1928

EC1131 The Fireless Cooker

Muriel Smith

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The principle of cooking food in a fireless cooker is not new. Many races have made use of the fact that if heated articles and foods can be well enough insulated to prevent the escape of heat, cooking may be made to continue without more heat. In the fireless cooker two plans are followed to secure results. First, the heated food is placed in the well of the cooker and the cooking finished by the retained heat. Second, heated stones are placed in the well under the boiling food and in this way a higher temperature is held for a longer time. The temperature in the fireless cooker will not increase, so there is no danger of food burning. Too much must not be expected of the homemade fireless cooker, for even in a well constructed commercial cooker a cooking temperature can not be held for more than about eight or ten hours. With good care and some planning, the homemade cooker may be made to serve successfully.

Aims in the Use of a Fireless Cooker

A fireless cooker should assure one or all of the following advantages:

First - A saving in effort, made possible because there is no need to watch or stir the food
Second - Meals made to include more of the well cooked, easily digested cereals
Third - More free hours for the homemaker because meals may be partly prepared in advance
Fourth - A saving of fuel
Fifth - The well of the cooker is an excellent place for keeping bread sponge at an even temperature and free from draft
Sixth - The insulation which keeps heat in will also keep heat out. The well of the cooker may be used to keep frozen desserts from melting and to keep cool beverages cool
Seventh - A fireless cooker of convenient size and shape makes it possible to take hot dishes to picnics, the field, or on long trips conveniently
Eighth - Since there is little or no evaporation, the best flavor may be retained in meats and fruits.

Kinds of Fireless Cookers

There are many good commercial cookers on the market. The quality of material, workmanship, and style of structure vary greatly, so that the old theory holds true, "The best quality is economy." The bucket type of cooker is small, light, and easily moved or carried. This cooker is usually most economical and may be used in taking warm food when driving some distance. The low box type of cooker is an inexpensive, serviceable device. The type of box cooker on legs will bring it up to a convenient working height, as they are found on the market, have many advantages. The various materials used in the construction of cookers vary in price and usefulness. The inside container of aluminum which is seamless is most satisfactory because it wears well and is easily cleaned. In the commercial cookers several devices are used for heating. Soapstones which are banded with aluminum or a metal ring which protects them may be purchased at prices of $1.00 to $1.50 and may be made to absorb a great deal of heat quickly. Where electricity is available the electric fireless
cooker is found popular and satisfactory. The one-hole hot stone commercial cookers range in price from $15.00 to $25.00. They are durable, easily cleaned and attractive when that amount may be invested. However, it is possible for any woman to possess a homemade fireless cooker. Depending upon the amount of available material about the home a cooker may be made with a cost of from 50 cents to $5.00.

Desirable Qualities of Fireless Cookers

1. Light weight for ease in moving.
2. An attractive, durable, easily cleaned outside case.
3. Inside container of rust proof, easily cleaned material.
4. Tightly sealing lid.
5. Good insulation.
6. Good heating stones.

Homemade Fireless Cooker

When it is impossible to invest in a commercial fireless cooker, but the many advantages are seen and realized, it is possible to have a homemade cooker at small cost with some work. The aim when starting to make this device would be to secure at the least cost an article which will serve with nearly the efficiency of the commercial cookers.

Suitable Materials to Use

1. Outside container
Any of the following will serve: - Wooden candy bucket, lard tub, lard can, well built homemade box, a galvanized pail, cheese box, small barrels or kegs.

2. Inside containers or well
Any of the following will serve: - An enameled or galvanized pail with tight fitting lid. A large tin can with lid; for example, a peanut butter can, lard can or a peck measure. Whatever the container be, it must be large enough to contain a stone, and the cooking kettle without much vacant space.
3. Cooking utensil.

The regular aluminum fireless cooker kettle is no more expensive than other aluminum cooking kettles. It serves other purposes and is by far the most satisfactory. A granite rail with lid, or a casserole crock placed in a rack to make it easy to take out, may be used.

4. Packing materials.

A quantity of shredded or crumpled clean newspaper is perhaps least expensive and most easily obtained. Excelsior is good, and sawdust may be used.

5. Outside fixtures and finishes.

Three or four casters placed on the bottom of the cooker tub or box makes a homemade cooker easy to move about the kitchen. Handles on two sides and lid, hinges on lid, may be used, or lid made to fit down into the container. Paint, varnish, or enamel make this useful piece of equipment look clean and attractive in the kitchen.

6. Miscellaneous articles.

- Sheet asbestos, 1/2 inch thick: 1 sheet
- Oil cloth to cover collar: 1 1/2 yard
- Muslin or denim for cushion: 1 1/2 yards
- White thread (No. 50): 1 spool
- Cotton cord: 1 spool
- Darning needle (large): 1 needle
- Heavy wire: 1 foot piece
- Clean newspapers: 1 spool

Directions for Making Fireless Cooker

1. Wash and dry a lard tub or candy bucket.
2. Make sure hoops, handles, and lid are satisfactory.
3. Place casters on bottom, if desired.
4. Line tub with sheet asbestos or heavy building paper.
5. Have ready to place in bottom of outside container a paper roll made as follows:
   a. Fold a daily newspaper in strips no wider than the columns of printing.
   b. Start forming a coil and with needle and strong cord overcast one layer to the preceding layer. Make roll nearly as large as base of tub.
6. Cut strip of asbestos as wide as the can or inside container is high, minus 1 inch for lid to lap down. Fit this asbestos strip to the can and make firm with asbestos cement. Cut circle of asbestos one inch larger than bottom of can.
7. Set asbestos covered can on circle of asbestos which was placed in center of paper roll.
8. Pack crumpled paper around can on all sides and up to within 1 or 1 1/4 inches of top, then bring extending building paper over crumpled paper to hold in place.
9. Cut collar of asbestos or heavy cardboard paper to just fit around can and inside of the tub container. This collar may then be covered with oil cloth to make it easier to keep clean.

A = diameter of well
B = diameter of outside container.

[Diagram of asbestos collar, stuffed cushion, and paper roll]
10. Make cushion for top. Secure 1 1/2 yards of white muslin, denim, or oilcloth-and cut as follows:
   a. Measure inside diameter of tub at top. Take cord 1/2 that diameter and make circle on paper the desired size as a pattern.
   b. Cut 2 circles this size from muslin, denim, or oil cloth.
   c. Cut a strip 3 inches wide and long enough to go around the circle.
   d. Sew strip to both circles leaving an opening of 4 inches thru which to stuff the shreded paper.
   e. Turn case to right side and stuff with shreded paper or excelsior.

CARD BOARD COLLAR

11. Make heating stone as follows:
   Cut circles from cardboard the size of stone desired which must be small enough to fit into the cooking well. Fit a 2-inch wide hardboard band or collar around the circle. Let this be strong enough to serve as a mold for the cement. Take equal parts of sand and cement. Take four cups sand and 4 cups cement with 1 1/2 cups water or until a stiff mush is formed to make a good sized stone. Mix the sand and cement, then add water. Pour the mush into the pasteboard form until half full. Have ready to place into the soft mush a screen wire, chicken netting, or long nails to serve as re-enforcement. Add the remainder of the mush. Make smooth on top with an indentation in center. Set in the indentation a small hook or eye by which the stone when hot may be lifted. Let this stand 48 hours or until it is hard. Remove the collar, place in cold water, and let boil for 30 minutes. Cool slowly.

General Directions for the Use of Cooker

The common criticism made of the fireless cooker is that foods cooked in them are often given a peculiar and similar flavor. This is not a fault in the construction of the cooker but happens only when it has not been given care by cleaning, airing, and drying. It is very important that the cooking utensils and the well of the cooker be carefully washed and allowed to stand open once a week in the sunshine if possible. It is necessary to leave the lid of the cooker partly open when not in use.

The fireless cooker is best adapted to certain kinds of dishes and foods, for which general suggestions are given below:

Cereals. It may not be necessary to use as much water when cooking in a fireless cooker as when cooking on top of a stove for there is little loss by evaporation. Each woman will need to try several measurements at first before she finds the best amount of moisture and the length of time necessary to secure the desired results. It is usually a good plan to cook cereals over night if possible. In cold weather enough may be cooked at one time for two or three breakfasts. Make the same as you would for cooking on top of the stove. Bring to a boil, stir, and let cook five minutes. Place lid on cooking utensil, place on the hot stone in well. Place lid on inner container, locate cushion, clamp lid on top tightly. To reheat in the morning will be as much as is needed to prepare it for breakfast. Chill the balance for keeping. Rice and cracked or whole wheat are especially good prepared in the cooker.
Vegetables. All mild flavored vegetables are successfully cooked in a fireless cooker. Cabbage, turnips, cauliflower, and onions need quick boiling with plant of circulation of air to take away some of the strong flavor, so for this reason are not as successfully cooked in a fireless cooker. In preparation of green vegetables, bring them to a boil in salted water. Let cook 5 to 10 minutes. Cover tightly, place on stone, and plan to let remain in the cooker 1 1/2 to 2 hours. Dried vegetables, beans, lima beans, and corn after soaking may be cooked easily in 6 to 8 hours.

Dried Fruits. A fireless cooker will be worth its cost to the housewife if she uses it for no other purposes than to cook dried fruits and cereals. They need long, slow cooking to produce a good, tender food. Wash, then soak dried fruit for 1 hour. Allow about 1 pint of water for 1 cup of dried fruit. Place on stove, let come to a boil. Add sugar desired and let boil ten minutes. Quickly cover, place in cooker on hot stone and let cook 4 to 6 hours.

Meats. Pleasing results may be secured when using a fireless cooker for corned beef, ham, tough fowl, or for Swiss steaks. They take a long time to prepare and are often omitted from the summer menus because of the heat necessary to prepare them. Prepare as for any other method of cooking, add water, boil rapidly 15 to 30 minutes, depending upon the meat used. Cover and allow 4 to 6 hours in the cooker.

**Itemized Account of Cost**

It is desired that each woman keep exact record of cost of cooker.

<table>
<thead>
<tr>
<th>Outside container</th>
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<tbody>
<tr>
<td>Tub</td>
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<tr>
<td>Casters</td>
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<tr>
<td>Handles</td>
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<tr>
<td>Lid and handle</td>
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<tr>
<td>Lid hooks</td>
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<tr>
<td>Paint and enamel</td>
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<tr>
<td>Hinges</td>
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</table>

<table>
<thead>
<tr>
<th>Inside container</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Can or pail with lid</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Packing and insulation material</th>
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</thead>
<tbody>
<tr>
<td>Asbestos, 1 sheet, 1/2 inch thick</td>
<td></td>
</tr>
<tr>
<td>Asbestos cement</td>
<td></td>
</tr>
<tr>
<td>Paper or excelsior</td>
<td></td>
</tr>
<tr>
<td>Oil cloth</td>
<td></td>
</tr>
<tr>
<td>Muslin</td>
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<table>
<thead>
<tr>
<th>Cooking vessels</th>
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</tr>
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<tbody>
<tr>
<td>Aluminum fireless cooker kettles</td>
<td></td>
</tr>
<tr>
<td>Granite pail with lid</td>
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</table>

<table>
<thead>
<tr>
<th>Heating stone</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td></td>
</tr>
<tr>
<td>Cement</td>
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</tr>
<tr>
<td>Hook</td>
<td></td>
</tr>
<tr>
<td>Wire lifter</td>
<td></td>
</tr>
<tr>
<td>Re-enforcement wire</td>
<td></td>
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</table>

**Total.**
Recipies

Swiss Steak

Pound as much flour into thick pieces of round steak as the meat will take up easily. Season with salt and pepper. Sauté until well browned on both sides. Cover with boiling water. Simmer for ten minutes. Put in fireless cooker with one stone for three hours. Remove, reheat, and serve.

Spanish Steak

Prepare in the same way as for Swiss steak. Sear in fat in which an onion has been browned. Cover the meat with strained tomatoes. Bring to a boil, put in the fireless cooker with hot stone for three hours. Remove, reheat, and serve.

Beef Stew

3 lbs. beef
4 T. fat
2 T. flour
1 onion
1 bay leaf
1 celery stalk
½ green pepper
Salt and pepper

Cut beef into 1 inch pieces. Sear in fat in which onion has browned. Add flour and mix until smooth. Add water and rest of the ingredients. Cook 7 minutes and then place in the cooker with one or two stones. Let cook 4 to 5 hours. Remove, reheat, and serve.

Baked Beans

2 c. beans
3 c. cold water
½ t. soda
1 t. mustard
1 T. minced onion
2 T. molasses
¼ t. pepper
Salt

½ lb. salt pork

Soak beans over night in water to which soda is added. Cook in the morning until the skins will slip off easily. Add remaining ingredients and put into cooker. Use two stones. Cook 6 hours.

Lima Bean Loaf

Soak 2 c. dry beans twelve hours or longer. Drain from water and boil in water to which a little soda has been added. Drain, cover with fresh salted water, and boil 15 minutes. Then place in fireless cooker and allow them to remain for four hours, or until tender. Drain again, saving the liquid. Chop beans and add one-third as many bread crumbs as beans. Moisten with a thick sauce made from the liquid, using for thickening the proportion 1/3 c. flour to 1 c. liquid. Season highly with salt and pepper and add 1 small onion chopped finely. Shape into loaf. Cover with bread crumbs and dot with butter. Bake one-half hour until brown, basting once or twice with melted fat. Serve hot with tomato sauce.

Tomato Sauce

2 T. fat
2 T. flour
1 c. broth or water
1 small onion sliced
1 c. tomato
Season to taste

Mix fat, add onion, and brown slightly. Add flour and continue to brown, stirring constantly. Then add tomato and broth, and season with salt and pepper. Simmer for ten minutes, strain and serve.
<table>
<thead>
<tr>
<th><strong>Apple Tapioca</strong></th>
<th><strong>Quantity</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4 c. pearl tapioca</td>
<td>1/2 t. salt</td>
</tr>
<tr>
<td>1 qt. cold water</td>
<td>1/2 c. sugar</td>
</tr>
<tr>
<td>6 apples, cored, pared, and sliced</td>
<td></td>
</tr>
</tbody>
</table>

Soak tapioca one hour. Add other ingredients and bring mixture to boiling point. Put in fireless cooker and allow to remain one hour. Serve with whipped cream - either hot or cold.

### Dried Fruit

General rules for the preparation of dried fruits for cooking are as follows: Wash quickly in several waters. Soak in cold water over night; this shortens the time of cooking and develops a better flavor. Cook in cooker in the water in which the fruit has stood over night. Add sugar to fruit, and cook a few minutes longer and serve.

### Fricasséed Chicken

Dress, clean, and cut up fowl. Put in kettle, cover with boiling water, cook 30 minutes. Place in fireless cooker until tender. Remove from water, sprinkle with a little salt and pepper, dredge with flour, and saute. Arrange chicken on pieces of dry toast and place on hot platter. Melt 3 T. butter, add 4 T. flour, and pour on gradually 1 and one-half cups stock. Just before serving, add 1/2 cup cream, salt and pepper to taste.

### Braised Rabbit

Cut rabbit into pieces for frying, rub each piece with salt and pepper, dredge well with flour and saute to a rich brown in fat. Remove meat from pan, add 3 T. flour and stir until brown. Add enough soup stock or hot water to make a gravy. Place the meat in a casserole, pour over the gravy and a cup of tomatoes, which have been well steved down and seasoned with salt, pepper, and a grated onion. Cover and place in fireless cooker. Serve in the dish.

### Creole Stew

1 lb. lean beef or 1 med. fowl | 1/2 c. rice |
| 2 c. tomatoes | 1/4 c. chopped onion |
| 1 c. carrots | 1 t. salt |
| 1 c. chopped sweet peppers | 1 t. fat |

Cut meat into small pieces. Melt fat, add onion, peppers, and meat. Put in cooking vessel with seasoning, rice, vegetables, and one cup boiling water. Simmer for one-half hour and put in a fireless cooker for three hours without the plates or two hours with them.

### Boiled Beef

Boil piece of beef, shoulder, or lower part of round, about 15 minutes over direct flame. Carrots, celery, and parsley may be added for seasoning. Put in fireless cooker with one hot stone and cook 3 hours. Reheat before serving.
The Homemade Fireless Cooker

"The harvest work was at its highest,
The men folks all were busy
When Emma donned her visiting gown
And left home a la Lizzie.

The noon hour came, the men went home;
It sure was very strange
No cook within that kitchen worked,
No fire was in that range.

A note laid on the table said,
"I'm sorry I'm not there
We women meet at Speeds' today
To make plans for the fair."

Upon the table Leigh found bread,
Butter and jell close by,
A cabbage salad well prepared
And luscious custard pie.

A piece of ham lay on a mound
Of beans - not hard as rocks,
And creamed potatoes piping hot
All came from the cheese box.

No time was lost by the hungry men
In getting round the table,
Nor did they cease to eat and eat
As long as they were able.

Then Leigh said, with a happy smile
"It does beat all creation
Since Emma took the Home Management Course
Each meal's a demonstration."

-Mrs. G. A. McMullen

(Prepared by Muriel L. Smith. Approved by Home Economics Department)