DROP AND BLOCK WIRING
FASTENING AND EQUIPPING FIRST ATTACHMENTS OF DROP WIRE RUNS TO BUILDING

CONTENTS PAGE

1. GENERAL

1.01 This section specifies:

- The rules to be followed in planning drop wire runs to buildings
- The methods of fastening and equipping first attachments
- The fastener to be used on various type surfaces.

1.02 This section is reissued to add methods of fastening first attachment to aluminum and vinyl siding.

1.03 The attachments to be used in any installation depend on a number of factors, such as:

- Loading areas
- Number of drops to be placed
- Angle at which drop approaches building
- Insulated or noninsulated attachments.

1.04 Drop wire attachments for use on all types of walls in heavy loading areas are listed in Section 462-350-212.

1.05 Drop wire attachments for use on all types of walls in medium and light loading areas are listed in Section 462-350-211.

1.06 The use of insulated or noninsulated attachments is covered in Section 460-100-100.

1.07 In order to obtain secure attachments and to avoid damage to building surfaces it is essential that the specific instructions covered in Section 080-720-105, be followed. Of particular importance are the clearance and lead holes for fasteners.

1.08 When attaching galvanized attachments on buildings with aluminum siding in highly corrosive areas (industrial and marine) observe the following:

- Apply a coating of KS-14681 L1 antirust compound to aluminum siding at the point of contact to prevent corrosive action.
- For method of application refer to Division 080.

Warning: It is possible for foreign voltage to be present on buildings covered with metal siding. Test siding with B voltage tester or similar test equipment before starting any work.

2. RULES

2.01 In planning drop wire runs to buildings locate the first attachment so:

(a) The drop span will have the required clearance from light or power wires, trolley wires, other foreign wires, and metallic objects.

(b) As to avoid tree interference, keeping in mind the future growth of existing trees. It is preferable to make a longer wire run on the building if by so doing the trees can be cleared.

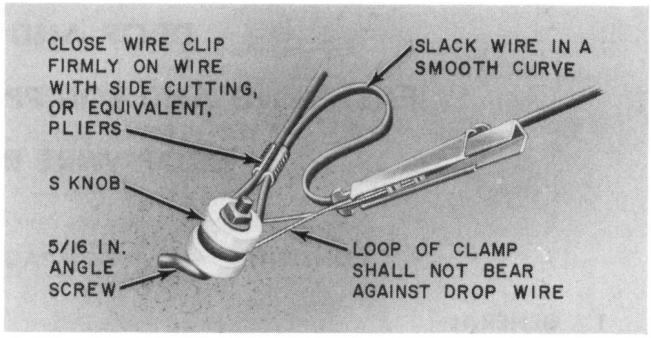
(c) The drop span can be placed with adequate sag.

(d) When two or more drop wires to a building are involved, preferably at the same point, the locations of the initial and subsequent attachments should be such as to provide satisfactory wire runs in the span and on the building.

(e) The drop wire will make a direct vertical run to the last attachment, provided that the drop wire in the span would have adequate clearance from trees, would not be objectionable if it crosses adjacent property, or would not cross portions of vacant lots on which buildings are likely to be erected.

(f) Ice and snow falling from the roof will not strike the drop wire. Make the first attachment as high and as near the eaves as practicable.

(g) Fasteners will be placed a minimum of 10 inches from a corner or top of a wall, except in turning corners.



NOTE:
ALIGN ANGLE SCREW SO THAT PULL OF DROP WILL NOT TEND TO TURN IT.

Fig. 1—First Attachment—Angle Screw Drop Wire Run in Horizontal Direction on Building (Right)

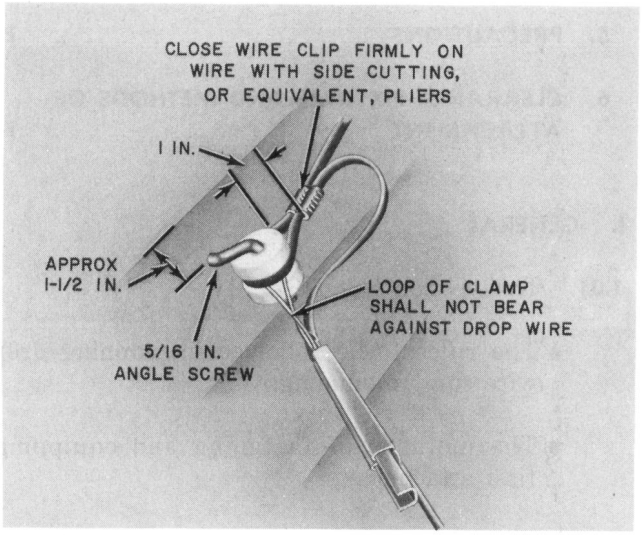


Fig. 2—First Attachment—Angle Screw Drop Wire Run in Horizontal Direction on Building (Left)

3. TYPICAL FIRST ATTACHMENTS TO BUILDINGS AND STEEL STRUCTURES (Fig. 1 through 15)

3.01 Tables A, B, C, and D list fastening devices of first attachments used on various surfaces.

3.02 Table E lists equipping information for first attachments.

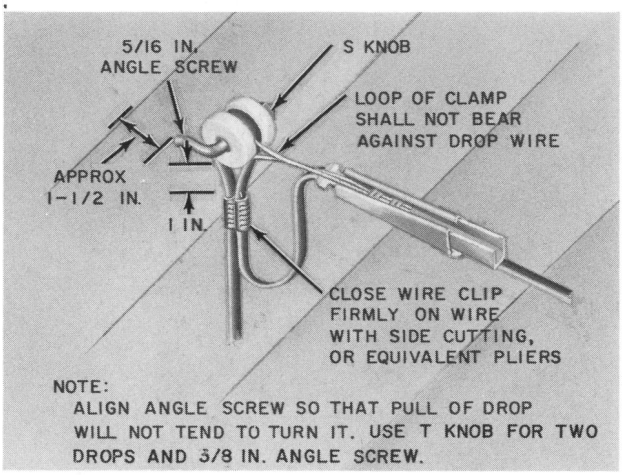


Fig. 3—First Attachment—Angle Screw Drop Wire Run in Vertical Direction on Building (Single)

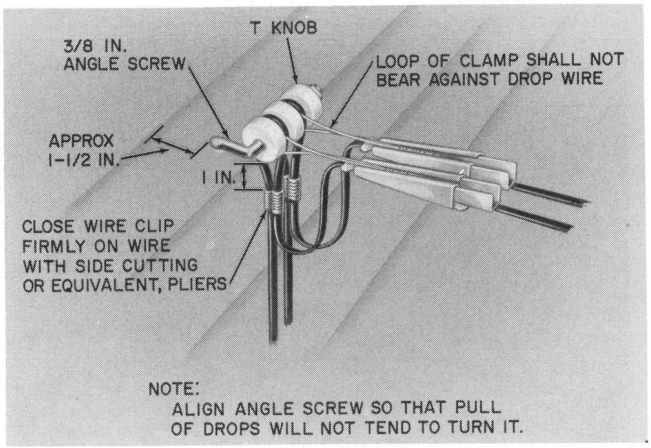


Fig. 4—First Attachment—Angle Screw Drop Wire Run in Vertical Direction on Building (Double)

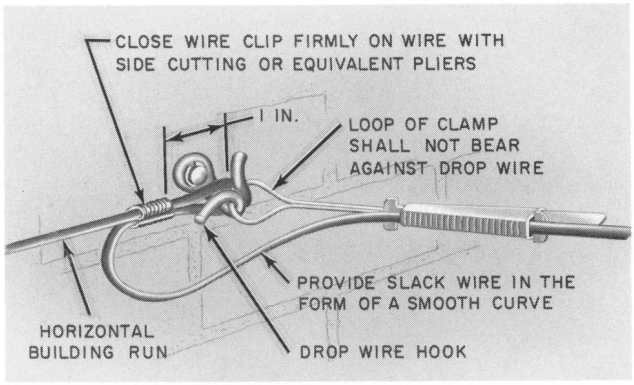


Fig. 5—First Attachment—Drop Wire Hook

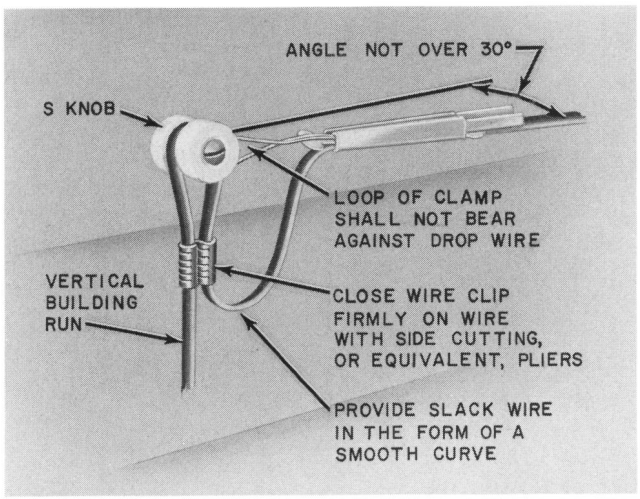


Fig. 6—First Attachment—S Knob

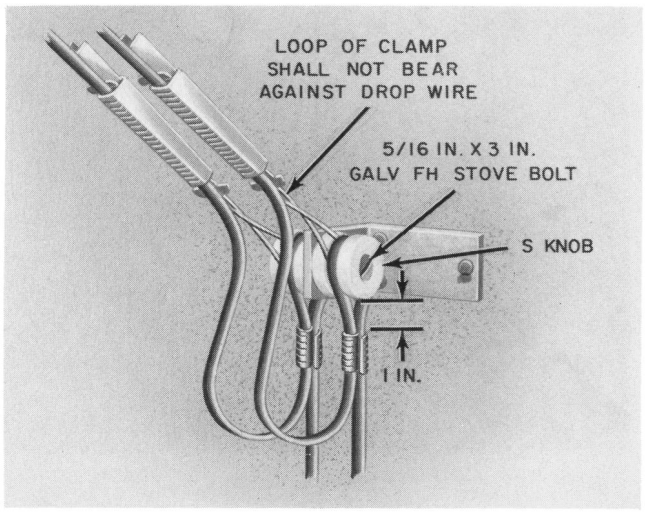


Fig. 7—First Attachment—House Bracket (Vertical Run, Double Wire) With S Knob

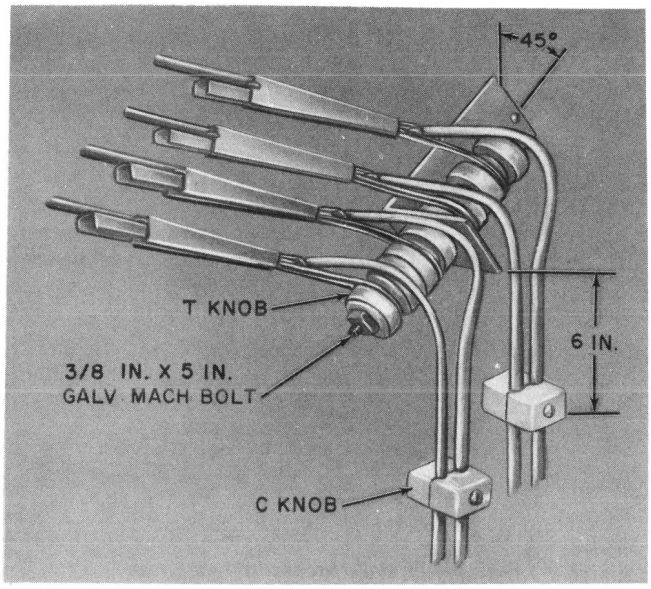


Fig. 8—First Attachment—House Bracket (Vertical Run, Four Wire) With T Knots

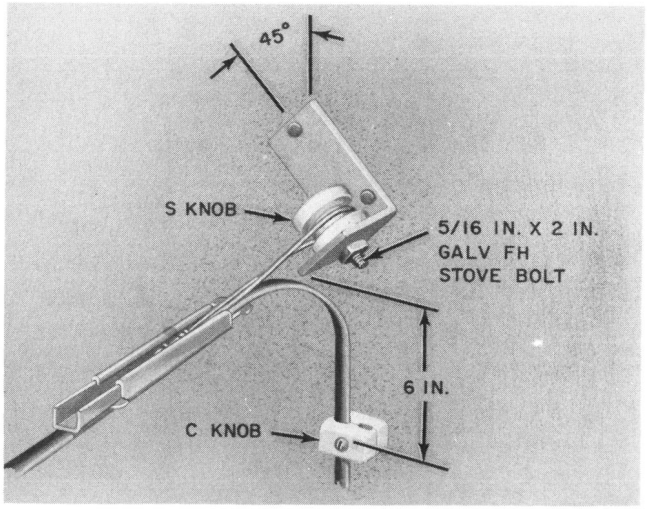


Fig. 9—First Attachment—House Bracket (Vertical Run, Single Wire) With S Knob

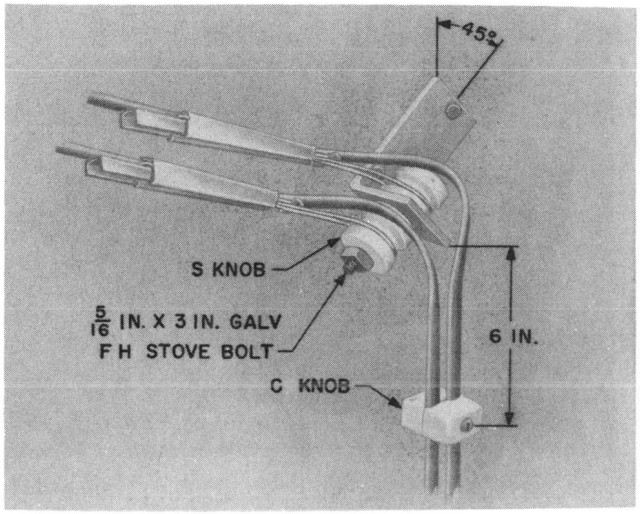


Fig. 10—First Attachment—House Bracket (Vertical Run, Double Wire) With S Knob

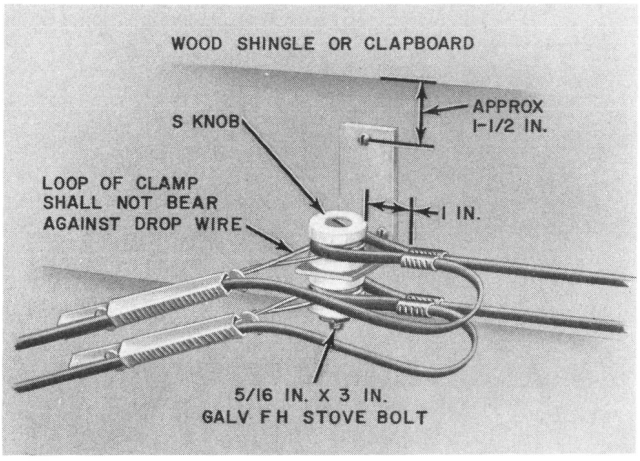


Fig. 11—First Attachment—House Bracket (Horizontal Run, Double Wire) With S Knob

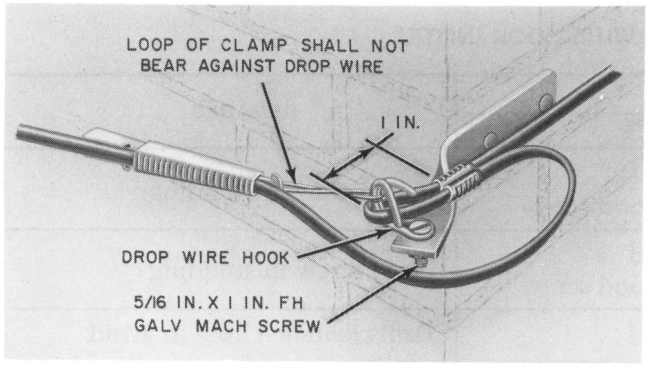


Fig. 12—First Attachment—Corner Bracket With Drop Wire Hook

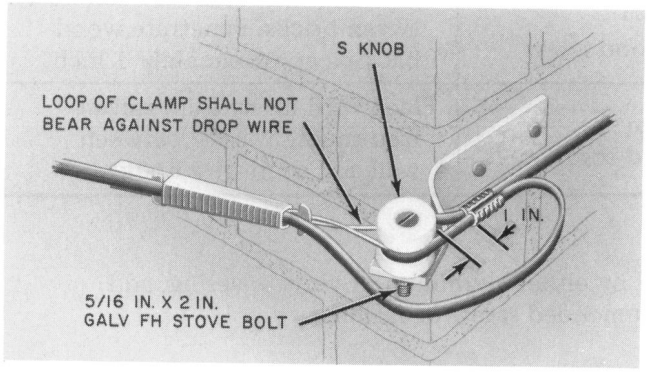
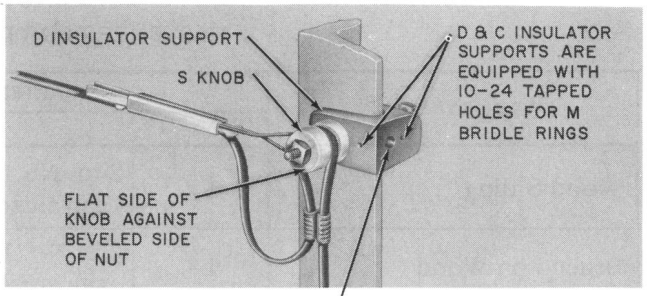
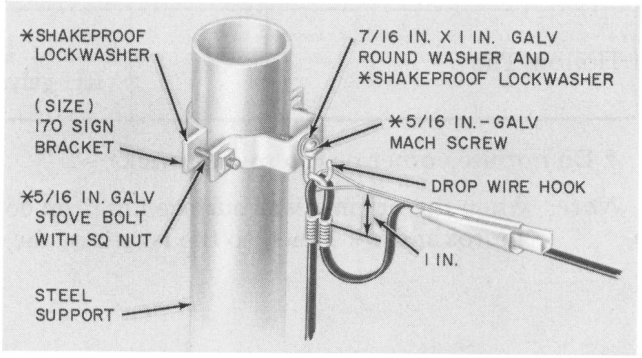


Fig. 13—First Attachment—Corner Bracket With S Knob



D INSULATOR SUPPORT IS PROVIDED WITH 3/8 IN. CLEAR HOLE. S KNOB MAY BE ATTACHED WHEN REQUIRED. C INSULATOR SUPPORT IS PROVIDED WITH 1/2 IN. TAPPED HOLE. T KNOB MAY BE ATTACHED WHEN REQUIRED

Fig. 14—First Attachment—D or C Insulator Support



*THESE ITEMS ARE FURNISHED WITH THE SIGN BRACKET

TYPE	SIZE	DIAMETER OF SUPPORT INCHES
170	2	1-7/8 TO 3
170	3	3 TO 4
170	4	4 TO 5

Fig. 15—First Attachment—Sign Bracket, 170-Type

TABLE A
FASTENERS FOR DROP WIRE HOOK (NOTE)

WALL TYPE	FASTENERS		REMARKS
	QUANTITY	TYPE	
Wood Siding	1	2-in. No. 18 RH galvanized wood screw	Place screw in studding.
Stucco on Wood	1	2-in No. 18 RH galvanized wood screw	Place screw in studding.
Rigid Composition Shingles	1	2-in No. 18 RH galvanized wood screw	Drill clearance hole to avoid splitting shingle.
Masonry or Substantial Brick Veneer*	1	5/16-in. by 1-3/4-in. B drive anchor	Locate anchor in center of brick. Second drop wire hook should be located in separate brick.
Thin Wall Brick Veneer (Less Than 3-3/4 Inch Thickness)	1	6-in. No. 18 RH galvanized wood screw	Pass screw through the seam between bricks. Penetrate wood backing approximately 1 inch.
Hollow Tile	1	5/16-in. by 5-in. RH galvanized toggle bolt	Place 7/16 in. by 2-in. galvanized square washer between wall and drop wire hook.

* Do not use corner or top row of bricks.

Note: When the original wall surface has been covered by either aluminum or vinyl covering, add approximately 1 inch to the length of the recommended screw or fastener.

TABLE B

FASTENERS FOR S AND T KNOBS (NOTE)

WALL TYPE	ATTACHMENT KNOB	FASTENERS		REMARKS
		QUANTITY	TYPE	
Wood Siding	S	1	2-1/2 in. No. 18 FH galvanized wood screw	Place screw in studding.
	T	1	3-1/2 in. No. 18 FH galvanized wood screw	
Stucco on Wood	S	1	3-in. No. 18 FH galvanized wood screw	Use 3-1/2 in. If necessary to penetrate studding.
	T	1	3-1/2 in. No. 18 FH galvanized wood screw	Use 4-1/2 in.
Rigid Composition Shingles	S	1	3-1/2 in. No. 18 FH galvanized wood screw	Drill clearance hole to avoid splitting shingle.
	T	1	4-1/2 in. No. 18 FH galvanized wood screw	
Thin Wall Brick Veneer (Less Than 3-3/4 Inch Thickness)	S	1	7-in. No. 18 FH galvanized wood screw	Pass screw through the seam between bricks. Penetrate wood backing approximately 1 inch.
	T	1	7-in. No. 18 FH galvanized wood screw	
Hollow Wall	S	1	5/16 in. by 5 in. RH galvanized toggle bolt	Place flat side of S knob against bolt head.
	T	1	5/16 in. by 6 in. FH galvanized toggle bolt	

Note: When the original wall surface has been covered by either aluminum or vinyl covering, add approximately 1 inch to the length of the recommended screw or fastener.

TABLE C
FASTENERS FOR HOUSE BRACKETS (NOTE)

WALL TYPE	FASTENERS		REMARKS
	QUANTITY	TYPE	
Wood Siding	3	2-in. No. 14 RH galvanized wood screws	Place screw in studding.
Stucco on Wood	3	2-1/2-in No. 14 RH galvanized wood screws	Place screw in studding.
Rigid Composition Shingles	3	3-in. No. 14 RH galvanized wood screws	Drill clearance hole to avoid splitting shingle.
Masonry or Substantial Brick Veneer	2	5/16 in. by 1-1/4 in. B drive anchor	
Thin Wall Brick Veneer (Less Than 3-3/4 Inch Thickness)	2	6-in. No. 14 RH galvanized wood screws	Pass screw through the seam between bricks. Penetrate wood backing approximately 1 inch.
Hollow Wall	2	1/4 in. by 3 in. or 4 in. RH galvanized toggle bolt	

Note: When the original wall surface has been covered by either aluminum or vinyl covering add approximately 1 inch to the length of the recommended screw or fastener.

TABLE D

FASTENERS FOR CORNER BRACKETS (NOTE)

WALL TYPE	FASTENERS		REMARKS
	QUANTITY	TYPE	
Wood Siding	2	2-in. No. 14 RH galvanized wood screws	Place screw in studding.
Stucco on Wood	2	2-1/2 in. No. 14 RH galvanized wood screws	Place screw in studding.
Rigid Composition Shingles	2	3-in. No. 14 RH galvanized wood screws	Drill clearance hole to avoid splitting shingle.
Masonry or Substantial Brick Veneer	2	5/16 in. by 1-1/4 in. B drive anchor	
Thin Wall Brick Veneer (Less Than 3-3/4 Inch Thickness)	2	6-in. No. 14 RH galvanized wood screws	Pass screw through the seam between bricks. Penetrate wood backing approximately 1 inch.
Hollow Wall	2	1/4 in. by 3 in. or 4 in. RH galvanized toggle bolt	

Note: When the original wall surface has been covered by either aluminum or vinyl covering add approximately 1 inch to the length of the recommended screw or fastener.

TABLE E

EQUIPPING DROP WIRE ATTACHMENTS WITH S KNOB, T KNOB, OR DROP WIRE HOOK (NOTE)

ATTACHMENTS		EQUIPPED WITH			HARDWARE	REMARKS
		S KNOB	T KNOB	DROP WIRE HOOK		
Angle Screw	5/16 in.	1			Nut furnished	Place flat side of knob against beveled side of nut.
	3/8 in.		1			
House Bracket		1			5/16 in. by 2 in. FH galvanized stove bolt	Place flat side of first knob against house bracket.
		2			5/16 in. by 3 in. FH galvanized stove bolt	Place flat side of second knob against beveled side of nut.
			1		3/8 in. by 3 in. galvanized machine bolt	Place flat side of first knob against bolt head.
			2*		3/8 in. by 5 in. galvanized machine bolt	Place flat side of second knob against nut.
				1	5/16 in. by 1 in. FH galvanized machine screw	Obtained locally.
Corner Bracket		1			5/16 in. by 2 in. FH galvanized stove bolt	Place flat side of knob against corner bracket.
		2*			5/16 in. by 3 in. FH galvanized stove bolt	Place flat side of top knob against bolt head and place nut against flat side of lower knob.
			1		3/8 in. by 3 in. galvanized machine bolt	Place flat side of knob against bolt head.
				1	5/16 in. by 1 in. FH galvanized machine screw	Obtained locally.
Insulator Supports	D	1			5/16 in. by 2 in. FH galvanized stove bolt	Place flat side of knob against beveled side of nut.
	C		1		3/8 in. by 3 in. galvanized machine bolt	
	D C			1	5/16 in. by 1 in. FH galvanized machine screw	Obtained locally.
Sign Bracket, 170-Type				1	5/16 in. by 3/4 in. RH galvanized machine screw	Machine screw and lock washers furnished. Obtain 7/16 in. by 1 in. galvanized round washer locally.

* Locate one knob above and one knob below bracket.

Note: When the original wall surface has been covered by either aluminum or vinyl covering, add approximately 1 inch to the length of the recommended screw or fastener.

4. FIRST ATTACHMENTS ON LOW BUILDINGS

4.01 Parts 4, 5, and 6 provide information on typical first attachments on low buildings using house fixtures provided by customers to obtain necessary ground clearance for drop wire.

4.02 Where house clearance fixtures are required but have not been provided or where joint use of a fixture is impracticable, refer the matter to your supervisor.

4.03 Where clearance fixtures are provided but the required minimum ground clearance for drops cannot be obtained, refer the matter to your supervisor.

4.04 When a house is covered with aluminum or vinyl siding the attachment should be made close to but not in the vertical joint or lap between two pieces.

5. PRECAUTIONS

5.01 Observe the following precautions when planning attachment to a subscriber-owned clearance fixture.

(a) Avoid climbing on roofs of subscriber premises.

(b) Before making attachment, inspect fixtures. Do not make an attachment if there is any doubt as to the strength or firmness of the fixture.

(c) To avoid body contact on joint-use fixtures, observe location of the power service drops. Wear insulating gloves when making attachment to the fixture. Obtain a separation of at least 12 inches between telephone and power wires.

(d) Apply a coating of KS-14681 L1 antirust compound to prevent corrosive action when bare aluminum is exposed by drilling or cutting.

(e) Any holes made in aluminum or vinyl siding must be sealed with a caulking compound.

6. CLEARANCE FIXTURES AND METHODS OF ATTACHMENT

6.01 Figures 16 through 21 show types of clearance fixtures commonly provided by subscribers and the recommended methods of making drop wire attachment. Where other types of fixtures are provided and different methods of drop wire attachments are required, local instructions should be issued.

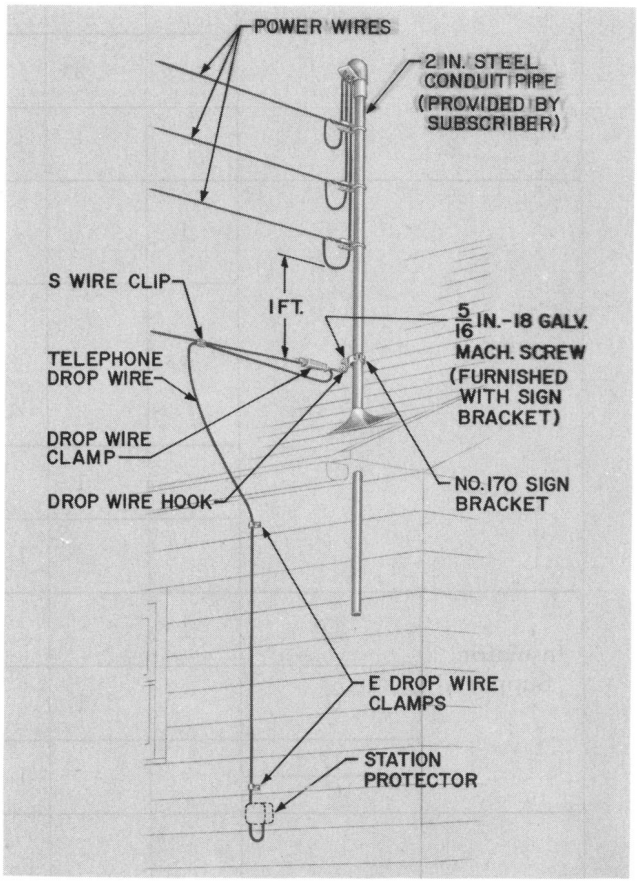


Fig. 16—Drop Wire Attached to Power Fixture

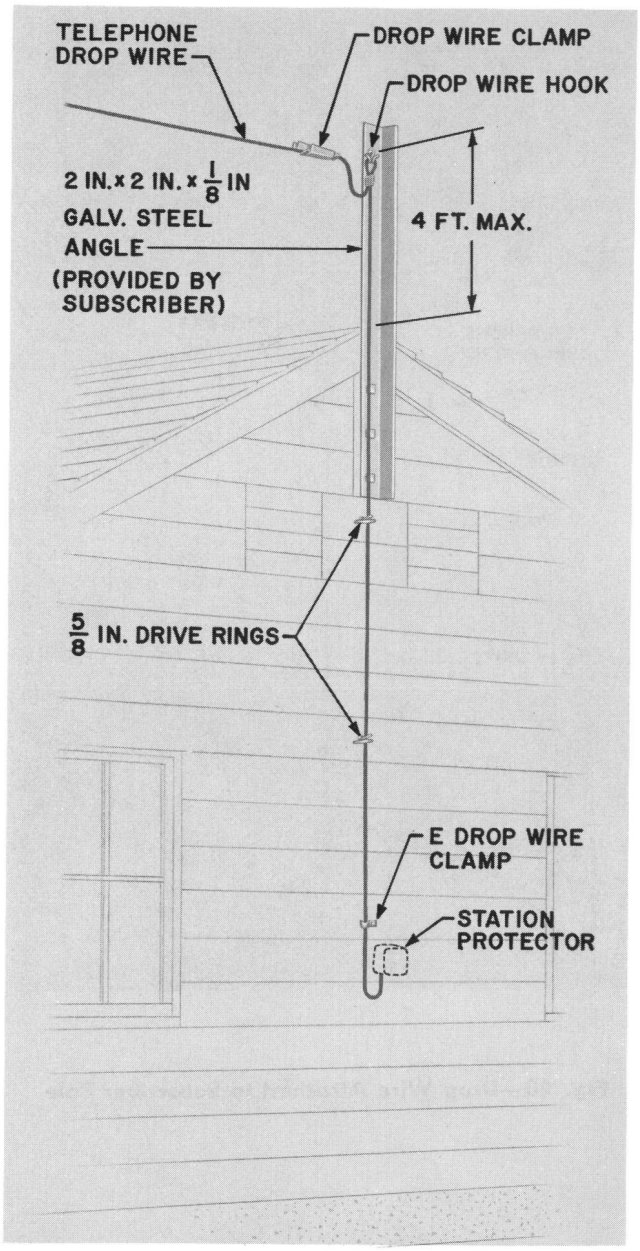


Fig. 17—Drop Wire Attached to Two-Inch Angle Iron

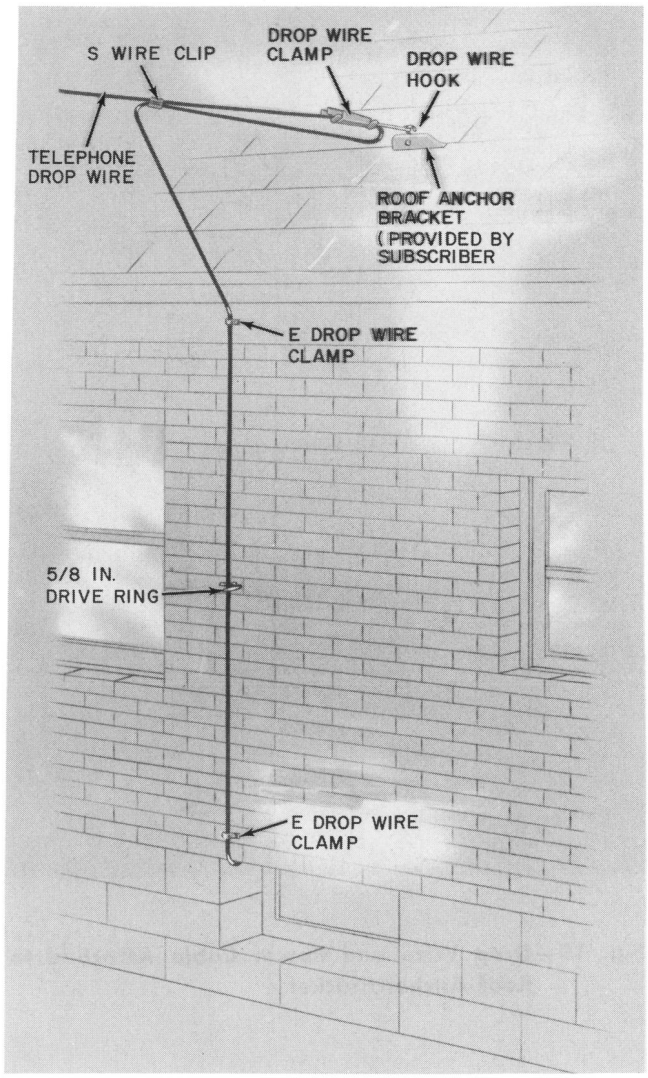


Fig. 18—Drop Wire Attached to Roof Anchor Bracket

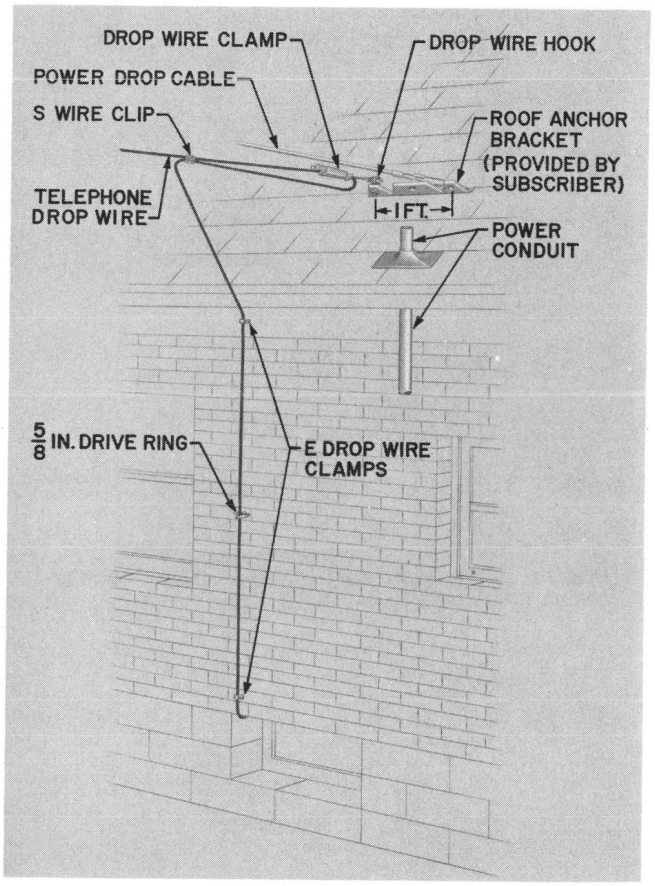


Fig. 19—Drop Wire and Power Cable Attached to Roof Anchor Bracket

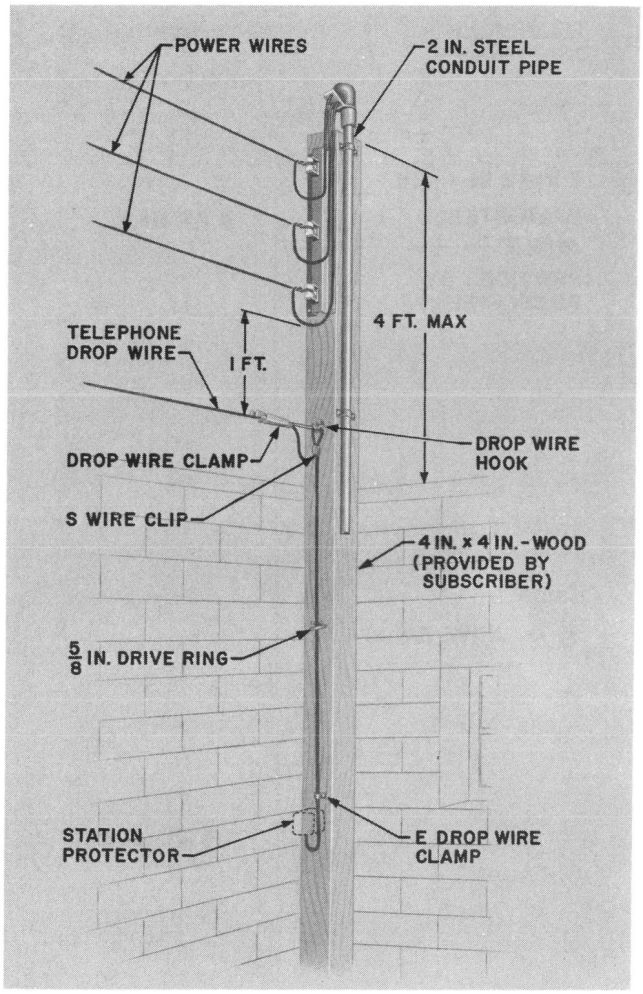


Fig. 20—Drop Wire Attached to Subscriber Pole

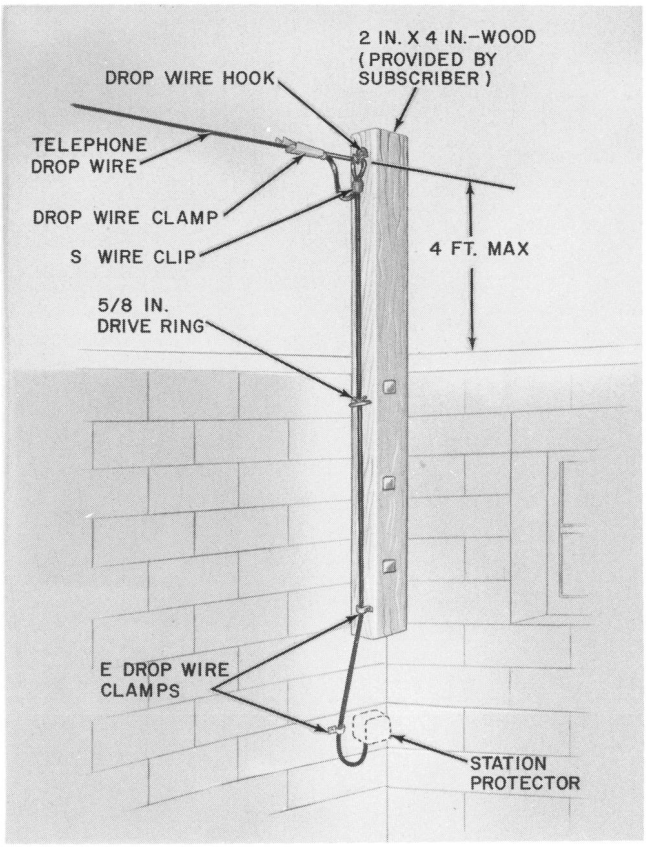


Fig. 21—Drop Wire Attached to 2- X 4-Inch Wood Beam