

FASTENING AND EQUIPPING INTERMEDIATE AND LAST
ATTACHMENTS OF DROP AND BLOCK WIRE RUNS ON BUILDINGS

1.08 Plan the wire run so that the locations of the point of entrance and the location of the station protectors, where the latter are required, will conform to the rules covered in the section entitled Station Protection, Installation.

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

3. SPACING OF ATTACHMENTS

3.01 Space drop wire attachments 9 feet apart or less on horizontal runs and 12 feet apart or less on vertical runs.

3.02 Space block wire attachments 4 feet apart or less on horizontal runs and 8 feet apart or less on vertical runs.

3.03 Locate attachments so that fasteners will not be placed closer than 10 inches to the corner or the top of a wall, except in turning corners.

3.04 Place additional attachments as required to keep exposed wires terminated at fused-type protectors from touching flammable surfaces.

3.05 Where windows are available for making attachments on vertical runs, place an attachment at each floor.

3.06 When establishing a wire run on a building wall where cable has been placed, the wire run should, in general, parallel the cable run.

(a) When paralleling cable is attached to building wall by cable clamps, place rings in every third cable clamp where clamps are 17 inches apart and in every other cable clamp where clamps are 26 inches apart.

(b) When paralleling cable is placed on strand, place separate cable rings for block wires and space them at double the spacing of the cable rings.

5. INTERMEDIATE ATTACHMENTS ON BUILDINGS

5.01 Make all vertical or horizontal attachments on a straight line.



5.02 Drop or block wires extending from unexposed plant should be supported with the following attachments:

- Drive rings on wood frame building.
- B wire loops and a suitable D masonry fastener on masonry surfaces.
- Toggle bridle rings on hollow surfaces.
- Bridle rings as a substitute for drive rings

5.03 Drive rings equipped with a D drive anchor or C bridle rings equipped with a D plastic anchor may be used on masonry surfaces if they can be used in situations to better advantage than B wire loops.

TABLE A

FASTENERS FOR INTERMEDIATE ATTACHMENTS ON DROP AND BLOCK WIRE

Attachment		Fastener			Type of Construction		Remarks
		Quantity	Type				
 Wire Loops	No. 1/2	1	D Masonry Fastener	No. 3	Concrete		Fasteners for hand-type drive tools
	No. 5/8			No. 4	Mortar		
	No. 7/8			No. 5	Cinder	Block	
	No. 1-1/4				Cement		
Drive Rings	1/2 in.	1	3/16 in. x 5/8 in. D Drive Anchor		Masonry or substantial brick veneer		
	5/8 in. and 7/8 in.	1	1/4 in. x 1 in. D Drive Anchor				
	5/8 in. L* 7/8 in. L* 1-1/4 in. 1-1/4 in. L*	1	1/4 in. x 1 in. D Drive Anchor				
	C Bridle Rings	7/8 in.	1	No. 12 D Plastic Anchor		Masnory or substantial brick veneer	
1-1/4 in. 1-5/8 in.		1	No. 16 D Plastic Anchor				
3 in.							
B or M Bridle Rings		1	B beam clip insulator support		Angle irons, I beams, etc		
C Knob (used only where fused protectors are required)		1	2-1/2 in. No. 10 RH galvanized wood screw		Exposed woodwork (outdoors)		Locate screw ap- proximately 1 in. above bottom shingle or clap- board.
		1	2 in. No. 8 RH blued wood screw		Exposed woodwork (indoors)		
		1	3 in. No. 10 RH galvanized wood screw		Stucco on wood		
E Drop Wire Clamp		1	B Masonry Fastener	No. 3	Concrete		Fasteners for hand-type drive tools
				No. 4	Mortar		
				No. 5	Cinder	Block	
					Cement		
		1	3/16 in. x 1 in. B Plastic Anchor		Brick		
		1	1 in. No. 8 RH galvanized wood screw		Wood siding or shingle and Metallic siding on wood		Locate screw ap- proximately 1 in. above bottom shingle or clap- board.
		1	3/16 in. x 3 in. toggle bolt		Hollow wall		

* The L type is equipped with longer shank.

TABLE B

Type of Ring or Insulated Screw Eye	Size	Maximum Number of Wires		
		NP, C, or E Drop Wire	Block Wire	Multiple Drop Wire
Drive Rings	1/2	2	3	0
	5/8 and 5/8 L*	6	9	1
	7/8 and 7/8 L*	16	22	2
	1-1/4 and 1-1/4 L*	30	40	5
C Wire Loops†	No. 1/2	2	3	0
	No. 5/8	6	9	1
	No. 7/8	16	22	2
	No. 1-1/4	30	40	5
C Bridle Rings	7/8	6	9	1
	1-1/4	16	22	2
	1-5/8	30	40	5
	3	100	140	16
B or M Bridle Ring	1-1/4	16	22	2
Insulated Screw Eyes	5/8 S and L*	4		0
	1 S and L*	10		1

* L represents longer shank.

† Install with suitable D masonry fasteners.

5.04 Exposed drop wire runs that require fused protection and that are to be attached to a flammable surface should be supported with:

- Insulated screw eyes.
- C knob may be used if not more than two wires are to be placed.

6. INTERMEDIATE ATTACHMENT INSIDE BUILDINGS

6.02 Exposed runs that require fused protection and attach to flammable surfaces should be supported with insulated attachments.

6.03 Space attachments 16 inches apart on runs between the point of entrance and the protector or connecting block.

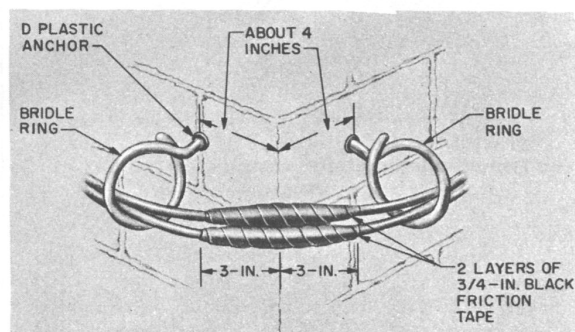


Fig. 1 — Bridle Ring

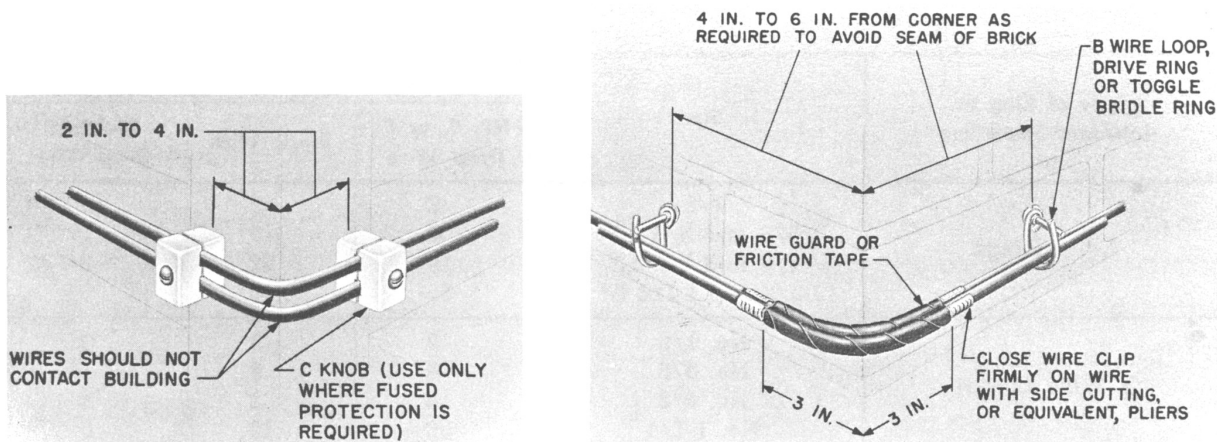


Fig. 2—Intermediate Building Attachment at Outside Corner

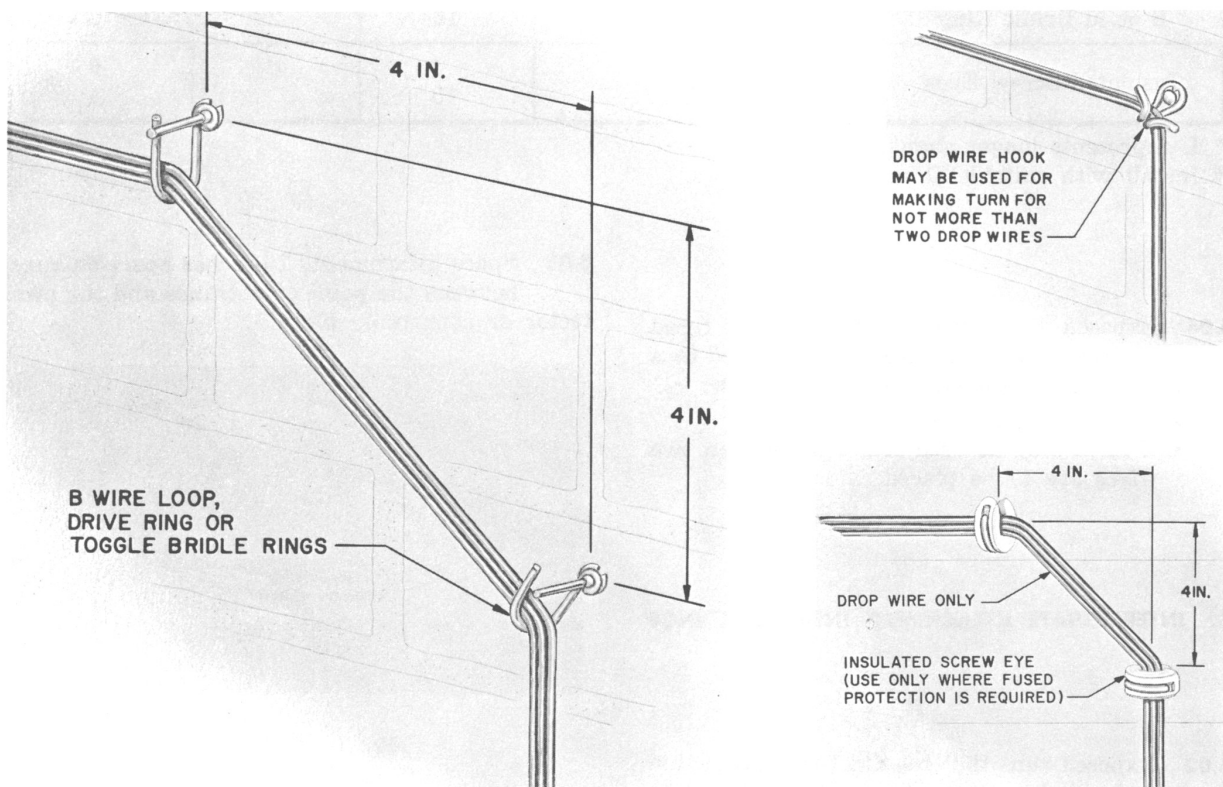


Fig. 4—Intermediate Building Attachments to Change Direction of Wire Run

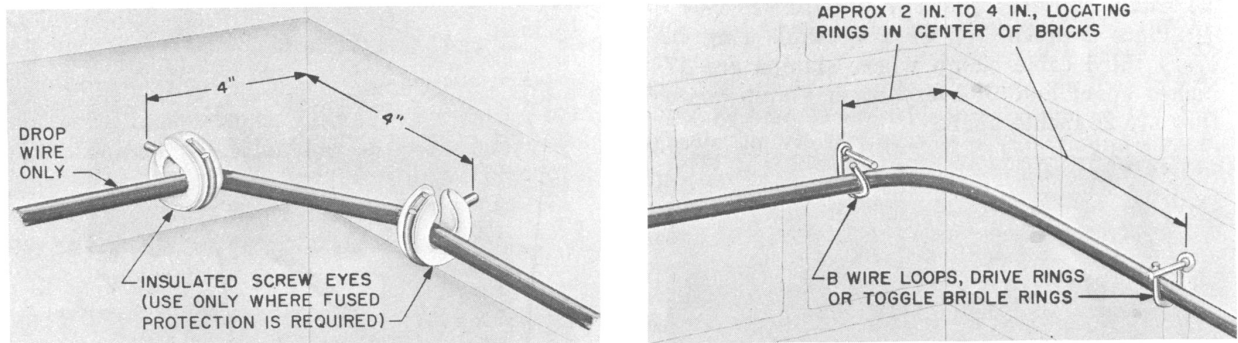


Fig. 3 — Intermediate Building Attachments at Inside Corners

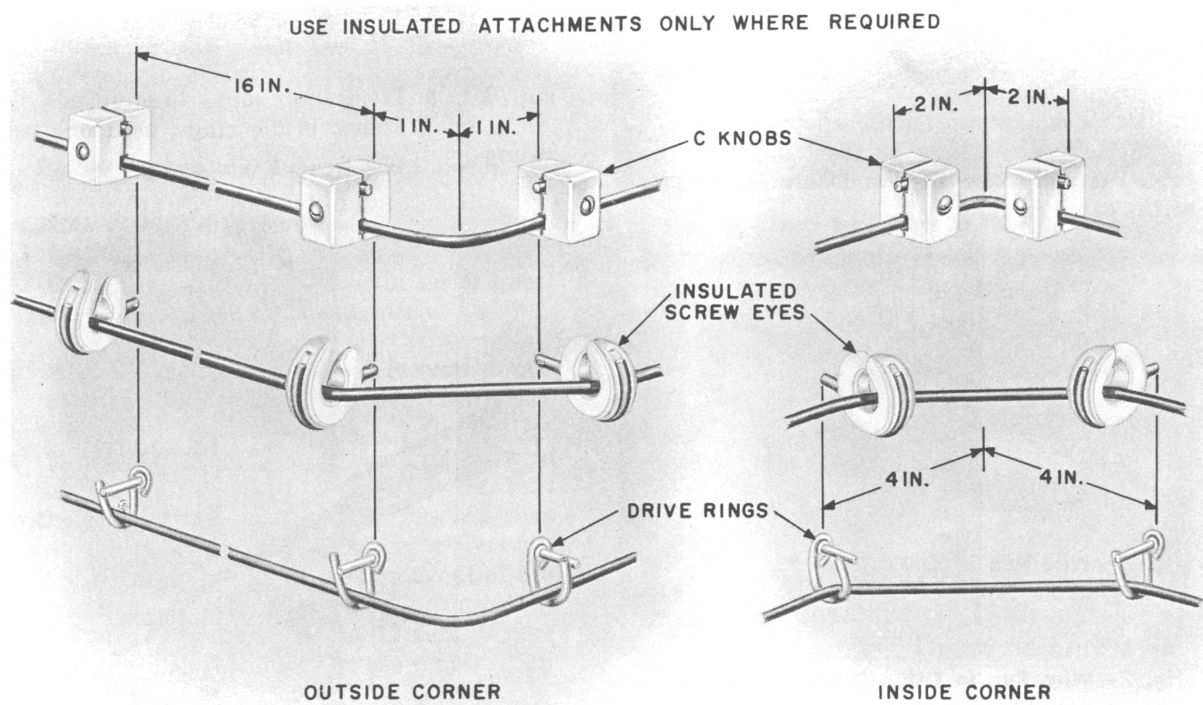


Fig. 5 — Attachments Inside of Building

7. PARALLELING CABLE RUN

(a) *Cable run attached with clamps* (Fig. 6)

Place a drive ring or a C bridle ring in every third cable clamp where clamps are 17 inches apart and in every other clamp when they are 26 inches apart.

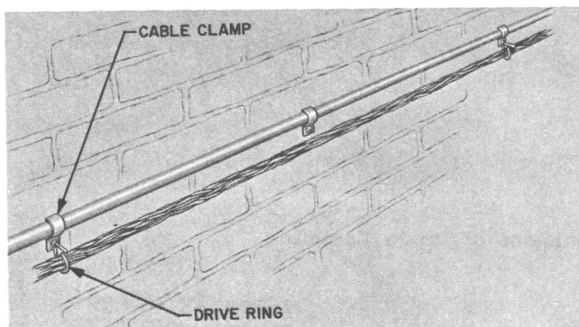


Fig. 6—Drive Ring or Bridle Ring Run Paralleling Cable Attached with Cable Clamps

(b) *Cable run supported by strand* (Fig. 7)

Attach cable rings on the outside of the cable run and space them at double the spacing of the cable ring.

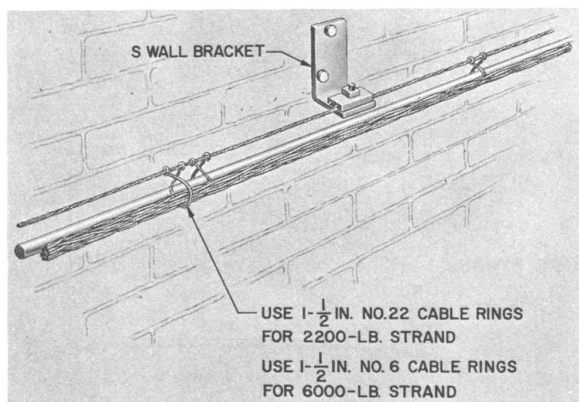


Fig. 7—Wire Run in Cable Rings Paralleling Cable Supported with Strand

8. ATTACHING TO STEEL STRUCTURES

(a) The B beam clip (Fig. 8) equipped with either a drive ring or the B or M bridle ring is used to support wire runs on I beams, angle irons, etc, on beam thickness of $\frac{1}{8}$ inch to $\frac{1}{2}$ inch.

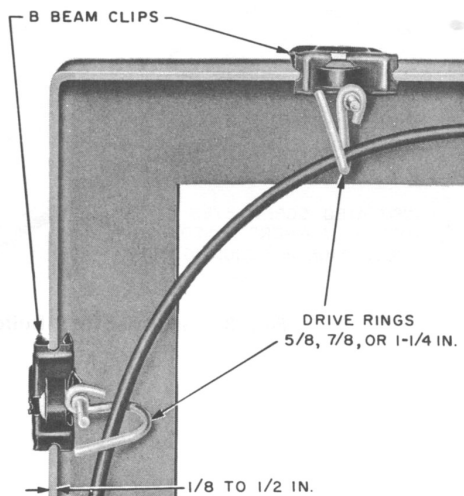


Fig. 8—B Beam Clips

(b) B, C, or D insulator supports equipped with C or T knobs, bridle rings, or a one bolt clamp

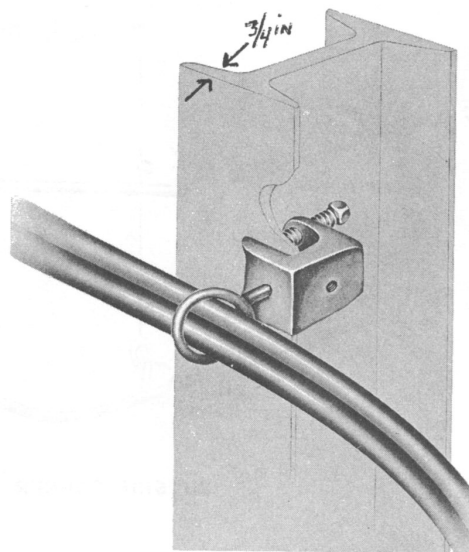


Fig. 9—B Insulator Support and Bridle Ring

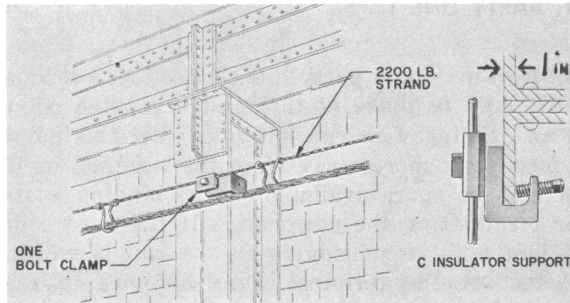


Fig. 10 — C Insulator Support and One Bolt Clamp

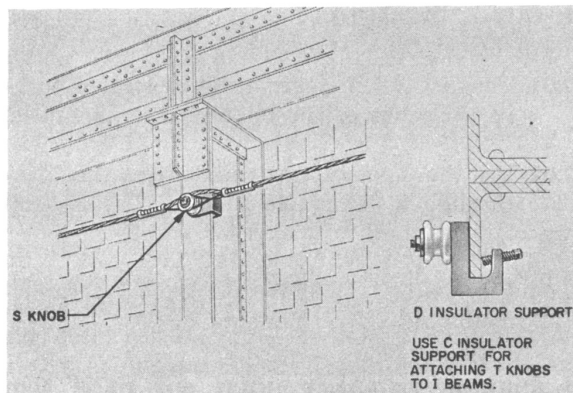


Fig. 11 — D Insulator Support and S Knob

9. AERIAL BLOCK WIRE SPANS

9.01 Block wire must not be used in aerial spans that will introduce an exposure.

9.02 Where aerial span crosses driveway or private property, provide proper clearances.

9.03 Where span is 5 feet or less, bridle wire may be run without special supports, that is, without being attached to knobs or drop wire hooks at the ends of the span. Where a good appearance is not essential and the run is out of the reach of children, this distance of unsupported bridle wire may be increased to 12 feet. Where span is longer than this distance, use construction specified in 9.04 through 9.06.

9.04 Where only a few bridle wires will be run and the span is 35 feet or less in length, the construction shown in Fig. 12 may be employed.

9.05 Where span is more than 35 feet in length, use either drop wire attached at each end on drop wire hooks or bridle wire supported on 2200-pound strand as specified in 9.06.

9.06 Where span exceeds lengths specified in 9.03 or 9.04, bridle wire may be run in 1½-inch No. 22 cable rings attached to 2200-pound strand. Space cable rings 3 feet apart. Place a drag line in the rings of the crossing span at the time they are attached. The drag line should always be replaced after it has been used for pulling wires across the aerial block wire span. This may be done at the time of pulling in additional wires by attaching a new drag line to the existing line and pulling the new line into the rings at the same time the wire is pulled in. Tie the drag line at the end of the strand. (See Fig. 13, 14, and 15.)

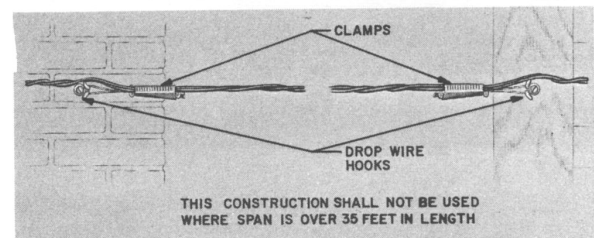


Fig. 12 — Span Less than 35 Feet in Length

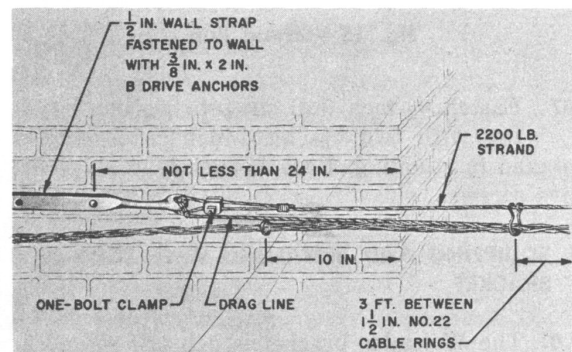


Fig. 13 — Span in Line with Wall

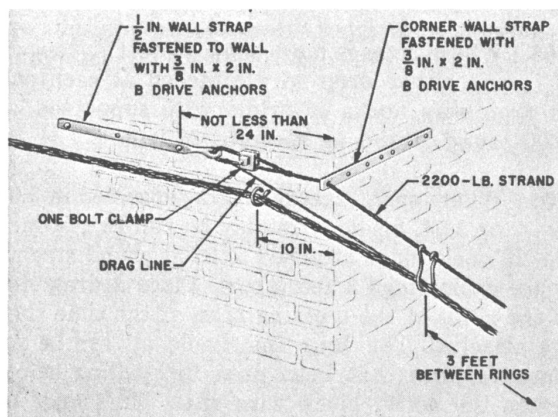


Fig. 14—Span from Corner of Wall

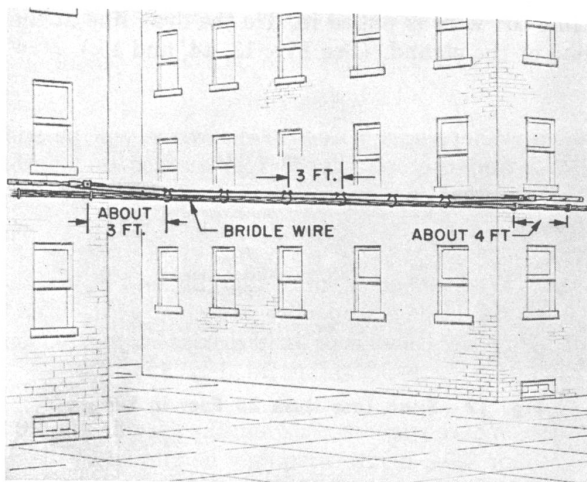


Fig. 15—Strand Run

9.07 Fasten $\frac{1}{2}$ -inch wall strap to wooden building with two $\frac{3}{8}$ - by 4-inch coach screws installed in studding. Bore $\frac{1}{4}$ -inch lead holes for drive screws.

10. EQUIPPING AND INSTALLING W LEADER BRACKET

10.01 The W leader bracket is a metal strap designed to be installed over small obstructions such as pipes, rain spouts, etc., on walls. The bracket will clear obstructions extending 5 inches from wall surfaces. The W leader bracket has a single-tapped hole in the center for equipping it with a B or M bridle ring.

11. PARTY LINE TAPS

11.01 In making a party line connection, a bridge may be made at the most accessible point in an existing wire run, provided that this point is 50 feet or more away from the terminal or if there is no space available on the binding posts for terminating the new party. If the most convenient point for bridging in the run is within 50 feet of the terminal, run the wire to the terminal, provided that there is space available on the binding posts.

12. LAST ATTACHMENTS

12.01 The last attachment should be located within 18 inches of the building entrance hole.

12.02 Use the C knob on exposed wires that pass through a flammable surface. The E drop wire clamp is used in unexposed wires.

12.03 Fig. 16 and 17 illustrate typical arrangements of last attachments.

13. BUILDING ENTRANCE HOLES FOR DROP AND BLOCK WIRES

13.01 Use plastic tubes at building entrance holes for drop wire where fused protection is required and the wire passes through a flammable surface. Place tube as shown in Fig. 18. Cut plastic tubes with a hack saw or diagonal pliers. Do not use split tubes at entrance holes.

13.02 The B entrance plug (Fig. 19) is intended primarily for use with NP, C, or E drop wires and is furnished in $\frac{1}{2}$ - and $\frac{3}{4}$ -inch diameter sizes.

(b) Slope holes upward from outside.

(c) Use seams when drilling through masonry.

13.03 B entrance plug may be added to existing drop wire by separating partial split provided on inside surface of plug.

13.04 When drilling building entrance holes, consider the following:

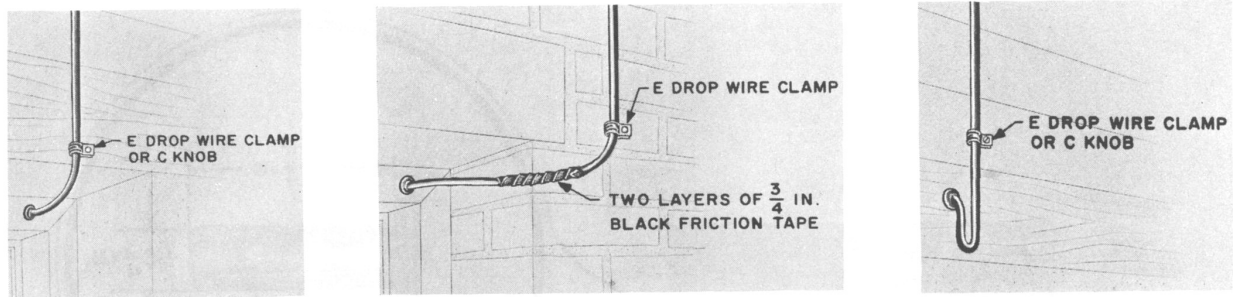


Fig. 16 — Last Attachment, Building Entrance Slopes Upward from Outside

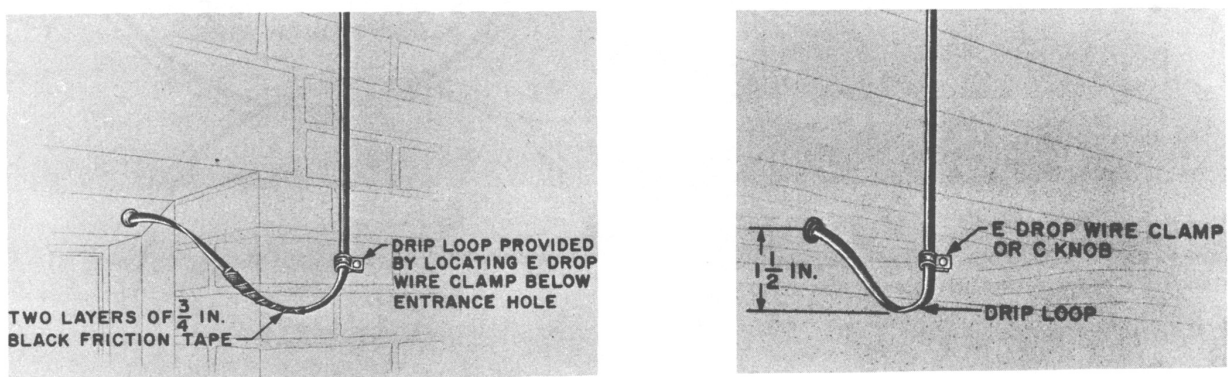


Fig. 17 — Last Attachment, Building Entrance Hole Does Not Slope Upward from Outside

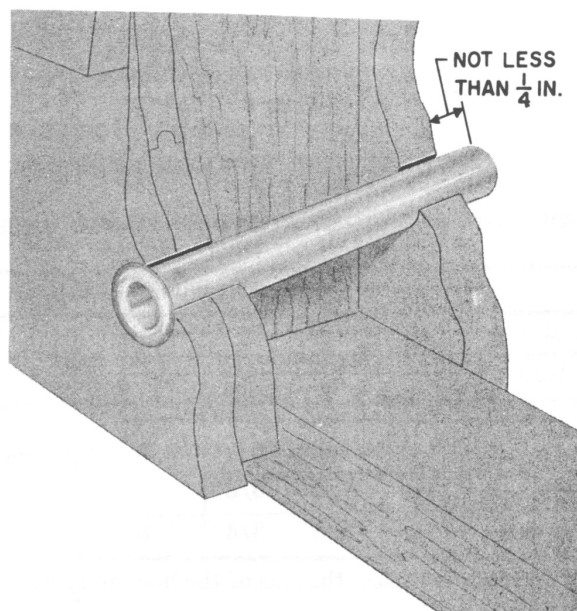


Fig. 18 — Placing Tube

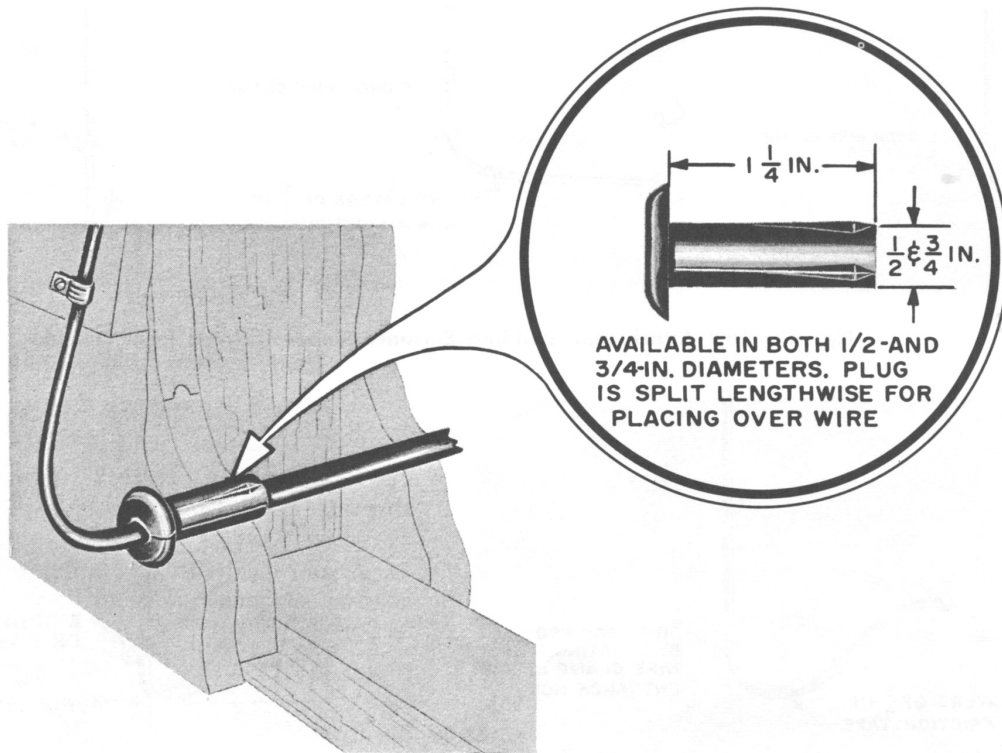


Fig. 19 — B Entrance Plug

TABLE C

SIZES OF BUILDING ENTRANCE HOLES

FOR DROP AND BLOCK WIRES AND PLASTIC TUBES

Type	Wire, Quantity						
D block (bridle)				2	3	4	5
NP, C, or E drop	1	2	3	1	2	3	4
	Plastic Tube Required			Tube Not Required			
Tube Size, Inch	3/8	1/2	5/8				
Entrance Hole Size, Inch	1/2	5/8	3/4	3/8	1/2	5/8	3/4

Note: When porcelain tubes are used, the size of the hole must be increased.