

If you use sour milk and soda, take a scant teaspoonful of soda.

Utensils. For shaping, use molding board, rolling pin, and biscuit cutter.

For baking, use an iron sheet or pan sprinkled with flour. Test the oven with a ten-second count or golden brown paper, in five minutes. This would be about 425° F. Bake from twenty minutes to half an hour.

How to make. Sift together the dry ingredients. Cut in or chop in the butter. Add the wetting slowly.

To shape. Dust the board with flour, turn out the dough, dredge with flour, pat into a firm mass, and then pat or lightly roll out to $\frac{1}{2}$ inch thickness. Cut out with a cutter dipped in flour. (A small glass or the top of a round tin can may be used.)

It saves time to mix the biscuit soft enough to drop from a spoon.

Variations. Add 1 egg. This makes a delicious biscuit. Sprinkle the top with granulated sugar, and spice. Dried currants, washed and dredged with flour, may be laid on the top.

Increase the butter to two or three tablespoonfuls and decrease the wetting; the mixture becomes *shortcake*. This is the mixture to use for the true strawberry shortcake. Many other fruits may be used, both uncooked and cooked.



Courtesy of Department of Foods and Cookery, Teachers College, Columbia University.

FIG. 81.—A plate of baking powder biscuit, light and baked well.

The class had learned how to grease their muffin pans and cups neatly, to fill each little pan or cup half full, and to bake them in a quicker oven than for loaf bread.

A table for baking will be found on page 296.

We shall not learn to bake properly until we have thermometers for our ovens; no other test can be exact. A good general rule in baking is this: with batters and doughs, the larger the portion, the slower the oven. A cooky can be baked in a "quicker," or hotter, oven than a muffin, and a muffin or small cake in a quicker oven than a loaf. Cakes that have many eggs in them, like sponge cake and angel cake made only with the whites, are more tender baked in a slow oven. The reason for this you will understand because we have studied the egg in Lesson 19.

On the day of the exhibit the quick breads were prettily displayed upon plates on a long table, and the recipes were written on the board. Miss Travers was there; but before she began her talk, the pupils themselves performed the experiments given in Marjorie's notebook, page 298, and gave little talks themselves about baking powder. One girl talked while another performed the experiment, and what they said was something like this:

Making quick breads light. We can do this, partly, by beating air into eggs and putting the eggs into the batter. In popovers the steam puffs up the crust. But why do we use sour milk and soda, or molasses and soda, or cream of tartar and soda, or baking powder?

Agnes Grovès will pour some boiling water on a mixture of cream of tartar and soda. See how it bubbles! If we catch the gas in a small bottle and touch a match to it, see,—the match goes out. It is carbon dioxide gas. Here is a saucer that held a teaspoonful of cream of tartar and $\frac{1}{2}$ teaspoonful of soda dissolved in water, and the water has evaporated. See the white powder left behind. It does not taste like the cream of tartar nor the soda; and you could never guess what it is! It is Rochelle salts; and so every time we eat a biscuit made light with cream of tartar, we take a little dose of Rochelle salts.¹

This is what the chemists say: whenever you put soda, or bicarbonate of soda, with an acid, this gas is formed, and some substance is left behind in the food,—one kind of thing from sour milk, another from cream of tartar, and so on. Some of the best baking powders are made with cream of tartar and soda with a little starch mixed in to keep the two substances from working on each other. An acid phosphate powder also is on the market.

The Mothers' Club and other guests were much pleased with the little talks and the experiments. Then Miss Travers was ready to answer questions. Here are a few of them:

Question. What kind of baking powder would you buy?

Answer. Not the cheapest, for they may have alum instead of cream of tartar, and too much starch or flour.

¹ Rochelle salts is a medicine.

Question. Is it cheaper to buy or to make the baking powder?

Answer. It may cost a little less to make it, but in the factory, where it is put up, everything is weighed exactly and thoroughly mixed; you get a better product and it is just as economical.

Question. Isn't quick bread just as wholesome as yeast bread?

Answer. Not when it is eaten just baked, and not for all the time.

Question. But people always want quick breads hot. What can you do?

Answer. Try reheating them. This makes the crust a little crisper, and the crumb drier, and less pasty to be digested. Then, this saves work at the time of the meal, often. If they seem too dry, moisten the crust a little before reheating in the oven.

Question. I used some canned molasses with soda for my gingerbread, and the bread was heavy. What was the matter?

Answer. Canned molasses has no acid in it, and you should use baking powder with it.

The exhibit was ended by serving the quick breads and simple cakes with cocoa for refreshment. Some of the biscuits were used for little shortcakes; that is, were split and filled with some fruit that the girls had canned. Thin baking-powder biscuit make very nice sandwiches to serve at any entertainment.

EXERCISES AND PROBLEMS

1. Try the experiments on page 298.
2. Explain how baking powder makes a batter light.
3. Explain why puffers *do* puff over.
4. Make tests with pieces of white paper, and paste them in your cook book, with the time against each one.
5. Explain why an oven for cookies can be hotter than for a loaf.

LESSON 21

THE KITCHEN

How can we make the kitchen comfortable and pretty, pleasant to work in for breakfast, dinner, or supper?

One warm, pleasant day, when the girls' club had its meeting at Marjorie Allen's home, one of the members who went into the kitchen to help make the lemonade, exclaimed:

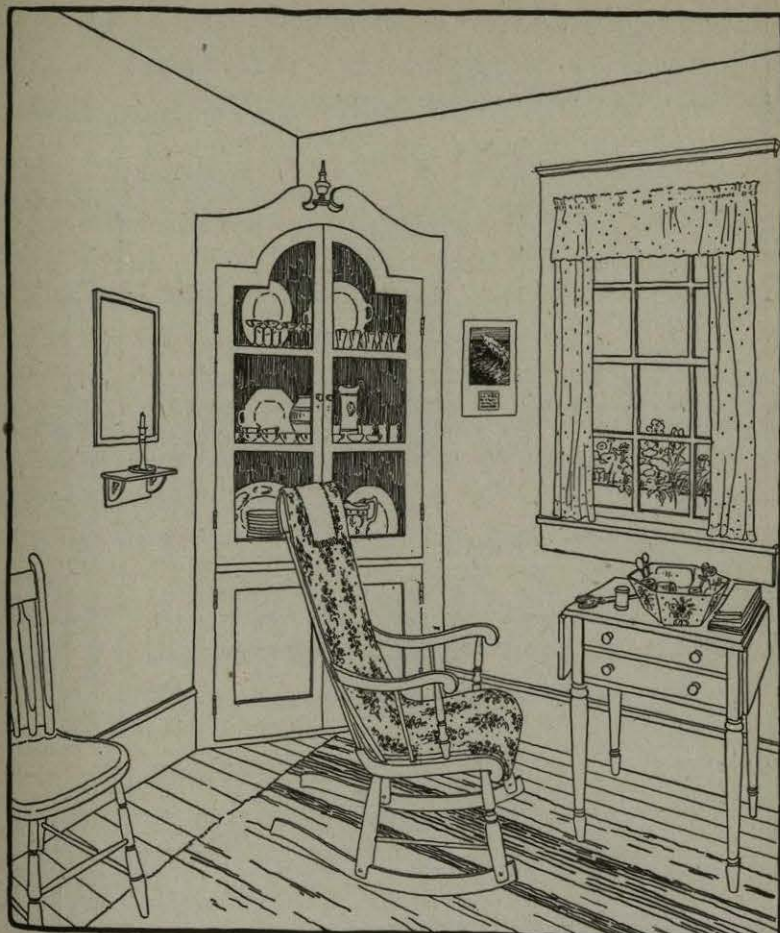
"Isn't this the pleasantest room in the whole house?"

Is our own kitchen at home so comfortable and attractive that our friends can say something like this?

The Pleasant Valley girls had the chance to furnish a kitchen, beginning with the walls and floor, in the Ellen H. Richards House (page 289); but at home we seldom can do so much as this. However, if we have a plan, we can do one new thing at a time, and make changes slowly. If our kitchen is small, it saves steps; if it is large, it is airy; and in either case we will make the best of it.

"**May-haves**" and "**must-haves**" in the kitchen. We *may have* the kitchen pretty and we *must have* it clean; and it ought to be convenient in saving steps and in making the work easier to do.

A pretty kitchen. Marjorie Allen persuaded her mother to let her help plan the doing over of the kitchen. They put a soft shade of buff paint on the wall, because paint is cleaner than paper; and the



Drawn by La Mont A. Warner.

FIG. 82. — "Isn't this the pleasantest room in the whole house?" A corner of Mrs. Allen's kitchen.

floor was painted brown. Mrs. Allen had made a braided mat, in the winter days and evenings, of soft brown and buff with a touch of blue in it. There was a

dull blue-and-white cushion in a rocking chair, and some old-fashioned blue-and-white dishes on the shelf. The window shelf at the south window held some plants; and they planned to have a vine outside this window for shade in summer.

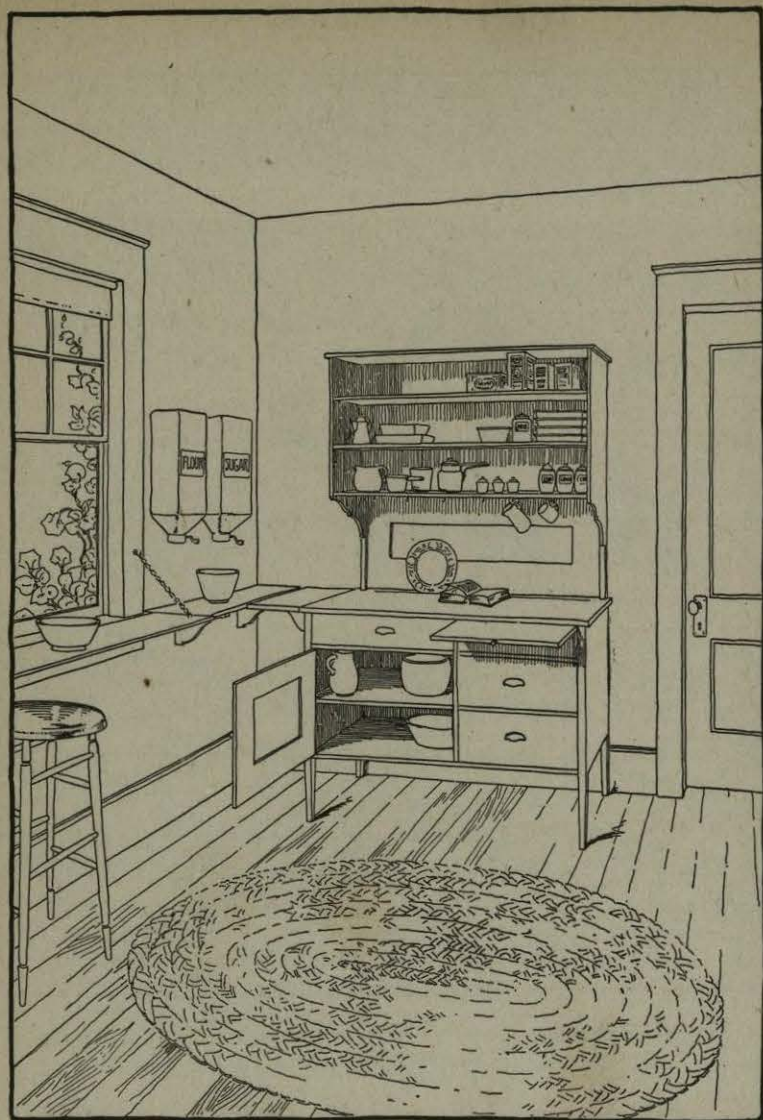
A clean kitchen. In speaking of beauty, we are not able to leave out the thought of having things that are easily cleaned, you see. A woven "rag," or braided, mat can be taken outdoors, scrubbed with a brush and soapsuds, and rinsed with clear water thrown on from a pail or hose; or can be washed in a tub.¹ It is a good rule to have nothing in any part of the kitchen that is not washable.

The floor. It may be smoothed off, and painted or oiled. A floor covering that is expensive at first, but that lasts for many years, is an inlaid linoleum or cork carpet; it is warm and soft to the feet, keeps out damp, and is easy to keep clean. This is something for which to save up money, if you believe in cleanliness and comfort. Begin with having it in the pantry. Let it lie on the floor to stretch from use for a month or two; then cement it along the edges. This ought to keep out mice and ants.

The walls. Paint is the very cleanest and best finish. It costs less in the end than paper because it lasts longer.

The sink. Whatever the sink is made of, have it open underneath. This is the only way to be sure that

¹ Rag rugs and strips are in fashion again. Mollie Stark's grandmother makes them for her friends.

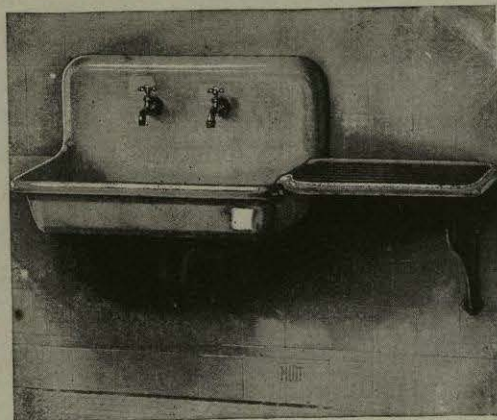


Drawn by La Mont A. Warner.

FIG. 83. — Another corner of Mrs. Allen's kitchen. Mrs. Allen made a braided mat in the winter days.

it is really clean around the sink. If there is a closet underneath, it may be damp, and we may "tuck away" things, and then feel too tired to clean the closet out.

Here is a picture (Fig. 84) of a sink hung from the wall. This is made of enameled iron. If the sink is hung in this way, it can be placed high enough so that Mother's back is in proper position. On page 136 is a



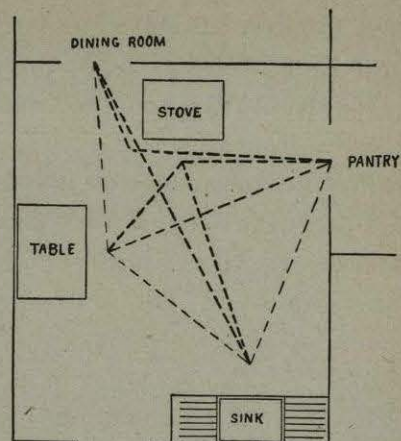
Courtesy of J. Mott Co.

FIG. 84. — An enameled iron sink hung from the wall.

picture of a sink that is too low. When the sink rests upon legs, these come of a standard height, inconvenient, and harmful for tall people. If you have a wooden sink, plan to change it for something else as soon as you can. Plain iron is better than wood.

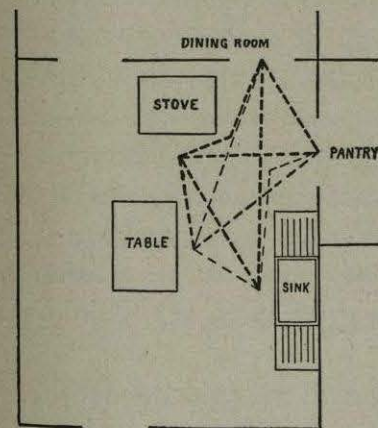
Saving steps. One day, after school, Marjorie Allen with a foot rule in her hand began to follow her mother round the kitchen, measuring her footsteps behind her, instead of helping with the supper as usual. Then she

drew a plan of the kitchen, with lines to show where and how far her mother walked in getting supper, like Fig. 85. Mrs. Allen was amused at first, but, when Marjorie told her how many miles she traveled a year, she was interested; and after supper, they all sat down to calculate what could be saved by changing some things in the kitchen. All the girls had been reading at school the bulletin about



U. S. Department of Agriculture, Farmers' Bulletin, No. 607.

FIG. 85. — A large kitchen with inconvenient arrangement.



U.S. Department of Agriculture, Farmers' Bulletin, No. 607.

FIG. 86. — The same kitchen has been improved.

the Home Kitchen;¹ and, although Miss James warned them not to trouble their mothers that night by turning the kitchen "topsy-turvy," they could hardly wait until Saturday to try some change. See if you can save steps by changing movable things about at home; of course, if your mother is willing.

¹ See U. S. Department of Agriculture, Farmers' Bulletin, No. 607.

A kitchen cabinet. You are fortunate if you have a large and well-aired pantry for keeping food; but it saves time and strength to have some materials at hand all the time.

When Marjorie began to talk about buying a cabinet, her brothers decided to make something that would do nearly as well. Figure 83 shows what they did in the way of putting shelves around the kitchen table. The flour and sugar are near by, you see; and all the little things, too. Then they put casters on another smaller table, and nailed on strips of wood around the top. This was for running dishes and food in and out of the dining room, kitchen, and pantry; for their rooms were large.

Cooking utensils. For good work you need a few well-selected utensils. Enameled ware and aluminum are among the more expensive kinds, but both are serviceable. Steel or iron are materials that wear well and are useful in frying pans especially. There is nothing better than a well-worn iron spider which has become perfectly smooth from years of use. If you have one of these that you think of throwing away because the under part is encrusted with a black covering, give the pan a thorough boiling in a solution of lye, washing soda, or soft soap, and then keep it among your kitchen treasures.

Water in the kitchen. John Stark said on another day: "Father, I want to talk to you seriously. What would you think of going without the addition to the barn another year, and having a force pump in the cellar



Courtesy of New York State College of Agriculture at Cornell University.

FIG. 87. — For good work you need a few well-selected kitchen utensils.

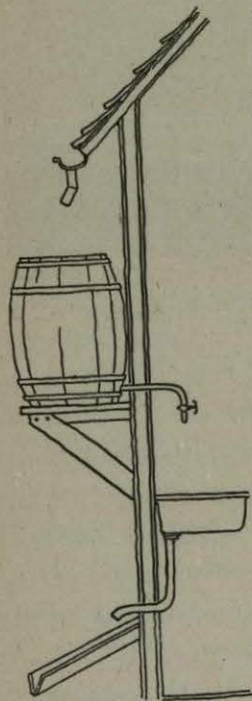
so that mother can have hot and cold running water in the kitchen, and we all can have a bathroom?" What do you think his father said? He was a little doubtful about the school where they studied such things; then he remembered that at the Farmers' Institute he had heard another farmer talk about just this thing. And what did he do? He wrote to the State University and asked for advice about water on the farm. They gave him some practical help, and now the Stark home has a good water supply.

Running water, what a blessing! If you have a spring of good water on high land and the water can be piped into the house, you are wealthy. Sometimes, several neighbors can do this together. Happy is the

small town that has a pure supply and can pipe it into the village!

What are some simpler methods that can be used on the farm?

Here is a drawing (Fig. 88) of what one family did in Pleasant Valley. When crops fail, and business is poor, we cannot put in expensive water-works. As the water in the Groves' well was a little hard for washing, they always had rain barrels for water from the roof, being careful to let the rain wash off the roof before it was turned into the barrels. This picture shows what Mr. Groves devised one day when the family was talking about saving steps. He ran a short pipe into the kitchen from the barrel, with a spigot on the kitchen end of the pipe. The pipe was arranged so that the barrel could be taken off and down to be cleaned. Also there was a netting over the top of the barrel. Why? To keep out mosquitoes, of course. This plan does not work in a very dry summer, but Mrs. Groves found it a help, and so she had another one put by the shed where the washing was done in warm weather. The next step was



*Drawn by La Mont A. Warner,
Teachers College, Columbia
University.*

FIG. 88. — Mr. Groves put up a rain barrel to catch water from the roof, and ran a short pipe into the kitchen from the barrel.

a cemented rain-water cistern, with a pump in the kitchen.

A tank in the attic. More convenient still is a water tank in the attic, with a good hand pump that pumps the water from a well or cistern. One tank of this kind needs many strokes a day to keep it full, but the family prefer this exercise to carrying water in and out in pails. A windmill or a steam pump is the next advance in way of improvement, and electricity is best of all. Perhaps, some day, we all can have it.

Some other ways of saving strength. Machines in the kitchen save just as much as machines for farm work. We have seen pictures of the bread machine, and of the Dover egg beater. A meat chopper, screwed to the table, is quick to use and easy to wash. There are some things for sale that are foolish to buy, — like an egg opener that an agent carried about Pleasant Valley one day. But there are many useful devices that you want to plan to buy, when you know that they



Year Book of Department of Agriculture, 1914.

FIG. 89. — A water system with a windmill furnishes running water to the house and barns.

are good. You can have some problems in arithmetic and physics that will help you to understand why a machine is a saving.

EXERCISES AND PROBLEMS

1. Examine a Dover egg beater. Count the cogs on the large wheel and the small. How many times will one turn of the large wheel turn the small wheel? The handle turns the large wheel, and the small wheel the blades. How many "beats" will the white of egg have in the bowl for one turn of the handle?

Beat the white of a fresh egg in a bowl with a fork, until the white is so dry that you can turn the bowl upside down, and count the number of beats as you work.

Now, here is your problem. How many beats do you save if you use the Dover?

2. The Pleasant Valley home-making class studied the working of a pump and a "windlass" for a well, in their Physics, to find out how they worked. Suppose you do.

3. Mr. Stark put in a windmill to pump water into a tank for the house and barn and garden. How does the wind pump water?

4. Draw a plan of your own kitchen at home, like the one in Fig. 85. Can steps be saved?

REVIEW

1. Do you like the same breakfast in summer as in winter? Why not?

2. Can you tell why a farmer takes a more hearty breakfast than a man who works in an office all day?

3. Give three different ways of making coffee. Which way would you prefer to use for breakfast?

4. What are some meat dishes that are not expensive and are easily prepared for breakfast?

5. Is there any reason for cooking cereals?

6. How do you want your oatmeal cooked for breakfast?
7. What is polished rice?
8. In what ways have you seen rice boiled?
9. Do you know any way to use rye and corn products as food?
10. When eggs are plentiful, how can you preserve them for use in the winter?
11. Tell how you will have eggs cooked differently every morning for a week.
12. If you want to raise eggs to sell, what things about eggs will you remember?
13. Do you know how to make popovers?
14. What makes quick breads light?
15. Can you make any suggestions for saving steps in the kitchen?
16. Plan a kitchen that can easily be kept clean.
17. How may one have running water in a kitchen?
18. What machine for saving strength would you like to have in a kitchen?