

BELL SYSTEM PRACTICES
Station Installation and Maintenance

SECTION C24.071
Issue 1, 9-1-31
Standard

FISHING WIRE IN BUILDINGS WITHOUT FACILITIES FOR WIRING

1. GENERAL

1.01 This section covers the methods of fishing wire in buildings which are not provided with facilities for wiring, such as conduit systems, underfloor duct systems, molding raceways, etc.

1.02 In general, it takes considerably more time to fish wire through walls and floors than it would to run wire exposed. The fishing of wire should, therefore, be limited to those cases where appearance considerations would not permit exposed wiring. Where a subscriber will not permit the wire to be exposed and the time required to conceal the wire would be excessive, consult your supervisor. When making survey in this connection, look for any other desirable means of concealing wire to the satisfaction of the subscriber, such as a run through closets, cupboards, etc.

1.03 Generally, outside walls are easier to fish than partitions. Therefore, where set is placed on second floor, give due consideration to either running wire outside of building or fishing outside wall or partition.

2. FISHING FROM SECOND FLOOR TO CELLAR

General

2.01 The following general conditions may be encountered when fishing from second floor to cellar.

- (a) Walls without obstructions from second floor to cellar.
- (b) Walls with obstructions between second floor and cellar.

2.02 Never fish between two studdings where electric light wiring is present. The presence of electric light wiring is generally indicated by electric light switches, fixtures or outlets.

2.03 **Loosening Molding:** To loosen a baseboard molding, place a wood chisel under it and lift up carefully. When molding is loosened, use second chisel placed between molding

and baseboard. Place a wooden block under chisel to be used as a pry. Pry carefully with both chisels to loosen the nails which have been driven in diagonally. Move chisels forward as the molding is loosened and always place the chisels as close to the location of the nails as possible. Loosen molding far enough to provide room for boring hole. Withdraw nails from molding by pulling the head through to the underside with side cutting or diagonal pliers. This leaves the paint and putty undisturbed on the face of the molding.

2.04 Replacing Molding: To replace a baseboard molding, clean out all dirt and chips between the molding and the baseboard. Begin at the point where molding was not loosened and press the molding back into its original position. Use a small block of wood with a hammer to drive molding into place if necessary. Fasten molding with thin wire finishing nails.

Outside Walls Without Obstructions

2.05 In general no obstructions will be found in fishing from the second floor to cellar in brick or balloon frame houses. A typical example of a wall without obstructions is shown in Fig. 1.

2.06 Set Mounted on Outside Wall Immediately Above Baseboard: Loosen molding above baseboard as outlined in paragraph 2.03 and bore a 3/8 inch hole through wall as shown at Point A of Fig. 1, exercising care to avoid damage to the exposed surface of the baseboard and the molding.

2.07 Tie twine on one end of a short piece of ferret. Fish ferret through hole and then let it drop to cellar. Leave about two feet of slack in twine and then tie end of twine to hammer handle or equivalent. Locate ferret in cellar by measurement or sound. Measurement may be secured from any exposed pipe which runs directly from cellar to second floor, or by measuring the distance from wall. If difficulty is encountered in locating end of twine, having someone pull it up and let it fall several times will indicate its location on foundation sill. If cellar has ceiling, it will be necessary to bore through ceiling (Point B, Fig. 1). Work a fish tape with hook on end around in hole until twine is hooked and then pull it out through hole. If conditions on the job will permit, lay wire out on floor so that it can be pulled into hole without becoming tangled. Use this method where there is no possibility of any person tripping over wire. In this case the wire should be fed from the coil while it is being pulled. Tie wire to cord and pull out through hole on second floor.

2.08 **Set Mounted on Outside Wall Some Distance Above Baseboard:** Bore hole in wall at location of set, such as at point C on Fig. 1, and then proceed as outlined in paragraphs 2.06 and 2.07.

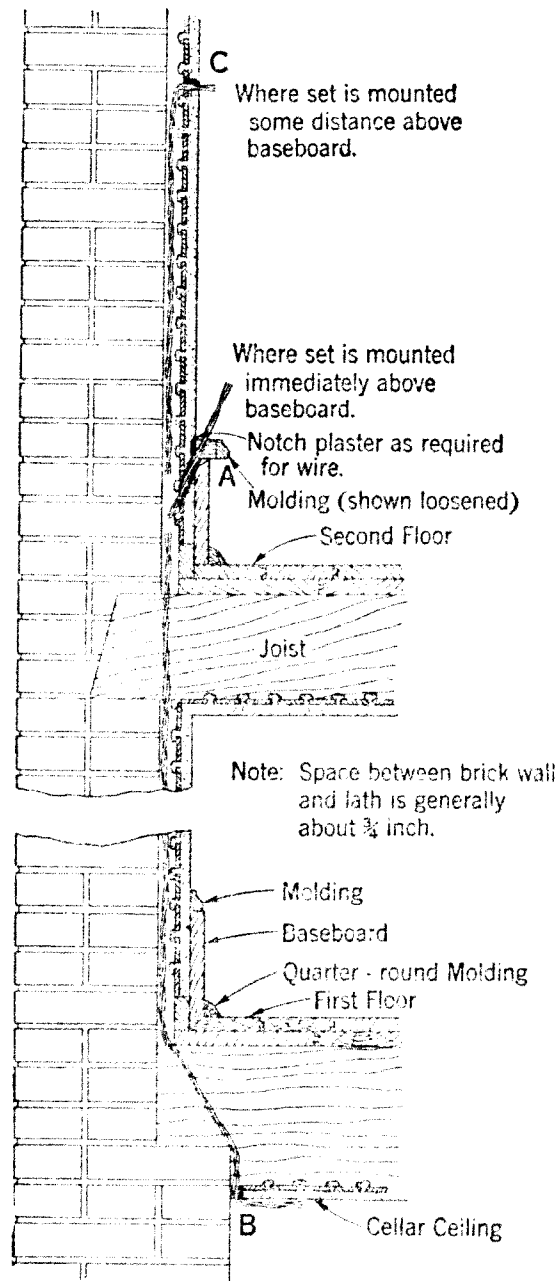


Fig. 1.

2.09 Set Mounted on Partition—Brick or Balloon Frame Houses: It is preferable in such cases to fish through the outside wall from an upper floor to cellar as shown in Fig. 2.

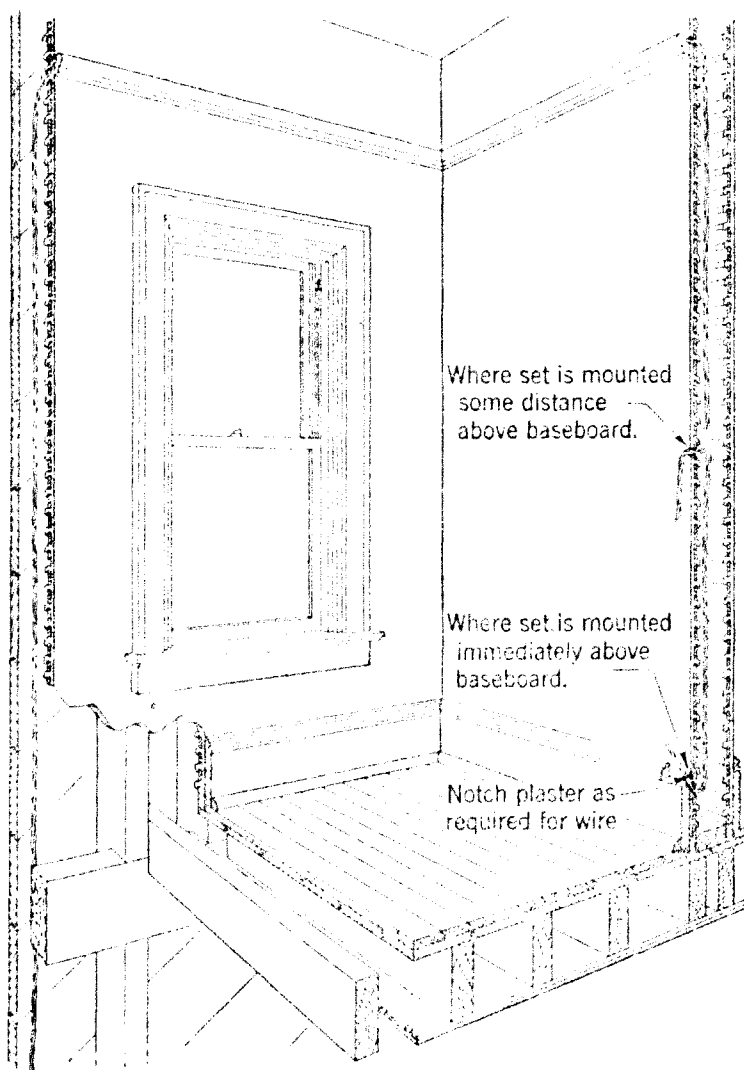


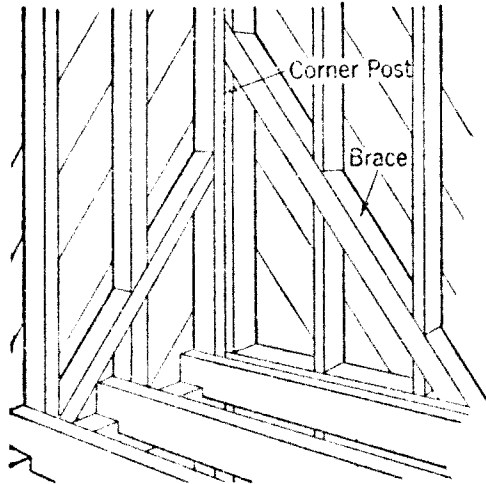
Fig. 2.

Outside Walls with Obstructions

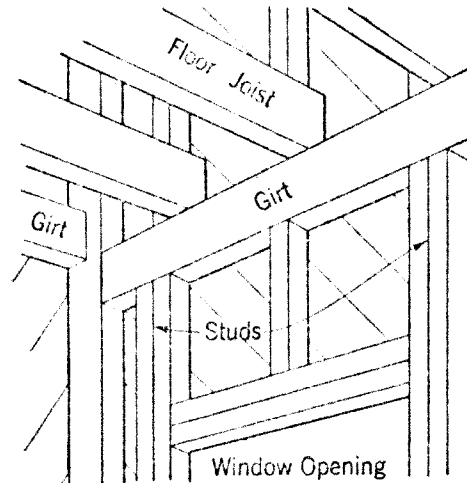
2.10 General: Obstructions will be encountered in fishing from the second floor to cellar of braced frame houses. Some of these obstructions are shown in Fig. 3. Other obstructions may also be found, such as firestops in walls and between joists at foundation, wire netting with concrete between sheathing and plaster, etc.

BRACED FRAME HOUSES - TYPICAL CONSTRUCTIONS

CORNER BRACING FRAMING FOR WINDOW

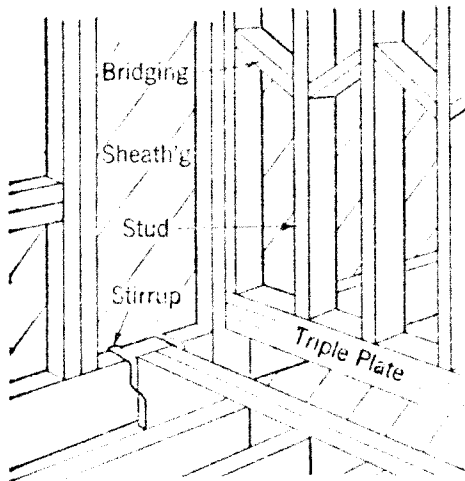


Houses exposed to heavy wind pressure during storms are usually braced as shown. Avoid fishing near corners of outside walls of frame houses.



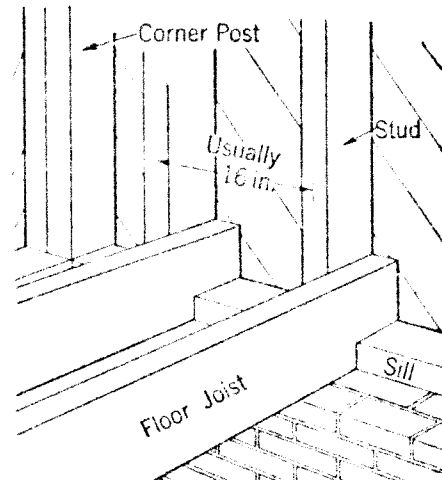
Before starting to bore through girt make sure there are no windows or doors underneath. Select side where girt runs parallel to floor joists if practicable.

BRIDGING OF PARTITIONS - PARTITIONS NOT IN LINE



Partitions carrying floor joists and partitions that are not directly supported by the foundation wall are bridged as shown. Bridge is usually half way between floor and ceiling.

FOUNDATION WALL - SILL CONSTRUCTION



When fishing from basement, bear in mind that in nearly all cases the foundation wall extends some distance beyond the sill.

Fig. 3.

2.11 If locations of obstructions, etc., are not known or can not readily be determined, bore hole with search bit to locate them.

2.12 A typical example of a wall with obstructions is shown in Fig. 4.

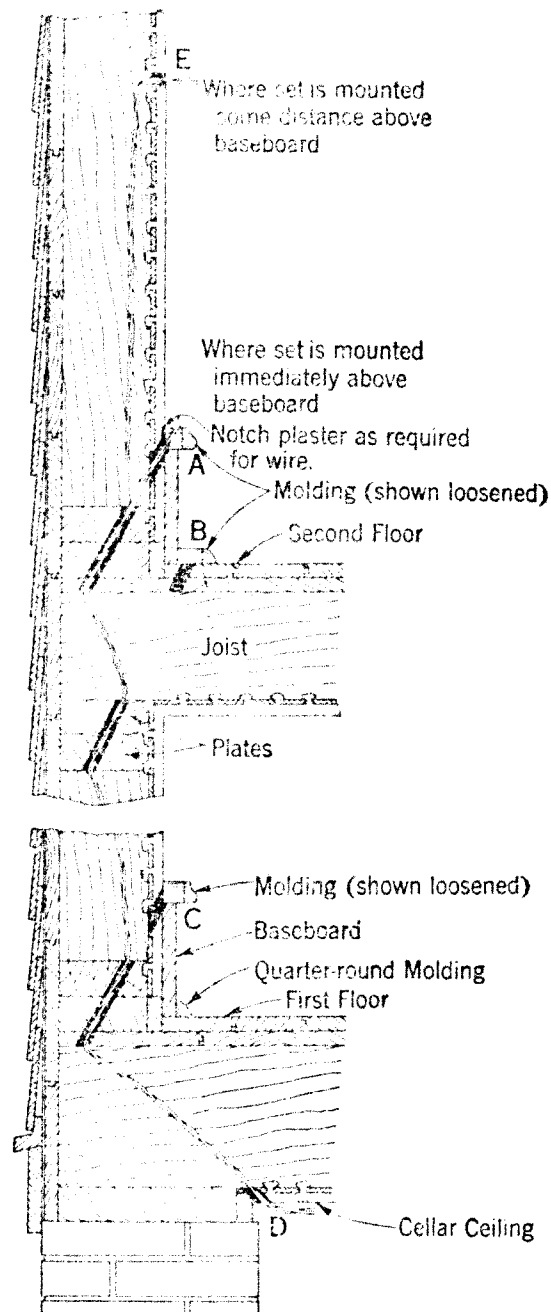


Fig. 4.

2.13 Set Mounted Immediately Above Baseboard: Loosen molding above baseboard on second floor as outlined in paragraph 2.03 and bore $3/8$ inch hole downward through wall at point A and plates above joist, as shown in Fig. 4. (In some cases, plates are found only below joists). Loosen quarter round molding and bore $3/8$ inch hole downward through floor at point B and plates below joist. (Use $3/8$ inch x 24 inch bit.) Loosen molding above baseboard on first floor and bore $3/8$ inch hole downward through wall at point C and plates, if provided, as shown in Fig. 4. If cellar ceiling is plastered, bore hole upward through ceiling at D as shown in Fig. 4.

2.14 Pass ferret (fishing chain) through hole at A. Find ferret, pass it through plate or plates by means of a piece of fish tape or umbrella rib inserted through holes B and C and drop it to cellar. Tie wire to ferret and pull up and out through hole A at second floor.

2.15 Set Mounted Some Distance Above Baseboard: Bore hole in wall at location of set, such as at point E of Fig. 4, and then proceed as outlined in paragraphs 2.13 and 2.14.

2.16 Partitions—Plates Above and Below Joist: Make certain that one partition is directly above the other. Loosen quarter round, and bore $3/8$ inch hole through floor so that quarter round will cover it when replaced. Pass bit through hole until plate underneath is encountered. Locate edges of plate by moving bit across plate as shown in Fig. 5. Bit will strike plaster keys of ceiling while plate itself will be free of obstructions.

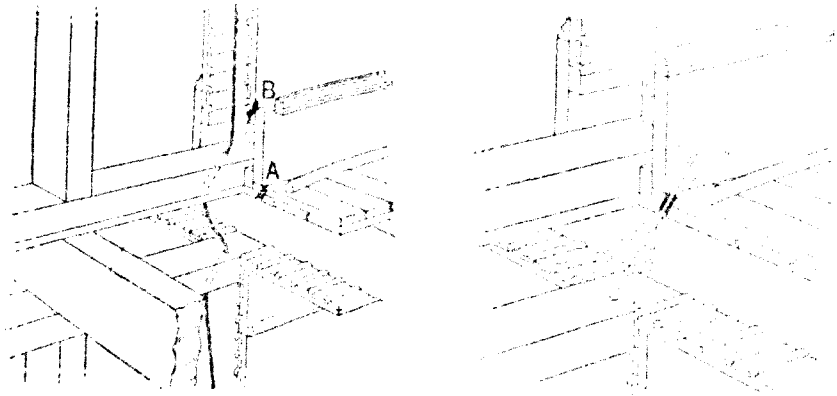


Fig. 5.

2.17 Start hole close to edge of plate as shown and bore through. Pass ferret (fishing chain) through hole A. Find ferret, pass it through plate by means of a piece of fish tape or umbrella rib inserted through hole A. Drop ferret in wall to first floor. Locate partition in cellar by having someone move ferret up and down or by measuring.

2.18 Bore $\frac{3}{8}$ inch hole from cellar through floor and into partition. Fish out ferret, tie wire to it and pull through to second floor, pulling sufficient slack to reach set. Bore hole through partition at point where set is to be placed and drop ferret down to plate. If plate is encountered, remove molding above baseboard, bore $\frac{3}{8}$ inch hole, such as at point B of Fig. 5, and then bore through plate above joist. Pass ferret through hole at set and drop to plate. Find ferret, by means of fish tape or umbrella rib and pass it through hole in plate. Fish ferret up through hole in floor and tie wire to it. Feed wire back through hole A and pull up through upper plate and partition as shown. This method of wiring can be followed only where there is no bridging in partition on first floor.

2.19 **Partitions—Plates Below Joist:** Proceed as above except that it is only necessary to remove quarter round and bore through floor and plate.