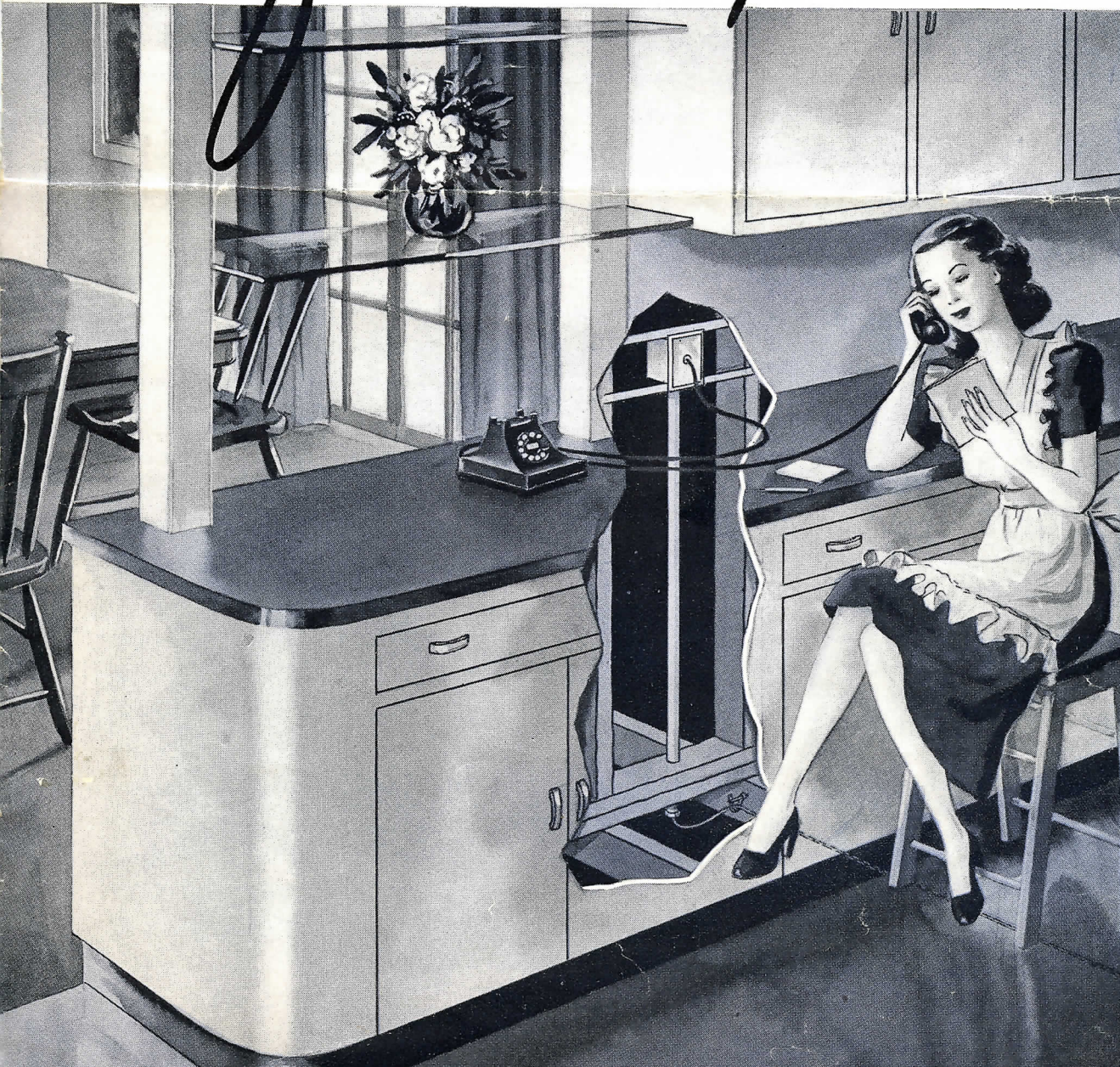




# PLANNING

*for home telephones*



BELL TELEPHONE SYSTEM



# PLANNING

## *for home telephones*

### Concealed Wiring

The many improvements in the art of home building greatly increase the importance of providing built-in facilities for concealing telephone wiring. Wiring in modern homes is vitally affected by the use of new wall materials, offset partitions, bridging or diagonal bracing, wall insulation, and finished basements, as well as the reduction in size or omission of trim around windows and doors, absence of baseboards, etc.

These and other current building practices make it more difficult to attach wires and also make such wiring more conspicuous.

### Convenience

The prospective home owner not only wants his wiring concealed, but he wants his telephones where they will be most convenient to use. His new home will not be as modern as it should be unless his telephones are installed at planned locations. Therefore, when new homes are planned and built, or older ones remodeled, wiring channels and a sufficient number of telephone outlets for present and future needs should be provided during construction. Afterward it may be too late to have concealed wiring.



### Low Cost

Although telephone service requirements in the larger homes may vary widely, one or two lengths of pipe or flexible tubing extending through the walls from the basement or accessible attic to outlets on the other floors are usually adequate for concealing wiring in the average home. The cost for this is very little when included during construction.

The following information is intended to aid builders, contractors, and others to determine proper locations for telephone outlets and to plan the raceways which will help conceal the necessary wiring and equipment in most homes. For further information, just call the nearest telephone business office and ask for "ARCHITECTS AND BUILDERS SERVICE." There is no charge for this service.



# LOCATIONS

*for telephones...*



## Preferred Locations

The preferred locations for telephones naturally vary but generally it is best to place outlets where they will be most accessible to the living and working areas of the home.

In a one story home or first floor of a two story home the preferred locations for telephones include:

1. A central location convenient to kitchen, dining room and living room as at A in the two floor plans at right.

**Note:** Where a planning desk is provided in the kitchen or breakfast nook, this may be the best telephone location. In that event outlets for additional telephones will probably be desirable as shown at B or C in plans on this page.

2. Master bedroom (of a one-story house).
3. Den, study or living room.

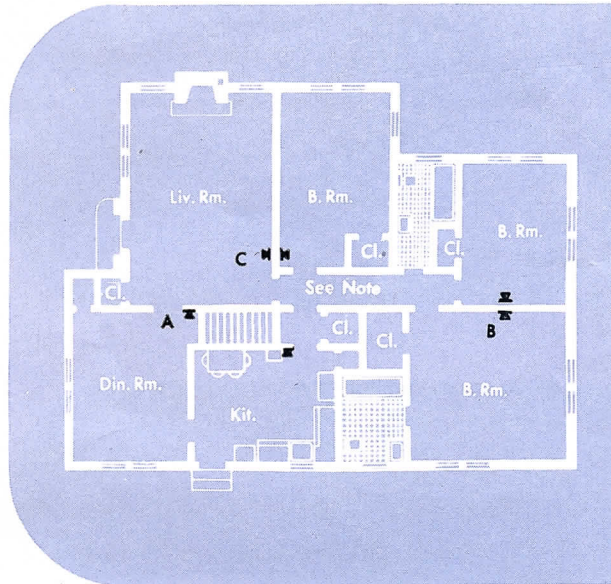
On the second floor outlets are most commonly preferred in:

- a. Master bedroom.
- b. A large hall.
- c. Guest room or other bedrooms.
- d. Sewing room or other frequently occupied space.

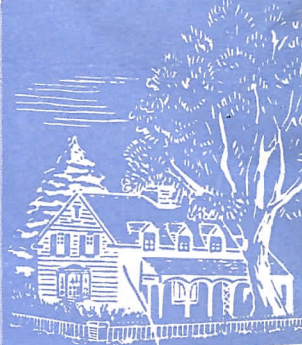
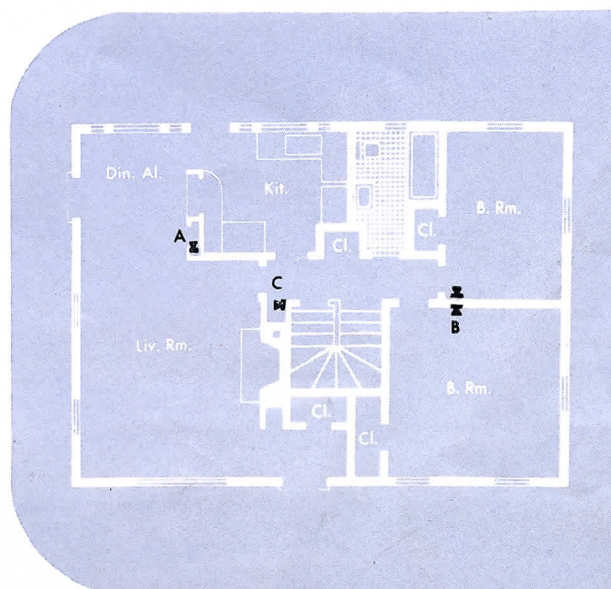
In furnishing the outlets, provide for future as well as present needs of the occupants. By doing so it will not be necessary to run exposed wiring should other telephones be desired later. Extra outlets will also prove particularly useful should the occupants decide to have portable telephones.

## Conduit To Second Floor

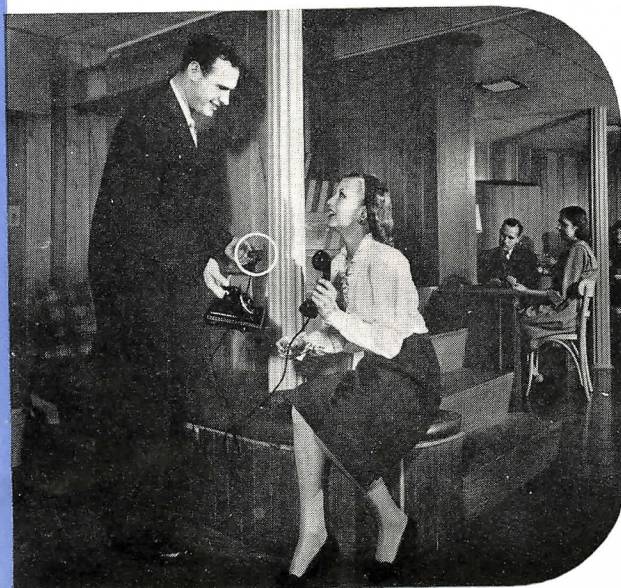
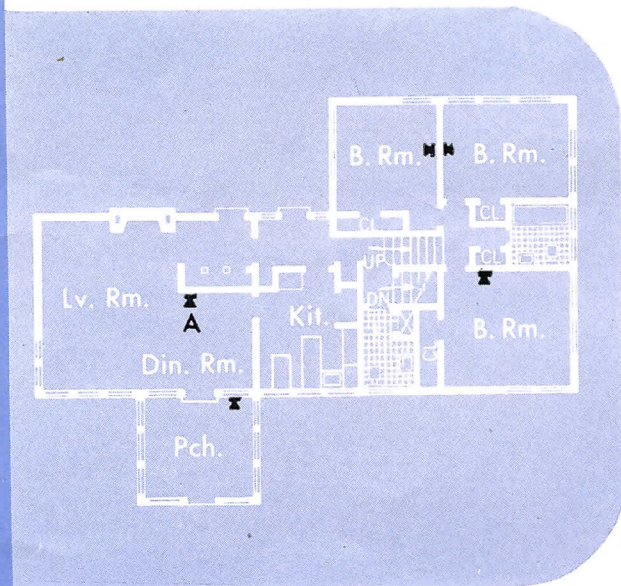
It is generally more difficult to conceal telephone wiring to the second floor of a two story home, and conduit should therefore be extended to this floor during construction.



Also one or more outlets should be provided to take care of extension telephones, even though these telephones may not be installed immediately. It is also a good plan to extend the raceway from one of the second floor outlets to the attic. This will make it possible to connect a telephone later in a room where no outlet has been pro-







vided, by running wires from an existing outlet to the attic and dropping them down through a closet to the new location.

**Portable Telephones** Many home owners find it convenient to use portable telephones instead of or in addition to permanent extension stations. Examples include homes where certain rooms or quarters are used only occasionally, such as guest, sewing and laundry rooms. Good locations for portable telephones are shown on floor plan at left.

Portable telephones are also a convenience at locations used only at certain seasons of the year, such as glass-enclosed or screened porches and basement playrooms.

A portable telephone located on the porch during the summer months could be transferred to the basement in the winter, and of course could also be used at any other outlet location equipped for portable telephones. The outlet for the permanently connected telephone might well be located in the living room or kitchen.

It is preferable to have one or more outlets for fixed telephones centrally located with respect to the living space most frequently used to make and receive calls when the portable telephone happens to be elsewhere.

**Ringer Cabinet** Should it be known that portable telephones are to be used throughout the home some provision should be made for the ringer which is to be permanently connected to the telephone line. For this purpose a built-in bell box cabinet offers advantages. It may be built by a carpenter, or a commercial box with a cabinet may be installed. The cabinet should be centrally located so that the bell can be heard from any room in the home. The inside dimensions of the bell box cabinet should not be less than 6 inches wide, 8 inches high and 2 inches deep. Convenient locations for portable telephone outlets are shown in the floor plan at top left.



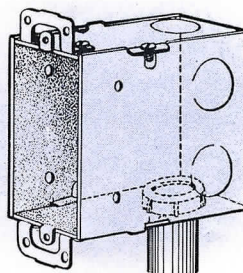
# OUTLETS



## What They Are

Telephone outlets are simply metal boxes such as are generally used for supporting electric service switches, but installed exclusively for telephone use. Such an outlet is shown in sketch at right. When portable telephones are desired, the Telephone Company places a jack in the outlet box and provides a suitable cover. They may be placed at any height above the floor but 18 inches is generally suitable.

Quite often the building plans permit the use of a recessed wall space, as illustrated in photograph at right, or a constructed recess or niche. In such cases the outlet should be installed in the recess. Constructed niches should be 12 inches wide, 12 inches high and 8 inches deep.



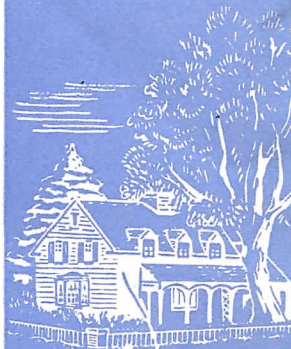
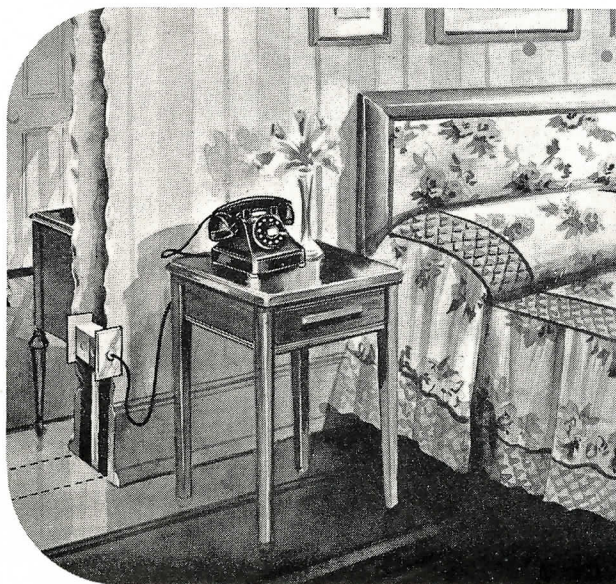
## Double Outlets

Where an outlet is to be placed in a wall between adjoining rooms two of the outlet boxes may be fastened together so as to provide outlets in both rooms. Such an arrangement is suitable for either portable or fixed telephones in adjoining bedrooms. The outlet location shown in illustration at bottom right is preferred when a single or large bed is to be placed in the rooms. Where there are to be twin beds the outlet would be located near the center of the wall space so as to be within easy reach of either bed.

## Wiring Channel

The outlets should be connected by a wiring channel to some part of the basement or attic where surface wiring will not affect the appearance of the surroundings.

In many homes adequate raceways may be





provided by running a few feet of pipe to an unfinished part of the basement or accessible part of the attic, as shown in illustrations at bottom. Ordinarily iron pipe or thin-wall electrical tubing may be used for the raceways. Generally one or the other of these types of material is used by the electrician in wiring a home and should therefore be available.

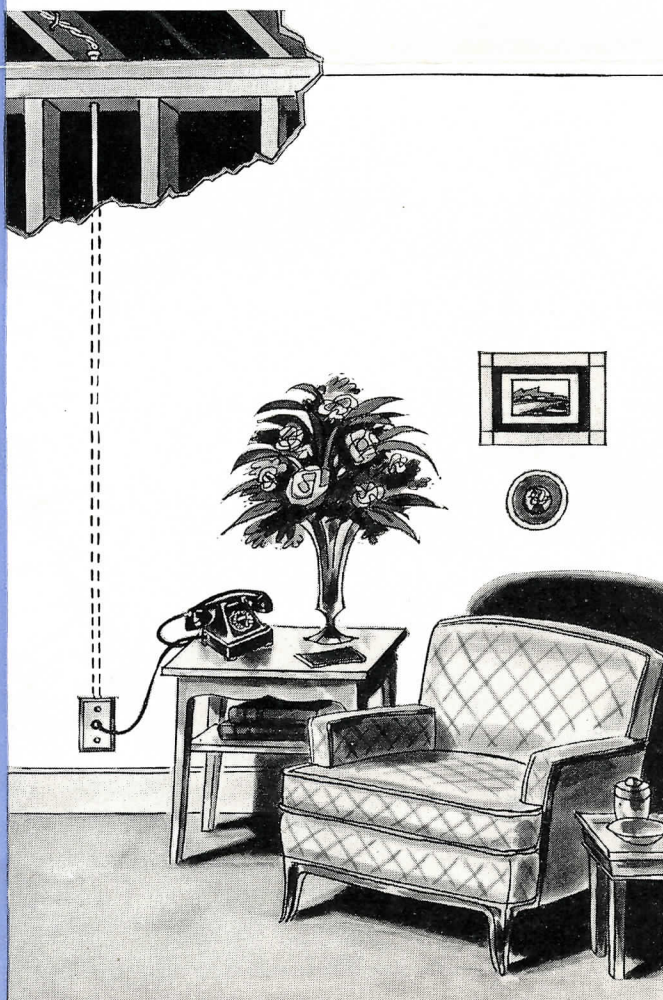
In some homes it may be necessary to extend the raceway from the outlet to the point where the protector or protector cabinet is to be located.

This extension is necessary in homes built without basements, or where the basement is finished as a recreation room, storage space or laundry, or where there isn't suffi-

cient working space in the attic.

In some localities the wiring is located in unfinished attics because of extreme moisture conditions under the houses. In this case, conduit from the outlet in the wall is extended to the attic if the attic may be reached by a trap door not smaller than 20" x 24", or by a ladder or permanent stair, and the roof elevation provides space to construct a ring run for the wires. The wiring is then run from the outlet conduit to another conduit leading to a protector cabinet or satisfactory protector location.

Under many conditions it is desirable to install a complete conduit system consisting of a protector cabinet and conduit runs to all outlets.





# PROTECTORS



## Prevent Damage

The telephone line entering the home has a protector which consists of fuses and carbon blocks. Its purpose is to prevent possible excessive currents from power circuits or lightning from reaching the inside telephone wiring or station equipment.

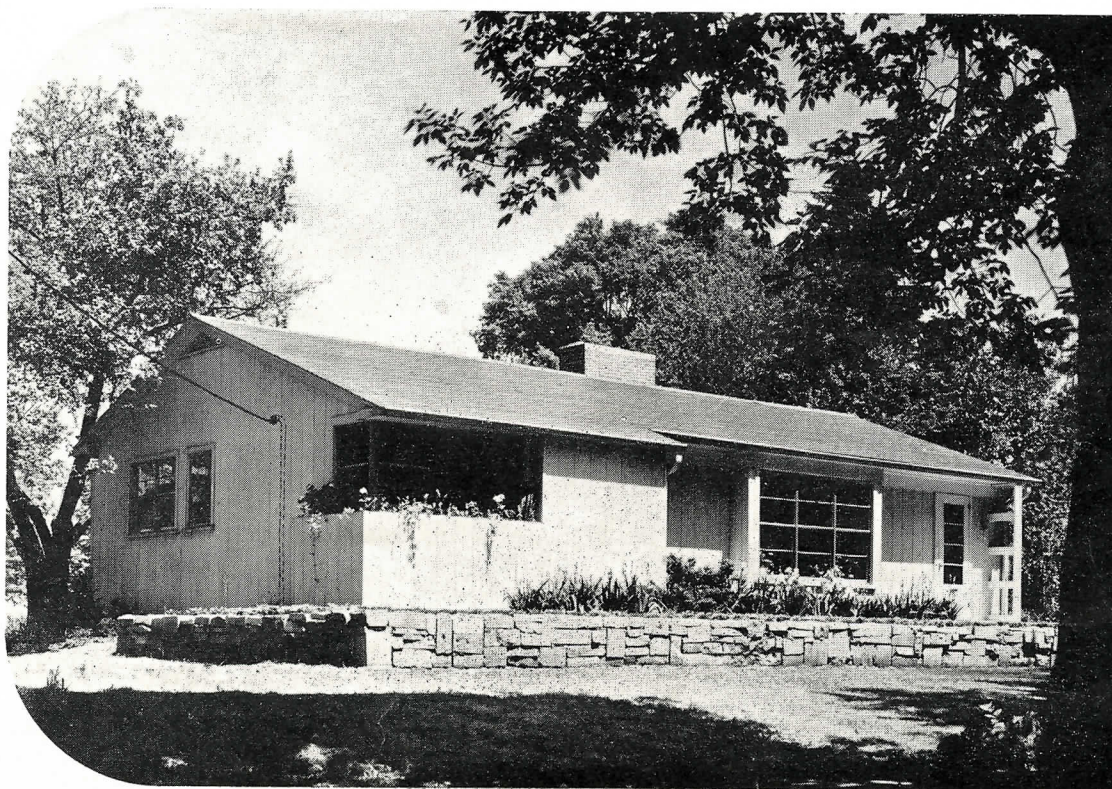
## Basement Locations

When the protector is located in the basement it is generally placed on a joist or on the wall near the entrance of the service wire. Often it is mounted in a metal box on the outside of the house. When it is to be located in a finished basement or utility room, it can be hidden by providing a cabinet for it. Steel boxes for mounting fuses or electric service switches are commercially available which can be recessed in

the basement ceiling, the walls of a utility room or the outside wall or mounted on the surface at any of these locations. The dimensions of the box for one protector should not be less than 6 inches wide, 8 inches high and 4 inches deep, unless specifically designed for a telephone protector.

## Aerial Entrance

A service entrance conduit between the protector cabinet and the point where the aerial service drop wire is to be attached to the building is desirable from the standpoint of appearance, and as protection against tampering by unauthorized persons. This arrangement is illustrated below. The location for the service entrance conduit should be checked with the Telephone Company before it is installed.







# COMPLETE *layout...*



To Attic

Installed in accordance  
with National Electrical  
Code

Outlets to Serve  
Adjoining Bedrooms

Cross Brace

Fire Stop

First Floor Outlet

Rigid, flexible or thin  
Wall Conduit

Protector Cabinet  
recessed in ceiling  
of Basement

The above illustration shows a complete installation consisting of outlet boxes, protector cabinet, service entrance conduit and intervening raceways. Such an installation is particularly desirable for homes having finished or no basements or attics, or where the basement or attic space is inaccessible for wiring purposes. Where there is accessible attic or unfinished basement space, some of the facilities may be omitted, but the outlet boxes and the raceways from them to the unfinished and accessible part of the basement or attic should always be provided. Obviously the need for and extent of the arrangements for telephone service will vary with the size and appointments of the home. In the more elaborate homes complete installations as illustrated above will no doubt be in keeping with the general appearance and convenience standards of such homes. In

more modest dwellings certain of the facilities may not be required, but in all cases the outlets and a raceway or channel from the outlets to a point where the wiring will not detract from the appearance of the surroundings should be provided.

Materials and methods used to provide facilities for concealed wiring will vary in different localities, depending upon municipal codes and regulations, and also upon the types of materials available to builders and contractors.

**If further detailed information on wiring facilities or help in planning for telephone service is desired, just call the nearest telephone business office and ask for "Architects and Builders Service." Services of telephone engineers are promptly available without cost to anyone seeking such aid.**

## BELL TELEPHONE SYSTEM

American Telephone and Telegraph Company  
and Associated Companies

