Copyright, 1957, by
The Pacific Telephone and Telegraph Company

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G32.116
Issue A, January, 1958-S
TPT&TCo

DROP AND BLOCK WIRING

POLE AND ARM ATTACHMENTS

CONTENTS PAGE

1. GENERAL

1.01 This section covers methods of installing the Drive Hook, Guard Arm Hook and of running drop wires from Guard Arms and Cable Crossarms.

2. LOCATING DRIVE HOOK

2.01 Drive Hooks supporting telephone service drops on a pole shall be located above the suspension strand.

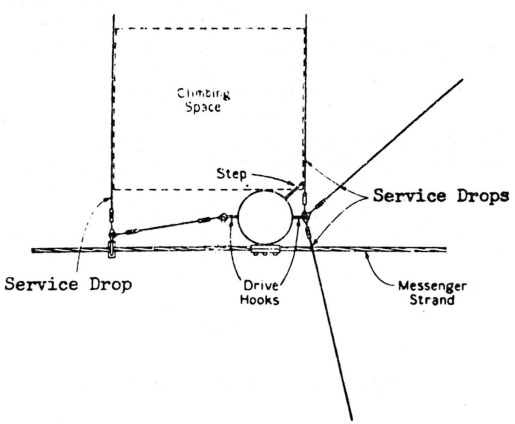
Note: Drive Hooks supporting telephone service drops may be located on the face or back of the same pole supporting supply and communication conductors, provided they are located within an area not more than 1 inch in width and

8 inches in height. Only one of these areas shall be placed on the same side of the pole and only four drive hooks placed in each area.

2.02 Drive Hooks supporting telephone drop wire runs along the lead, such as span clamp-to-pole or pole-to-pole shall be located below the cable.

Note: Drive Hooks supporting telephone drop wire runs along the lead as covered in the above Paragraph may be located outside the 1 inch by 8 inch areas required for drive hooks supporting service drops as covered in Paragraph 2.01 (Note).

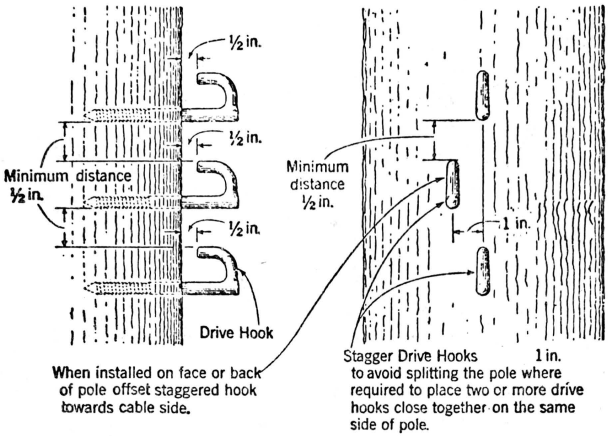
2.03 When Drive Hooks are placed on the face and back of poles for distribution purposes, the pole step at the level nearest the space reserved for drive hooks above the strand shall be moved in a horizontal plane toward the climbing space until it is clear of the vertical plane in which drop wires may leave the pole. It may also be necessary to move the first step below the strand, if and when drive hooks and drop wires are placed that will interfere with the free use of this step. Under normal conditions the step will be moved not more than 1/8 the circumference of the pole. The following figure shows the position of this step after it has been moved.



3. INSTALLING DRIVE HOOK

3.01 Hold the Drive Hook with one hand until it is driven well into the pole in order to prevent it from being dislodged when struck with the hammer. When placing more than one Drive Hook

on the same side of the pole stagger the hooks as shown below. Endeavor to obtain greater than the minimum vertical separation between hooks, particularly for paralleling drops.



3.02 If the diameter of the pole is less than 5 inches, a 4/16 inch lead hole approximately 3 inches deep shall be provided for the Drive Hook to avoid splitting the pole, particularly if the hook is installed near the top of the pole. On such poles, a vertical separation of about 3 inches shall be provided between Drive Hooks installed on opposite sides of the pole. A lead hole shall also be provided where difficulty is experienced in driving the hook into hard poles. Drill the lead hole with a 4/16 inch augar bit in a bit brace.

4. CAPACITY OF DRIVE HOOK

General

4.01 The maximum number of drop wires that may be attached to one Drive Hook varies according to the directions of the spans and the available space on the hook.

Note: If a drop wire spans in two directions from a Drive Hook placed in the face or back of the pole, the number of attachments that may be made to one Drive Hook is expressed as the number of spans instead of the number of wires.

Drive Hook Installed in the Face or Back of Pole

4.02 Where the Drive Hook is installed in the face or back of the pole the maximum number of spans (not wires) that may be attached to the same Drive Hook is shown in the following table.

Note: One span of Multiple Drop Wire shall be considered as three spans of drop wire when attached to drive hooks installed in face or back of pole.

MAXIMUM ALLOWABLE NUMBER OF SPANS (NOT WIRES) FROM A SINGLE DRIVE HOOK INSTALLED IN FACE OR BACK OF POLE

DIRECTIONS OF SPANS	Paralleling Pole Line	Crossing Highway	Not Crossing Highway	Total Allowable
	0	0	7	7
MAXIMUM	0	3	4	7
NUMBER	1	2	3	6
OF	2	1	2	5
SPANS	3	0	0	3

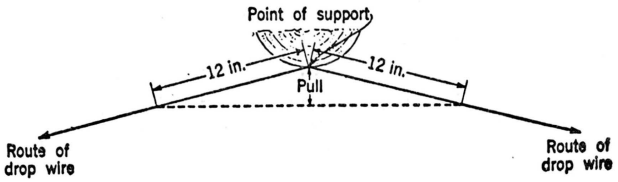
Example: By reading across the table, a maximum of two spans paralleling the pole line, one span crossing the highway and two spans not crossing the highway may be attached to the same Drive Hook.

Drive Hook Installed in Cable Side of Pole

4.03 In runs along the lead the maximum number or wires (not spans) that may be attached to a Drive Hook installed in the cable side of the pole is four in cases where there is no pull on the pole, where the pull is against the pole or where the pull away from the pole is four inches or less. Where the pull away from the pole is more than four inches, the maximum number is three drop wires.

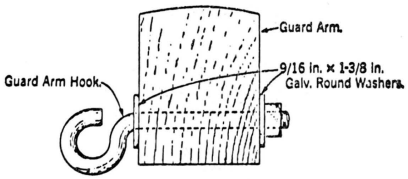
Note: Multiple Drop Wire shall be considered as three drop wires when placed in runs along the lead attached to drive hooks installed in the cable side of the pole.

4.04 Pull is defined as the distance measured as shown:



5. INSTALLING GUARD ARM HOOK

5.01 The Guard Arm Hook is used in connection with attaching drop wires to Guard Arms and Crossarms. At a Guard Arm, install hook in one of the holes provided at the ends of the arm, following the order covered in Paragraph 7.01. At a Crossarm, it is necessary to bore a 9/16 or 5/8 inch hole for each hook. See Practice covering "Drops from Open Wire Lines" for hole location.



5.02 Use the Drop Wire Hook instead of the Guard Arm Hook on Crossarms, except where more than two drop wires must be attached to the same hook or where a clearance hole is provided in the crossarm for a Guard Arm Hook. See Practice covering "Drops from Open Wire Lines" for installing Drop Wire Hook.

6. CAPACITY OF GUARD ARM HOOK

6.01 A total of five drop wires in any direction, may be attached to one Guard Arm Hook.

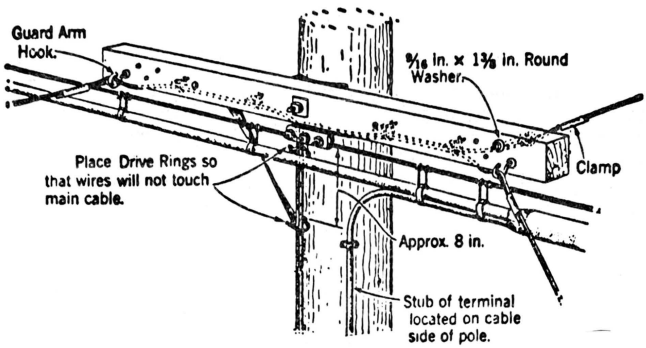
Note: Multiple Drop Wire shall be considered as three drop wires when attached to Guard Arm Hooks.

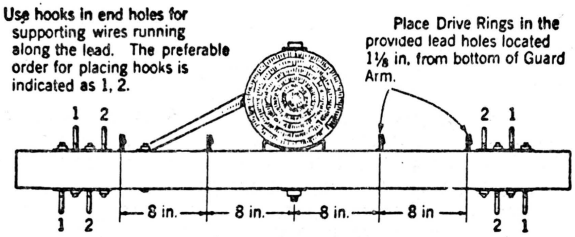
7. RUNS FROM GUARD ARM

Distributing from Guard Arm to Building

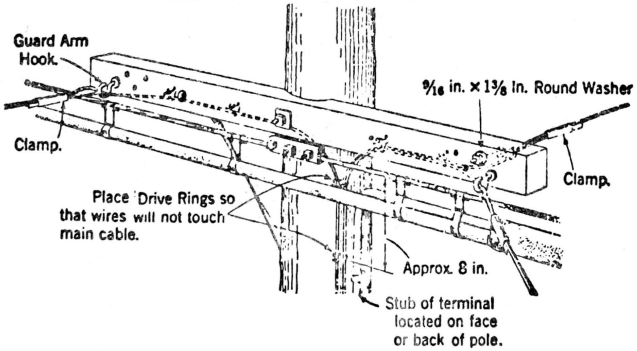
7.01 Distribute drop wires from a Guard Arm as shown below.

CABLE TERMINAL ON CABLE SIDE OF POLE





CABLE TERMINAL ON FACE OR BACK OF POLE



Note: See B. S. P. covering Drive Rings or Bridle Rings for size to be placed.

7. 02 Attach drop wire clamp to Guard Arm Hook by passing wire tail of clamp over hook. Pass drop wires through the hook unless the hook is congested. Run wires on Guard Arm and pole in a neat manner with sufficient slack so that there will be no strain or sharp bends at rings, hooks and clamps.

7. 03 Where Brackets and Knobs previously installed on Guard Arms or Wooden Cable Crossarms are in serviceable condition, drop wires may be distributed from vacant grooves of the knobs, provided the clearances required in B. S. P. Section G10. 301-S are obtained from supply conductors. Not more than two drops shall be attached to a T (or B) Knob nor more than one drop to an S (or A) Knob.

Balancing Load on Guard Arm

7. 04 When installing or rearranging drop wires, it may be necessary to place and distribute from a new Guard Arm Hook at the opposite end of the Guard Arm instead of using an existing hook, in order to balance the load.

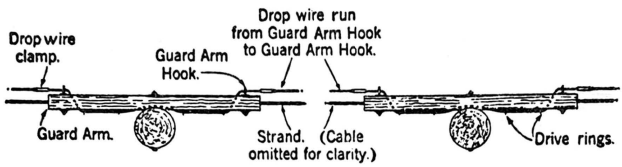
7. 05 When removing dead drops, the arrangement of the remaining drops may cause excessive strain on one end of the Guard Arm. Rearrange the drops in so far as practicable to equalize the strain, such as by moving drops from one Guard Arm Hook to another.

7. 06 When a number of drops are attached to the same building, it may be desirable to distribute from both ends of the Guard Arm in order to equalize the strain, provided that the required climbing space will not be obstructed.

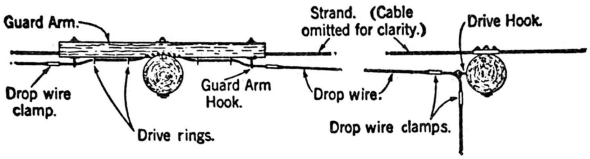
Guard Arm-to-Guard Arm Run

7.07 Where it is necessary to run along the lead from Guard Arm to Guard Arm or from Guard Arm to pole, dead-end both ways using drop wire clamps, as illustrated below.

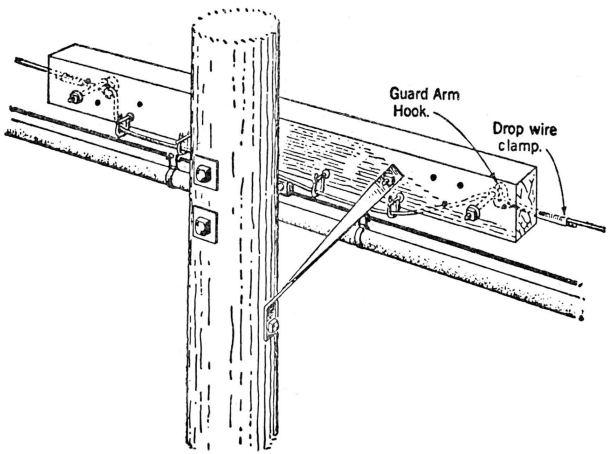
DROP WIRE RUN ALONG LEAD FROM GUARD ARM TO GUARD ARM



DROP WIRE RUN ALONG LEAD FROM GUARD ARM TO POLE

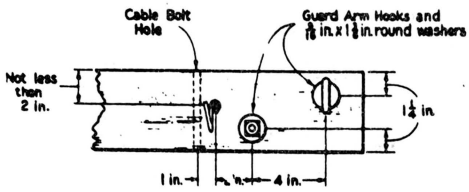


WIRING AT INTERMEDIATE GUARD ARM FOR RUN ALONG THE LEAD

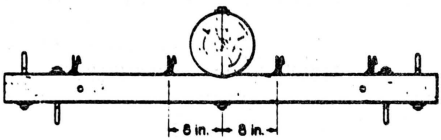


8. RUNS FROM WOODEN CABLE CROSSARMS

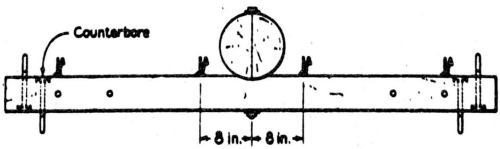
8.01 Distribute drop wires from a wooden Cable Crossarm as shown in the following illustrations.



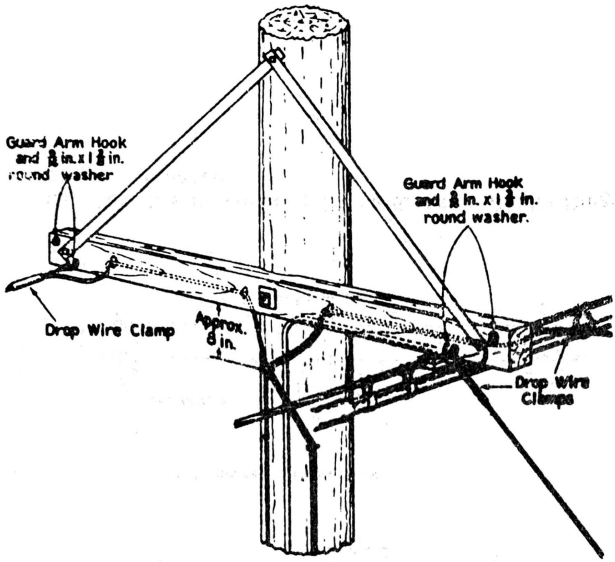
(a) E Wooden Cable Crossarm



(b) F Wooden Cable Crossarm



Note: See B. S. P. covering Drive Rings or Bridle Rings for size to be placed.



Note: Pass the drop wire through the guard arm hook when no sharp bend will be placed in the wire.

8.02 Where it is necessary to place drop wire runs along the lead from cable arm to cable arm, follow the same general instructions as shown in the illustrations associated with "Drop Wire Runs Along the Lead from Guard Arm to Guard Arm."