usually be obtained although at times it may be necessary to place the set on the ground and move away from the antenna to improve transmission for intelligible conversations.

2.08 **Wire Rope:** A 5/16-inch diameter, **left lay wire rope must be used** as a winch line for pulling in prelashed strand and cable. A left lay rope, one in which the strands are wound in the direction of a left-hand screw thread to form the rope, is required to assist the cable leader in preventing permanent twists of the cable about the strand.