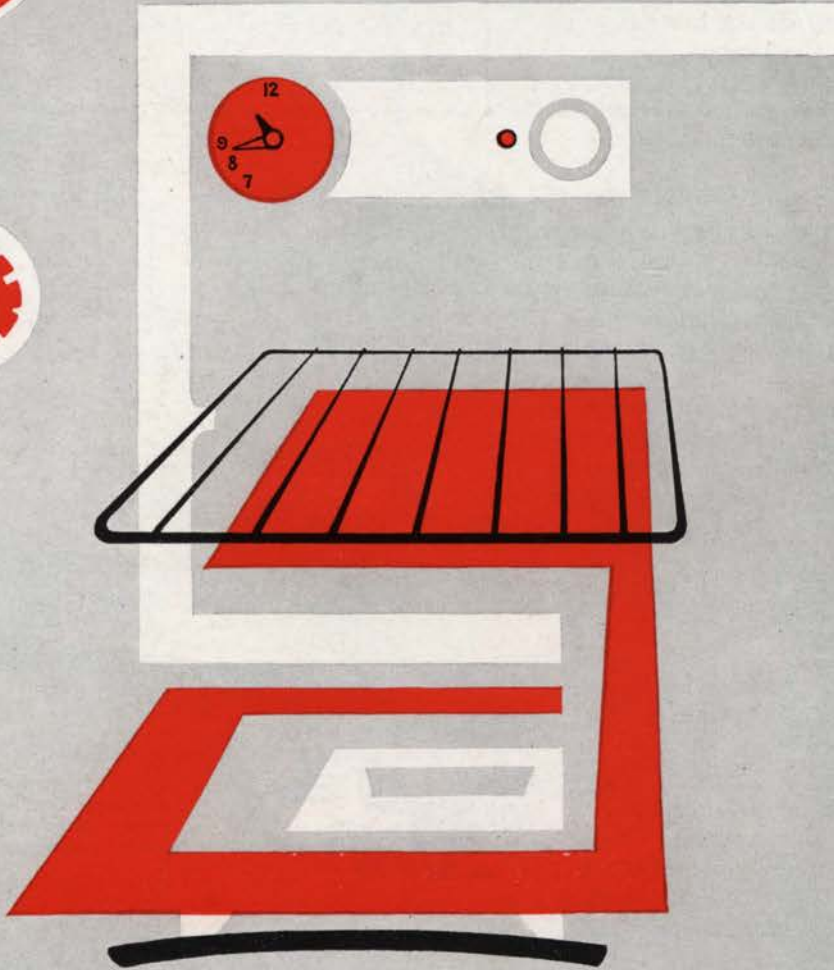


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# SEPARATE OVENS



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**MATERIAL IN THIS CIRCULAR BY HELEN E. McCULLOUGH AND  
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SEPARATE OVENS  
SMALL HOMES COUNCIL  
**C5.33**

## SEPARATE OVENS

The growing popularity of the oven which is separate from the top-of-the-stove burners makes necessary certain adjustments in standardized kitchen arrangements.\* The majority of these arrangements evolve around three basic appliances — range, sink, and refrigerator. Separating the oven from the top-of-the-stove burners, in effect, divides the range into two appliances.

Unlike the dishwasher, which is associated with the sink, and the freezer, which is becoming associated more and more with the refrigerator, the appeal of the separate oven and surface cooking unit lies partly in the fact that they do not have to be used at the same location in the kitchen. For instance, to reduce heat in the main working area, the oven can be placed off to one side of this area. The surface cooking unit is usually retained in the location assigned to the range.

The primary reason for the growing popularity of the separate oven is that it can be installed at a height convenient for the homemaker to use and clean without stooping or bending — a feature once found in high-oven ranges but later lost as the streamlined kitchen with its cabinet-type range gained favor.

Storage space is generally increased in a kitchen having an oven and a surface cooking unit since space becomes available underneath both of these.

The separate cooking unit makes it possible for the burners to be built into the counter, thereby eliminating the hard-to-clean space occurring between the counter and the range. Such counter-top burners improve the appearance of the kitchen.

Counter-top burners also offer:

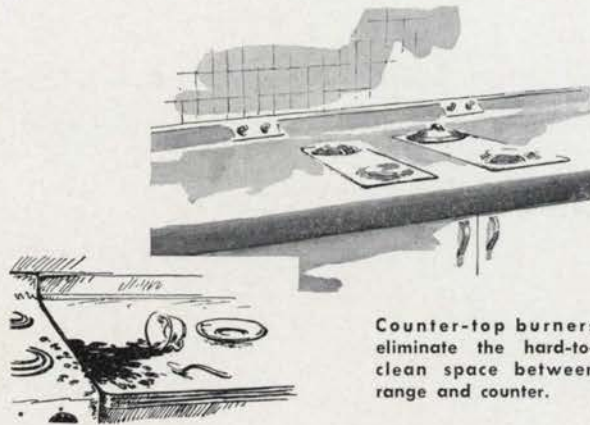
- Ready adaptation into a cooking island or peninsula. The counters surrounding the burners make splatter-guards unnecessary.
- Considerable flexibility in the number, kind, and placement of the burners. Griddle, broiler and deep-well units are also available. These can be arranged in any number of positions. Controls can be placed at the front, back (recommended if there are children), or side of the unit, or in a wall.

Every surface cooking unit should have a heat-proof area adjacent to it, to which hot pans from burners can be moved.

\* This circular is based on a research study made by Helen E. McCullough, associate professor of home economics in the Illinois Agricultural Experiment Station, and Martha Samelson Schoepel, assistant. The complete report, "Research Report on the Location of the Separate Oven," is available from the University of Illinois library on inter-library loan.



The separate oven can be placed at a convenient working height.

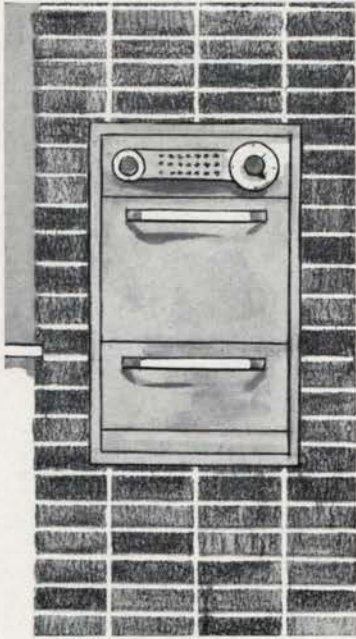


Counter-top burners eliminate the hard-to-clean space between range and counter.



Counter-top burners are well-suited for use in cooking islands.

## TYPES OF OVENS



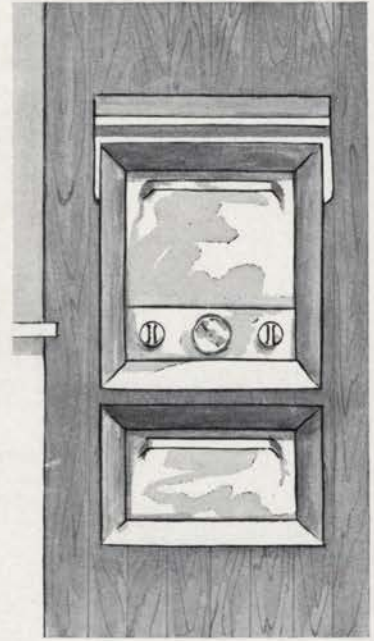
An oven can be built into a masonry wall. This sketch shows a broiler below the oven.

The separate oven can be inserted into a wood or metal cabinet; it can be built into a masonry wall; or it can be incorporated directly into the kitchen cabinet assembly if the exterior of the oven is finished.

Ovens are available in both gas and electric models. Gas ovens should bear the seal of approval of the American Gas Association; electric ovens should be listed by the Underwriters Laboratories, Inc.

The design of the ovens varies considerably as do their size and finish. In some designs, the broiler is a part of the oven; in others, it uses the same heating element or burner as the oven but it has a separate door. A warming drawer can be installed below the oven.

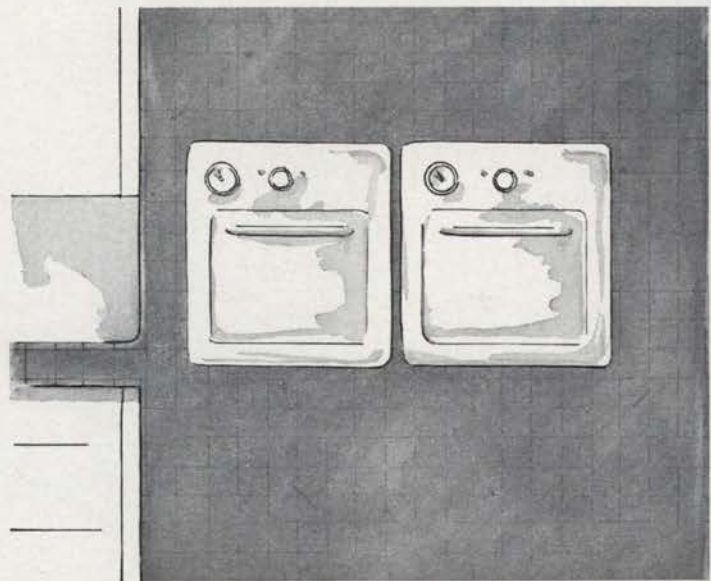
Prices of separate ovens vary in accordance with design and construction. Generally, the price of an oven and a surface cooking unit compares favorably with the price of a range of the same size and quality; however, the installation cost in most cases is considerably more than that for a range.



An oven can be inserted in a metal or wood cabinet. Here a warming drawer is shown below the oven.

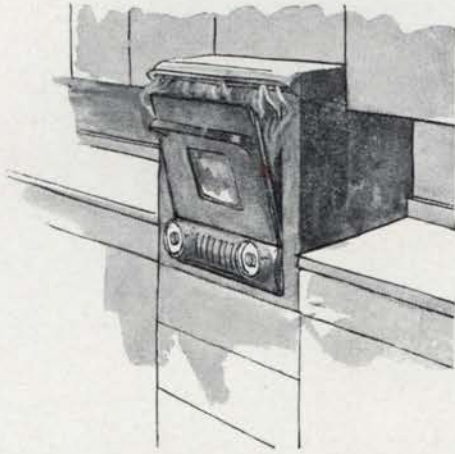


If the oven has a finished exterior, it can be incorporated directly into the kitchen assembly. Storage cabinets or drawers can be placed below the oven.

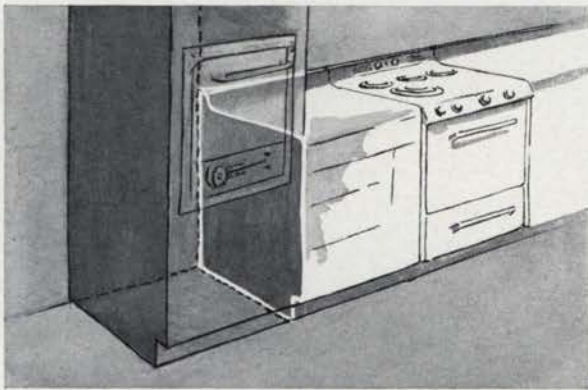


If two ovens are installed, they are most convenient when they are placed side-by-side. The ovens are shown here installed in a wall faced with ceramic tile.

## INSTALLATION PRECAUTIONS



Marring of the cabinet or the paneling above any oven can be prevented by installing heat-proof material or by recessing the cabinet as shown here.



A separate oven and a counter-top burner require more floor space than a range. The shaded area shows the additional space required if a built-in oven and a surface cooking unit were to replace the range.

An oven should always have a counter adjacent to it.



To obtain satisfactory service from separate ovens, certain points of construction and installation should be double-checked. While some of these are the sole responsibility of the manufacturers and installers, all demand an awareness on the part of the homeowner.

- The oven should be well-insulated. Check manufacturer's literature for this information.
- All ovens should be vented; installed so that they can be easily serviced; and, if electric, correctly wired. Manufacturer's instructions regarding space allowances for air circulation around the oven should be observed.
- Precautions should be taken so that heat and moisture, escaping from the oven when the door is open, do not mar the surface above the oven. While the metal overhang above most oven doors helps to deflect the heat, use of stainless steel, copper, masonry, or ceramic tile above the oven is recommended.

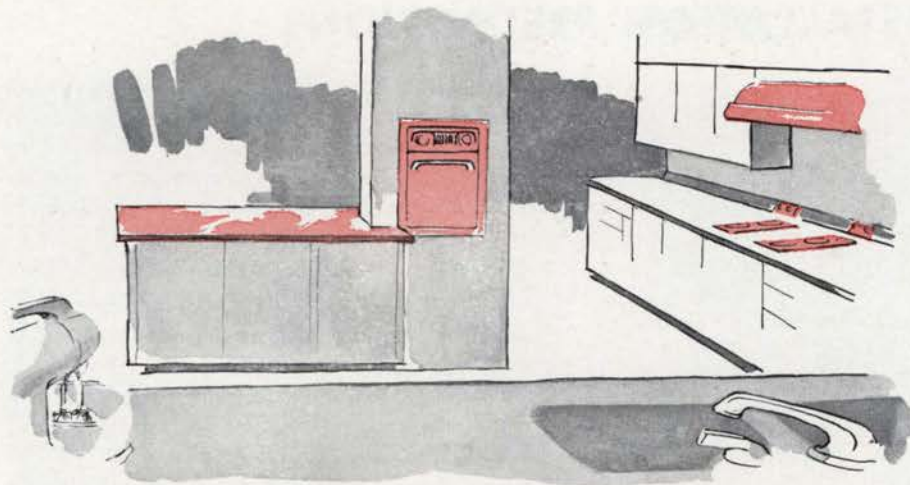
Damage to other materials can be lessened by setting the cabinets or the paneling above the oven back a few inches.

- Floor area of the kitchen should be adequate to accommodate a separate oven without sacrificing needed counter. This is an important precaution because a separate oven and a surface cooking unit require more floor area than a range alone. The separate oven takes up space which is otherwise usable for counter; hence, care must be taken not to reduce minimum counter requirements.\*

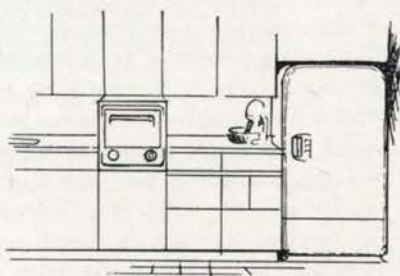
Counter-top burners should be assigned the space ordinarily allotted to a range. This space should always be in addition to minimum counter requirements.

- Counter space must be provided adjacent to the oven. A minimum of 24 inches is recommended. Counter in front of the oven is useless when the door is open.
- To avoid burns, place the oven so that the door is slightly below elbow height when it is open. When the floor of the oven is at counter height, baking dishes can be easily moved from the oven to the counter.
- Storage above the oven may be a safety hazard. This space is generally too deep and not easily accessible. If used, it should be reserved for large, lightweight articles, such as trays, or for seldom-used utensils.
- If two ovens are installed, they should preferably be placed side-by-side, rather than one above the other, in order not to lose the convenience advantage. A two-oven installation is preferred by women doing a great deal of baking since they can bake simultaneously foods requiring different temperatures.

\* See Small Homes Council circular C5.31, "Cabinet Space for the Kitchen."

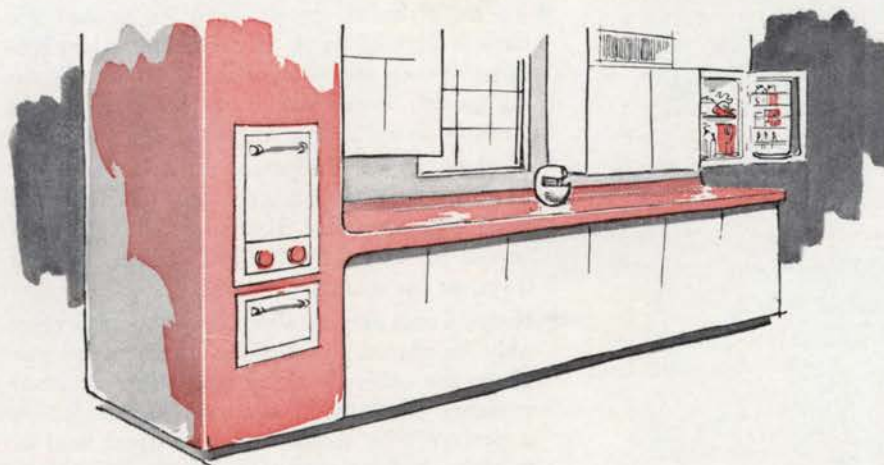


**OVEN OPPOSITE MIX AND SINK CENTERS:** In this position, the oven is convenient to the most used centers — mix and sink — and yet is outside the main work area. Counter must be provided adjacent to oven.



**UNDESIRABLE:** Placing the oven between any two centers when they are arranged in a straight line blocks the work flow from one center to the other and gives homemakers a hemmed-in feeling. Light and ventilation are apt to be blocked off.

Since the most frequent of all trips in food preparation is between the sink and mix centers, it is particularly objectionable to place the oven between these centers. The feeling of being hemmed in outweighs the step-saving advantage.



**OVEN AS PART OF AN ISOLATED CENTER:** The oven can be combined with any center that is isolated from the other centers. In such cases, the major counters — mix and right sink counters — should be increased approximately 50% over the recommended minimum. The fewest steps are required when the oven is part of the mix center as shown here. The mix counter should be at least 54 inches to avoid a hemmed-in feeling. This mix center has a wall refrigerator.

## LOCATION OF

Location of the separate oven is determined by two major factors: 1) the number of steps involved in using it, and 2) the convenience and comfort of the homemaker physically and psychologically.

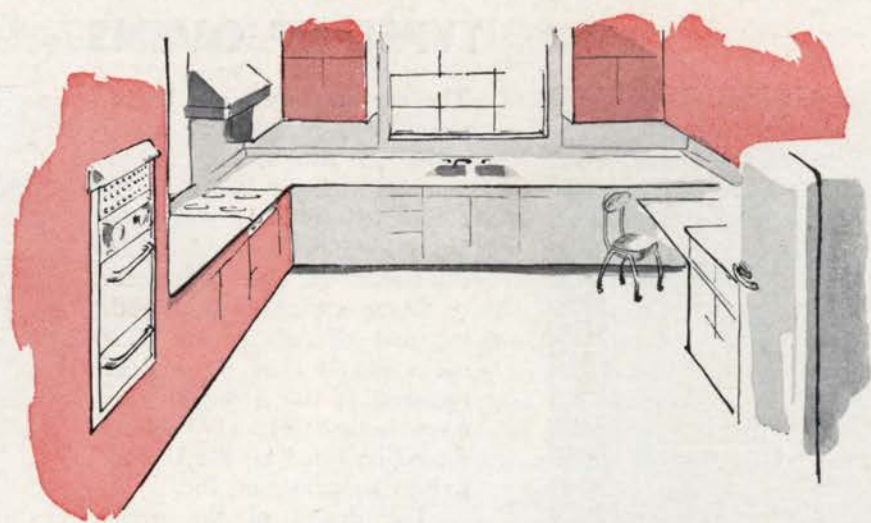
As part of the research to determine good locations for the separate oven, motion studies involving the baking of cookies and the preparation of oven meals were conducted. For these tests, the oven was placed in eight different locations.

The following principles of kitchen arrangement\* were used:

- The kitchen contains four centers of activity for meal preparation: **mix** (including refrigerator), **sink**, **range** (surface burners only for this study), and **serve** (no major appliances).
- Food items and utensils are stored at the center where they are first used. Each item is stored so that it is easy to see, easy to reach, and easy to grasp.
- The commonly accepted sequence for the centers is from right to left. The mix center is at the right, followed by the sink, cooking (range) and serve centers.

The separate oven was not assigned to any center for the purposes of this study, but the results showed that it is most closely

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**OVEN NEXT TO SERVE CENTER:** The oven located at the end of the kitchen sequence next to the serve center does not obstruct or heat the main work area. These advantages outweigh any increase in steps.

## SEPARATE OVENS

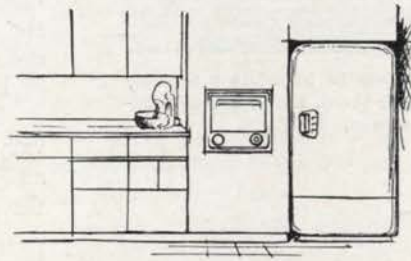
associated with the mix center. The cooking (range) and sink centers are of almost equal importance and rank next.

The study also showed that in meal-preparation the oven is used much less than the sink, refrigerator, and surface cooking unit. For this reason, savings in steps should not be regarded as the determining factor in establishing oven location. Psychological and physical factors in the use of the oven are also important.

The women participating in the tests and those interviewed did not object to taking additional steps in using the oven as much as they objected to: 1) their working space being blocked by bulky appliances, thus giving them a hemmed-in feeling; 2) the lack of counter adjacent to the oven for setting down food; and 3) heat from the oven when it was in the main activity area.

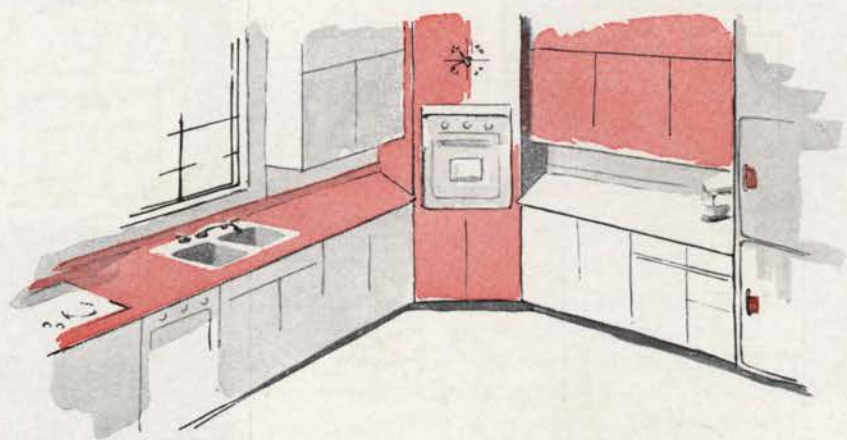
Good locations for the separate oven are:

- Opposite the mix and sink centers.
- At extreme end of kitchen sequence next to the serve center.
- As part of any center that is isolated from the other centers.
- In a corner between any two centers.



**UNDESIRABLE:** Placing the oven next to the refrigerator is objectionable because it is awkward to go around one appliance to reach the other. Furthermore, if the oven and the refrigerator are at the end of the kitchen sequence, it is not possible to have needed counter adjacent to each appliance.

\* See Small Homes Council circulars C5.31, "Cabinet Space for the Kitchen," and C5.32, "Kitchen Planning Standards."



**OVEN IN CORNER:** From the standpoint of saving steps, placement of the oven in a corner between the sink and the mix centers or between the sink and cooking centers is desirable. While a corner oven takes up more counter space than one in a straight-line arrangement, the counter space occupied is less usable. A corner oven does not block work flow, ventilation, or light.

Prof. E. W. Lehmann  
206a Agricultural Engineering

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