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Selecting Your Gas Stove

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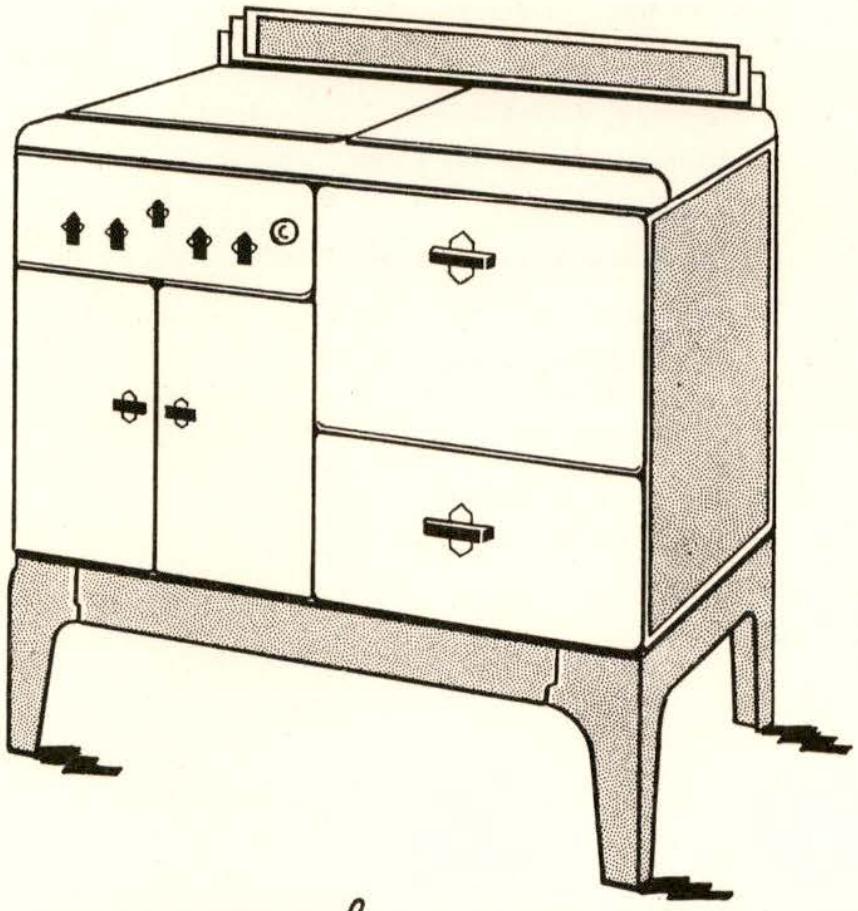
DEPARTMENT of HOME ECONOMICS



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ARNOLD E. BARAGAR

FROM the number of inquiries received during the past two years it is evident that people who are buying new gas stoves are aware that there is more to be considered than price and appearance. The questions asked have been very much the same. The most important and typical of these questions have been chosen and answered here in a form which we hope will be helpful to a buyer.

How many kinds of gas stoves are there in the United States? In January, 1937, there were seventy-three companies manufacturing approved gas stoves. The stoves sold by these companies were listed under 160 trade names, and in many cases the same stove was being sold on the retail market under as many as six names. Many of these stoves are not nationally known but are confined to a certain region, so that some stoves being sold in the east, for instance, may not be familiar to people in the west.

How shall I know which gas stove to buy when there is such a great variety from which to choose? The choice of a gas stove should be based upon at least five factors which, ranked in the order of importance to the buyer, are price, performance, construction, American Gas Association approval seal, and appearance. Especial attention should be given the first three.

PRICE

What shall I pay for a good gas stove? The price of the stove should be governed by the family budget. A survey of the retail prices of gas stoves for 1936 showed that the prices were rather evenly divided into four groups namely: Group 1, stoves selling for $50 or less; Group 2, stoves selling for $50 to $75; Group 3, stoves selling for $75 to $100; and Group 4, stoves selling for more than $100. It should be possible to find a stove to fit every pocketbook. If the stock carried by the retail dealers in Lincoln, Nebraska, can be taken as an example of the price paid, then the price usually considered varies from about $70 to $100, but there are some good stoves which compare favorably in performance, construction, and appearance with stoves in Group 3 selling in Lincoln at about $60. Good stoves and poor stoves, as far as performance is concerned, can be found in all four groups. The best suggestion as to price is to determine how much can be paid and then look around until the best stove for that price can be found. To find the best stove, judgment should be based on performance and construction with some thought given to appearance and the American Gas Association approval seal.

PERFORMANCE OF COOKING TOP[1]

How can I determine which cooking top will be cheapest to operate and will give the best performance? Without specific reference to laboratory data it will be necessary to consider definite characteristics about the

[1] The term "cooking top" means the group of surface burners together with that part of the stove which surrounds them, such as burner bowls, grates, and the part upon which they rest.

stove in order to judge its probable performance and operating cost.[2] The performance and operating cost of the cooking top will be governed by the type of burner, the type of grate, the distance of the burner from the utensil, the size of the utensil, the type and size of cooking top, the spread of the flame from the burner, the availability of a simmer burner, the possibility of rapid heating with low operating cost, the automatic lighter, if the stove is equipped with one, and the freedom from clogging when foods boil over. Each of these must be considered in turn and then the cooking top judged by considering them all together.

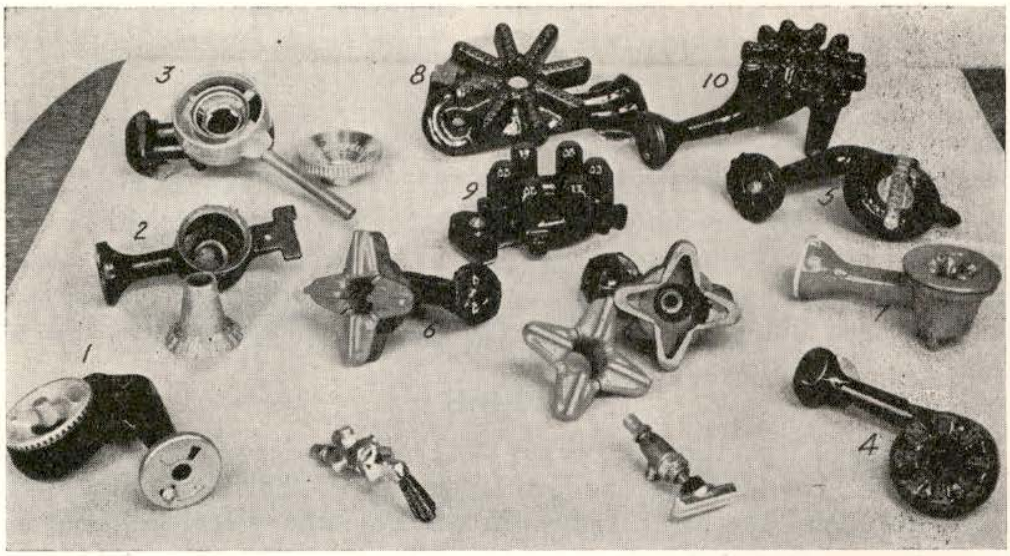

FIG. 1.—Grouping of various types of burners. Burners 1, 2, and 3 are die-cast burners; 4 and 5 are round cast-iron burners; burners 6 and 7 are ribbon-flame burners; burner 8 is a "star" or eight-arm burner; burner 9 is the "daisy" burner and burner 10 is the "Y" burner.

How many types of burners are available? There are five principal types of cooking-top burners being used at present. These burners are shown individually in Figure 1. Burners 1, 2, and 3 are called die-cast burners. These are made with a part of the burner-head removable. The holes through which the gas comes out is cast in this removable part and thus this burner would be easy to clean. Similar in size and shape to burners 1, 2, and 3 are the round cast-iron burners 4 and 5. These burners are made entirely of cast iron and their distinguishing feature, compared to the die-cast burner, is that the holes are drilled. The small straight burner in the center of burner 5 is a simmer burner. A third type is the ribbon-flame burners 6 and 7. In this burner the fuel gas comes from a slit around the side of the burner and the flame produced is a continuous ribbon. Burner 6 has a clover-leaf design, but most of the ribbon-flame burners are round. A fourth type is the star or eight-arm burner, number 8. In the past, this was the burner most generally used. The fifth type

[2] For specific data regarding performance and operating cost see Nebr. Agr. Exp. Sta. Research Bulletin 86, "A Study of Selected Types of Domestic Gas Stoves."

is the "daisy" burner, number 9. The burner derives its name from the design of the flame at the top of each pillar. At present, the tendency is to discontinue the use of the large burners such as 6, 8, 9, and 10 in favor of the small ones such as 1, 2, 3, 4, 5, and 7.

It is useless to consider the burners by themselves except to classify them as to type, ease of cleaning, and flame spread, because when each burner is adjusted for the same amount of gas and the gas is completely burned, each burner is delivering the same amount of heat. It is in relation to its construction in the stove that the superiority of one type of burner over another is found. Thus, what must be considered is the entire cooking top and not just the burner.

Typical cooking tops using the above burners are shown in Figures 2 to 10. Study these tops carefully for constant reference will be made to them from here on. The entire problem is to choose a cooking top that will absorb as little heat as possible and deliver the maximum amount of heat to the utensil and contents. Thus, these cooking tops can be judged only by considering where all the heat goes that is not absorbed by the utensil and its contents.

How many types of cooking tops are available and which is to be preferred? It is convenient to divide the tops into three classes: open, enclosed, and solid—although such names may not be used by salesmen. Figures 3, 5, 6, and 9 are examples of the open type, while the enclosed types are shown in Figures 2, 4, 7, 8, and 10. The solid-top stove has a top similar in construction to that on a wood or coal range. With the enclosed type, each burner is enclosed and has its own individual grate. With the open types, the burner may be enclosed by a burner tray such as is shown in Figures 3, 5, 6, and 9, but in every case one grate covers at least two burners and the entire top is open. The burner bowls and burner trays are used to prevent an excessive amount of cold air from being drawn in around the bottom of the utensil. The material used for the enclosed tops is usually rather thick sheet metal covered with porcelain enamel, but an exception to this is shown in Figure 10 where the top is made of cast iron. The tops in Figures 2, 4, 7, and 8 are sufficiently sturdy and are to be preferred to the heavy top shown in Figure 10. On the whole, with the exception of the top in Figure 10, lower operating cost was obtained in the laboratory with the enclosed tops than with the open tops.

What characteristics should the grates possess? The grates should be light weight, sturdy, and easy to clean. A sturdy light-weight grate will absorb less heat than a sturdy heavy grate—hence cost of operation will be less for a light-weight grate. On stoves in price groups 2, 3, and 4 the grates should be porcelain enameled or rust-resistant. In order to make use of the maximum amount of heat, the grates should make as little contact as possible with the stove top. Figure 8 shows an example of this kind of grate, because it possesses all of the desired features.

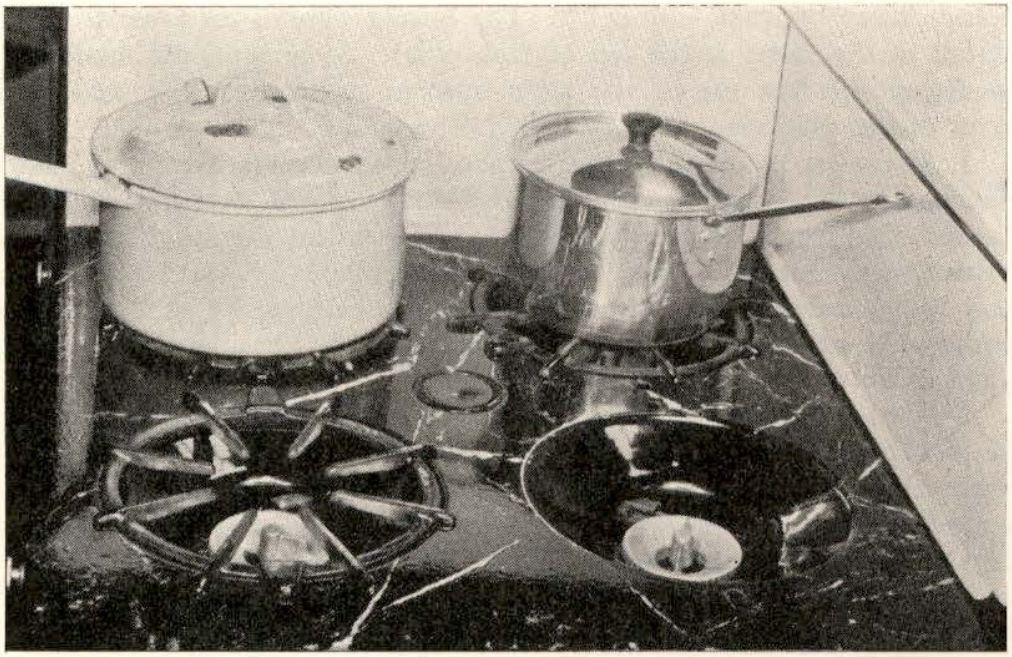

FIG. 2.—Enclosed cooking top with die-cast burners. The portion of the top surrounding the burner is called the burner bowl. The burner is 1¾ inches from the top of the grate. The flame burns at an angle. The small utensil is a two-quart aluminum sauce pan, bottom diameter 5⅜ inches. The large utensil is a three-quart enameled sauce pan, bottom diameter 7¼ inches.

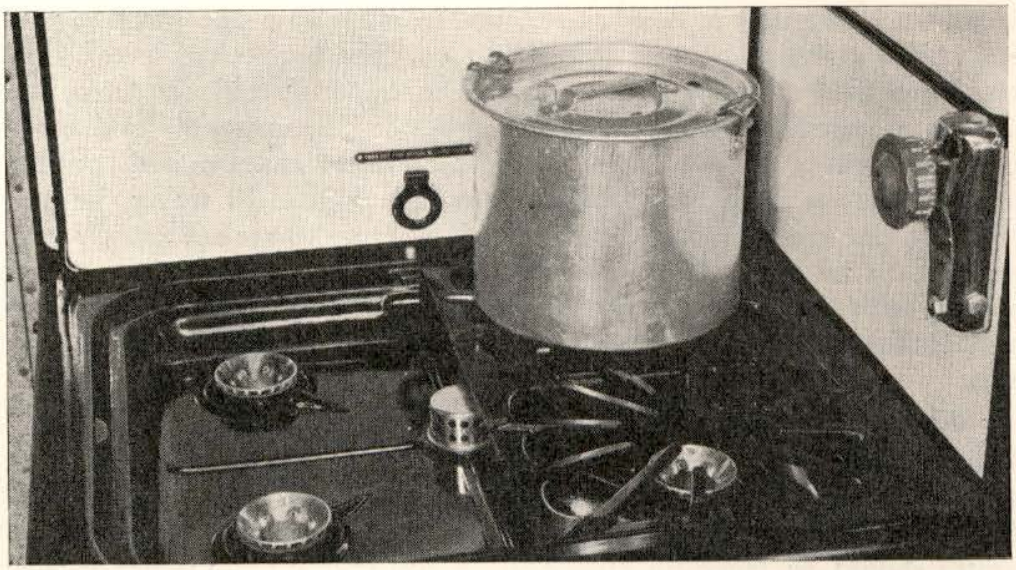

FIG. 3.—Open cooking top with die-cast burners. The tray surrounding the burners is called a burner tray. The burner is 1⅜ inches from the top of the grate. The flame burns at an angle. The utensil is a six-quart aluminum stock kettle, bottom diameter 7⅞ inches.

FIG. 4.—Enclosed cooking top with die-cast burners and removable burner bowls. The burner is adjustable in height, the shortest distance to the top of the grate being 1⅜ inches. The flame is the ribbon type, burning horizontally. The utensil is a one-quart aluminum sauce pan, bottom diameter 4⅜ inches.

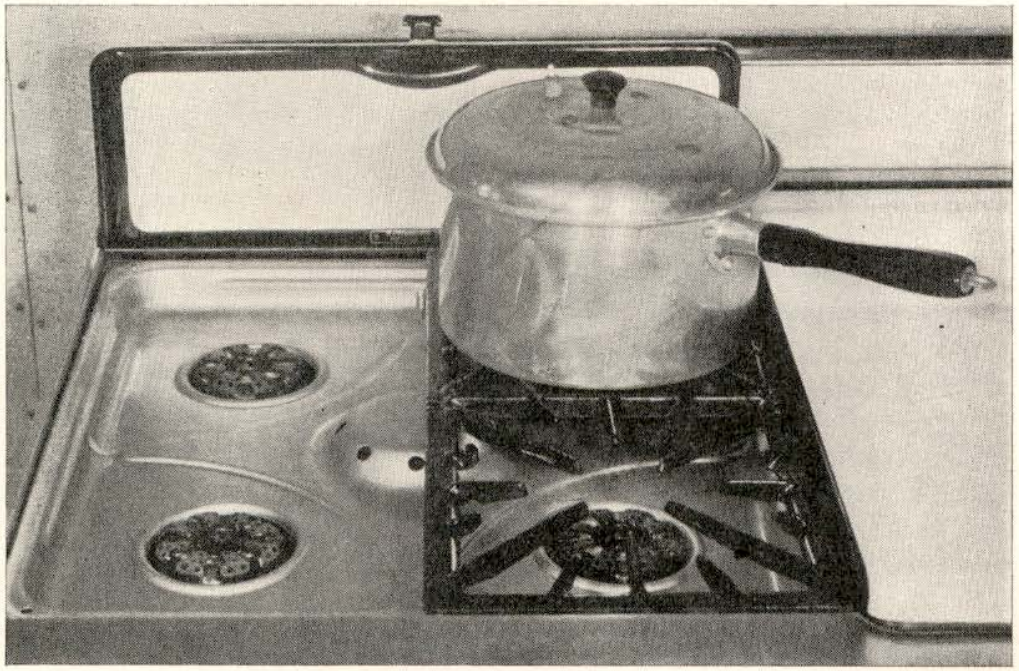

FIG. 5.—Open cooking top with round cast-iron burners and chromium-finished burner tray. The burner is 1⅜ inches from the top of the grate. Outer flames burn at an angle, inner flames vertically. The utensil is a four-quart aluminum sauce pan, bottom diameter 7⅞ inches.

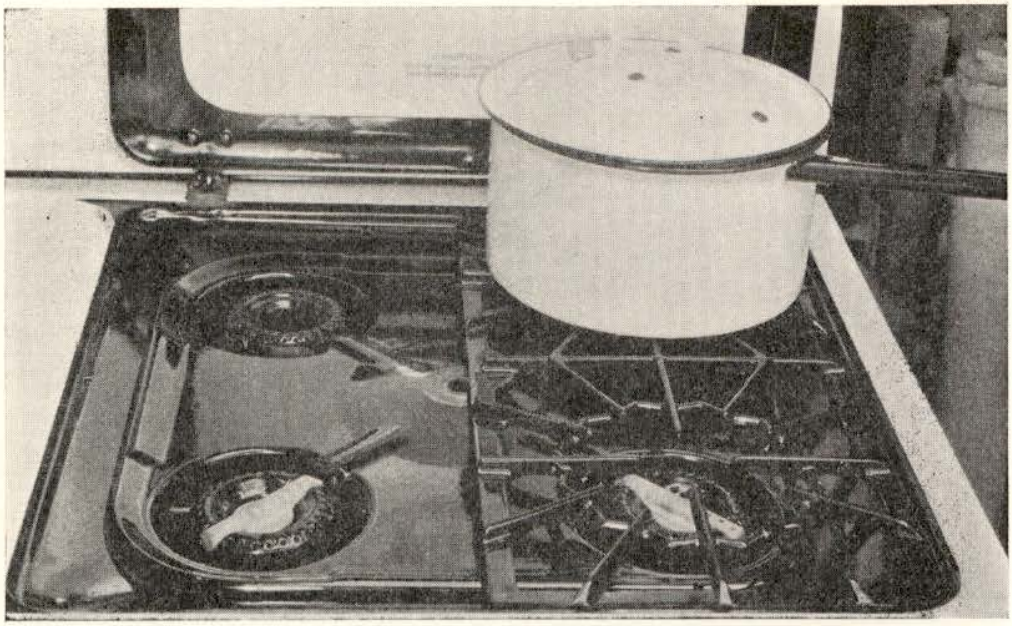

FIG. 6.—Open cooking top with round cast-iron burners and equipped with simmer burners on the front. The burner is 1⅜ inches from the top of the grate. Flames burn at an angle on circular burner and vertically on simmer burner. The utensil is a five-puart enameled sauce pan, bottom diameter 8¼ inches.

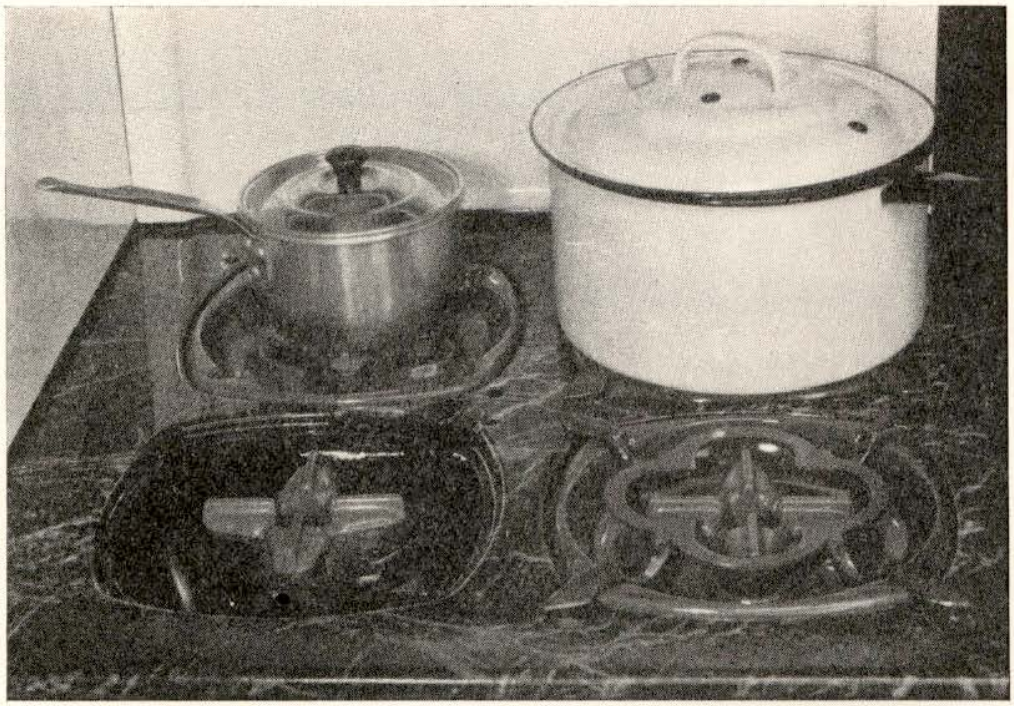

FIG. 7.—Enclosed top with the "clover leaf" ribbon-flame burner. The burner is ⅝ inch from the top of the grate. The flame burns horizontally from the side of the burner. The utensils have been described in Figures 4 and 6.

FIG. 8.—Enclosed top with round ribbon-flame burner. The burner is ⅞ inches from the top of the grate. The flame burns horizontally from the side of the burner. The utensil is a three-quart aluminum sauce pan, bottom diameter 7 inches.

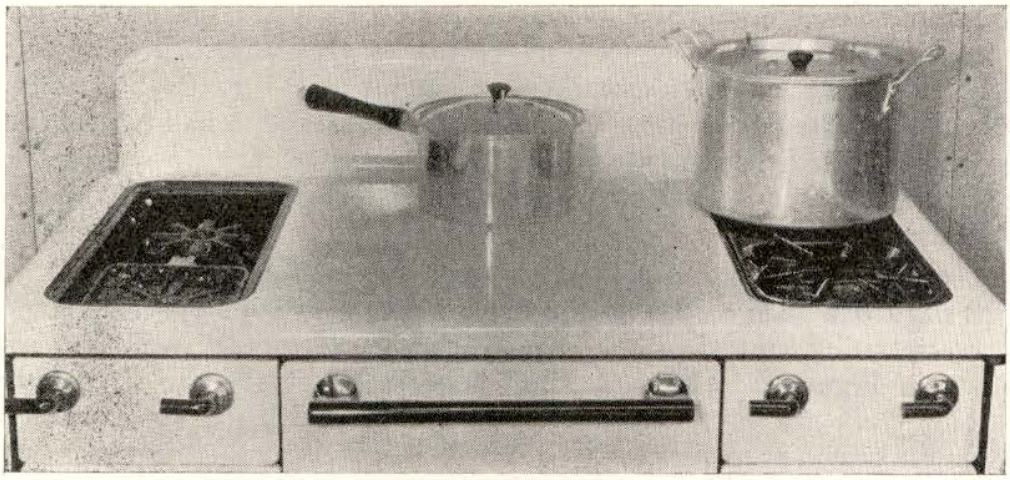

FIG. 9.—Divided top, open type, with eight-arm burner. The plate surrounding the burner is called an air-plate. The burner is 1¾ inches from the top of the grate. The small utensil is the same as in Figure 8. The large utensil is an eight-quart aluminum stock kettle, bottom diameter 9 inches.

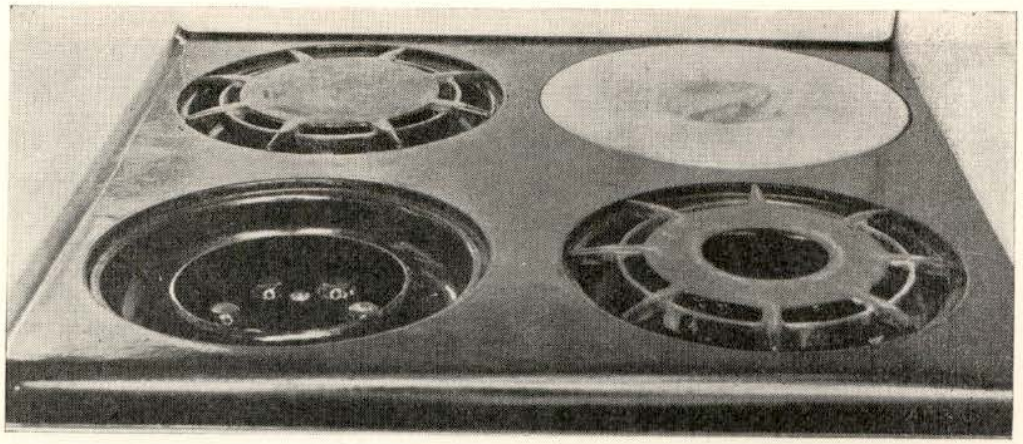

FIG. 10.—Enclosed top with "daisy" burner. Top is heavy cast iron, grates are heavy, and burner bowls are of light-weight sheet metal. The right rear covered compartment is a thermowell. The burner is 1¾ inches from the top of the grate. (In the later model of this stove the grate has been materially lightened in weight and the burner has been reduced in size to four pillars.)

Does good performance depend upon the distance between the burner and the bottom of the utensil? The performance of the cooking-top burners is related to the distance between the burner and the bottom of the utensil. (The bottom of the utensil is the same as the top of the grate.) The proper distance will be governed by the kind of burner, that is, by the height of the gas flame and the way the flames come out of the burner. Some flames leave the burner vertically (type 8, Figure 1), some at an angle (types 1 and 2, Figrue 1), and some horizontally (types 6 and 7, Figure 1). In all cases the burner must be far enough away and the gas consumption so adjusted that poisonous carbon monoxide gas will not be formed. From the point of view of the lowest operating cost, the burner flame should be brought as near to the bottom of the utensil as possible. One of the reasons why the burners in Figures 7 and 8 had low operating cost was that these burners were ⅝ inch and ⅞ inch away from the bottom of the utensil, in comparison with 1⅜ inches to 1¾ inches, which is the usual distance.

Does low operating cost depend upon the kind of utensil used? A large-sized pan such as the five-quart pan shown in Figure 6 will give a lower operating cost than the smaller pans such as the two-quart pan shown in Figure 2. The controlling factor seems to be the size of the bottom. On a gas stove, a utensil with a bottom which slightly more than covers the grate (as in Figures 5, 6, and 7) will absorb more heat than will a smaller pan. For this reason the larger pans should be used whenever possible. The cover should fit tightly so that evaporation loss will be small. Ordinarily the covers on enameled pans do not fit as tightly as those on aluminum pans, and so enameled utensils should be chosen with care.

How do the cooking tops shown in the illustrations compare as to operating cost? They are of value in estimating the cost of operation of cooking

tops of similar construction. For heating in all the utensils shown in the figures it was found from actual tests that the cooking top in Figure 8 was the cheapest to operate. For the average of the eight utensils shown about 47.4 per cent of the heat delivered by the burner was used in heating the pan and contents. Comparing the other cooking tops (using the average of the same eight utensils) with this top, the percentage increases in operating cost are as follows:

Cooking top in Fig. 7, 12.7% more than cooking top in Fig. 8.
Cooking top in Fig. 4, 16.3% more than cooking top in Fig. 8.
Cooking top in Fig. 2, 21.9% more than cooking top in Fig. 8.
Cooking top in Fig. 6, 23.0% more than cooking top in Fig 8.
Cooking top in Fig. 5, 24.4% more than cooking top in Fig. 8.
Cooking top in Fig. 9, 31.4% more than cooking top in Fig. 8.
Cooking top in Fig. 3, 35.8% more than cooking top in Fig. 8.
Cooking top in Fig. 10, 52.2% more than cooking top in Fig. 8

From the above discussion it is evident that an enclosed cooking top with light-weight grates, which make little contact with the top, and a small burner set very near to the bottom of the pan, should be the cheapest to operate.

Is the cooking top large enough for the utensils usually used in your home? For the family accustomed to cooking with large kettles, the majority of cooking tops will be inadequate as to size of top and arrangement of burners. That is, if it is necessary to have on the stove at the same time several utensils measuring nine inches across the bottom, there will be so much crowding that some of the utensils will be off-center with respect to the burner. Besides being inconvenient, the operating cost is increased, because more heat is lost around the sides of the utensils which are off-center. With small utensils the cooking tops are large enough. In this connection it is well to consider the divided tops as shown in Figure 9. With these tops the problem of the proper arrangement of pans is not so difficult to solve.

If a burner is not directly under the center of the grate, is the efficiency decreased? As far as practical results are concerned, an off-center burner with respect to the grate has little or no effect upon performance. This is true because, in general, the pan would be placed over the center of the burner and not over the center of the grate. However, when the burner is seriously out of center with the burner tray or burner bowl, there is a decided effect upon the heat distribution over the bottom of the pan, because more cold air comes through the larger opening between the burner tray and burner than through the smaller opening and this cold air tends to cool the pan.

Since the present surface burners are much smaller than the older-type burners, will the distribution of heat be uniform enough to produce good pan-broiled steaks, griddle cakes, etc.? The flame spread from the small burners will be as large as that from the large burners, because the flame is made to come out of the small burners at an angle in contrast to the vertical flames from the large burners. With either the large or small

burners the distribution of heat is satisfactory so that with either iron or aluminum skillets and griddles, good results can be obtained. It should be kept in mind that an aluminum skillet or griddle will give a more uniform distribution of heat than an iron one.

What is the advantage of a giant-sized burner? The principal advantage of a giant-sized burner is to accomplish a more rapid heating than can be had from the regular-sized burner. Usually a regular-sized burner is adjusted to use three-fourths as much gas as the giant-sized burner. When used with ordinary-sized pans such as those shown in the figures the giant burner is more expensive to operate, because there is greater loss of heat around the sides of the pan. The giant burner should be used only with pans as large as or larger than the stock kettle shown in Figure 9.

What is a simmer burner and what is the advantage of having one? A simmer burner is a small burner used for low heat when the regular burner cannot be turned low enough. In the older-type stoves, the simmer burner was a separate burner usually placed at one side of the stove, but with the recent stoves the simmer burner is placed in the center of the regular burner and operated as a part of the regular burner. Such burners are operated by a two-way gas cock such as the one shown at the left-front of Figure 1. Also in Figure 1 are to be found four types of simmer burners, namely burners 3, 5, 6, and 8. In burners 3 and 6 the simmer is a small circular burner in the center. The long, straight, light-colored bar on burner 5 is the simmer burner and in burner 8 the simmer burner is the prong which has its ports drilled in a staggered manner.

It is not necessary that all of the burners be equipped with a simmer burner, but it is preferable to have at least one simmer burner. The tendency of most people cooking with gas is to use a higher flame than is necessary to keep the water boiling. This is an unwise practice because it is wasteful of gas and produces a great evaporation loss. The water will be kept just as hot with a gentle boiling as with violent boiling. With many burners, with the flame turned as low as possible, so much heat is delivered that the water is kept violently boiling. In such cases the burner should be equipped with a simmer, for this burner can be turned low enough to produce a desired low heat. It has an especial advantage for long-time cooking processes where it is required to keep the liquid just boiling.

What are automatic lighters and what is their cost of operation? An automatic lighter system is an arrangement whereby the gas at the burner is ignited by simply turning on the gas. This arrangement is essentially a permanent pilot light located at one end of a tube called a "flash tube" and when the gas at the burner is turned on it flows down the lighting tube and the lighted gas travels back and ignites the gas at the burner.

The majority of pilot lights on automatic lighters are single flames which when burning are about one-half inch high. These flames will consume a quantity of gas which would cost from seventeen cents to twenty cents a month for continuous operation with the gas used in Lincoln,

Nebraska, which sells at $1.00 per 1,000 cubic feet for the first 3,000 cubic feet. This is somewhat higher than the cost of matches, but the convenience of the automatic lighter is well worth the slight additional operating cost.

Do automatic lighters always operate successfully and are they safe? When this lighter functions properly the gas at the burner will light within four seconds and under these conditions, this type of lighter is safe. A lighter system which requires a longer time than four seconds to light the burner is unsatisfactory and should be serviced before being used. It must be admitted that not all automatic lighters operate successfully. Usually the trouble can be traced to the manner in which the gas supplied to the flash tube issues from the burner. It would be well when choosing a stove to investigate with care the automatic lighter system to determine whether or not it works properly.

There is another feature about these lighters which might be considered unsafe and that is, if the pilot flame should temporarily go out, unburned gas would be admitted into the kitchen. This would be particularly serious in case the fuel were manufactured gas high in carbon monoxide.

Will the new type of burners clog when liquids boil over? No matter how careful a person may be, foods do boil over. Where the burner holes are drilled vertically, invariably the burner becomes clogged. This is true with the new burners as well as with the older types. If the burner holes are made in such a way that the boiled-over liquid cannot drop directly into the holes, the burner is not likely to clog. Referring to Figure 1, burners 1, 2, 3, 6, and 7 will not clog, while burners 4, 5, 8, 9, and 10 can be clogged.

Occasionally the lighter system is clogged also. This may happen when the flash tube at the burner is unprotected.

Should there be a removable pan beneath the burners which is large enough to hold anything which might boil over? There should be a drip pan beneath the burners and it should have a rim high enough so that the pan will hold all of the boiled-over liquids. It is only occasionally there is to be found a stove which is not so equipped. This pan should be removable to make it easy to clean.

In brief, what kind of cooking top shall I look for? The cooking top should be of the enclosed type of adequate size to accommodate several large-sized utensils at once. It should be easy to clean. The grates should be light-weight and sturdy and should make as little contact as possible with the top. The burners should be small in size to produce low operating cost with small-sized pans, but should give a flame spread that will produce uniform heating for large skillets and griddles. The burner should be close to the grate. The burners should not clog when liquids boil over. Burners equipped with simmers are preferable for long-time heating. There should be a burner tray or burner bowl around the burners to decrease the amount of cold air drawn in around the bottom of the utensil.

The cooking top should be furnished with a removable drip pan beneath the burners to catch boiled-over foods. Cooking-top burners should be in the center of the grate opening. The automatic lighters should be guaranteed to function properly.

PERFORMANCE OF OVEN AND BROILER

What factors determine good oven performance? The performance of the oven for good baking will depend upon the size and dimensions, the spacing of the rack supports, the accuracy of the heat control, the ability to preheat rapidly, the ability to maintain a low oven temperature, the kind and thickness of insulation, the fitting of the oven door, and the removal of the waste flue products.

What is a satisfactory size for an oven? By comparing various ovens used for baking six one-pound loaves of bread it has been observed that a satisfactory size is 16 inches wide, 14 inches high, and 19 inches deep. Most ovens approximate these dimensions. The majority of ovens are 16 inches wide, but there are a few on the market which have a width of 18 inches. Persons who have 18-inch ovens prefer them to the 16-inch, and for those who bake in large quantities the 18-inch oven would give better satisfaction. The height of the oven should be as near 14 inches as possible, because for smaller dimensions than 14 inches, crowding occurs under some conditions of a loaded oven. In order to accommodate most large-sized roasters such as those used for roasting a medium-sized turkey the oven should be at least 19 inches deep.

Are the oven racks sufficiently adjustable to effectively load the oven? Particular attention should be paid to the rack spacers. (Rack spacers are the strips of metal, fastened to the sides of the oven, upon which the racks rest.) It is a common fault with many ovens that there are not enough spacers so that racks can be placed in the middle of the oven. This is particularly serious when it is desired to load the oven—for instance, with six loaves of bread. Usually the racks have to be so placed that the bread on the lower rack touches the middle rack, or the bread on the middle rack touches the top of the oven. This is a point which is not often considered by prospective buyers.

Is the insulation used in ovens of real value? Insulation in an oven means more than just "sales talk." It is true that an insulated oven takes longer to preheat but to offset this it takes much less heat to maintain the oven at a constant temperature. In fact at 400° F. an insulated oven requires only 70 per cent as much heat as an uninsulated oven. The insulation helps to keep the kitchen cooler. This can be noticed by observing the difference in temperatures on the outside of an insulated oven and one that is not insulated.

The insulation should be loosely packed but firm enough to hold its position in the walls of the oven. Glass wool or rock wool in blanket form makes a very effective insulation. The insulation should never be packed in solid blocks, because in this form little use is made of dead air space

upon which effective insulation depends. To be really worth while the insulation should be at least 1¼ inches thick.

What is the effect of a poorly fitted oven door upon the performance of an oven? A poorly fitted door increases the operating cost, for considerable heat escapes through the cracks between the door and the frame of the oven. Contrary to some beliefs it is not necessary to have this crack for proper circulation of air in the oven. Such a thought is sometimes used as an excuse by the salesman to account for the manufacturer's negligence in construction. It might be thought that a poorly fitted door would affect the heat distribution in the oven but so far available evidence does not substantiate this view. To save heat, look for an oven with a tight-fitting door.

Why should I look for an oven that will maintain an oven temperature of 250° F.? Since the recommended methods of roasting meat have been radically changed during the past two years, it is essential that an oven should be so constructed that a temperature of 250° F. can be maintained for a period of from three to four hours. Until the past year, the temperature in most gas ovens would not go lower than 300° F. and with some ovens the lowest temperature that could be kept was 350° F. This inability of holding low oven temperatures was all due to the improper design of the gas burner in the oven. Since ovens have been insulated it has been necessary to change the design of the oven burner to operate properly with an insulated oven. Some few manufacturers have recognized this problem and are now building burners which will allow oven temperatures to be maintained as low as 250° F. when the oven is empty.[3] If one desires to bake at low temperatures she should have the dealer selling the stove guarantee that the oven will hold a temperature of 250° F. indefinitely when the oven is loaded.

Should I buy a stove equipped with an automatic heat control for the oven? The only legitimate reason for not buying a stove with an automatic oven heat control is the inability of the family budget to stand the added expense of the device. Accurate automatic heat controls have done more than all other late devices to improve baking results. It is essential that a heat control be accurate, that is, that the internal oven temperature will be that which is indicated on the heat-control dial. The principal advantage of the present gas heat controls is that a constant temperature is maintained. When the stove is installed, the service man should check the oven temperature with a suitable thermometer to make sure that the heat control is working properly. When this is done the person using the oven can be sure of proper baking temperatures.

How should the flue products in the oven be removed? The flue products are the products of the burned gas which come out of the vent at the back of the oven, together with the odors from the roasting meats and baking foods. It is not necessary, for the successful operation of the

[3] With a loaded oven the temperature can be maintained even lower than this.

stove, to have this vent connected with the chimney but it greatly aids in keeping the kitchen walls clean if such a connection is made. Such a pipe also keeps the heat that comes through the flue out of the kitchen. If it is impossible to vent the flue products to the outside, the gases and heat can be kept away from the kitchen walls by using a flue deflector. This is some form of a cap placed over the vent which will turn the flue products horizontally out into the room. Many stoves have flue deflectors as standard equipment.

What shall I look for in a broiler? The broiler is usually operated from the oven burner. To give the most convenience, the broiler compartment should be of the drawer type with a door which will drop down. This allows the broiler pan to be pulled out away from the flame so that the food can be adjusted without burning the hands. On some stoves, where there is a separate broiler burner, a swinging-door-type broiler is used. The broiler pan should be of the non-inflammable [4] type finished either in porcelain enamel, aluminum, or chromium plate. It should also be noticed whether the interior of the broiling compartment would be easily cleaned.

Briefly, what shall I look for in an oven and a broiler? The interior dimensions should be at least 16 inches wide, 14 inches high and 19 inches deep with adequate rack spacing to effectively load the oven. The oven should be insulated well enough to assure low surface temperatures, thus permitting a cool kitchen. With the oven loaded it should be possible to maintain a temperature of 250° F. for at least three hours. The oven should be equipped with an accurate automatic heat control. The oven door should fit tightly; the oven linings should be either porcelain enameled finish or of a rust-resistant material. It is preferable that the rack slides be removable for easy cleaning. To assure clean kitchen walls, the flue on the back of the oven should be equipped with a flue deflector unless the flue is attached to a chimney.

The broiler compartment should be of the drawer type or swinging-door type, either of which brings the broiler pan out when opened. The broiler pan should be of the non-spattering, non-inflammable type.

CONSTRUCTION

Should I choose a table-top, low-oven, or console model stove? Choice of the stove model will depend upon individual taste, the amount of space in the kitchen, and its position in the kitchen with respect to the light from the kitchen windows and artificial illumination. A table-top range is one with the top of the oven on the same level as the cooking top, such as shown in Figures 4, 5, and 9. A low-oven range is one with the oven located immediately below the cooking top. A console range is one with the top of the oven on a higher level than the cooking top—for example, notice Figures 2, 3, 7, and 8. The majority of the present stoves are of the table-top model, for they are more flexible in fitting into various

[4] A non-inflammable broiler pan is one in which a semisolid rack prevents the grease from catching fire.

arrangements than the console model. The low-oven range is customarily built without storage compartments and drawers. The advantage of the console model is that the oven is high enough that a person of average height does not have to stoop when putting food in and removing it from the oven. Also, with this model, the broiler is more conveniently placed when the oven burner is used as the broiler burner. On the other hand, there is a necessity of choosing a stove with either left or right hand oven. This might prove a disadvantage if it should be necessary to change the stove to another location than that for which it was purchased. Ultimately, the choice of the model will depend upon the individual's taste and the arrangement of the kitchen.

Are some stoves more sturdily built than others? The essential feature of the framework should be strength. Considering frames of equal strength, a welded angle-iron or pressed-steel frame will be lighter in weight than a cast-iron frame; and thus, as far as weight is concerned, the former two are to be preferred. Another reason for preferring an angle-iron or pressed-steel frame is that it is possible to break cast iron. A stove with welded joints will be more sturdy than one with bolted joints, for bolts become loosened. It will be found that the doors and drawers are more rigid on some stoves than on others. This can be detected by twisting the doors and drawers, but do it gently so that the porcelain enameled finish will not be broken. Another item which will show the construction of the stove is the thickness of the sheet metal used for the top, sides, etc. In general, it will be found that the higher-priced stoves have much heavier sheet metal than the cheaper ones. This may be observed on the top burner cover, when the stove is equipped with one. The heavier metal is preferable, because the porcelain enameled finish will be less likely to chip and break because of strain. In the majority of cases, the higher-priced stoves are somewhat sturdier than the cheaper stoves.

How can I tell before buying a stove if it will be easy to clean? The probable ease of cleaning can be judged by observing joints, inside corners, finish, and the removable parts. Constructions which allow cracks and corners in which grease and food might accumulate and be hard to remove, should be avoided. Also, on the cooking top, the gas cocks and the lighter assembly should be protected from spattering grease. All parts in the cooking top, the oven, and the broiler such as burners, linings, oven bottom, rack slides, etc., should be easy to get at and preferably removable to provide easy cleaning.

Porcelain enameled finish is to be preferred to a baked enamel (which is paint) or japanned finish on exterior stove parts. Oven linings should be porcelain enameled or rust-resistant, for when gas burns, water is one of the products formed. Also, in this connection, the oven grates should be rust-resistant. In brief, remember that it is easy for a gas stove to accumulate dirt and its construction should be such that it should be easily cleaned.

AMERICAN GAS ASSOCIATION APPROVAL SEAL

Of what significance is the American Gas Association approval seal? The American Gas Association approval seal is of vital importance, because it indicates that this model has been approved by the American Gas Association Testing Laboratory as having complied to their requirements of performance, construction, and safety. Only stoves having this seal should be purchased. The seal is a blue star surrounded by two circles and will be found on the company name plates of the stove. It bears the inscription—"American Gas Association—approved—complies with national safety requirements." Since these are a set of minimum requirements and no data relative to the results of the tests are available and a person can not know whether the stove ranked near the top of the list or just passed the requirements, it is important that the purchaser should also judge the stove on its own merits as outlined in the aforementioned questions.

APPEARANCE

When selecting a stove, how much thought should be given to appearance? This is an item that the individual will usually settle first and it should be given careful consideration. Appearance will be determined by the trimming, the color combinations, and the model of stove. The stove should not be considered alone but as a part of the kitchen. Its effect in the kitchen will depend largely upon the color of the enameled finish and the color combinations of the handles and trim. Many times such a small item as the wrong color in the handles can detract from the stove's appearance where, if the proper color combinations were used, the appearance of the stove would be pleasing. Probably the safest color to choose is white with black trim. At least this much thought should be given to appearance. Choose the color scheme with care and forethought, because in the ordinary family this stove will be used for many years before being replaced and it would be better to wait for a new shipment of stoves than to buy one which will not look well in the kitchen.

RATING CHART FOR GAS STOVES

Rate the stoves you are considering in the chart below. Count excellent, E; good, G; fair, F; and poor, P. A sample rating is shown in the first column. (The name of the stove is fictitious.)

Name of Stove:	Kookwell			
Price	79.50			
Adequate cooking top size	F			
Grate, light weight and well built	G			
Grates easy to clean	E			
Type of burner	G			
Burner will not clog	P			
Burner tray or burner bowl around burner	E			
Drip pan beneath burners to catch boil-overs	E			
Simmer burner	Yes			
Burner centered with respect to grate	Yes			
Type of cooking top	G			
Adequate rack spacing in oven	F			
Automatic oven heat control	Yes			
Insulated oven	Yes			
Flue deflector	No			
Oven dimensions	16x14x19			
Are oven dimensions satisfactory?	Yes			
Tightly fitted oven door	G			
Joints	G			
Easy to clean	G			
Conveniently placed oven and broiler	F			
Sturdy drawers	E			
Sturdy doors	E			
Sturdy gas cock handles	E			
Sturdy legs	E			
Sturdy cooking top cover	E			
Porcelain enameled finish	Yes			
American Gas Association seal	Yes			
Appearance	G			