

ERRATA AND ADDITIONS

- Page 22. Starch belongs to the carbohydrates.
- Page 25. Asparagus, to prepare: Scrape white stalk end, wash, and tie in bundles.
- Page 25. Celery: Wash, scrape outside stalks, tie stalks in bundles or cut in two-inch pieces.
- Page 32. Sugar belongs to the carbohydrates
- Page 39. Under "Composition": About 87 in every hundred parts of milk are water.
- Page 44. Under "Yeast:" 1/28000 should read 1/2800.
- Page 34. Divinity Fudge: Instead of "soft ball" read "hard ball."
- Page 50. Sultana Scones: "1½ tsp. lard" should read "1½ tbsp.," "1½ tsp. butter" should read "1½ tbsp."
- Page 50. Nut Loaf: "2 cups milk" should read "1½ cups milk."
- Page 66. Fish Pie: Read "brown" for "broken."
- Page 66. Fish Cakes: Egg and breadcrumb, or flour, and fry. See pages 65 and 68
- Page 75. Instead of "Beef Steak Pudding." at end of page, read "Beef Steak Pie," page 57.
- Page 91. Mocha Icing: Instead of "1½ tsp. strong coffee" read "1½ tbsp."
- Page 104. Under Liquid Diet, "a weak cup of tea" should read "a cup of weak tea."
- Page 129. Cost of Electric Stove, \$75 to \$100.
- Page 134. Cost of Tablespoons should read "\$33.00 per dozen."
- Page 150. "Hearache" should read "headache."

Page 130:

DUST

Dust consists of finely powdered earth, mineral matter, rocks, dead skin, hair, and other matter given off by people, animals and vegetable life, minute particles from clothing, pollen from plants and trees, dried and powdered excrement from animals, dried sputum from expectoration, smoke, gases, and the products from factories and chimneys.

There are also in the air molds, yeasts and bacteria. These are living organisms which grow and multiply quickly in dust, especially when moisture and warmth are also present. Some bacteria are harmless, others carry disease and are therefore dangerous.

Dirt and molds destroy property. In order to preserve health and property from dust, bacteria, yeasts and molds, fresh, dry air, sunshine and cleanliness are necessary.

DIRECTIONS FOR MEASURING INGREDIENTS

- (1.) Be accurate to ensure success.
- (2.) Take all measurements **level** with edge of spoon or cup.
- (3.) To halve the contents of a spoon, divide lengthwise.
- (4.) Measure dry ingredients first, then liquid, making the one cup do for all.
- (5.) The cup used is a 10 cent tin cup with straight sides, divided into thirds and quarters. It holds an imperial half-pint. A glass tumbler with straight sides has about the same capacity, also a breakfast cup, but since the sides of a cup are not straight it is not accurate for measuring portions of a cupful.

TABLE OF WEIGHTS AND MEASURES

3 Teaspoons	- - - - -	= 1 tablespoon
20 Tablespoons	- - - - -	= 1 cup
4 Tablespoons of flour	- - - - -	= 1 oz.
2 Tablespoons of butter	- - - - -	= 1 oz.
1½ Cups of butter	- - - - -	= 1 lb.
¾ Cup flour	- - - - -	= ¼ lb.
¾ Cup flour	- - - - -	= 1 lb.
4 Cups breadcrumbs	- - - - -	= 1 lb.
2 Cups granulated sugar	- - - - -	= 1 lb.
3 Cups icing-sugar (unsifted)	- - - - -	= 1 lb.
2½ Cups brown sugar	- - - - -	= 1 lb.
3 Cups (scant) of sultanas or currants	- - - - -	= 1 lb.
1 Cup molasses	- - - - -	= ¼ lb.
1 Square Baker's chocolate	- - - - -	= 1 oz.

ABBREVIATIONS USED IN THESE NOTES

tblsp.	- - - - -	tablespoon
tsp.	- - - - -	teaspoon
f.g.	- - - - -	a few grains, that is less than ¼ of a teaspoon
lb.	- - - - -	pound weight
oz.	- - - - -	ounce

GIRLS' HOME MANUAL

OF
COOKERY
HOME MANAGEMENT
HOME NURSING
AND
LAUNDRY

BY
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THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA

*ISSUED UNDER THE AUTHORITY OF THE MINISTER OF EDUCATION
FOR BRITISH COLUMBIA*

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THIS BOOK IS IN GRATITUDE
DEDICATED TO
MRS. MARGARET JENKINS
WHOSE INTEREST, SYMPATHY AND HELP HAVE DONE SO MUCH TO FURTHER THE
HOME ECONOMIC MOVEMENT IN BRITISH COLUMBIA.

PREFACE

All subjects worth study have had books written upon them. It is only of late years that "home-making," upon which the health of the individual, the family, and the nation depends, has apparently been thought worthy of scientific study.

On investigation, it was found that only a small percentage of housekeepers possess any library bearing on their work, with the exception of an occasional cook-book and manufacturers' sample cook-books.

This Manual was prepared in the hope that girls, not only at school, but in after life also, may find it helpful in making them more efficient in the noble art of "home-making."

The various experiments, necessary in teaching cookery, to illustrate the food principles in different foods and the action of heat and moisture on these, are not included in the book, but are left to the individual teacher, as girls would not be likely to perform such experiments except at school.

The book covers a three-years course in Household Science.

ANNIE BESSIE JUNIPER.

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GIRLS' HOME MANUAL OF COOKERY, HOUSE MANAGEMENT, HOME NURSING AND LAUNDRY

COOKERY

KITCHEN EQUIPMENT

THE KITCHEN should be the first room furnished, since the health of the inmates of a home depends upon the efficiency of the work done there.

- (1.) Buy what is absolutely necessary.
- (2.) When there is a choice, buy the article easiest to keep clean.
- (3.) Arrange a convenient place for everything.
- (4.) Make walls, floor, and furniture as dust and waterproof as possible.
- (5.) Make some improvement each year to save labour and strength.
- (6.) Hammer, screw-driver, cup-hooks and tacks may do much to lighten the work of the cook.
- (7.) A kitchen should be clean, convenient, artistic, and pretty.
- (8.) The windows and door of a kitchen should be screened to keep out flies.

The equipment, with prices, which follows at end of book, may seem to some people large, but no workman can do good work without proper tools. Frequently the living rooms and bedrooms of a house are furnished first, and what money is left, a small sum generally, has to be enough for kitchen requirements, and too often the housewife suffers from a lack of necessary utensils, which affects her strength and the efficiency of the work.

CHAPTER I.

A STUDY OF COMBUSTION

Cooking is the application of heat to food. To cook food heat is necessary, also oxygen and moisture. The oxygen is found in the air; the moisture is found in the food, or is added to it.

Heat is produced by the vibration of matter upon matter. For cooking purposes heat is obtained by combustion.

Combustion, or burning, is produced by the union of oxygen in the air with carbon in some substance, such as paper, wood, coal or oil.

Fuels are those substances which contain quantities of carbon the burning of which produces heat.

Kindling Point. Before combustion can take place the fuel has to be raised to kindling point, that is, the state when it will readily ignite with the oxygen of the air. Kindling point is produced by means of matches, very slight friction of the phosphorus end of a match causes it to ignite and unite with oxygen, thus combustion is started. Combustion will only take place when oxygen is present.

HOUSEHOLD FUELS

Paper. This quickly burns and with matches is used to start combustion.

Wood. Soft wood makes the best kindling. Hard wood lasts the longer when once alight. Local cost per cord.....

Hard Coal, called anthracite, yields little gas or smoke, but burns long and gives much heat and is clean to use. It is expensive. Cost per ton.....

Soft Coal yields more gas and smoke than hard. It is sold in large or small lumps. It quickly ignites, but is somewhat dirty. Price per ton.....

Coke is imperfectly burnt coal. It is not often used in the kitchen.

Charcoal is imperfectly burnt wood. It quickly ignites and gives an intense heat. It is often used to light hard coal fires.

Oil is the cheapest fuel, but on account of its nature is somewhat unpleasant to use.

Alcohol is expensive to use in large quantities. It is highly inflammable, but smokeless.

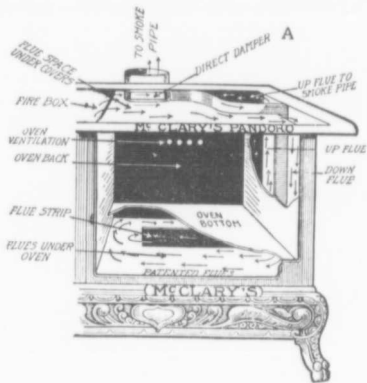
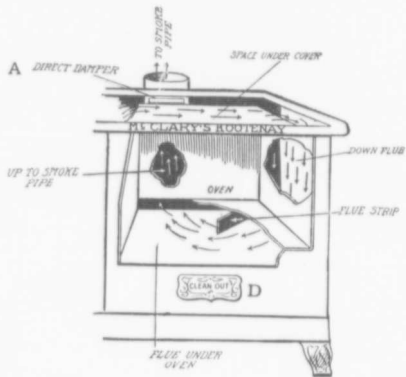
Coal Gas yields heat very quickly. It is easy and clean to use, but dangerous if allowed to escape unburnt. At \$1.00 a thousand feet it is not an expensive fuel.

Electricity is equal to gas in convenience and it has no smell, neither is there danger of explosions. It does not yield heat as quickly as gas. It should cost from three to four cents per kilowatt to be equal to gas at \$1.00 per thousand feet.

THE KITCHEN RANGE

The kitchen stove is an iron box, preferably set on legs to make sweeping under it possible. The fuel used is wood or coal, occasionally coke or charcoal. Some stoves are constructed so that coal, wood, or gas may be used. One of

DIAGRAMS OF STOVES, SHOWING COURSE FLAME TAKES



the best ranges is made of malleable iron. This requires no blackleading but is rubbed with oil.

FIREBOX. Position usually to one side of stove. This holds the fire.

Construction. (1.) The sides and back are lined with firebricks or other fireproof material. These are easily renewed. (2.) The bottom is formed by a movable iron grate; to this may be attached an iron shaker to clear burnt ashes from the fire. (3.) The front is formed by a door which opens to admit fuel. Below the firebox is a space which allows air to reach the fire, underneath is the movable ash pan which receives the ashes.

Caution. Replace firebricks whenever they become broken or worn out. Remove clinkers daily from sides of firebox.

OVEN. This is a box, often covered with asbestos, having a space between it and the stove at the **top, one side, and bottom.** One side is adjacent to the firebox, and the back of oven is adjacent to the back of stove. The front of the oven is formed by a door. Heat from the firebox passes over the top of oven, down one side, under the oven, and finally escapes into the stove pipe, which opens into space below oven. Between the bottom of the oven and bottom of stove is a projecting piece of iron stretching two-thirds across bottom of oven, which causes the heat to circulate well round the whole bottom of oven before it escapes into stove pipe. The top, sides and space under oven must be kept clean.

SMOKE PIPE. At the back of the stove is a pipe connected with the chimney. It extends to the bottom of the oven. Into this pipe, either at the opening above or below the oven, all smoke and gas escapes to the chimney. This pipe regulates the supply of heat and air, besides carrying off smoke and gas.

DAMPERS

NAME	POSITION	USE
A		
Front or Side Damper	Below Firebox either in front or at side of stove.	Open wide when fire is started or to make fire draw up quickly at any time. Close almost, when fire burns well.
B		
Oven Damper	Between chimney and top of oven. A handle near the front of stove regu- lates this.	Open to make fire draw up. Close to heat oven by sending flame over, around and under oven.
C		
Check	There is usually one in chimney and sometimes one near top of firebox.	Open to let in cold air on fire to check combustion. Close if a hot fire and oven are required.
D		
Soot Door...	Under oven in front or sometimes under firebox.	Open to rake out ashes and soot from side and bottom of oven.

CHAPTER II.

FOOD AND COOKERY

Food is that which, taken into the body, builds up its tissues or yields heat and energy. The body like everything else in this world is made up of single substances, called elements. From 15 to 20 elements are found in the human body, and these must therefore be found in food. The most important and most abundant of these elements are: oxygen, hydrogen, carbon, nitrogen, calcium, phosphorus, and sulphur. The elements are not found singly in the body, but are formed into chemical compounds by the vegetable, mineral, and animal kingdoms, and thus reach the human body as food.

Food Nutrients. The most important compounds which reach the human body through foods are proteins, fats, carbohydrates, mineral matter and water. These are the nutritive constituents, or **nutrients**, of food. All foods, as we know them, are made up of one or more of these nutrients, and the use of a food to the body depends upon which of the nutrients it contains.

Digestion. Food after it is eaten has to undergo certain chemical changes to become of use to the body. The changes are known as the digestion of food.

CLASSIFICATION OF FOOD NUTRIENTS

ORGANIC

INORGANIC

Food Nutrients					
Proteins	Carbohydrates	Fats	Water	Mineral Matter	
Elements					
Carbon	Carbon	Carbon	Hydrogen	Sodium	Phosphorus
Hydrogen	Hydrogen	Hydrogen	Oxygen	Potassium	Sulphur
Oxygen	Oxygen	Oxygen		Calcium	Chlorine
Nitrogen				Magnesium	Silicon
Sulphur				Iron	Fluorine

Chief Uses to the Body

Proteins	Carbohydrates	Fats	Water	Mineral Matter
1. Build and repair tissues.	1. Provide energy and maintain heat.	1. Provide heat and energy.	Is found in all the tissues.	1. Provides building material for bones, teeth, and nails.
2. Provide heat, but at greater cost than fats and carbohydrates.		2. Build up fatty tissue if taken in excess.	1. It moistens and dissolves food.	2. Is necessary for the blood.
		3. Lubricate the internal organs.	2. Quenches thirst.	3. Aids digestion.
			3. Keeps the blood a liquid.	
			4. Cleanses the body and enables it to get rid of impurities.	

Examples of Foods Rich in These Nutrients

Proteins	Carbohydrates	Fats	Water	Mineral Matter
Milk	Sugars	Cream	Found in all	Found in most
Lean of Meat	All starchy	Butter	foods, espe-	animal and
Eggs	foods, that	Fat of Meat	cially fruits	vegetable
Cheese	is, cereals	Oils	and veget-	foods.
Wheat	and some	Nuts	ables.	
Oatmeal	vegetables.			
Legumes				
Nuts				

Average Weight of Body in Nutrients

18 per cent. 1 per cent. 15 per cent. 60 per cent. 5 to 6 per cent.

Cellulose, pectin and gums may be classed with the carbohydrates.

Pectin is a jellying substance found in many fruits when not fully ripe. It is developed by cooking.

Cellulose forms the framework of all fruits and vegetables. It is only digested when very young, otherwise it does not become permanently a part of the body, but it acts as ballast to the intestines and helps to prevent constipation.

VEGETABLE AND FRUIT ACIDS

Tartaric (from grapes), citric (from lemons and tomatoes), malic (from apples), oxalic (from rhubarb, tea, and cocoa-powder), and acetic in vinegar, are found either free or **combined with salts**, especially potash.

These appear to be necessary to keep the blood pure and to prevent "scurvy."

MINERAL SALTS

Sodium chloride, or common salt, is contained in all foods in sufficient quantities. It is found in the various fluids in the body.

Potassium is necessary for the blood. Found in green vegetables and fruit, dried peas, beans, potatoes, parsnips, etc.

Calcium, or lime, is more important for children than adults, for the growth of bones and teeth. Found in milk, hard water, eggs, cereals, radishes, spinach, peas and beans.

Magnesium is also found in the above foods.

Iron is required for the blood; a lack of it occurs in "anaemia." Found in beef, egg yolk, oatmeal, lentils, wholemeal flour, rice, potatoes, spinach, peas, beans and prunes.

Phosphorus is a very important building material; it is necessary for all growth and for the nervous system. Found in meat, yolk of egg, milk, fish roe, germ of wheat

CONDIMENTS OR ACCESSORY FOODS

Accessory Foods. Flavorings, spices, pepper and condiments of all kinds are not necessary to health, but their flavour excites the appetite and so aids digestion by causing a good flow of digestive juices.

Tea and coffee are not necessary to health, but they act as stimulants and satisfy to some extent the desire for food. When milk or sugar are added to them they are made nutritious.

DAILY AMOUNT AND KIND OF FOOD REQUIRED

Age, build, sex, occupation, climate and season all affect the amount and kind of food a person needs.

Babies should be fed on milk and milk preparations for the first ten months of their lives. A doctor should be consulted as to the feeding of a baby.

Children require more food proportionally (not in amount) than adults; they need food rich in protein and mineral matter for tissue building, such as milk, eggs, bread, oatmeal, fruits, vegetables, and some meat. Rich pastry, rich cakes, rich desserts, highly seasoned sauces, pickles, tea coffee and iced drinks are not suitable or wholesome foods for children.

Men and Women at active muscular work require more food than those at sedentary occupations.

Old People require less food, about the same amount as children. Their diet should contain less protein and more carbohydrates proportionally.

Mixed Diet

Health cannot be maintained by any one of the nutrients alone. A diet needs to be mixed in order to get the proper balance of the elements. A diet also needs bulk. This is provided by fruits, vegetables and cereals. After the body has extracted the nutrients, there are waste products from the food, and waste products from the body cells, which the blood carries off. All these have to be sent off from the body to prevent disease. Water, mineral matter, fruit and vegetables all help in this work.

STANDARD DIETARY

Required per day by an adult:

Proteins	-	-	-	-	-	-	3 to 4½ ounces
Fats	-	-	-	-	-	-	2 to 3 ounces
Carbohydrates	-	-	-	-	-	-	14 to 18 ounces
Water, about 5 pints, 2 of these are taken in solid food							

DIGESTION

Digestion is the name given to those changes which food must undergo in the alimentary canal before it can pass into the blood stream and become of use to the body.

The Alimentary Canal consists of the mouth, gullet, stomach, small and large intestines. The liver secretes bile and the pancreas secretes pancreatic juice, both of which are poured into the small intestine.

Absorption. Only after digestion is food absorbed into the blood stream. A mixed diet is absorbed best, one which leaves a moderate amount of unabsorbed material to act as a ballast to stimulate the intestines and prevent constipation.

Assimilation. All food is carried to the tissues by the blood. The veins carry blood from the stomach and intestines rich in food materials. The veins unite to form one large vein called the portal vein, this carries the blood to the liver where it undergoes further changes, the sugar being stored up as glycogen, a reserve fuel food. Blood leaves the liver by a vein called the inferior vena cava, which carries it to the right side of the heart. The heart pumps it to the lungs where it receives fresh oxygen and gives off impurities. The blood then returns to the left side of the heart which pumps it all over the body. Each cell takes from the blood which comes to it that which it needs to do its work, and gives back to the blood waste products the result of work.

Organ	Digestive Juices	Changes Which Food Undergoes	Absorption into Blood Stream
Mouth	Saliva secreted by the salivary glands, an alkaline fluid.	The teeth and tongue break up the food and mix saliva with it. Saliva changes the starch to sugar unless acids are present.	None.
Gullet	None.	Food is swallowed; passes down the gullet into the stomach.	None.
Stomach	Gastric juice, secreted by the stomach, an acid fluid.	Changes some of proteins into soluble peptones. Changes cane sugar to grape sugar. The food becomes a semi-fluid in the stomach.	Peptones, sugar and salt in small quantities are absorbed by the blood vessels in the lining of the stomach. Water is not absorbed to any extent in the stomach.
Small Intestine	Bile sent from the liver. Pancreatic juice secreted by the pancreas and sent to the intestine, an alkaline fluid. Intestinal juices secreted by the intestines.	Emulsifies fats. It finishes the work left undone by the saliva, gastric juices and bile. Food in the small intestine is a fluid.	Water, sugar, salts, peptones pass into the blood vessels in the lining of the intestines. The fats pass into the lacteals and thence into the blood.
Large Intestine	Intestinal juices secreted by intestine.	Probably the coarser and undigested portions of food are to a small extent further changed and absorbed. The food becomes more solid owing to absorption of water.	Water and probably a small quantity of food is absorbed. Solid, indigestible matter is expelled from the body by the rectum, the end of the large intestine.

SUMMARY

The Uses of Food to the Body

- (1.) It satisfies the cravings of hunger and thirst.
- (2.) It builds up growing tissue.
- (3.) It repairs waste tissue worn out by movement.
- (4.) It provides heat and energy.

In providing food three points must be considered:

- (1.) The needs of the individual and the foods that will best supply those needs.
- (2.) The way to prepare such food that it may be appetising and easily digested and assimilated.
- (3.) The cost relative to its value.

CHAPTER III.

Cookery is the art of preparing food for the body.

The Reasons for Cooking Food.

- (1.) It develops new flavors and so makes some food more appetising.
- (2.) It makes some food more digestible.
- (3.) It kills harmful germs in food.
- (4.) It preserves the food.

METHODS OF COOKING

Boiling is cooking food by covering it with boiling water and keeping it at a temperature of 212° F. Meat, fish, and eggs are placed in boiling water and the water is then reduced to 180° and they are then cooked by simmering. See chapters on those foods.

Roasting is cooking food by the rays of heat radiating from a hot open fire, or gas flame. A tin reflector at the back of food concentrates the heat. See rules for roasting or baking under Meats.

Broiling is roasting on a small scale. Broiling is done over a fire or flame. Small meat and fish are broiled.

Baking is cooking food by the heat radiated from the sides, top and bottom of a heated oven.

Pan Broiling is cooking food in a hot fry pan, the fat of the article cooked being the only grease used.

Frying is cooking in the heat of fat at a temperature of 350° to 400° F. The fat must cover the food. See note on deep frying.

Sauteing is cooking food in a very small quantity of fat. Food so cooked is apt to be greasy.

Steaming is cooking food in the steam coming from fast boiling water. See note under Steamed Puddings.

Braising is a combination of stewing and baking. See rules for stewing. The stew is put in a covered vessel and cooked in the oven the last part of the time.

Foods to Which the Different Methods of Cooking Are Suitable

- Boiling.** Puddings, vegetables, sauces, candy.
- Simmering.** Meats, fish, eggs.
- Roasting.** Tender meat, game and fowl.
- Broiling.** Chops, steaks, and small fish.
- Baking.** Tender meat, game, fowls, fish, pastry, cakes, puddings, potatoes
- Deep Frying.** Fish, rissoles, croquettes, cutlets, fritters, doughnuts.
- Sauteing.** Small fish, steaks, griddle cakes, pancakes, reheating cooked potatoes, etc.
- Steaming.** Salt meat, fish, tough fowls, root vegetables, cereals.
- Braising.** Tough parts of meat, game and fowl.
- Pot Roasting** is practically the same as braising.

Oven Temperatures

White paper will colour in 5 minutes in a hot oven.

White paper will colour in 1 minute in a very hot oven.

Directions for Cleaning up After Cooking

Have boiling water ready.

- (1.) Put away neatly all materials used.
- (2.) Scrape dishes and remove garbage.
- (3.) Collect, sort, and pile soiled dishes. Soak utensils used for flour or egg mixtures in cold water. Fill greasy saucepans with hot water, add a small piece of washing soda and place on stove until ready to wash. Burnt utensils should be boiled with soda water until burnt food is loosened.
- (4.) Wash with hot water and soap; begin with the cleanest articles.
- (5.) Rinse in hot water, drain and dry. Put tins on cool part of stove to finish drying to prevent rust.
- (6.) Put articles away in proper places.
- (7.) Clean knives and polish bright utensils.
- (8.) Wash, rinse and dry wash-up pan, drainer, dish-mop and towel.
- (9.) Scrub, rinse and dry pastry board, rolling pin and table.
- (10.) Wash, rinse and replace rinse pan, scrub brush and scrub cloth.

Note. Use as few utensils as possible and avoid an accumulation of soiled utensils.

CHAPTER IV.

BEVERAGES

WATER, if pure, is a transparent, tasteless, odourless liquid, made up of two gases, two parts of hydrogen and one part of oxygen (H_2O). **Source:** rain snow, hail, rivers, lakes, ponds, springs and wells. **Nature:** Water has the property of dissolving many substances with which it comes in contact. These may be harmless or harmful. Unless it is certain that water is from a pure source it should always be boiled before being used as a food. Boiling kills harmful bacteria.

Effect of Heat on Water. Water expands when heated and eventually turns to steam. Water simmers at 180° Fahrenheit, that is when bubbles appear at the edges of the vessel in which it is heated. Water boils at sea level at 212° F., that is when big bubbles rise and break all over the surface.

Amount of Water Needed per day. Two-thirds of the body weight is water. About five pints daily are needed to keep up the supply. Of this about two pints are taken in solid food and three as liquid, either pure or in milk, soups or beverages. Frequently too little water is taken. A tumbling first thing in the morning and last thing at night helps to prevent constipation.

TEA AND COFFEE

Tea and coffee are beverages, and not food, strictly speaking, unless milk and sugar are added.

TEA is the young leaf of a shrub called *Thea*. **Black tea** is the leaf fermented and cured. This tea comes from India and Ceylon. **Green tea** is prepared from unfermented leaves and comes from Japan. **China tea** makes a paler infusion, has a delicate flavour, and is less astringent, therefore better to use. **Caution:** Buy good tea, as it goes farther than cheaper kinds. Keep tea closely covered or it loses flavour. **Adulteration:** Tea is sometimes adulterated by the addition of old used leaves dried.

COFFEE is made from the seeds of the coffee tree. The seeds are washed and dried before being exported. They then need to be roasted and ground shortly before being used. Roasting develops the flavour. Coffee is grown in Brazil, Central America, Java and Arabia. **Caution:** Buy freshly roasted coffee berries in small quantities and grind at home just before using. If ground coffee has to be bought, sufficient to last a week only should be purchased. Keep coffee in a closely covered tin. **Adulterations:** Coffee is often adulterated by the addition of chicory, which is the root of the endive plant. It is cheap. Some people prefer a little chicory in coffee. Ground cereals, peas, and beans are also sometimes added to ground coffee. **Test for chicory:** Chicory sinks in cold water and discolors it. Coffee floats in cold water.

COCOA AND CHOCOLATE are prepared from the cocoa bean seed. The seeds are dried and roasted to develop flavour; then the shells are removed and the cocoa nibs ground by hot rollers. This melts the fat known as cocoa butter, much of which is removed. The cocoa is left as a solid cake, which is ground. Chocolate has less of the fat removed and usually sugar and a little cornstarch, or arrowroot, are added to it. Cocoa and chocolate are rich in fat and contain some proteins, carbohydrates and mineral matter. Cocoa is a food as well as a beverage, and when made with milk is very nutritious.

General Composition.

	Tea	Coffee	Cocoa
Stimulating property	Thein	Caffeine	Theobromine (Smaller quantity)
Flavour and scent	Volatile oil	Volatile oil	Volatile oil
Astringent	Tannic acid	Tannic acid	Some tannin
Food nutrients...	None	None	Some fat and carbohydrates

Effect on Body

Tea, coffee and cocoa all act as nerve stimulants and remove the sense of fatigue, especially tea and coffee, which are stronger. In large quantities tea and coffee produce sleeplessness and retard digestion. If tea or coffee are long made, large quantities of tannic acid are in the infusions. Tannic acid hardens all animal tissues and hinders digestion.

TEA

Ingredients.

Individual

1½ cups boiling water.
1½ tsp. tea.

For Five People

5½ cups boiling water.
4 tsp. tea.

Method. Heat and scald a china or silver teapot with boiling water and empty. Put tea in strainer, pour on freshly boiling water, cover and infuse from 3 to 5 minutes in a warm place. Never allow tea to boil. Remove leaves and serve very hot with sugar and milk or cream, or sliced lemon.

Caution. If tea is allowed to boil or to stand long on the leaves, the tannin, which is harmful, is drawn out in large quantities.

COFFEE

Filtered Coffee for Five People

¾ cup ground coffee.
4½ cups boiling water.
1½ cups scalded milk.

Heat a coffee pot with strainer, or use a jug with strainer or cheesecloth. Put coffee in strainer, pour over boiling water, leave to filter in a warm place. Pour off half a cup and return it to the pot. Serve with hot milk. Pour milk in cups before coffee.

Boiled Coffee for Five People.

¾ cup ground coffee.
4½ cups boiling water.
1½ cups hot milk.
¼ cup cold water.

Method. Scald coffee pot, empty and put in coffee. Heat one minute to develop flavour. Add freshly boiling water, boil three minutes. Stir and pour out half a cup to clear spout, then return it to pot. Add the cold water, which, being heavier, carries coffee grounds to the bottom. Leave in a warm place for five minutes to settle. A whole or half egg, with shell, may be mixed with the coffee grounds and a little cold water, before adding the boiling water. The egg enriches the coffee and helps to clear it.

COCOA

For each cup of Cocoa allow:

- $\frac{1}{2}$ measuring cup hot water.
- $\frac{1}{2}$ measuring cup milk.
- 1 level teaspoonful cocoa (Baker's).
- 1 tablespoonful hot water.
- i.g. salt.

Put milk and hot water on to boil. When boiling stir in cocoa and salt mixed to a liquid with hot water. Whisk with Dover beater, and boil three minutes. Serve hot with sugar. A teaspoonful of whipped cream on top of a cup of cocoa improves and enriches it.

Iced Cocoa. Make in the usual way and chill with ice. This is refreshing in hot weather.

CHAPTER V.

FRUITS

Classification. Fruit, as bought, is either fresh, dried, or preserved in syrup. Fruit may also be divided into two classes, thus: Flavour and Food Fruits. Flavour fruits contain over 85 per cent. of water and are chiefly refreshing; ex.: melon, peach, orange. Food fruits contain 20 per cent. solids and are more nutritious; ex.: bananas, figs, dates, raisins. Nuts are also fruits, but in are in a class by themselves.

General Composition of Fresh Fruit.

Fresh fruit contains from 80 to 90 per cent. water and only a small proportion of solids, of which the chief are carbohydrates, mineral matter combined with acids, and cellulose. Bananas and dried fruits such as dates, figs, raisins and prunes contain less water and more nourishment in proportion. Many fruits also contain pectin, a jellying substance. It varies in quantity in different fruits. It resembles the carbohydrates in food nutrients. The flavour of fruits is due to an essential oil; this makes them appetising.

Value in Diet. Fruits are chiefly valuable on account of their mineral matter combined with acids, which helps to keep the blood pure and the skin clear. The sugar and water in them are useful foods. The cellulose, or framework of fruits, helps to prevent constipation. Fruits stimulate the appetite and so aid digestion.

Digestibility. Fruits (nuts excepted) are fairly easy to digest, if ripe, but the hard fruits are very difficult to digest. The peel of fruits should always be removed, as it is indigestible. Uncooked pineapple contains a ferment which digests proteins.

Effect of Cooking Fruit. Cooking softens the cellulose of fruit and makes it more digestible. Cooking also develops the pectin. Fruit, if fully ripe, is best eaten raw, and may be eaten with advantage before breakfast or between meals.

General Rules for Cooking Fruit.

(1.) Wash all fruit before serving. Remove stalks and bruised parts from fruit to be cooked.

(2.) Wash and then soak dried fruit in cold water overnight, and cook in the water used for soaking.

(3.) Put prepared fruit in stewpan with water to prevent burning; cover and cook **slowly** in oven or on the stove until fruit is nearly tender, then sweeten.

(4.) To fruit juice add white or brown sugar, one part sugar to three parts of juice, but the acidity of the fruit must be remembered. Stir until sugar dissolves, boil the syrup and cook fruit a few minutes longer. Serve with juice on a deep glass or china dish.

Sugar loses one-third of its sweetness if cooked for long with acid fruits. If fruit is preferred cooked in syrup, make syrup first by bringing to a boil and boiling for five minutes; 1 cup sugar and 1 cup water for sour fruits and less sugar for sweet fruits.

NUTS

Nuts really belong to the fruits. Nuts are a very valuable food and contain much nutrition in a small compass.

General Composition of Nuts.

Nuts contain only from 4 to 5 per cent. of water and are rich in all food nutrients. They contain as much protein as meat and more fat than any food except oils, butter, and fat of meat. They also contain some carbohydrates, mineral matter and cellulose.

Food Value. Nuts are rich in protein, and contain large quantities of vegetable fat; they are, therefore, used as a substitute for meat in a vegetarian diet. The chestnut is probably the most valuable, and almonds and walnuts rank next.

Digestion of Nuts. Nuts are somewhat difficult to digest owing to their close, firm texture and large proportion of fat. Nuts should be well masticated, or they may be put through a nut or meat chopper. They should always have the tough brown skin next to the flesh removed. Nut butters are a valuable food.

FRUIT RECIPES

Baked Apples.

(a.) To each large apple allow:

1 or 2 tbsp. sugar according to the acidity of the apple.

Flavour if necessary with:

3 drops of lemon juice and a little grated lemon rind,
or a little grated nutmeg, cinnamon or 1 clove.

$\frac{1}{4}$ cup water.

Wipe and core apples, peel after coring if preferred pared. Put apples in a baking dish, fill centres with sugar and flavouring, pour over the water. Bake in a hot oven until tender. This takes from 30 to 45 minutes. Baste frequently with the syrup. Serve either hot or cold.

(b.) Apples are sometimes wiped and placed on a baking tin without sugar, water or flavouring. Bake in a moderate oven and serve dusted with castor sugar. The core gives flavour to the apple.

Compote of Apples.

7 medium sized apples.	juice of $\frac{1}{2}$ lemon.
1 cup sugar.	yellow rind, in thin strips, of $\frac{1}{2}$ lemon.
1 cup water.	

Bring sugar, lemon rind and water to boiling point, boil five minutes. Wipe, core and pare apples. Remove rind from syrup and put in the apples. The syrup must cover apples. Cook gently without breaking until tender. Remove fruit whole on to a dish. Stick each apple with strips of blanched almonds. Reduce the syrup by boiling a few minutes longer, add the lemon juice, colour pink with a little cochineal and pour syrup around apples. Fill centres of apples with whipped cream.

Stewed Prunes.

1 lb. prunes.
1 cup brown sugar.
rind and juice of 1 lemon.

Wash prunes well. Soak overnight in cold water with the lemon rind, cook in this same water next day very slowly until tender. Remove lemon rind, add

the lemon juice and sugar and cook five minutes longer. Serve with or without liquid custard or other milk pudding.

Dried apricots, peaches, plums and figs may be cooked in the same way.

BANANAS

Sound, ripe bananas may be eaten raw but are more easily digested by some people if cooked. Buy green and store until yellow.

Baked Bananas.

Bake in their skins on a grid in hot oven, as for potatoes, from 12 to 15 minutes, according to size.

Boiled Bananas.

Boil in water to cover from 5 to 7 minutes.

Serve both boiled and baked bananas immediately they are cooked. Serve with skins on. They should be eaten with a fork. Bananas are more nutritious than either apples or oranges.

CHAPTER VI.

CEREALS

Cereals (from Ceres, goddess of corn) are cultivated grasses used for food. The fruit, or seed, is eaten. It contains nourishment for the young plant. Cereals, especially oatmeal, are a particularly valuable food for growing children.

Cereals and Their Products.

Wheat. Cracked wheat, flaked wheat, wheatlets, hominy, flour, macaroni, vermicelli, spaghetti.

Oats. Oatmeal, rolled oats, Quaker oats.

Rice. Whole or puffed rice, rice flour.

Corn. Cornmeal, flaked corn, cornflour (known as cornstarch).

Barley. Whole or flaked.

Rye. Flour.

Buckwheat. Flour.

Cereals used as breakfast foods are sold in various forms:

- (1) **Whole or ground**, ex.: rice, cornmeal, oatmeal.
- (2) **Partly prepared and cooked**: rolled oats.
- (3) **Prepared and fully cooked**: flaked cereals, shredded wheat.
- (4) **Prepared, malted, and ready to eat**: grape nuts.

The prepared and ready to eat cereals save labour and cooking and make a pleasant variety, but they are more costly than the ground cereals. There is no more nutritious porridge than that made with oatmeal.

General Composition of Cereals.

Cereals are richest in carbohydrates; they contain from 65 to 75 per cent., and average about 10½ per cent. protein. They contain varying amounts of fat and vegetable matter and some cellulose.

Value in Diet.

- (1) Cereals are a cheap food, easily grown and nourishing.
- (2) They contain those foodstuffs required by the young to make strong bones and muscle; they provide heat also, especially oats.
- (3) Oats are richest in protein and fat; wheat comes next. Corn and rice are richest in carbohydrates.
- (4) All cereals contain a high percentage of mineral matter. Cereals are best eaten with other foods rich in fat and protein.

Effects of Cooking.

- (1) The grain swells and absorbs water.
- (2) The cellulose is softened, the starch is cooked, making the grain more digestible.
- (3) The flavour is changed and improved.

CEREAL RECIPES**Quantities and Methods of Cooking Cereals.**

Use 1 cup oatmeal to 4 cups water.

Use 1 cup rolled oats to $1\frac{3}{4}$ cups water.

Use 1 cup cornmeal or cream of wheat to $3\frac{3}{4}$ cups water.

Use $\frac{1}{2}$ teaspoonful salt to each cup of water for all grains.

Method. Stir vigorously whilst sprinkling coarse grains into boiling salted water, stir and cook five minutes. Then cook in a double boiler, without stirring, from 1 to 4 hours, or overnight. People's tastes differ as to the length of time they like oatmeal porridge cooked. Fine, granular cereals are first mixed to a liquid with twice as much cold water as cereal used, add this to the boiling salted water, stir and cook five minutes and finish by cooking 30 minutes in double boiler.

Serving. Serve porridge with cold or hot milk, or cream. Dates or raisins may be added to porridge, especially cream of wheat. Sliced bananas or other fruit are also served separately with porridge.

Boiled Rice.

2 quarts water.

1 cup rice.

$\frac{1}{2}$ tablespoon salt.

Look over rice to detect chaff, wash it well and add slowly to fast boiling, salted water. Boil quickly 12 to 15 minutes. Test a large grain; it should be soft, but slightly firm. Pour rice into a strainer, pour over boiling water to separate the grains; return to the saucepan and dry at the back of range with the lid off, or place strainer in oven with the door open. Stir rice with a fork whilst drying to keep the grains separate. Serve as a vegetable or with curry, or with stewed fruits.

Steamed Rice.

1 cup rice.

1 tsp. salt.

4 cups (about) boiling water.

Examine rice and wash well, sprinkle slowly in fast boiling, salted water (use top part of double saucepan). Stir with a fork and boil 3 minutes, then place over boiling water, cover and steam from 45 to 60 minutes. Serve as a vegetable or sweet, or with cheese. Half milk and water may be used if preferred.

CHAPTER VII.

STARCH

Source. Starch is found in most vegetable foods, particularly in cereals and potatoes. Laundry starch is prepared from rice, wheat, Indian corn, and potatoes. Cornmeal is prepared from Indian corn; arrowroot, the purest form of starch, from the stem of a West Indian plant; tapioca from the roots of a South American plant; and sago from the pith of the sago palm tree. Rice is 76 per cent. starch. Animal starch is found in some meat and fish, ex.: liver of meat and oysters.

Nature. As seen under a microscope, starch powder is made up of minute grains, each starch grain consists of layers of cellulose and layers of pure starch. These grains differ in size and shape in different plants. They are held together by a cellulose framework.

Food Value. Starch is a valuable food. It provides heat and energy, and is a cheaper fuel food than fat, and yields its heat more quickly. Starchy foods should be eaten with food rich in protein and fat, such as eggs and milk; ex., rice pudding.

Effects of Cooking. Starch is insoluble in cold water, this merely separates the grains and prevents lumping. Sugar or butter will separate them also. When boiling water is poured on the grains, they swell up and burst the cellulose envelope and the true starch escapes from between the layers of cellulose and forms with the water a thick, jelly-like substance. The cellulose is also softened. If dry heat be applied to starch, it changes it to dextrine, a gummy substance more digestible than starch. This is what occurs on the crust of a loaf of bread.

Digestion of Starch. Cellulose and raw starch are incapable of digestion, therefore it is very important that all foods containing these should be thoroughly cooked either in boiling liquid or by dry heat, and that time should be allowed for the heat to reach the centre of such starchy foods as potatoes. All starch must be changed into sugar by the digestive system before it is of use to the body, and unless thoroughly cooked the digestive system cannot make this change.

Sauces for Vegetables and Fish.

No. 1. Thin Sauce.	No. 2. Medium Sauce	No. 3. Thick Sauce.
1 cup hot liquid.	1 cup hot liquid.	1 cup hot liquid.
2 tbsp. flour, or	3 tbsp. flour, or	4 tbsp. flour, or
1½ tbsp. cornstarch.	2 tbsp. cornstarch.	2½ tbsp. cornstarch.
2 tbsp. butter	2 tbsp. butter	2 tbsp. butter
¼ tsp. salt.	¼ tsp. salt.	¼ tsp. salt.
f.g. pepper.	f.g. pepper.	f.g. pepper.

The liquid used may be milk, milk and water mixed, water from vegetables, or stock from meat or fish. The cornstarch makes a clearer sauce than flour when water is used.

Method. Heat liquid first and return to cup. Melt butter, when bubbling add flour or cornstarch with seasoning, stir and blend well. Remove from over fire, add the hot liquid gradually, stirring all the time. Return to fire, stir and boil 3 minutes.

Note: For a brown sauce, the butter and flour must be browned before the liquid is added. These need careful watching to prevent the flour and butter from burning. Dripping may be used instead of butter with brown stock.

For a cheaper sauce, omit the butter, mix the flour to a liquid with a little cold water and stir into the boiling liquid and finish as above. A small piece of butter added to this sauce when cooked enriches it.

Flavouring. A little vinegar, Worcester sauce, chopped parsley or pickles may be added for fish sauces.

Sweet Sauces.

- 1 cup hot water, milk, or milk and water mixed.
- 1½ tbsp. cornstarch or 2 tbsp. flour.
- ¼ cup sugar.
- 2 tbsp. butter.

Use only one of these flavourings:

- 1 tsp. vanilla.
- 1½ tbsp. lime juice.
- 2 tbsp. lemon juice.
- one-tenth tsp. nutmeg or other spice.

Heat the liquid and return to cup. Mix sugar and cornstarch together in saucepan, stir and add slowly the hot liquid. Stir and cook over fire, boil three minutes. Remove from fire and mix with it the butter and flavouring. Serve in a hot sauce boat or jug.

CHAPTER VIII.

VEGETABLES

Classification.

Green Vegetables. Ex.: lettuce, cabbage, spinach, nettles, leeks.

Legumes or Pulses. Ex.: peas, beans, lentils.

Roots and Tubers. Ex.: carrots, turnips, potatoes, Jerusalem artichokes.

Fruits. Ex.: tomatoes, cucumbers.

Flowers. Ex.: cauliflower.

Fungi. Ex.: mushrooms.

Belonging also to the vegetable kingdom are cereals, fruits and nuts.

Composition and Value in Diet.

Vegetables contain:

(1.) A small amount of protein, except peas, beans and lentils, which contain much.

(2.) Much water, from 73 to 96 per cent.; the pulses contain less.

(3.) Mineral salts, which help to keep the blood pure and assist in building muscle and bone.

(4.) Carbohydrates in the form of starch or sugar, sometimes both.

(5.) Very little fat or oil, except nuts, which contain much.

(6.) Cellulose, which is a carbohydrate by nature. This is the framework of vegetables, which encloses the starch grains and other nutrients. In old vegetables it becomes thick, hard, woody and indigestible. When young and thoroughly cooked it forms a useful bulk in the body. It stimulates and hastens the movements of the intestines and so helps to prevent constipation.

(7.) A volatile essential oil which gives each vegetable its own peculiar flavour.

Green vegetables as a whole contain much water, hardly any protein or fat, and but very little carbohydrate. Their nutritive value is therefore low. They are useful for two reasons: they help to prevent constipation, and they contain valuable mineral salts.

Peas, beans and lentils are very nutritious because of the large quantity of protein they contain.

Root vegetables and tubers are much richer in carbohydrates than green vegetables and therefore more nutritious.

Digestion of Vegetables. Vegetables are not, as a whole, easily digested. Cauliflower is the easiest to digest. All vegetables are easier to digest if quite fresh; if stale they are very likely to ferment in the body and give rise to flatulence. Thorough cooking is necessary to soften the cellulose; partly cooked vegetables are very indigestible.

General Rules for Cooking Vegetables.

(1.) Remove those parts which are decayed or not edible.

(2.) Wash the vegetables, scrub roots and tubers except beets.

(3.) Root vegetables, unless freshly gathered, need to be soaked in cold water from fifteen to sixty minutes to restore moisture. Soak dried pulses overnight.

(4) Prepare as follows:

- (a.) **Potatoes:** scrub and peel thinly, or cook in skins.
 (b.) **Carrots and parsnips:** scrub and scrape off the thin skin.
 (c.) **Turnips:** scrub and peel thickly.
 (d.) **Beets:** wash carefully. Take care not to break the skin. Cook in their skins. When cooked, rub skin off.
 (e.) **Onions:** peel under water. **Leeks:** remove roots and part of green tops.
 (f.) **Cabbage and cauliflower:** remove outer circle of leaves. Cut a cabbage in four at stalk end. Soak in salted water one hour.
 (g.) **Spinach and nettle greens:** remove brown leaves. Wash well in salted water.
 (h.) **French beans:** remove a small piece at either end and with it the coarse skin from each narrow side. Slice each bean in three or four slanting pieces.
 (i.) **Peas:** shell.

(5) **Cooking.** Put all fresh vegetables into boiling salted water, except onions, for which use cold. Allow $\frac{1}{2}$ tsp. salt to each quart of water, and $\frac{1}{4}$ tsp. baking soda if hard water is used. Cook green vegetables with lid off saucepan to allow the gases to escape. Put pulses, after soaking, into cold water and heat gradually. Cook all vegetables until tender when pierced with a fork. When cooked strain off the water, dry for a few minutes at the back of the stove with the lid half off to allow steam to escape. Season with salt and pepper, add a little butter if desired. Serve hot, whole or mashed, in a hot tureen. If served mashed, mash them in the saucepan in which they were cooked. Carrots and parsnips are often chopped and served in white sauce. Serve white sauce with cauliflower, and melted butter with asparagus.

Time for Cooking Vegetables.

The age, size and number of the vegetables will cause the time to vary somewhat.

Potatoes	..30 to 60 minutes.	The latter for very old potatoes
Carrots	..30 minutes for young to 60 minutes when very old	
Parsnips	..30 " " 60 " " "	
Turnips	..30 " " 45 " " "	
Beets	..45 " " 3 to 4 hours when old	
Cabbage	.....40 to 60 minutes	
Onions	.....45 to 60 "	
Spinach or nettles	.....25 to 40 "	
Peas (fresh)	.....20 to 45 "	
French Beans	.....30 to 50 "	
Cauliflower	.....20 to 45 "	
Brussels sprouts and other greens	.....20 to 30 "	
Green Corn	.....15 to 30 "	
Asparagus	.....25 to 40 "	

Effect of Cooking on Vegetables.

- (1.) The flavour is improved in most cases.
- (2.) The cellulose is softened.
- (3.) The starch grains are burst and cooked.
- (4.) The vegetables are usually more digestible.
- (5.) There is a poisonous substance in the potato, which is destroyed.
- (6.) Some of the mineral matter and other nutrients are lost if vegetables are cooked in water.

Care of Vegetables

Fresh green vegetables should be cooked as soon as they are gathered. If that is impossible, keep them in a cool, ventilated cellar.

Lettuce and parsley sprinkle with cold water and make airtight in covered jar.

Potatoes, carrots and other root vegetables should be stored in a barrel in a cool, dry cellar away from the light.

Dried Parsley and Other Herbs.

Wash the parsley and pick from stalks. Spread on a sheet of paper and dry in a warm, not hot, oven, with the door open. The parsley must not be allowed to discolour. When dry and crisp powder between the hands and sift through a fine strainer. Make airtight in a jar.

All herbs, including celery leaves, may be prepared in the same way. They keep green and are preferable to those bought in tins.

POTATO RECIPES

Composition. Potatoes contain over 76 per cent. of water, about 19 per cent. of starch, very little protein or fat, and salts of potash united with citric acid. These are all contained and held together by the cellulose framework.

Food Value. Potatoes are valuable on account of the starch and mineral matter they contain. The latter help to keep the blood pure and the skin in good condition. Much of their nutriment is lost if potatoes are cooked without their skins.

Digestibility. Potatoes, if well cooked, are easy to digest, the cellulose being small in amount.

Potatoes Boiled and Creamed.

Choose potatoes of the same size for one cooking. Scrub potatoes, peel thinly and remove eyes. Potatoes contain more nutriment and are better flavoured if cooked in their skins. The skin is easily peeled off after cooking. Five to ten minutes longer is required for cooking in their skins. Place potatoes in boiling salted water, boil gently from 30 to 45 minutes, according to size and age of potatoes. Test with a fork; when soft strain off water, cover with a cloth or leave with the lid half off for steam to escape, and dry at the back of the stove for a few minutes, shake once or twice. Serve whole in a hot dish.

Creamed Potatoes. Boil as above. When dry add the following to the potatoes in saucepan. To six potatoes:

$\frac{3}{8}$ tsp. pepper.	about 3 tbsp. hot milk.
1 tsp. salt.	1 tbsp. butter.

These may be heated together in an enamel cup.

Mash potatoes with the above, keeping all hot over the stove. Whip the potatoes to make them white and creamy. Serve piled high in a hot dish.

Baked Potatoes.

Scrub potatoes, taking those of a similar size. Prick them with a fork so that steam may escape during cooking. Place them on a tin or on the bottom of a hot oven. Bake from 30 to 45 minutes, according to size. Serve at once in a clean table napkin in a hot dish.

To Reheat Cold Potatoes.

First method. Slice cold cooked potatoes, season them, and fry in bacon fat until a golden brown. Stir frequently during cooking.

Second method. Slice and cut into dice. Reheat in sauce No. 2.

Third method. Slice cold cooked potatoes and put in layers in a pie dish, sprinkle a little salt, pepper, butter and flour over each layer. When dish is full pour over hot milk. Bake in a moderate oven until brown. Serve hot in dish in which they were reheated.

Potato Scallop is made by method three, using raw potatoes. Cook one hour or longer.

VEGETABLE RECIPES

Boiled Onions.

Take onions of the same size, Spanish onions are the best for boiling. Peel under water, place in a saucepan of cold water, bring to the boil and throw this water away. This is called blanching an onion. It removes some of the green colouring matter and strong flavour which is apt to make onions indigestible. Cover the onions with boiling water and cook from 45 to 60 minutes. Drain off water and serve smothered in white sauce No. 2, or the onions may be served with a little salt, pepper and butter over them.

Boiled Beets.

Wash without breaking the skin. Place in boiling water and cook gently from 1 to 4 hours, according to age and size. When cooked, drain and rub the skin off by holding on a fork and rubbing with a white paper or a cloth. Return to saucepan, chop into dice, season with salt, pepper and a little butter. Reheat and serve in a hot dish. Serve cold, sliced, and covered with spiced vinegar.

Stewed Mushrooms.

Remove the stems from a dozen mushrooms, scrape and cut these in pieces. Peel the caps, leave whole if small, or break in pieces if large. Melt four table-spoons of butter or bacon fat, fry mushrooms three minutes, then add a little flour and sufficient stock or hot water to cover. Simmer ten minutes. Mushrooms should be cooked as soon as possible after they are picked. Otherwise before cooking soak ten minutes in well salted water. Mushrooms are often fried and served with bacon.

Boiled Peas.

Shell peas and place in cold water until ready to cook. Cook in a small quantity of boiling water. To each quart add a sprig of fresh mint, $\frac{1}{2}$ tablespoon salt, 2 lumps of sugar. Boil gently from 20 to 40 minutes according to age. Drain and serve in a hot dish. If desired, they may be seasoned with salt, pepper and a little butter, or a sauce made of the water in which they are cooked.

Boiled Cabbage, Spinach, Nettle Tops, or Other Greens

Remove outer leaves, cut stalk end of cabbage in four, soak in salted water an hour, rinse thoroughly. The salt kills insects, which drop out if the greens are well washed. Cover with boiling salted water, boil quickly with lid off until the stalk is soft. Place in a colander, press with a plate to squeeze out the water. Serve in a hot dish cut in four or eight pieces. All greens are cooked in this way. They require plenty of soft water. Spinach and the tops of young nettles are particularly good. Care must be taken to drain them well before serving. They may be served plain or chopped small (do this in a saucepan) and mixed with butter, pepper and salt. Cabbage boiled with fat meat becomes coated with fat and is very indigestible.

LEGUMES

Next to cereals the legumes are the most valuable vegetable food. The chief legumes used for food are beans, peas, lentils, peanuts.

Composition and Value in Diet.

Peas, beans and lentils contain the nourishment for the young plant. They are rich in protein, so that they may be used in place of meats. Legumes contain more protein than the best cuts of meat, but unless very carefully prepared they are far less digestible, so that less nutriment is absorbed. The protein found in legumes is called legumin.

Legumes are substantial food, suitable for the robust, but on account of their tough cellulose skins (which pass through the intestinal tract unchanged) they are somewhat difficult to digest and should have this skin removed before being given to children or people with weak digestions.

The protein of some legumes is especially rich in sulphur, and this helps to explain their tendency to produce flatulence. All pulses are rich in potash and lime, are rich in carbohydrates, but poor in fat with the exception of the peanut.

General Rules for Cooking Dried Beans or Peas.

Soften by soaking over night in soft water, since salts of lime found in hard water unites with the legumin (protein) in the beans or peas to form an insoluble compound. Soaking also removes most of the bitter principle in the seeds.

Cook for several hours (seven to eight) in soft water. If hard water is used add a little bicarbonate of soda to throw down the lime.

Proportions.

- $\frac{1}{2}$ lb. beans.
- 1 quart water.
- $\frac{1}{4}$ level tsp. cooking soda.

Beans if eaten in moderation after being carefully prepared are a cheap and valuable food, and are good to use in combination with other foods. Prepared as soup, and sieved before serving, to remove skins, they make a nourishing, cheap dinner for school children.

Baked Beans and Pork.

- | | |
|-------------------------------|---------------------------------|
| 1½ pints beans (yellow-eyed). | $\frac{1}{2}$ tbsp. mustard. |
| $\frac{1}{2}$ lb. salt pork. | $\frac{1}{4}$ tsp. baking soda. |
| 1 tbsp. salt. | $\frac{1}{4}$ tsp. pepper. |
| 2 tbsp. molasses. | 1 cup boiling water. |
| 3 tbsp. sugar (brown). | |

Look over beans and soak in soft cold water over night. The next day pour off water, add fresh and slowly heat until the skins loosen. Chop the pork finely and put a layer of it in the bean crock, then a layer of beans; continue thus until the pot is full. Mix the other ingredients with the boiling water and pour over the beans, add more boiling water to just cover the beans. Put lid on pot and bake from 7 to 8 hours. Remove lid during the last hour to reduce the gravy and brown the beans. Serve in a hot dish with Boston brown bread (see chapter on Breads).

The pork, if finely chopped, is more easily digested, but many people prefer to leave it whole. A slice only is put at the bottom of the pot to prevent beans from burning. The rind of the rest is scored and the whole buried in the beans with the rind showing. Serve the pork in the centre of dish with the beans around it.

CHAPTER IX.

SALADS

Materials Used in Salads.

(a.) **Uncooked Vegetables.** Lettuce, endive, cucumber, tomato, cress, water-cress, cabbage, radishes, onions, celery, chives, small red and green peppers, olives.

(b.) **Cooked Vegetables.** Potatoes, cauliflower, carrots, peas, beans, beets.

(c.) **Meats, Fish, etc.** Cooked meat, fish, fowl and game, sardines, lobster, crab, hard boiled eggs, cottage or Canadian cheese.

(d.) **Fruits and Nuts.** Uncooked apples, bananas, pineapple, orange, grape fruit, peaches, grapes, cocoanut, peanuts, walnuts, almonds, pecans. Canned peaches and pineapple, prunes and dates may be used in winter.

Salads may be made of the above materials in various combinations. A salad which is to take the place of a meat course should include one of the following: cooked meat, fish, game, eggs, cheese, nuts or dates.

Food value. Green salads are valuable on account of the mineral salts they contain, chiefly potash, which help to keep the blood pure. They are good for those suffering from eczema, acidity of the blood and gravel. Salads also stimulate the appetite, and form a bulk in the intestines and thus help to prevent constipation. The food value of salads is increased when a dressing is added, also cheese, nuts, meat, fish, game or eggs.

Preparation of Salads.

The greens for a salad should be thoroughly washed and soaked for half an hour in salted water. Then shake the water from the greens and dry in a clean cloth, taking care not to bruise them. They may be placed in a basket and hung in a draught to dry.

Lettuce grown under glass requires careful treatment to prevent wilting. To keep such lettuce sprinkle with water and make airtight in a preserve jar. Keep it in a cool place. The leaves should be torn into pieces for a salad or cut finely with a sharp knife to prevent bruising.

Raddish. Remove roots and leaves; wash and soak in cold water. For decorating, score peel in four leaves, loosen peel slightly with sharp knife.

Tomatoes and cucumber should have the skin removed for a salad.

Cooked vegetables, meat, game and fish should be cut in neat, small pieces before being added to a salad.

Cheese may be grated, or after grating may be mixed with a little butter or salad dressing and be made up into balls.

Nuts are chopped coarsely. **Fruits** are pared and sliced.

Mixing. Arrange the ingredients of a salad in layers until all are used. A green salad should not have a dressing added to it until it is served, if added earlier the salad becomes sodden. The flavour of all savoury salads is improved by the suggestion of onion. The salad dish should be rubbed with a cut onion or a little finely scraped onion may be added to the salad. Chives finely chopped are excellent. The flavour of all fruit salads is improved by the addition of a few drops of lemon juice.

Salad Decoration.

Savory salads may be decorated with the following: young lettuce leaves or endive, slices or quarters of tomato, slices of beetroot cut in fancy shapes, olives, chopped parsley, lobster coral (for fish salads), the yolk of a hard boiled egg rubbed through a fine sieve, the white of an egg finely chopped, or the egg may be cut in slices.

Sweet salads decorate with fruit cut in dainty shapes, shredded cocoanut, candied cherries, or angelica.

Salad Combinations.

Green Salad. Lettuce, watercress, cucumber, tomato or beets served with oil or boiled dressing, with cold meats; or cubes of cooked meat, fish, game or hard boiled eggs may be added to the salad.

Cabbage Salad. Young cabbage, raw, sliced finely, mixed with equal quantity of finely sliced celery. Chopped nuts may be added. Serve on small circles of cabbage leaf with oil or boiled dressing.

Potato Salad. Cooked potatoes sliced or cut into dice, sprinkle with finely chopped parsley, celery and hard boiled eggs. Oil or boiled dressing.

Mixed Cooked Vegetable Salad. Equal quantities of cooked carrot (cut in dice), cauliflower, beets and peas, with or without celery. Oil or boiled dressing.

Tomatoes and Cheese. Remove centres from tomatoes, leaving a thick shell, stuff with cottage or Canadian cheese moistened with boiled dressing. Serve each on a lettuce leaf.

Banana Salad. Put a prepared banana on a lettuce leaf, cover with boiled dressing and sprinkle thickly with chopped nuts.

Apple Salad. Mix equal quantities chopped apple, celery and nuts together, moisten with boiled dressing. Serve in apple shells (scoop out insides).

Minced Fruit Salad. Arrange any fruits in layers, bananas with peaches or oranges are good. Sprinkle each layer with sugar and lemon juice.

SALAD DRESSINGS

Boiled Salad Dressing.

1 tsp. salt.	1 whole egg.
1 tsp. mustard.	2 tbsp. melted butter.
1½ tbsp. sugar.	½ cup milk or water.
f.g. cayenne.	¼ cup vinegar.
2 tsp. flour.	

Mix salt, mustard, sugar, cayenne, and flour together, add egg slightly beaten and melted butter, stir and add milk or water, lastly stir in slowly the vinegar. Stir and cook over boiling water until it coats the spoon. Strain and cool. Before using thin down by adding a few tablespoons of cream. The cream may be whipped or plain.

Cream or Oil Dressing.

1 tbsp. vinegar.	¼ tsp. salt.
3 tbsp. olive oil or cream.	f.g. pepper.

Mix salt and pepper, add the oil slowly, stirring constantly, and lastly add the vinegar.

If oil and vinegar are added separately to a salad, add the oil first, as this prevents the vinegar from soaking into the greens. Oil, being an excellent food, makes this dressing valuable. Cream may be used instead of oil. With it use a little sugar and mustard, salt, pepper and vinegar as above.

Mayonnaise Dressing.

1	tsp. salt.	1	cup best olive oil.
	f.g. cayenne.	3	tbsp. vinegar.
raw yolks of 2 eggs.			

Put the yolks, freed from germ, into a bowl, add to them salt and cayenne. Stir quickly with a wooden spoon whilst adding the oil slowly, drop by drop at first. When all the oil is added the sauce should be as thick as soft butter. Thin down by stirring in the vinegar by degrees. When made, add tablespoonful of warm water or light stock to prevent curdling.

Everything used in making this dressing must be kept as cold as possible to prevent it curdling. Use ice if it is available to chill bowl, spoon, oil and vinegar. If curdling does occur put a third yolk in a clean bowl and slowly stir the curdled sauce on to it. This will remove the curdled appearance.

CHAPTER X.

SUGARS

Sugar is a white or brown crystalline substance, sweet to taste, and soluble in water. It is a great preservative.

Classification.

Sugars may be divided into two classes: sucroses and glucoses.

(1.) **Sucroses:** Cane sugar (sucrose), beet sugar, maple sugar, malt sugar, milk sugar (lactose).

(2.) **Glucoses:** Grape sugar (dextrose), fruit sugar (levulose), invert sugar, and to this class honey belongs.

Manufactured Sugar. Sugar is sold as loaf or lump, granulated, powdered, icing or confectioners', brown, Demerara. Icing sugar is smooth to the tongue, powdered sugar is slightly gritty.

(1.) Sucroses.

Cane Sugar. Cane sugar is prepared by crushing the stems of the sugar cane to extract the juice, which is then treated by various chemicals to bleach it. It is boiled, filtered, evaporated and the crystals are separated as raw sugar from that part which will not crystallise. The latter is sold as treacle, molasses and golden syrup. The sugar cane is cultivated in the tropics.

Raw Sugar is of three kinds: Barbadoes, a very dark brown sugar; clayed, a lighter brown; and Demerara sugar has a distinctive flavour, and the crystals are large and a golden colour. It is specially prepared from selected canes.

The raw sugar is then refined by heating, filtering and clarifying by charcoal. That to be sold as loaf sugar is run into moulds and afterwards cut by machinery.

Beet Sugar. About two-thirds of the cane sugar, so called, is manufactured from beet sugar. The beets are pulped, the sugar extracted, and the colour removed by means of filtration by charcoal. Chemically beet and cane sugar are the same. Cane sugar is supposed to be the better for preserving, as it is less likely to ferment.

Maple Sugar is obtained by tapping the sugar maple (of North America) in early spring. The sap escapes as it flows upwards and is caught in buckets hung on the tree. The sap is evaporated and the by-product is maple syrup. Both are liked because of their peculiar flavour.

Lactose, or milk sugar, is much less sweet than cane sugar and it is rarely fermented by yeasts. It should always be used for babies and those suffering from stomach trouble. It may be bought at drug stores.

(2.) Glucoses.

Grape Sugar, or dextrose, is found in grapes and may often be seen on raisins. It is one-third less sweet than cane sugar.

Commercial glucose is made by boiling starch with acids. It is used in the manufacture of all cheap candy and is quite wholesome.

Levulose, or fruit sugar, is found in most fruits. It will not crystallise. It is sweeter than cane sugar.

Invert Sugar is a mixture of dextrose and levulose. It is not as sweet as cane sugar and does not crystallise. If cane sugar be boiled with an acid invert sugar results. This is what takes place when sugar is cooked some time with acid fruit, therefore the sugar will sweeten more if not added until towards the end of the cooking.

Honey is invert sugar. It consists of equal parts of levulose and grape sugar. The sugar of honey is predigested and ready for assimilation.

The Cooking of Sugar.

Sugar when heated first turns a yellow color, when cooked it becomes brittle and is known as barley sugar. If heated further it darkens, tastes bitter and is known as caramel. At this stage it is used to flavour and to darken gravies. If further cooked it chars and is known as carbon.

Digestion of Sugar.

All sucroses have to be changed in the body into dextrose and levulose, that is they are inverted. **Glucoses are digested sugars, sucroses undigested.** Too sweet food is irritating to the digestive system. Sugar is more rapidly digested than starch and much more rapidly than fat.

Food Value of Sugar.

Sugar is the cheapest fuel food. It provides energy more quickly than most foods and is especially useful to those engaged in muscular work, such as athletes, mountain climbers and men in lumber camps. It lessens the sense of fatigue that muscular work gives.

A certain amount of sugar is good for children, as their great activity demands a food which will rapidly yield energy. Children under three years of age should not be given highly sweetened food, as it spoils the appetite for other foods, and they are better brought up to eat porridge without sugar. A child taking two quarts of milk a day gets in it three ounces of milk sugar.

The amount of sugar that can be eaten without causing discomfort depends on the activity of a person. An adult can make use of about four ounces a day. Anyone working hard out of doors can take more. More sugar is needed in cold than hot weather. Large quantities of highly sweetened food is apt to ferment and cause pain in the stomach and intestines.

CANDIES

Plain Fudge.

2	cups brown sugar.	$\frac{1}{2}$	cup milk.
1	thsp. butter.	1	tsp. vanilla or other flavouring.

Melt butter in an enamel saucepan, add sugar and milk, stir until the mixture boils. Boil without stirring until when tried in cold water a soft ball is formed. This takes about twelve minutes boiling. Remove from fire, add flavouring and beat until mixture begins to thicken, then pour at once on a greased tin. When cool mark in squares.

Variations of Fudge.

Chocolate. 1 oz. chocolate (unsweetened) may be cut up and added with the sugar. It melts as the mixture heats.

Nut. $\frac{1}{4}$ cup shelled, skinned and chopped almonds or peanuts may be added with the vanilla whilst beating.

Raisin Fudge.

- 2 cups granulated sugar.
 1 tbsp. butter.
 $\frac{3}{4}$ cup milk.
 f.g. cream of tartar (add with sugar).
 1 tsp. lemon flavouring or a little nutmeg.
 $\frac{1}{4}$ cup stoned raisins (add when beating).

Make as for plain fudge.

Cocoanut Fudge.

Use white sugar instead of brown, with $\frac{3}{4}$ cup milk and $\frac{1}{2}$ cup cocoanut. Make as for plain fudge. Add cocoanut with flavouring whilst beating.

Pulled Candy.

- | | |
|--------------------------|-------------------------------------|
| 2 cups granulated sugar. | $\frac{1}{2}$ tsp. cream of tartar. |
| 2 tsp. butter. | $\frac{1}{2}$ cup hot water. |
| 1 tsp. vinegar. | 1 tsp. flavouring. |

Melt butter in saucepan, add sugar, vinegar, tartar and hot water, stir until sugar is dissolved. Boil without stirring until when tried in cold water it is hard and brittle. Pour at once on to a greased dish. As the mixture cools fold the sides to the centre. When it is cool enough to handle add flavouring and pull until the mixture is white and glossy. Twist into sticks, twist and cut off small pieces with clean scissors. Wrap each in greased paper.

Peanut Brittle.

- 2 cups granulated sugar.
 1 cup shelled peanuts.
 $\frac{1}{4}$ tsp. salt.

Remove skins from peanuts, roll or chop peanuts and add salt to them. Heat sugar in a saucepan or frying pan, stirring until all is melted. Then add nuts and pour at once on to a greased tin. Mark in squares.

Divinity Fudge.

- | | |
|--------------------------------|------------------------------------|
| 2 cups granulated sugar. | 1 egg white. |
| $\frac{1}{2}$ cup maple syrup. | $\frac{1}{2}$ cup chopped walnuts. |
| 1 cup water. | 1 tsp. vanilla. |

Boil sugar, syrup and water together until a little dropped in cold water forms a soft ball. Pour the mixture slowly on to a stiffly beaten egg white, beating all the time. Keep a little of the mixture to mix with nut meat, then add to the remainder and beat until firm. Add vanilla. Pour into a buttered pan. Mark in squares.

Peppermint Creams.

- | | |
|-------------------------------|----------------------------|
| $\frac{1}{4}$ cup cold water. | f.g. cream of tartar. |
| 1 cup sugar. | 4 drops oil of peppermint. |

Stir sugar and water over heat until sugar is dissolved. When boiling add a few grains of cream of tartar. Boil without stirring until a long thread hangs from a spoon dipped into it. Remove from fire, add peppermint, beat until it begins to thicken. Drop from the end of a teaspoon on to a slightly oiled platter. Before beating, these may be colored with spinach green or cochineal.

Fondant.**For Candies and Cake Icing.**

- 2 cups sugar.
- $\frac{1}{4}$ cup hot water.
- $\frac{1}{4}$ tsp. cream of tartar.

Stir sugar and hot water over heat until the sugar is dissolved. Dip the finger in cold water and remove grains of sugar (which might otherwise cause fondant to crystallise) from sides of saucepan. Bring syrup to boiling point, neither stir nor shake the pan. Add the tartar and continue boiling until a little tried in cold water forms a soft ball. It may be necessary to wash off sugar grains several times during the boiling. When ready pour the syrup on to a plate slightly oiled. When cool enough at the edges to show a finger mark, work with a spatula from the edges to centre of dish. As the fondant becomes lumpy, work and knead it with the hands until it is of a smooth consistency. Pack in a glass jar, cover with oil paper, make airtight and leave for 24 hours. Add flavouring before using.

Coffee Fondant.

- 2 cups sugar.
- $\frac{1}{4}$ cup hot, very strong, clear coffee.
- $\frac{1}{4}$ tsp. cream of tartar.

Make as above.

Fondant Candies.

Melt fondant over hot water, stirring all the time, flavour and add chopped nuts, cherries and angelica. Pour into an oiled tin, leave for 12 hours, cut into small, neat pieces.

Fondant Peppermints.

Melt 1 cup fondant over hot water, flavour with oil of peppermint, drop from the tip of a teaspoon in small circles on to an oiled platter. When set remove carefully with a knife.

Chocolate Creams.

Flavour some fondant and make small fondant balls. Take each on the end of a skewer, dip into melted unsweetened chocolate. Remove carefully on to an oiled platter.

Walnut Creams.

Take pieces of well flavoured fondant the size of a filbert nut. Place half a shelled walnut into either side. Half may be coloured pink. Almonds, peanuts or pecan nuts may be used.

CHAPTER XI.

EGGS

Composition. Eggs contain much protein, mineral matter needed for building up bone and blood, fat and water. They contain much nourishment in a small bulk.

An egg consists of the following parts:

- (1.) A porous shell which admits air and germs. It is these which cause an egg to decay.
- (2.) A tough membrane lines the shell. This is not eaten.
- (3.) The white, a clear, sticky substance which dissolves in cold water and hardens in boiling water. The white is three-fourths water, it is rich in a protein called albumin, which is enclosed in millions of cells. When an egg white is beaten the cells expand and hold the air, which lightens food and makes it more digestible. The white also contains sulphur.
- (4.) The skin which covers and holds the yolk together.
- (5.) The yolk, a thick semi-fluid rich in fat, protein and mineral matter. Half the yolk is water.
- (6.) Cords, which appear to attach the eggs to the shell and hold the parts together.
- (7.) The germ or embryo.

Food Value.

Eggs may be compared with meat as to nutritive value, nine eggs being about equal to 1 lb. beef, but eggs contain rather more fat and a little less protein than beef. Eggs are not a cheap food at 50c. a dozen.

Since eggs contain no carbohydrates, they should be eaten with bread, cereals, or potatoes, as these foods supply the bulk which eggs lack.

Effects of Cooking and Digestibility of Eggs.

Eggs are easiest to digest raw or cooked soft in the shell. Eggs should be cooked at a low temperature, in the shell at 175° F., from 6 to 8 minutes, or 45 minutes if the yolk is to be solid. The long slow cooking makes the egg white mealy. Boiling or frying makes eggs tough and indigestible.

Use of Eggs in Foods.

- (1.) They increase the nutritive value.
- (2.) They thicken liquids.
- (3.) They lighten flour mixtures when air is beaten into them.

Test for Fresh Eggs.

- In Shell.** (1.) If placed in cold water they should sink.
(2.) Place large end to the cheek, a warmth should be felt.
(3.) They should not rattle.

Out of shell there should be no unpleasant smell, the yolk should be a bright round yellow ball, the white should be clear and clinging to the yolk.

Storage of Eggs.

Eggs, if soiled, should be washed when they come from market and should be kept in a cool, clean place. Eggs spoil when kept, and should be eaten fresh.

To Preserve Eggs for Winter Use.

If the shells of fresh eggs are coated with some substance that will exclude air, eggs will keep for months. Water glass or a lime solution are generally used. Eggs must **not** be placed near, or be packed in, anything of a strong scent, as it will pass through the shell and flavour the egg.

Lime Solution for Preserving Eggs.

One pint of freshly slacked lime, $\frac{1}{2}$ pint salt, 3 gallons water. Mix these three together, leave for 3 days, stir once or twice a day. Strain and pour into a stone crock. Place absolutely fresh eggs in the mixture. They may be left in or may be removed after one month and stored in a cool place.

EGG RECIPES

Eggs Cooked Soft in Shell.

Put clean eggs into a saucepan of boiling water, the eggs must be covered with water. Cover with a lid and set the saucepan at the back or side of range where it will not boil. Leave from 6 to 8 minutes, according to the size of eggs, when they will be cooked soft, and the white will not be tough.

Eggs Cooked Hard in Shell.

Cook as above but leave 45 minutes at the back of the range. When cooked, pour off hot water and cover with cold to keep the eggs a good colour.

Poached Eggs.

Break each egg separately into a cup and slip it into a frypan of boiling water containing 1 teaspoonful salt and one teaspoonful of vinegar to each quart of water. The water must cover the eggs. Remove the pan to the side of the range and when the yolk is covered with a film of white, slip a skimmer under the egg, drain, trim, and place on a circle of buttered toast. Garnish with parsley and serve very hot.

Scrambled Eggs.

1 egg.	f.g. pepper.
1-6 tsp. salt.	1 tsp. milk.
$\frac{1}{2}$ tsp. flour.	1 tsp. butter.

Beat egg, add flour, salt, pepper and milk. Melt butter in omelet pan or small enamel saucepan, when bubbling, pour in the egg mixture, stir over a low heat, scrape mixture from sides and bottom of pan. When mixture is creamy dish on hot toast, garnish with parsley. Scrambled eggs may be served with bacon. If four eggs are used, add one extra tablespoonful of milk to the whole, and one tablespoonful of butter is sufficient.

Savoury Omelet.

1 egg.	1 tsp. cooked bacon, finely chopped,
1-6 tsp. salt.	or
f.g. pepper.	$\frac{1}{4}$ tsp. powdered parsley.
1 tsp. water.	1 tsp. butter.

Beat egg, add the dry ingredients and water. Heat butter in an omelet pan, and run it round the edges, pour in the egg mixture, stir continuously. When only a small amount of egg is liquid tilt the pan and scrape the egg to one half of pan. Lift the omelet from pan slightly with a knife occasionally. When the under side is brown, turn and brown reverse side. Dish and serve at once on a hot dish. Grated cheese, cooked and chopped ham, kidney, or mushroom may be used instead of bacon.

Sweet Omelet.

1 egg yolk.	1 tbsp. water.
2 tsp. sugar.	1 egg white.
$\frac{1}{4}$ tsp. vanilla.	fg. salt.
1 tbsp. apple jelly.	1 tsp. butter.

Beat the yolk and sugar together until thick and pale in colour, add the vanilla and water. Add salt to egg white, and whisk until very stiff. Cut and fold yolk mixture into the white. Heat butter in omelet pan and run butter round sides of pan, pour in the egg and cook over a low heat. Raise it from pan occasionally with a broad knife. When underside is brown, put the omelet pan into a hot oven, on the top shelf, to cook the top surface of omelet. It is cooked if, when pressed with the finger, no dent remains. Turn onto a sugared paper, put a tablespoon of warm jelly in the centre and fold in half. Serve on a hot dish sprinkled with sugar.

An orange omelet is made in the same way, substituting a tablespoon of orange juice and the grated yellow rind of a quarter of orange for the vanilla and water.

Baked Eggs.

1 tbsp. butter.	1 tsp. powdered parsley.
6 eggs.	2 tbsp. chopped, cooked ham.

Grease six small cups thickly with butter, sprinkle powdered parsley at the bottom of three, and chopped ham in the remainder. Break an egg into each cup. Stand the cups in a pan of boiling water, cook gently until a film of white covers each yolk. Slip a knife round each cup and turn the egg on to a circle of buttered toast. Garnish the dish with parsley.

Eggs in a Nest.

1 egg.
$\frac{1}{4}$ tsp. butter.

Grease a saucer with the butter. Separate white from yolk, keeping the yolk whole in half the shell. Whip the white to a stiff froth. Pile it on the saucer, make a slight depression in the centre and slip the yolk into it. Bake in a moderate oven until the white is a pale fawn colour. Serve on the dish in which it is cooked, with salt and pepper.

Steamed Egg.

1 egg.	or
$\frac{1}{2}$ tsp. butter.	1 tbsp. chopped ham.
$\frac{1}{4}$ tsp. powdered parsley,	pepper and salt.

Butter a small cup or tin mould, sprinkle parsley or finely chopped ham at the bottom, break a fresh egg on to it and cover with a greased paper. Steam gently ten minutes. Serve turned out on a circle of buttered toast.

CHAPTER XII.

MILK

Composition.

About 87 parts of milk are water, the following solid ingredients are dissolved in it: proteins, called casein and albumen; milk sugar, called lactose; cream, which is fat; and mineral matter, called calcium and phosphorus, needed for bones and growth.

Food Value.

Milk is a perfect food for infants up to the age of one year. Since milk contains only $2\frac{1}{2}$ oz. of solids to the pint, it is not a suitable single food for adults, who would need 9 pints daily, also it does not provide the necessary bulk in the body, but is better mixed with other foods for adults. It is a good food for invalids as it is easily taken and does not irritate the intestines.

Digestibility.

Milk, strictly speaking, is only a liquid outside the body. It the stomach a digestive ferment called rennin causes the casein to clot. The same effect is produced in making junket. Milk should be sipped slowly to prevent the formation of large clots in the stomach. Lime water (2 teasp. to $\frac{1}{2}$ pint) makes milk easier to digest, soda water has a similar effect.

One pint of raw milk digests in	$3\frac{1}{2}$	hours.
" sour "	3	"
" boiled "	4	"

Effects of Cooking Milk.

- (1.) Disease germs are killed.
- (2.) Scalded milk keeps longer.
- (3.) Scalded milk takes slightly longer to digest.

Milk is somewhat constipating, especially boiled milk; therefore milk should never be boiled, only scalded at 195° F.

Sour Milk. Milk sours owing to its sugar (lactose) fermenting. When attacked by certain bacteria in the air, lactic acid is formed. Warm weather and thunderstorms hasten this.

Skimmed Milk contains all the nutriment of whole milk minus the cream, and is very nutritious, though less rich.

Buttermilk is the liquid left from butter making. It contains all that separated milk does. The lactic acid causes the casein clot to be finely divided, rendering it easier to digest. It is a valuable food.

Whey is milk minus casein and fat, but contains water, sugar and salts.

Products from milk: butter, clotted cream, cheese.

Butter is 93 per cent. fat. It is one of the most easily digested fats. Butter should be kept covered in a cold place.

Diseases Which May Result From Contaminated Milk.

Diarrhoea, typhoid fever, scarlet fever, diphtheria, and tuberculosis have all been traced to infected milk, owing to one of the following causes:

- (1.) Placing milk uncovered where it can absorb poisonous vapours, odours and bacteria from the air. Milk is very absorptive.

- (2.) Lack of cleanliness in the vessels used to hold milk on the farm, during transit, or in the home.
- (3.) Mixing of impure water with milk, or using impure water to clean milk utensils. Well water on farms is often impure.
- (4.) Diseased cows, especially cows with tubercular trouble.

Care of Milk.

- (1.) Diseases from milk are largely preventible if the milk is boiled.
 - (2.) Milk should always be kept covered, in glass vessels preferably.
 - (3.) New milk should never be mixed with old.
 - (4.) Milk must be kept in a cold place.
- Pay a fair price for milk and procure it from a tested herd of cows where it is handled hygienically.

Milk Dishes. See Junket and Milk Pudding.

CHEESE

Composition.

Cheese contains about equal quantities of protein, fat and water, with some mineral matter and a little milk sugar. It is therefore a highly concentrated food and should not be eaten in large quantities. It lacks bulk, this must be supplied by other food.

Manufacture.

Cheese is prepared from milk by the action of rennet (obtained from the fourth stomach of the calf), or by an acid. Whey, the liquid part of milk, is separated from the casein, which forms a curd. The solid curd is salted, run into moulds and subjected to pressure. It is then set in a cool place to ripen, that is to develop flavour. The various flavours of cheese are produced by different bacteria, and it is the production of these flavours which adds to the cost of cheese.

Cheeses Made From:

Whole Milk	Milk Plus Cream	Skim Milk
Canadian.	Gloucester.	Stilton.
Cheddar.	Gorgonzola.	Double Gloucester.
		Gruyere.
		Parmesan.

It takes one gallon of milk to make a pound of cheese.

Value in Diet.

A pound of cheese contains the solids from one gallon of milk. American cheese at 25 cents per lb. contains as much nourishment as Stilton at 50 cents per lb.

Cheese is a very valuable and economical food, containing weight for weight twice as much protein material as meat. But it is not so easy to digest. Cheese is a good substitute for meat. It should be eaten with foods rich in cellulose.

Digestibility.

Cheese is somewhat difficult to digest, as the casein (a protein) is coated with fat, which prevents the digestive juices readily acting on it, it is easier to digest if well masticated or if it is grated. If cooked a small quantity of bicarbonate of soda added to it makes it more digestible.

Effect of Cooking.

Cheese before being cooked should be grated or cut finely, and mixed with other foods and should then be cooked at a low temperature to prevent it becoming stringy and more difficult to digest. When cooking cheese add a few grains of bicarbonate of soda (to $\frac{1}{4}$ lb. cheese allow what would cover a 5 cent piece). The casein is made more soluble by the soda and it also neutralizes the fatty acids which the process of ripening develops in the cheese.

Cottage Cheese.

Take milk which has soured quickly, tie in cheesecloth, hang over a bowl to drain. When no water comes from it, take the solid curd, add a little fresh cream or creamed butter, season to taste with salt and butter, press into a small glass dish. Serve whilst fresh with green salad or celery. Chopped olives may be added to cheese.

CHEESE DISHES**Welsh Rarebit, I.**

1	packed cup grated cheese ($\frac{3}{4}$ lb.).	$\frac{1}{8}$	tsp. cayenne.
	$\frac{1}{4}$		tsp. soda.
	$\frac{3}{4}$		cup milk.
1	tsp. mustard.	1	tsp. butter.
$\frac{1}{2}$	tsp. salt.	7	circles of toasted bread or 7 crackers.

Melt cheese, soda and milk in top part of double saucepan, stir occasionally. Mix mustard, salt, cayenne, egg beaten, and butter together, add these to the melted cheese, stir until the mixture thickens. Pour at once over hot toast or crackers and place on the top shelf of a hot oven for 2 minutes to brown the surface of cheese, or it may be served without browning.

Welsh Rarebit, II.

1	tsp. cornstarch.	$\frac{3}{4}$	cup milk.
1	tsp. mustard.	1	tsp. butter.
$\frac{1}{2}$	tsp. salt.	1	cup (packed) of grated chese ($\frac{3}{4}$ lb.)
$\frac{1}{8}$	tsp. cayenne.	$\frac{1}{4}$	tsp. soda.

Mix cornstarch, mustard, salt, cayenne, milk and butter in top part of double saucepan, stir and cook until thick, add the grated cheese and soda, stir until the cheese is melted. Pour at once over seven slices of hot toast or hot crackers. Serve on a hot dish or brown in the oven as for recipe I. The cheese, if new, may be cut in thin shavings instead of grated.

Cheese Custard Pudding.

$1\frac{1}{2}$	cups stale bread.	$\frac{1}{2}$	tsp. salt.
$1\frac{1}{2}$	tsp. butter.	$\frac{1}{8}$	tsp. cayenne.
1	cup grated cheese.	$\frac{1}{2}$	tsp. mustard.
2	eggs.	3	cups hot milk.

Butter the stale bread and cut into dice, crusts may be used or dried crumbs. If crumbs are used blend the butter with them. Put a layer of bread in a buttered baking dish suitable to send to table, and arrange cheese and bread in alternate layers. Beat the eggs until light, add to them salt, cayenne, mustard and hot milk, and pour over the bread and cheese. Bake in a moderate oven until the custard is set and the pudding brown. This pudding is lighter if the whites are separated from the yolks, and beaten stiff. Proceed as above, cut and fold the whites into the yolk and milk mixture.

Macaroni Cheese.

- | | | | |
|---|---------------------------------------|---------------|-------------------------|
| 1 | cup macaroni, broken in 1-in. pieces. | $\frac{1}{2}$ | cup of buttered crumbs. |
| 3 | tbsp. butter. | $\frac{1}{2}$ | tsp. salt. |
| 3 | tbsp. flour. | $\frac{1}{8}$ | tsp. cayenne. |
| 2 | cups hot milk. | 1 | cup grated cheese. |

Cook the macaroni in boiling salted water until soft, this takes about twenty minutes. The water must boil quickly all the time. When cooked, pour into a colander and rinse with cold water to separate the pieces. Melt the butter, add the flour, salt and cayenne, stir and slowly blend the hot milk with these. Stir and boil three minutes, add the macaroni and three-fourths of the cheese. Pour into a baking dish, and spread the remainder of cheese over the surface. Cover cheese with buttered crumbs. Bake in hot oven until crumbs are brown.

Cheese Omelet. See page 37, under Savoury Omelet.

Cheese Sandwiches. See Sandwiches.

CHAPTER XIII.

BREAD AND BREAD MAKING

Bread is made from wheat flour principally. Water and salt are mixed with it, and the dough is made porous and light by carbonic acid gas introduced by a yeast ferment or other means.

Aerated bread sold by certain bakers is made by mixing flour with water charged with carbonic acid gas. The flavour of such bread is not so good as the flavour of bread made with yeast.

WHEAT

A grain of wheat consists of:

- (a.) **The husk**, which is always removed before milling.
- (b.) **Bran coats**, which contain cellulose and mineral matter, and the inner coat contains some protein called gluten.
- (c.) **Endosperm** is the large part of the grain, which contains much starch and some gluten. The gluten is more abundant in the outer layers of the endosperm.
- (d.) **The germ**, or young plant, which is rich in fat, protein, starch and sugar. This is usually removed before milling, as the oil it contains is apt to become rancid, and certain ferments are liable to develop.

The grain is cleaned, ground and sifted through material of varying fineness.

Whole wheat flour consists of the whole grain, minus the husk. This is a coarse flour, and although rich in food material, it is more difficult to digest, on account of the cellulose in the bran coats.

Graham flour is often a poor grade of white flour mixed with some bran.

Bread flour should be rich in gluten. This is a yellowish, elastic substance, sticky when wet, and capable of great expansion. This holds the carbonic gas. The first sifting of flour contains the most gluten. (Flour made from grain containing no gluten is not capable of being made into porous bread.)

Pastry flour is made from the inner part of the grain, which is whiter, as it contains less gluten.

Winter wheat, sown in the fall, is white and soft, and it is the most suitable for pastry flour.

Spring wheat, sown in the spring, is red and hard, and makes the best bread flour.

Flour is said to be strong which is rich in gluten of a good quality, capable of standing up well, and producing a well rounded loaf.

Test for Flour.

Bread flour feels slightly granular, and will not retain its shape when pressed together in the hand, and is of a cream color.

Pastry flour is velvety to touch, retains the impression of the hand when pressed together, and is whiter.

Flour which has become damp, or has a fibrous network in it due to a small insect, is unfit for use.

YEAST AND ITS USE IN BREAD MAKING

Yeast is used to lighten bread, because it sets up the process of fermentation, by which carbonic acid gas (CO₂) is formed, which expands and makes the dough porous.

For the housewife the use of yeast is the cheapest and simplest way of producing carbonic acid gas, and dough so raised remains moist longer than dough lightened by CO₂ produced by means of baking powder.

Fermentation.

Fermentation is the name given to certain chemical reactions which are promoted only in the presence of certain substances called ferments or enzymes, which are themselves unaltered by the reaction. The material in which fermentation takes place must contain sugar or something that can be converted into sugar. During fermentation the sugar is split up, by the action of the ferment, into alcohol and CO₂. Yeast is the ferment used in bread making. When alcoholic fermentation continues too long, acetic fermentation takes place and the dough becomes sour.

Yeast.

Yeast is a low form of plant life. It belongs to the fungi. Wild yeasts are present in the air. An individual yeast plant is 1/28000 of an inch. It is an oval body, colorless and nearly transparent, whitish when seen in bulk. A dark spot in the yeast cell is known as the nucleus.

Yeast Plants Multiply:

- (1.) By budding.
- (2.) By producing spores. The former method occurs in bread making.

Yeast Exists in Three Different States:

- (1.) Resting state, when no moisture, warmth and food are supplied.
- (2.) Growing state, when moisture and warmth are supplied, with food.
- (3.) Spore bearing, when moisture and warmth are supplied, but very little or no food.

Yeast in an ordinary yeast cake is in the resting state, alive but not actively growing. Yeast requires warmth, food, moisture and air for growth. Yeast grows best at 68° F., growth is suspended at 32°. Great heat, 212°, kills the yeast plant.

Commercial Yeasts.

Compressed yeast is the strongest and most reliable. It consists of pure yeast grown in a special way, purified by washing, and compressed into cakes. If good it is a pale fawn in colour, smells sweet, breaks clean and crumbles easily.

Dried yeast cakes. The yeast, after being washed, is dried at a low heat for a long period, and is then made into cakes with a little cornmeal or other material. Bread made with these takes longer to rise, as there are fewer yeast plants than in a compressed yeast cake, and it is not such an active form of yeast—some plants are killed in the drying. Soak in a little warm water with sugar before using.

Brewer's Yeast.

This is a liquid yeast, the scum from the fermentry vat. It is apt to be bitter and is not so strong as compressed yeast, nor so satisfactory.

Home Made Yeast.

This is made by many housewives by introducing into warm water containing starch from potatoes, a small quantity of yeast, either liquid, compressed or dried, and leaving it exposed in a warm atmosphere for four or five hours, when vigorous fermentation takes place, thousands of young yeast plants being produced. This is then bottled and stored in a cold place. Sugar is added to hasten fermentation, flour also, to provide more food for the yeast. Hops may also be added with advantage, as they give a pleasant, nutty flavour, act as a slight antiseptic, and hinder the growth of harmful bacteria.

Changes Caused by Yeast Fermentation in Bread Making.

Yeast, when introduced into a warm moist dough, acts upon some of the starch in the flour, changing it into sugar (this is also done by a ferment called diastase, produced in the moist dough itself). The yeast then acts on the sugar, converting it into alcohol and carbonic acid gas. This gas becomes imprisoned in the gluten of the flour, which, owing to its elastic nature, expands as the gas pushes it up, and the starch grains are separated. A light, porous loaf results. The alcohol and CO₂ pass off during cooking.

The Use of Potato Water in Bread Making.

The water in which potatoes have been boiled contains some potato starch, the starch cells of which are larger and easier for the yeast plant to act upon than are the starch cells of wheat flour. Hence potato water is often used in setting a bread sponge to hasten the process of fermentation.

Home Made Yeast Brew

Yeast cannot be made, as it grows; but a suitable food may be prepared into which a small quantity of yeast is put. This then grows and multiplies rapidly and produces a large quantity of yeast.

- | | | | |
|---|--|---|--------------|
| 2 | tblsp. compressed hops, or a handful of home grown hops. | | |
| 2 | qts. cold water. | 2 | tblsp. salt. |
| 3 | potatoes. | ½ | cup sugar. |
| ½ | cup flour. | 1 | tsp. ginger. |
| 1 | yeast cake, or 1 cup liquid yeast. | | |

Tie the hops in cheesecloth, add to the cold water and heat. When boiling add peeled potatoes, cook 30 minutes. Remove the hops. Rub potatoes through a strainer, add to them the flour, salt, sugar and ginger. Stir and pour on the boiling hop water. Return this to the saucepan, stir and boil 3 minutes. Cool this mixture to blood heat. Add the yeast, cover with cheesecloth and leave in a warm place to double its bulk. Then bottle and store in a cold place.

Use one cup of this in place of one yeast cake. The hops are not necessary, but they improve the flavour and act as a slight antiseptic.

Perpetual Yeast Without Hops.

- | | |
|---|---|
| 2 | cups water in which potatoes have cooked. |
| ½ | cup sugar. |
| 1 | yeast cake. |

Dissolve the yeast cake in one cup of potato water, and the sugar in the other cup. Then unite the two, cover bowl with cheesecloth and leave in a warm place out of a draught 4 hours. The next day add another cup of potato water and one tablespoon sugar, and leave for another 4 hours in a warm place. Bottle and keep in a cold place. Each time a cup of this yeast is used add another cup of potato water and a tablespoonful of sugar to the original.

White Bread.

- 3 quarts flour (about 12 cups).
- 1 quart warm water, (water in which potatoes have boiled may be used).
- 1 cake yeast, for 5 hours bread, $\frac{1}{2}$ cake for overnight bread.
- 1 tbs. salt.
- 1 tsp sugar.

Warm the bread pan, or mixer, and flour.

Bread Sponge. Add sugar to 1 cup of lukewarm water, dissolve the yeast in it. Stir into this sufficient warm flour to make a thick batter (a mashed potato may be added if desired), beat well, cover and leave in a warm place until well risen.

Bread Dough.—Pour sponge into bread pan or mixer, add the other three cups warm water, and gradually mix in the rest of the warm flour sifted with the salt. The dough should not be dry but just stiff enough to handle. Turn it on to a warm board and knead until smooth and full of large holes when cut. Return to a warm greased pan, brush over the top of the dough with melted lard or warm water to prevent a crust forming. Cover the pan with a clean cloth, and board or tin.

First Rising. Leave to rise in a warm (not hot) place out of a draught, or stand pan in a bath of warm water. Keep the dough at a temperature of about 65° F., and if water surrounds it keep that at 100° F. If bread is raised overnight cover with a blanket.

When dough has doubled its bulk it is ready to be made into loaves, but if it is necessary to leave it a while longer cut the dough down to check fermentation. This may be done once or twice and the dough will rise again. Cutting dough is supposed to make a finer grained loaf.

Loaves. To shape loaves, turn dough on to a floured board, knead lightly to evenly distribute the CO₂, divide dough into four equal parts, knead each into a smooth loaf which should half fill a warm, greased and floured bread tin.

Second Rising. Cover loaves with a cloth and put to rise in a warm place, and when the dough fills the pans place them at the bottom of a hot oven. The heat should gradually decrease.

Baking. A $1\frac{1}{4}$ lb. loaf of bread bakes in about one hour. Bread when cooked shrinks from the sides of the bread tin and rings hollow when knocked sharply.

The Care of Bread. Cool bread, uncovered, on wire cooler to make a crisp crust. Keep in airtight ventilated tin or earthen crock.

Note—Bread Without a Sponge. It is not necessary to set a sponge for bread. All the water may be added to the yeast and sugar at first, and the flour may all be added gradually to make a dough straightaway. The sponge is made to start the yeast growth and to increase the number of yeast plants to raise the dough.

Butter and Lard in Bread. If butter and lard are used, take two level table-spoons of each to the above quantities. Melt these in boiling water, cool and when lukewarm add water and fats to the sponge or yeast and proceed as above. Potato and fat in bread help to keep it moist but are not necessary.

Graham Bread.

Make as for white bread, using equal quantities of white and graham flour.

Wholemeal Bread.

2 cups boiling water.	5½ cups wholemeal flour.
2 tbsp. molasses or brown sugar.	1 tbsp. salt.
1 yeast cake.	

Add boiling water to molasses or sugar, when lukewarm add yeast cake and dissolve. Stir in half the flour and beat well. Add the rest of the flour with the salt and continue beating. Cover and put to rise until double in bulk. Then beat again thoroughly to distribute evenly the gas. Half fill prepared bread tins with the dough. Set to rise until dough fills tins. Bake in a hot oven about one hour. This quantity makes three loaves.

Parker House Rolls.

1 cup milk.	1 tbsp. butter.
1 tbsp. sugar.	1 tbsp. lard.
½ yeast cake.	3 cups (about) flour.
2 tbsp. warm water.	1 tsp. salt.

Dissolve yeast cake in lukewarm water. Scald milk, add to it the lard, butter and sugar. When lukewarm add the yeast. Stir in one cup of flour, beat well, cover and put in a warm place until light (about half an hour). Then add the remainder of flour with salt. Knead dough thoroughly. Place in a greased, warm bowl, cover and leave in a warm place to double in bulk (about 1½ hours). Turn on to a floured board, knead lightly, roll out to one-fourth of an inch in thickness, cut out with a small round cutter. Make a firm crease in the centre of each with the handle of a wooden spoon, brush over the surface with melted butter, fold in half, press together a quarter of an inch from the edges. Place on a greased and floured tin, leaving room for rising. When the rolls have doubled their bulk place at the bottom of a hot oven. Bake about 15 minutes. Serve at lunches and dinners.

Boston Brown Bread.

1 cup white flour.	¾ cup molasses.
1 cup graham flour.	2 tsp. soda.
1 cup cornmeal.	1 cup milk (sweet or sour).
1 tbsp. butter.	½ tsp. salt.
½ cup raisins.	

Mix the dry ingredients together except soda. Mix the soda with the molasses until it foams, add these with the milk to the dry ingredients, beat all well together. Put into a well greased lard or baking powder tin, cover and steam for 3 hours. Serve hot. It is eaten with butter and baked beans.

Hot Cross Buns.

1 cup warm milk.	½ cup sugar.
1 yeast cake.	½ tsp. salt.
1 tbsp. sugar.	½ cup currants.
1¼ cups flour.	1 piece peel.
1 egg.	1 tsp. mixed spice.
2 cups flour.	¼ tsp. grated nutmeg.
¼ cup butter.	

Make a sponge by dissolving yeast in warm milk with sugar, stir in 1¼ cups flour, beat well, cover and put to rise until light. Add the well beaten egg to the light sponge. Rub the butter into the 2 cups flour, add the sugar, salt, currants, peel cut finely and spices. Add these to the sponge mixture. Turn on to a floured board, knead lightly. Place in a greased bowl, cover and leave in

a warm place to double its bulk, this takes about two hours. Turn on to a floured board, knead lightly, divide the dough into two dozen pieces, make each into a neat round bun, with a knife sharply cut a cross on the top of each. Place on a greased tin, cover and leave 15 minutes to rise. Bake at the bottom of a hot oven. When half cooked brush over the surface of each with equal quantities sugar and milk boiled together. Serve hot on Good Friday.

Toast.

Dry. Cut slices of stale bread one-third inch thick. Place bread on oven shelf with oven door open to dry a few minutes. Toast quickly on both sides over a hot, clear fire, moving the bread about slightly to prevent it burning. Serve in a toast rack to allow the steam to escape, otherwise it would be sodden.

Hot Buttered Toast. Cut slices of stale bread half an inch thick. Toast on both sides over a hot, clear fire as above. Remove crusts, spread with butter, gash toast that butter may soak in, cut in small, dainty pieces. Serve for afternoon tea in a hot, covered toast dish, keep it hot over a bowl of boiling water. This toast is apt to be indigestible.

Uses for Stale Bread.

Crusts and pieces of stale bread should be kept in a clean lard tin in warming closet to dry. Leave lid half on to protect from dust, do not shut tin or bread may mildew. When dry put bread on clean paper and crush finely with a glass bottle. Sift through a fine strainer. Keep the finest crumbs in one covered jar for egg and bread crumbs, and the coarse crumbs for puddings in another jar.

Bread crumbs may be used for scallops and for crumbing food to be fried, and for stuffings. Steamed puddings are lighter if half the flour is replaced by bread crumbs.

They may be added to beef loaf, rissoles, fish loaf. Slices of stale bread may be used for fruit puddings. See Bread and Fruit Pudding, Bread and Butter Puddings, also Croutons, for serving with soups.

CHAPTER XIV.

FLOUR MIXTURES AND AGENTS USED TO LIGHTEN FLOUR MIXTURES

Flour mixtures are of two kinds, doughs and batters. Doughs are stiff enough to be handled. Batters are thinner and can only be handled with a spoon.

Food is made lighter and easier to digest by the following agents:

(1.) **Air**, which is beaten into food, usually by means of eggs, which, when beaten, are capable of holding much air.

(2.) **Steam**, produced by the heating of water in food.

(3.) **Carbonic Acid Gas**, produced by an alkali (bicarbonate of soda) and acid (cream of tartar) with a liquid. Carbonic acid gas is also produced when bicarbonate of soda is used with any one of the following: Vinegar, lemon juice, molasses or sour milk. All contain acid. This gas lightens doughs and batters by expansion, the dough being cooked while expansion of the gas takes place. Carbonic acid gas is also produced by means of growing yeast. This method is used in bread making.

	Bicarbonate of Soda	Cream of Tartar
Manufactured from..	Common salt	Argols, a sediment found in wine casks.
Nature	An alkali	An acid.
Texture	A rough, white, lumpy powder.	A greyish white, smooth powder.
Taste	Saltish	Acid.
Price per lb.	10 cents	40 cents.
Use in proportion ...	One measure of soda to two of tartar.	Rather more than two parts of tartar may be used to neutralize one part soda.

Baking Powder.

$\frac{1}{4}$ lb. bicarbonate of soda. $\frac{1}{2}$ lb. cream of tartar, or
 3 oz. cornstarch. 3 oz. powdered tartaric acid.

Mix the three ingredients together and sift three times. Keep in an airtight tin. The cornstarch is added to keep the soda and tartar dry and separate, to prevent action taking place before the baking powder is added to food.

The Effect of Adding Baking Powder to Flour Mixtures.

When baking powder is added to food, moistened and heated, carbonic acid gas (CO_2) is given off, which pushes up the dough, and Rochelle salts are produced and remain in the dough. The salts are a mild aperient and harmless in small quantities. Baking powders containing alum are injurious to the internal organs and should be avoided.

When using baking powder, or soda with an acid and liquid, the CO_2 is produced more quickly if heat is applied, therefore during the making keep everything cold, but bake at once in a hot oven so that the heat may quickly burst the starch grains in the flour as the CO_2 is pushing the dough up, the mixture is then baked light and porous.

Biscuits and Scones.

- 1 scant cup sifted flour.
 2 tsp. baking powder, or 1 tsp. cream of tartar and $\frac{1}{2}$ tsp. soda.
 $\frac{3}{4}$ tsp. salt.
 1 $\frac{1}{2}$ tbsp. shortening, lard or butter, or half of each.
 $\frac{1}{2}$ cup (about) milk, or a mixture of half milk and half water.

Method. Mix flour, salt and lightening agent together and sift twice. Chop shortening into flour and finish by rubbing it in with tips of fingers. Mix with a knife from the centre, gradually adding the liquid by degrees. Turn on to a floured board, make the dough smooth on top. Roll lightly to half an inch in thickness, cut out with a round cutter. Place on an ungreased tin fairly close together. Bake at once in a very hot oven 12 to 15 minutes. Serve hot on a doily, or cold. One cup of flour makes five biscuits of average size.

Note. If sour milk or buttermilk is used instead of sweet milk, lighten with $\frac{1}{2}$ tsp. cream of tartar and $\frac{1}{2}$ tsp. soda, as the lactic acid in sour milk takes the place of half of the cream of tartar.

Sultana Scones.

- 2 cups sifted flour. 1 $\frac{1}{2}$ tsp. butter.
 2 tsp. cream of tartar. 3 tbsp. sugar.
 1 tsp. soda. 4 tbsp. sultanas.
 1 $\frac{1}{2}$ tsp. lard. $\frac{3}{4}$ cup (about) milk (sweet or sour).

Make as for biscuit, adding the sugar and sultanas just before mixing. Turn the dough on to a floured board, divide into two balls, roll each to a circular shape half an inch thick. Mark with a knife to form four triangular scones, but do not cut through the dough. Bake as for biscuit. Just before taking them from the oven brush over the surface with a little sugar and milk boiled together. This glazes the scones. The sultanas and sugar may be omitted.

Nut Loaf.

- 4 cups flour. 1 cup chopped walnuts.
 1 tsp. salt. 1 egg.
 4 tbsp. baking powder. 2 cups milk or water.
 $\frac{1}{2}$ cup sugar.

Sift flour, salt, and baking powder, add sugar and nuts. Beat egg well, add with milk to dry ingredients, mix quickly with no beating. Bake in a well greased bread tin. Let the loaf stand in tin twenty minutes in a warm place before baking. If less nuts are used rub a little shortening into the flour. Bake in a moderate oven about one hour.

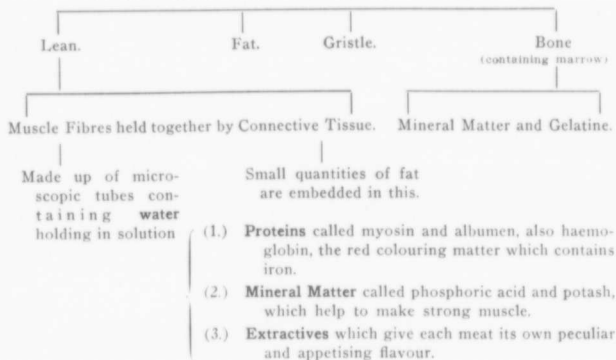
Muffins.

- 1 egg. $\frac{3}{4}$ cup milk.
 2 tbsp. sugar. 1 $\frac{1}{2}$ cups flour.
 2 tbsp. melted butter. 2 tsp. baking powder, or
 $\frac{1}{4}$ tsp. salt. 1 tsp. cream of tartar and $\frac{1}{2}$ tsp. soda.

Beat egg, add sugar and beat again, add melted butter and milk, sift flour, salt, cream of tartar and soda together and beat these into the egg mixture. Half fill greased muffin tin and bake in a moderate oven about 20 minutes.

CHAPTER XV.

MEAT STRUCTURE AND COMPOSITION

**Value in Diet.**

Meat is chiefly valuable on account of its proteins (which are easily digested), and its mineral matter, both of which build and repair tissues. It is also a stimulant. The cheaper cuts of meat, if rightly cooked, are as nutritious as the most expensive. Meat should be eaten in moderation, once a day being sufficient.

Digestion of Meat.

The less meat is cooked the easier it appears to be digested. Meat is fairly well digested and absorbed, except liver, kidney and heart, which, on account of their close texture, are more difficult to digest.

Mutton and lamb are easier to digest than beef, as their fibres are shorter.

Pork, on account of the large quantity of fat, and veal on account of its stringy fibres, are both more difficult to digest.

Rules for Choosing Meat.

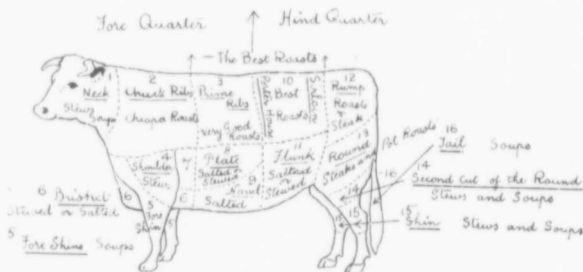
- (1) There should be no unpleasant smell.
- (2) The lean should be firm, a bright red colour, finely grained and mottled with fat.
- (3) The fat should be a pale cream color, and the suet should crumble easily. Mutton should be small-boned. Lamb chops have a pinkness along the bone. Avoid buying purple-coloured beef, and veal which lacks colour. Good veal is reddish pink.
- (4) In older animals and in those parts of an animal much exercised, such as the legs, the muscle fibres and connective tissue become thicker and tougher

These joints should be bought for moist cooking such as stews, pot roasts and soups.

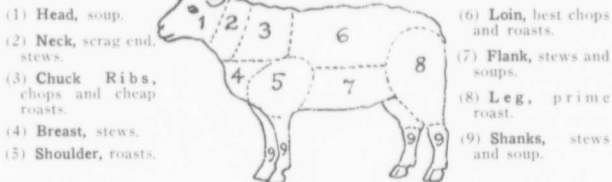
For roasting, baking and broiling, that is cooking by dry heat, buy the best joints, those which come from the centre of the back.

Tough Beefsteak should be put through a meat mincer and then cooked as Hamburg steak, beef loaf, or potted beef.

Cuts of Beef from an Ox.



Cuts of Mutton from a Sheep.



The Effects of Cooking Meat.

- (1.) The appearance and flavour of both lean and fat are improved. Two loins cut together make a saddle. This is an excellent roast.
- (2.) Harmful bacteria are destroyed if the cooking is thorough.
- (3.) **Moist Heat.** In **soup** the juices are extracted and the gelatine dissolved in the water. In a **stew** the gelatine is softened, part of the juices are extracted in the gravy, and part remains in the meat.

Dry Heat. In roasts, broils and baked meat great heat is applied during the early stages of cooking, the protein material on the surface is solidified and forms a covering to keep the juices in the meat.

The proteins of meat both harden with heat, they begin to coagulate at from 134° F. to 160° F.

When the muscle and connective tissue have become thickened and tough by age and exercise moist heat is required to soften and loosen the muscle fibres and to convert the connective tissue into gelatine.

- (4.) Meat loses weight when cooked.

Carving of Meat.

Meat should be cut at right angles to the fibres, the muscle tubes are then broken and the juices flow out.

The Care of Meat.

- (1.) Remove meat from paper on arrival to prevent the juices soaking into the paper.
- (2.) Place it on an earthen or enamel dish and put it in a safe or cover with cheesecloth. Keep meat in a cold place.
- (3.) Before cooking wipe all over with damp cheesecloth. Scrape outer parts if necessary, and cut away undesirable pieces.
- (4.) Frozen meat before being cooked must be thawed in a warm room.

Directions for Baking Meat.

Roast meat is cooked in front of an open fire, baking now takes its place.

- (1.) Weigh and wipe meat with a damp cloth, place on a trivet in a baking pan. If the meat is very lean put some dripping on it.
- (2.) Place the meat in a hot oven at first that the albumen on the surface may be immediately hardened and thus form a covering to keep in the meat juices, lower the heat slightly after fifteen minutes. The heat should be greater for a small joint than for a large one.
- (3.) Baste the meat frequently with hot fat to keep it moist and impart a good flavour.
- (4.) **Time.** Allow fifteen minutes to each pound and fifteen minutes extra to the whole joint for beef, lamb and mutton, and twenty minutes to each pound for pork and veal and twenty minutes extra to the whole joint. The thickness of the joint and the amount of bone must be taken into consideration.

5. Serve the meat on a hot dish and the gravy separate.

Gravy for Meat (1).

2	tblsp. fat.	f.g. pepper.
2	tblsp. flour.	to 1 cup of hot water or stock.
$\frac{1}{2}$	tsp. salt.	

After the cooked meat is removed from meat pan, pour off all fat except quantity required, add the flour and seasoning, stir over the fire until well browned, stir and add hot water or stock off the fire, return and boil up, stirring vigorously for 3 minutes. Strain gravy into hot gravy boat. A little brown colouring may be added if wished.

Pot Roast Gravy.

See directions for Pot Roast.

SAUCES FOR MEATS**Mustard.**

Mix $\frac{1}{4}$ cup mustard and $\frac{1}{2}$ tsp. salt to a liquid paste with cold milk. Serve with roast beef.

Apple Sauce.

6 apples.
1 cup water.

Wash apples, remove stalk and calyx, cut in slices, add water. Stew until soft. Stir occasionally. Rub through a strainer. Reheat and serve with hot roast pork.

4. Add cold water to a stew, allow $1\frac{1}{4}$ cups to each pound of meat.
5. Vegetables of various kinds, prepared and cut in neat pieces, may be cooked with the meat or may be added with the seasoning during the last hour of cooking.
6. Thicken each cup of gravy by adding, after the meat is removed, 2 tbsp. flour mixed to a liquid with cold water. Boil the gravy three minutes. It is not necessary to add any flour to thicken gravy if the meat was rolled in flour before it was cooked. A stew may also be thickened by allowing 2 tbsp. crushed tapioca to each cup of water used when the stew is made.
7. Dish the meat in the centre of a hot platter with the vegetables and gravy around it.

The Use of the Fireless Cooker for Stews.

Make the stew in the usual way, using a covered jar or pan without a long handle. Heat the stew on the stove or in the oven and keep it cooking for half an hour so that all parts become heated. Then place the jar quickly in a fireless cooker, make airtight and leave untouched for 8 hours or longer. The stew may need to be reheated before it is served as some heat is lost during the cooking.

How to Cook a Pot Roast.

A pot roast is cooked by a combination of stewing and baking. The tougher joints are more tender if cooked in this manner. The following joints are suitable for this method: rump roasts, roasts from the round, the chuck ribs, and the shoulder, also tough fowls.

Method. Prepare the meat as for baking, place it in a covered baking tin or crock with water to come half way up the joint, cover and bake in the oven or on top of stove, allowing one-half hour for each pound of meat. During the last part of cooking remove the cover, baste occasionally, and let the water cook away, leaving only that amount required for gravy. Dish the meat on a hot platter, mix flour, salt and pepper (use the same quantities as for all gravy) to a liquid with a little cold water, stir this into the pan and boil the gravy three minutes. Add browning if necessary. Strain before serving. If the meat is very fat, pour off the fat from the top of the gravy before adding the flour to thicken.

Vegetables may be cooked with the meat if desired.

Beef Stew Cooked in Bean Crock.

2 lb. shin of beef.	1 small carrot.
$\frac{1}{4}$ cup flour.	1 small onion.
2 tsp. salt.	$2\frac{1}{2}$ cups cold water.
$\frac{1}{4}$ tsp. pepper.	

Wipe meat with a damp cloth, cut into two-inch cubes. Mix flour, pepper and salt together and roll the meat in this. Prepare and slice vegetables. Place the meat and vegetables in layers in a bean crock, pour over the water, cover and bake in a moderate oven 4 hours. Serve on a hot dish.

Irish Stew.

$1\frac{1}{2}$ lb. lean mutton or lamb (scrag end of neck is suitable).	
2 lb. potatoes.	$\frac{1}{4}$ tsp. pepper.
2 onions.	2 cups cold water.
$1\frac{1}{2}$ tsp. salt.	

Prepare meat and cut into neat pieces. Prepare and slice onions. Peel but leave potatoes whole. Put the meat, onions and potatoes in layers in a stew pan, add the seasoning and cold water. Stew in oven or on back of range for

2½ hours. Dish meat on a hot dish with potatoes round it, thicken gravy by mashing a potato in it.

Chop or Steak Pan Broiled.

Directions:

- (1.) A hot, clear fire is necessary.
- (2.) Heat the fry pan and put a small piece of the meat fat in it to grease it.
- (3.) Wipe and trim the meat, hit it with a wet rolling pin or vegetable masher. This bruises the fibres and makes the meat more tender. Put tough steak through a mincer and make into little cakes and cook as follows:
- (4.) Put the meat in the pan when it is smoking hot. Turn every few seconds with a knife or two spoons. Do not put a fork into the meat as it lets out the juices.

(6.) **Time.** Allow 6 to 8 minutes for thin meat, and from 10 to 12 minutes for thick steak if the meat is desired thoroughly cooked, less if it is preferred rare in the centre.

(6.) Serve at once on a hot dish. Put a little butter, pepper and salt over the surface of lean meat, not on chops. As there is no gravy with a broil, serve creamed potatoes and Worcester or tomato sauce with chop or steak.

N.B.—If a broiler or gridiron is used, grease and heat the bars, and cook the meat over a hot, clear fire as for pan broiling, turn the broiler every few seconds. Finish and serve as above.

Sheep's kidney, skinned and split in two, wrapped in a slice of bacon, is often broiled. Only the best and most tender meat is broiled as broiling is really roasting on a small scale.

Pan Broiled Bacon.

Streaky bacon rashers. Cut bacon in thin rashers, remove rind, heat fry pan, put in the bacon, cook gradually until the fat is clear and slightly brown at edges. Serve immediately on a very hot dish.

Liver Fried in Bacon Fat.

Wash the liver (calf's liver or sheep's) in water, cut in slices half an inch thick, dip in flour seasoned with salt and pepper, cook in the smoking hot fat from bacon about ten minutes. Turn once during cooking. Serve bacon and liver on a hot dish with bacon fat.

Sheep's kidney, skinned and split in two, may be fried with bacon.

Hamburg Steak.

- 1 lb. beefsteak (tough steak may be used).
- 1 tsp. finely scraped onion.
- 1½ tsp. salt.
- ¼ tsp. pepper.
- 1 egg.

Remove skin and bone from meat and put through meat chopper, add pepper, salt and onion juice. Mix with a well beaten egg. Make into small, round cakes and pan broil. The onions may be omitted. Serve sauce or gravy with them.

Beef Loaf.

- 1 lb. beef steak.
- 1 tsp. finely scraped onion.
- 1½ tsp. salt.
- ¼ tsp. pepper.
- 1 tsp. mixed herbs.
- 1 cup cracker or bread crumbs.
- 1 egg.
- ½ cup gravy, water or milk.

Prepare and mix as for Hamburg steak. Put into a greased bread tin. Bake in a moderate oven one hour. Serve hot or cold.

Beef Steak Pie.

1½ lb. thick, tender steak or shin of beef. 1½ tsp. salt.
1 or 2 sheep kidneys or ½ lb. ox kidney. ¼ tsp. pepper.
¼ cup flour. water to nearly cover meat.

Method I. Cut the steak into small, thin strips, the fat and the kidney into small pieces. Mix the flour, pepper and salt together (these thicken and season the gravy). Dip each piece of steak in the flour and roll it up with a piece of fat and kidney inside. Place the rolls in a baking dish. Cover with a good pastry crust rolled ¼ inch thick. Make two holes in crust to let out the poisonous meat gases. Decorate with pastry leaves and brush the pastry over with yolk of egg. Bake in a hot oven 45 minutes. The heat should decrease after the first 20 minutes.

Method II. Prepare the meat as above, but cook first and allow to cool before the pastry is put over. The pie will then cook in 25 minutes.

Tough Meat. If tough meat is used, remove skin and gristle, cut into inch cubes and dip into the flour and seasoning, also flour kidney and fat. Put the meat with water in a covered crock or bean jar, stew until tender in the oven. This takes about 2 hours. Make pie by Method II.

Potted Meat.

3 cups cooked minced meat. ¼ tsp. pepper.
¾ cup good gravy or stock. ¼ g. mace or nutmeg.
3 tbsp. butter. melted butter to cover.
1½ tsp. salt.

The cheaper parts of steak or shin of beef may be used if freed from skin and gristle. Prepare the meat and cut in pieces, put it into a covered crock with enough water to keep it from burning. Cook in a moderate oven 2 or 3 hours. Put the cooked meat twice through a meat mincer, add the salt and pepper, and if liked a very little powdered mace or nutmeg. Moisten with good gravy or stock, and the butter creamed. Pound the mixture well, use a pestle and mortar, or enamel bowl and vegetable masher. The meat should be neither dry nor too moist. Pack tightly in glass jars, cover with melted butter to make airtight. This will keep good for two weeks in cool weather.

Any cooked meat or a mixture of meats may be used for potted meat; ends of beef, ham, bacon, fowl or game, and fish also. If no gravy is available add a little meat extract with butter to moisten the meat. Potted meat is useful for sandwiches.

CHAPTER XVI.

POULTRY

Choice.

Young birds have smooth, tender feet, pin feathers, few hairs, and the cartilage at the end of the breast bone is soft and pliable. There should be no unpleasant smell. Only young birds should be roasted or fried. When in doubt as to the age of a fowl, steam or boil it or cook as for a pot roast.

How to Clean, Stuff and Truss a Fowl.

Cleaning. The fowl should first be plucked, all feathers and pin feathers being removed.

(1.) **Singe**, that it burn off all hairs by holding all parts of the bird over a lighted taper, gas, or paper.

(2.) Remove oil duct from tip of back.

(3.) Cut through skin just below the first joint of each leg, take care not to cut the tendons. Hold the upper part of leg with one hand, and the leg below cut with the other hand, break the first joint and twist the leg, pull off the foot and tendons with it. If the fowl is old, before removing the foot, take a steel skewer and pull out the tough tendons from the back of leg just below the first joint.

(4.) Place the fowl on paper and cut off the head without any of the neck. Discard the head.

(5.) Turn the fowl on its breast, cut a slit in the underside of neck skin, leave three inches attached to the body and cut off remainder of skin. Cut off the neck close to the body of the bird.

(5.) Turn the fowl on to its back, insert the fingers at the neck end, remove the crop without breaking it, and the windpipe. Loosen the liver and internal organs at the neck end.

(7.) Cut a small opening in the skin, large enough for three fingers, at the vent end of bird. Insert the fingers, loosen and remove all internal organs, taking care not to break the gall bladder attached to the liver. Reserve internal organs. Everything must be removed from the interior, including lungs, kidneys and blood.

(8.) Wash fowl well by running cold water through it. Wipe thoroughly inside and out with a clean, damp cloth. Do intestinal opening carefully. The fowl is now ready to be stuffed and trussed.

Cleaning of the Giblets or Internal Organs.

From the internal organs save the liver, cut from it carefully the gall bladder and any yellow parts surrounding it. Remove fat, skin and blood vessels from the heart. Cut the gizzard from the intestines, remove the fat and skin and cut through the thick part of gizzard with care to the inner skin, remove this skin and its contents and burn with the remaining organs. Wash liver, heart, gizzard and neck. Put these in a saucepan with 1 tsp. salt and a little pepper, add 2½ cups water, bring to boiling point, cook gently 1 hour. Use this stock for making the gravy, the heart, gizzard and liver may be chopped and added to the gravy. Make gravy as for roast meat.

If the feet and legs are scalded in boiling water, the skin scraped off and the nails removed, the feet may be added to the giblets for making gravy.

Trussing a Fowl.

Before trussing, stuff with fowl stuffing at the neck end. Make the breast look plump, the remainder of stuffing may go at vent end.

(1) After stuffing place fowl on its back, fold over the piece of skin at neck end, give each wing a twist and fold over the skin, the tips of the wings should meet and cross at the back of the fowl just below the neck opening. Run a skewer through first joint of one wing, catching the neck skin and the first joint of the other wing.

(2) Run another skewer through the middle joint of one wing, push the leg on the same side well up into the breast and pass the same skewer through its middle joint, then through the body of the bird, push up the other leg and catch it through its middle joint and similarly through the middle joint of the other wing. This gives the bird a plump appearance.

(3) With a third skewer catch the skin on the underside of end of one leg, pass it through the skin covering opening at vent end and catch the skin at the end of other leg.

(4) Take clean thread or string, wind it around the end of each skewer on one side, pulling it taut, then pass it over the body and around the other end of each skewer. Tie the two ends of string securely.

Roast Fowl.

(1) Clean, stuff and truss fowl according to directions.

(2) Place prepared fowl in a baking tin, a covered one for choice, with plenty of good dripping or bacon fat for basting. A few slices of bacon may be placed on the breast.

(3) Bake in a hot oven. Baste frequently with hot fat. Time: allow 1½ hours for a medium sized fowl.

Gravy. Make the gravy as for roast meat, using the stock from the giblets. The giblets, chopped, may be added to the gravy.

Serving. Serve fowl on a hot dish and gravy separate. The skewers and string are removed from fowl before serving it. Baked sausages or rolls of bacon are often served round the fowl.

To prepare bacon, cut in thin strips, remove rind, roll each strip and fasten by running a skewer through them. Bake on the fowl the last 15 minutes. Remove skewer before serving.

Bread sauce may also be served with roast fowl.

Bread Sauce.

a small onion.	½ tsp. salt.
1½ cups milk.	½ g. pepper.
¾ cup white breadcrumbs.	

Peel onion and scald in the milk. Add crumbs and seasoning to scalded milk and simmer for ten minutes. Remove onion and serve in a hot sauce boat.

Stuffing for Chicken, Beef Steak or Fish

1½ cups breadcrumbs.	½ cup melted butter, or
1 tsp. powdered thyme.	½ cup finely chopped suet.
1 tsp. powdered parsley.	rind and juice of ½ lemon.
1 tsp. powdered marjoram or savoury.	1 tsp. salt.
½ cup milk.	½ tsp. pepper.
	1 egg.

Mix the dry ingredients well together, moisten with the beaten egg and milk.

Sage and Onion Stuffing for Pork, Geese and Ducks.

1½ cups breadcrumbs. 1 tsp. salt.
 2 large boiled onions. ⅓ tsp. pepper.
 1 tbsp. sage, powdered.

Chop onions finely and mix with dry ingredients.

Steamed or Boiled Fowl.

- (1.) Clean and truss a fowl as for roasting.
- (2.) Tie it in a clean cheesecloth.
- (3.) Place in a saucepan of boiling water, let it boil up once, remove to the side of stove and cook just below boiling point for two hours if the fowl is old, one hour is sufficient for a young fowl. When cooked the flesh leaves the bones easily. Drain and remove the cloth. Do this on saucepan lid. Serve on a hot dish. Steamed fowl: cook over boiling water. A tough fowl may be steamed for two hours and then baked for half an hour to improve the flavour.

Sauce. Serve separately a medium white sauce made with part water in which the fowl was cooked and part milk. Chopped parsley may be added to the sauce.

The remainder of water in which fowl was cooked will make the foundation of a soup.

Stewed Fowl with Hot Biscuit.

Cut a tough fowl into joints. Dip each piece into flour seasoned with salt and pepper. Fry brown in hot fat, but do not cook long. Place pieces of fowl in a stewpan, add a small peeled onion, cover with cold water, bring to boiling point and then cook slowly at the side of range for 1½ hours, or in a fireless cooker. Arrange the fowl neatly on a hot dish. Make a sauce (see Sauces) from the gravy, and pour it over the fowl. Serve hot baking powder biscuits split open around the dish.

Jellied Chicken.

This is a good method of utilizing an old fowl. Prepare and cook as for boiled fowl until the meat readily leaves the bones. An onion may be added if wished. When cooked, cut the flesh from the bones, return the bones to the broth and boil hard with the lid off the saucepan until the broth is reduced to one half, then season to taste. Chop the meat, season with salt and pepper, and place in a wet mould. Pour over the broth and leave until cold, when it should be a firm jelly. Remove all fat, turn out on to a flat dish, garnish with parsley and serve with a salad.

Broiled Chicken.

Tender chickens may be cut into joints and broiled or fried as chops are. The joints must, before cooking, be left for two or three hours with a few tablespoons of melted butter or olive oil, a few drops of lemon juice and a piece or two of onion if the flavour is liked. Before broiling, heat through in the oven. Thick joints, such as the legs, will take from 15 to 20 minutes to broil.

CHAPTER XVII.

SOUPS AND STOCK

Kinds. Soups may be divided into two classes:

(1.) Soups made with meat stock and served either with or without vegetables and thickening.

(2.) Soups made without meat stock. Fish or vegetables with milk and a thickening. These are called cream soups or purees, and are generally rubbed through a strainer.

Value of Soup in Diet.

(1.) It warms the body.

(2.) It excites the appetite.

(3.) Taken at the beginning of a meal it causes the digestive juices to flow more freely and thus helps the digestion of solid foods which follow.

Meat soups are eaten for the reasons above rather than their nutritive value, which is not great compared to their bulk but is increased if the meat and vegetables are eaten. Soup at the beginning of a heavy meal should be light and clear, but if soup is to replace meat at a meal, serve pea, bean, lentil, or a vegetable and milk soup, which with bread and butter form a nourishing meal.

For the value of gelatine from bones in soups see note on gelatine under Jellies.

Stock.

Stock is the foundation of soups and if used instead of water makes richer soups and gravies. Stock is made from cooked or uncooked meat and bones with cold water which is gradually heated. It is then cooked just below boiling point from 5 to 7 hours. Vegetables, herbs and seasonings to flavour are added during the last hour of cooking.

Effects of Cooking and Food Value of Stock.

The long, slow, moist cooking draws out some of the meat juices, most of the extractives and mineral matter. The bones contain much mineral matter. The gelatine is dissolved out of the meat and bones.

Stock Ingredients.

Meat. The tougher and cheaper parts of beef, veal, mutton and fowl, remains of cooked joints or birds, stews, gravy, bones, gristle, scrap ends of ham or bacon may all be used with advantage.

Vegetables. Carrot, turnip, onion, leek, outer parts of celery and the water in which vegetables have been cooked may be used instead of plain water.

Herbs. Thyme, parsley, marjoram, summer savoury, bay leaves.

Seasonings. Salt, peppercorn, whole cloves, whole mace, stick cinnamon, and allspice.

Soup Thickenings. Flour, cornstarch, arrowroot, tapioca, sago, pearl barley, rice, crusts of bread, eggs or pea flour, macaroni, spaghetti.

It is a good plan to keep an iron stock pot, into which scraps left from cooking may be put.

Brown Stock.

4 lb. shin of beef ($\frac{2}{3}$ meat and $\frac{1}{3}$ bone).	1 sprig savoury.
5 pints water.	1 onion.
3 cloves.	$\frac{1}{2}$ leek.
6 peppercorns.	1 carrot.
1 sprig parsley.	$\frac{1}{2}$ small turnip.
1 sprig thyme.	$\frac{1}{2}$ head of celery.
1 sprig marjoram.	$1\frac{1}{2}$ tbsp. salt.

Prepare meat as usual, and cut into two-inch cubes. Brown one-third of meat in marrow from bone in stock pot. This improves the colour and flavour of stock. Soak all the meat with the cold water for half an hour. Bring slowly to boiling point, draw to the back of stove and simmer for 5 hours. Add the prepared vegetables cut in pieces, the seasoning, herbs tied in cheesecloth. Cook one hour longer or more. Strain through a colander and cool quickly as stock is then less likely to ferment. When cold the fat will be a solid cake on the top. Do not remove this until the stock is to be used. Reheat this stock every other day in hot weather if it is necessary to keep it. To remove fat from hot stock use a spoon and finish by passing clean paper over the surface.

Stock from cooked remains of joints and bones is made in the same way, except that there is no reason to brown part of meat or soak the remainder. The vegetables and herbs may be omitted and added to the soup.

To Turn Stock in Soup.

Remove all fat from strained stock. Add, if wished, a few small dice of turnip and carrot to freshen the flavour, cook until soft. Taste and if necessary add salt and pepper. Thicken by adding to each pint of soup 4 tablespoons flour mixed to a liquid with cold water, stir and cook in the boiling soup for three minutes. Half the quantity of cornstarch may be used similarly and gives a clearer appearance to the soup, or any of the other soup thickenings mentioned may be used.

Vegetable Milk Soups.

These soups are made by cooking vegetables of one kind, or a suitable combination, with water to cover. An onion is generally added for flavour (this is also improved if the vegetables are sweated in butter before the water is added). When the vegetables are soft the whole is rubbed through a strainer and returned to the saucepan, and to prevent the vegetables separating from the water a binding of flour and butter rubbed together is stirred into the boiling soup, a tablespoon of each being sufficient for each pint of soup. Hot milk is added to the soup to thin it down to the required consistency. Potatoes, tomatoes, celery, onions, leeks, carrots, parsnips, Jerusalem artichokes, peas, beans and lentils all make nourishing soups. Fish may be cooked similarly, sieved, and milk with a thickening added. Salmon soup is excellent. Oysters make good soup, the plump part of the fish is served in the soup.

Potato Soup.

4 potatoes.	2 tbsp. flour.
1 onion.	1 tbsp. salt.
4 tbsp. butter.	$\frac{1}{2}$ tsp. pepper.
5 stalks celery.	1 pint hot milk.
2 pints water or stock.	1 tsp. dried parsley.

Peel and dice the potatoes and onion, cut up celery. Make half the butter hot in a saucepan, add the onion and potatoes, cook until they sweat, do not brown. Add salt, pepper, celery and water. Cook until soft. Rub through a strainer. Return to the saucepan, reheat, when boiling add the remainder of

butter blended with the flour, stir and cook 5 minutes. Add the hot milk and parsley. Serve with bread croutons.

Tomato Soup.

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|--|----------------------------|
| 1 large tin tomatoes. | $\frac{3}{4}$ cup rice. |
| 1 quart water, or
stock from bones or vegetables. | $\frac{1}{2}$ tbsp. sugar. |
| 1 onion. | $\frac{1}{2}$ tbsp. salt. |
| 2 tbsp. dripping or butter. | $\frac{1}{8}$ tsp. pepper. |

Peel and slice onion and fry a golden brown in the fat, use the saucepan in which soup is to be made. Add the tomatoes, water, seasoning and rice well washed. Cook gently for one hour. Put through a strainer, reheat, add sugar and serve with croutons.

Cream Tomato Soup.

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| 1 small tin tomatoes. | $\frac{1}{8}$ tsp. soda. |
| 1 small onion (sliced). | 4 tbsp. butter. |
| $\frac{1}{2}$ tbsp. sugar. | 4 tbsp. flour. |
| $\frac{1}{2}$ tbsp. salt. | 1 quart hot milk. |
| $\frac{1}{8}$ tsp. pepper. | |

Cook tomatoes, onions, sugar, salt and pepper together twenty minutes, rub through a strainer and add the soda. Blend butter and flour and stir into the scalded milk. Combine the tomatoes and milk. Serve with croutons.

Split Pea Soup.

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| 1 pint split peas. | 2 oz. bacon fat or ham fat. |
| 1 onion. | 2 tbsp. salt. |
| 1 small carrot. | one-sixth tsp. pepper. |
| $\frac{1}{4}$ turnip. | 1 tbsp. powdered mint. |
| 4 outer stalks of celery. | 2 tbsp. each of butter and flour. |
| 3 quarts water or stock | $\frac{1}{2}$ pint milk if desired. |

Look over the peas, remove black ones. Wash in several waters and soak peas over night. Put peas, prepared vegetables, bacon cut up (a ham bone may be used instead), salt, pepper and cold water in a large saucepan. Boil gently four hours, rub through strainer, reheat, bind with butter and flour rubbed together, stir and boil 5 minutes, and add hot milk to thin if necessary. On each plate of soup a little powdered mint should be sprinkled. Serve with croutons. The flavour of this soup is improved if the vegetables (except peas) are first sweated in the bacon fat.

Green Pea Soup.

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|----------------------------|-----------------|
| 1 pint or tin of peas. | 1 sprig mint. |
| $\frac{1}{2}$ tbsp. sugar. | 2 cups milk. |
| 3 cups cold water. | 2 slices onion. |
| $1\frac{1}{2}$ tsp. salt. | 2 tbsp. butter. |
| $\frac{1}{8}$ tsp. pepper. | 2 tbsp. flour. |

Cook peas, sugar, mint, salt, pepper and water half an hour. Add a handful of pea pods in summer. Rub the whole through a strainer. Reheat in saucepan, when boiling add flour and butter mixed together, stir and cook five minutes. Scald milk with onion and add to peas. Serve with croutons.

Croutons.

Cut slices of stale bread one-quarter inch thick, remove crusts and spread with butter. Place on a baking tin cut in quarter-inch strips and then in quarter-inch dice. Bake a golden brown in the oven. Serve on a doiley on a hot plate. Pieces of bread and butter, toast or bread may be used.

CHAPTER XVIII.

FISH

Classification.

Fish may be divided into three classes for eating: white, oily, and shell fish. **White** fish have the fat mostly stored in the liver; ex.: cod, halibut. **Oily** fish have fat distributed throughout their flesh; ex.: herring, salmon.

Digestion.

White fish are easier to digest than oily fish. Shell fish are difficult to digest because of their close fibres. The oyster is an exception and if eaten raw is easy to digest.

Composition.

Protein and fat are the chief nutrients in fish. Fish contains more gelatine but has less extractives than meat. There is more waste to fish in skin and bone.

Food Value.

Fish contains more water and rather less protein than an equal quantity of lean meat. Fish is also less stimulating. It depends on the amount of fat a fish contains how much energy it will yield. Salmon, herring and mackerel are better than cod in this respect, and are more satisfying to people at hard work. Since fish is deficient in carbohydrates, potatoes and bread are good foods to combine with it.

Choice of Fish.

Fish must be perfectly fresh. This is indicated by bright eyes, red gills, firm flesh, and there should be no unpleasant smell. Eat only fish that is in season.

Care of Fish.

Fish should be removed from paper on arrival, it should be kept in a cool place and not near food it is likely to flavour.

The Cleaning of Fish.

Place the fish on paper. Cut a slit on the under side near the head, draw out all internal organs. Burn these except the roe. Remove scales with a knife, beginning at the tail end, incline knife towards self to prevent scales from flying. Wipe fish inside and out with a damp cloth and cold water. Use salt to remove blood. The head may be left on or cut off.

The Cooking of Fish.

As most fish have less flavour than meat, and since the nutrients are easily dissolved out of fish by water, boiling, except for salmon, is not as good a method of cooking fish as steaming, baking, frying or baking in a paper bag.

Boiled Fish.

To 2 quarts water allow 1 tsp. salt and 1 tsp. vinegar or lemon juice. The salt improves the flavour, the acid whitens and makes the flesh firmer. Prepare the fish and tie in clean cheesecloth if neither fish kettle nor frying

basket is available. Plunge into boiling water, boil one minute, then cook just below boiling point. Remove all scum as it rises.

Time. Allow 10 minutes to each pound of fish and ten minutes over to the whole piece, but the thickness of the fish and the amount of bone must be taken into account. Fish is cooked when the flesh leaves the bone.

Serving. Dish on a hot dish, garnish with parsley and cut lemon. White sauce should be served with it. White fish, such as cod, halibut, fresh haddock, are all a better flavour if baked instead of boiled.

Steamed Fish.

Prepare fish and sprinkle with a little salt and a few drops of lemon juice. Tie it in cheesecloth and place in steamer. A fish steak may be steamed between two buttered plates over a saucepan of boiling water. Invert the plates when fish is half cooked.

Time. Allow 15 minutes to each pound and 15 minutes over to the whole. Serve as for boiled fish (see above).

Fish Sauce.

$\frac{3}{4}$ cup butter.	$\frac{1}{8}$ tsp. pepper.
3 tbsp. flour.	1 tbsp. vinegar or lemon juice.
$\frac{1}{2}$ tsp. salt.	1 cup fish stock, hot water or milk.

Melt half the butter, mix smoothly with it the flour, pepper and salt, and gradually add the hot liquid. Stir and boil five minutes. Remove from the fire, add vinegar and remainder of butter cut in small pieces. Mix well. Serve in a hot sauce boat. A hard boiled egg, chopped up, may be added to the cooked sauce.

Baked Fish.

Put the prepared fish into a greased baking tin, add dripping for basting. Bake in a moderate oven, baste frequently unless a covered tin is used.

Time. Allow ten minutes to each pound and ten minutes over. Make the gravy in the tin in which fish was cooked, using the fat with which fish was baked. Use the same quantities as for fish sauce. Fish may be stuffed with poultry stuffing. Place stuffing inside the fish, sew up the opening and bake in the usual way. Fresh haddock is often stuffed and baked. Baked fish has more flavour than boiled or steamed fish.

Fried Fish.

Clean the fish and, if large, cut in neat pieces. Mix $\frac{3}{4}$ cup flour with $\frac{1}{2}$ tsp. salt and a little pepper. Dip the fish in the flour until well covered. It is then ready for frying but will be improved if first egged and dipped in breadcrumbs.

To Egg and Crumb Fish, Meat, or Vegetables.

- 1 egg well beaten, add to it 1 or 2 tbsp. milk.
- 2 cups of fine, dry breadcrumbs.

Put the egg on a plate and the crumbs on clean paper. Dip the food first in the egg, using a brush to cover all parts. Lift it out of the egg with a broad knife, drain carefully, then slip into the centre of the crumbs, shake them all over it. Remove food from the crumbs, shaking off loose ones, then firm the others with a clean knife. If possible place the food in a frying basket, fry in smoking hot fat to cover (see directions for frying). If only a small quantity of fat is used, turn the fish. Drain on paper.

Time. Thick fish will take about ten minutes to cook, thin pieces will cook in from 6 to 8 minutes. Serve on a paper doiley on a hot dish garnished with parsley and cut lemon.

Baked Herring.

6 fresh herrings.	12 peppercorns.
$\frac{1}{2}$ cup water.	2 cloves.
$\frac{3}{4}$ cup vinegar.	1 bay leaf.
1 piece of mace.	1 tsp. salt.

Clean herrings, cut off heads and tails and remove the back bones. Roll each up separately, the tail end inside. Put in a baking dish with the other ingredients and liquids. Bake in a moderate oven from 30 to 45 minutes, according to the size. Serve hot or cold for breakfast. If the backbone is not removed, cut each fish across into three pieces. Mackerel may be cooked in the same way.

Finnan Haddock.

Wash fish, soak an hour if salt, cook in a mixture of milk and water in a tin in oven, or a frying pan on top of stove. Simmer gently 15 to 30 minutes according to size and thickness. Serve on a hot dish with butter dotted over it, or a sauce may be made of the milk and water.

Fish Pie.

Remove skin and bones from the cooked fish, moisten with white sauce and season. A little parsley finely chopped may be added. Half fill a pie dish with this mixture, cover with mashed potatoes and bake in a moderate oven until the potatoes are broken.

Fish Cakes.

Prepare the fish as for fish pie, mix with it an equal quantity of cooked potato and moisten with a little thick fish sauce or white sauce.

Fish Salads.

Cooked fish, freed from skin and bone, may be used for salads. See chapter on salads.

Salmon Loaf.

1 can or 2 lb. cooked salmon.	1 tsp. finely chopped parsley.
$\frac{1}{2}$ cup bread or cracker crumbs.	few gratings nutmeg.
4 tbsp. melted butter.	fg. powdered mace.
$\frac{1}{4}$ tsp. pepper.	3 egg yolks.
1 tsp. salt.	3 egg whites.

Free salmon from skin and bone, divide into flakes, mix dry ingredients with it, add butter and egg yolk well beaten. Cut and fold in whipped whites. Line a bread tin with greased paper, put in the fish mixture. Bake in a moderate oven about half an hour until firm. Remove from tin. Serve hot with white sauce, or cold cut in thin slices on a green salad. This makes a good supper dish if slices are served on a lettuce leaf with a good salad dressing. Garnish with celery and olives.

CHAPTER XIX.

FATS

Kinds.

Fats include fat of meat, suet, marrow and lard, fat of fish, oil of egg yolk, cream and butter, vegetable fats and oils, olive oil, cottonseed oil, cocoanut oil, cocoa butter, and various preparations of animal and vegetable fats; the fat of nuts, such as peanut butter. Margarine, cottolene and other preparations are wholesome foods, but lack the flavour of butter.

Food Value.

- (1.) Fats provide heat for the body.
- (2.) They build up fatty tissues.
- (3.) They lubricate the intestines.

Fats seem to be specially necessary for growing children. Cream and butter they will generally take, but these are expensive. Suet properly prepared and put into attractive puddings is a valuable food.

Effects of Cooking.

Cooking does not seem to alter fats except that it melts the solid forms of fat and improves the flavour of fat of meat. If fat is overcooked, fatty acids result which disagree with people. Fat does not boil, as water does, at 212° F., but needs to be heated to 360° F. before it is hot enough for cooking purposes.

Digestion.

Fats are somewhat difficult to digest, cream and butter are the easiest to digest. Fat of meat is easier to digest cold than hot because it seems to become more granular. For the same reason bacon fat is easier to digest.

Rules for Deep or French Frying.

- (1.) Sufficient clarified dripping, lard or oil, to cover the food must be used. The leaf fat of beef melted out is excellent, it may be used alone or with an equal quantity of lard. Use a deep pan for frying.
- (2.) All articles to be fried must be covered with flour, egg and crumbs or a thick batter. The albumen in the egg is immediately cooked and forms a covering, preventing the fat soaking into the food.
- (3.) The fat must be perfectly still, and a blue smoke should rise from it before food is put into it. Fat is heated to 345° to 400° F. for frying, oil to 600° F. A piece of bread held in the fat should brown in 40 seconds.
- (4.) Place only a few articles in the fat at one time, otherwise the temperature is lowered too much. Reheat the fat each time before putting in a fresh batch. Take care that when food is put in the fat does not bubble up, overflow the saucepan and take fire. A box of sand or an old blanket is useful in case of an accident.
- (5.) Drain all fried food carefully on paper as it is taken from the fat.
- (6.) Serve fried food hot on a dish covered by a paper doily.
- (7.) When the fat has cooled, strain through a fine strainer or through cheesecloth. Fat may be used many times if carefully strained and sediment is

scraped from the bottom when cold. It will need to be clarified occasionally by heating fat gradually with a slice of bread or slices of raw potato. When bread or potato brown, strain fat as above.

To Prepare Food for Frying.

(1.) The food must be dry. Dip in seasoned flour to absorb moisture in the case of meat and fish. Fish should be previously rolled in a clean cloth.

(2.) Cover with egg. Use a whole egg and 2 tsp. water beaten together on a plate.

(3.) Drain carefully from egg, slip into a paper of bread or cracker crumbs, cover well. Remove to a board and firm the crumbs on with a broad knife.

Sauteing, or Frying in a Fry Pan.

Sauteing is cooking in a small quantity of fat. This method is applied to pancakes, griddlecakes, omelets, liver and bacon, steaks, chops, and to reheat cold potatoes. A frying pan or griddle is used, and a small quantity of fat. The fat must be as hot as for deep frying. The food is fried on one side, then turned and cooked on the other. The rules for deep frying apply to sauteing.

Food thus cooked is frequently greasy and indigestible, because food is put into it when the fat has barely melted, instead of waiting until it is still and a blue smoke rises from it.

Fat to Render Down for Frying.

Buy leaf fat for frying purposes. Cut fat into small pieces, removing all cysts. Put fat in wash boiler or covered meat pan, barely cover fat with cold water, cook one hour with lid on to whiten fat. Remove lid and cook until fat is clear and still. Strain, when slightly cool, into an enamel bowl or lard pail. The pieces of skin make good chicken food.

To Clarify Dripping.

First Method. Melt dripping and heat with a potato peeled and cut into slices. Strain into a clean tin.

Second Method. Boil dripping 15 minutes with water. Strain into a bowl. When cold pour off water and scrape sediment from fat.

Doughnuts.

2 eggs.	3 tsp. cream of tartar
1½ cups sugar.	1½ tsp. baking soda.
2 tbsp. butter.	1 tsp. grated nutmeg.
1½ cups milk.	flour to roll out.
1 tsp. salt.	

Beat egg well, add sugar by degrees and continue beating, add butter melted and milk. Sift one cup flour with tartar, soda, nutmeg, and salt, add to egg and milk, stir in as much more flour as is needed to make a stiff dough. Turn on to a floured board, knead lightly to make it smooth, roll to ½ inch in thickness and cut out with doughnut cutter. Fry in deep fat, see rules for deep frying, page 67. Serve dusted with powdered sugar.

Sour milk may be used instead of sweet, in which case use only two teaspoons of the tartar and tablespoon butter with the above ingredients.

Batter for Fritters Fried in Deep Fat.

1 cup flour.	1 gill tepid water.
1 tbsp. salad oil	1 egg white.
or oiled butter.	¼ tsp. salt.

Sift flour and salt into a bowl, make a hole in the centre, add oil, and tepid water by degrees, stir the flour in gradually. Beat batter well until smooth. Just

before cooking fold in the egg white beaten to a stiff froth. Into this batter dip any of the following and fry in deep fat. See page 67 on deep frying.

- (a) Oysters freed from shell, small pieces of any white fish.
- (b) Oranges free from skin, pith and pips, cut in $\frac{3}{4}$ -inch circles.
- (c) Apples free from skin and core, cut in $\frac{3}{4}$ -inch circles.
- (d) Bananas free from skin, half and slice once lengthwise. Serve with castor sugar.

This batter swells in cooking, do not put too many in at once, drain well.

Pancakes.

- 1 cup flour. 2 cups milk.
- 2 eggs. lard or dripping (melted).
- $\frac{1}{4}$ tsp. salt.

Sift flour and salt into a bowl, make a hole in the centre, add egg yolks and one cup of milk by degrees. Stir the flour in gradually. Beat batter until smooth and full of holes, then stir in the last cup of milk. Just before frying fold in the whites beaten until stiff.

This batter improves by standing an hour or so before cooking.

To Fry Pancakes.

Use a small fry pan, make a teaspoon of fat smoking hot, run it well round the edges of the pan. Pour in sufficient batter to just cover bottom of pan. As it cooks shake pan and raise the pancake with a knife. When brown underneath, toss to the other side and brown that. Turn on to sugared paper, sprinkle with sugar, roll up and serve on a hot dish arranged criss-cross fashion. Send quarters of orange or lemon to table with them.

Flap-Jacks Without Eggs.

- 1 cup flour. 1 cup milk, or milk and water mixed.
- $\frac{1}{4}$ tsp. salt. melted lard or dripping for frying.
- 2 tsp. baking powder.

Fry as for pancakes. Serve hot with sugar and butter or molasses. Sour milk and $\frac{1}{2}$ tsp. soda may be used instead of sweet milk and baking powder.

Pancakes with Yeast.

- 1 cup flour. $\frac{1}{4}$ yeast cake.
- $\frac{1}{4}$ tsp. salt. 1 cup milk.
- 1 tsp. sugar. few gratings of nutmeg.

Scald milk, add sugar, when lukewarm add yeast cake and mix in the flour. Beat batter well. Cover and leave in a warm place for two hours.

Baked Batter or Yorkshire Pudding.

- 1 $\frac{1}{2}$ cups flour. 2 cups milk.
- $\frac{1}{2}$ tsp. salt. $\frac{1}{2}$ cup cold water.
- for 2 eggs.

Sift flour and salt, make a hole in centre and slip in eggs unbeaten, add one cup milk. Mix slowly to a smooth batter. Beat well for five minutes, add remainder of milk and water. Pour into a very hot meat tin containing 4 tbsp. hot fat. Bake in a moderate oven 35 minutes. The batter is better if it stands several hours before being cooked. Serve with roast meat.

CHAPTER XX.

GENERAL DIRECTIONS FOR MAKING PASTRY

(1.) Flour for pastry should be fine and white, indicating less gluten and a large proportion of starch, which is lighter for pastry.

(2.) Lard, butter or dripping may be used to shorten pastry. If two are used blend them with a knife before adding them to the flour. Lard makes a tender crust but lacks the flavour of butter.

(3.) **Quantities.** For everyday pastry use half as much shortening as flour. To $\frac{7}{8}$ cup sifted flour ($\frac{1}{4}$ lb.) allow 2 oz. shortening ($\frac{1}{4}$ cup packed). For richer pastry increase the amount of shortening. For puff pastry use equal quantities of flour and butter.

(4.) All pastry, during the making, must be kept cold, and handled lightly.

(5.) Use ice cold water to mix pastry.

(6.) Roll lightly and from oneself. Never turn pastry over nor flour it.

(7.) After rolling and shaping, chill before cooking.

Pastry should be kept cold during the making for two reasons:

(a) To prevent the shortening from melting.

(b) To enclose as much cold air as possible, since bulk for bulk cold air takes up less room than hot, hence more air is enclosed; it is this which makes pastry light.

(8.) Pastry must be baked in a hot oven:

(a) So that the difference between the cold air in the paste and the hot air in the oven may be as sharp as possible, and the expansion of the former greater when heated. This expansion throws up and lightens the pastry.

(b) The great heat causes the starch grains in the flour to burst. These act like little sponges and absorb the shortening. The reverse of this is seen when pastry is put into a cool oven, the moderate heat being insufficient to burst the starch grains but sufficient to melt the shortening, which melts and runs out, consequently the pastry never rises. It therefore follows that the richer the paste is the hotter the oven needs to be.

Food Value and Digestibility of Pastry.

Pastry, on account of the large proportion of fat in it, is rich and somewhat difficult to digest. The starch of the flour is coated with fat and unless well masticated is not digested in the mouth. Plain, short pastry containing only a moderate amount of fat is the easiest to digest. Flaky pastry and puff pastry are richer and the flakes are apt to be swallowed without proper mastication.

Pastry is best eaten with acid fruits; the acid offsets the richness of the fat.

Invalids, young children, and those suffering from indigestion should avoid pastry.

Pastry is not a suitable food in hot weather as it is too rich and heating.

Short Pastry for Fruit Pies.

1½ cups sifted pastry flour (7 oz.). ¼ cup (scant) shortening.
 ½ tsp. salt. ¼ cup (about) iced cold water.

Sift Flour and salt into a bowl. If butter and lard are used to shorten, blend them and chop the fat into flour, then rub the two together until like fine breadcrumbs. Use the tips of the fingers only, lift the flour up well to keep it cool. Mix slowly from the centre with a spatula or spoon, add the water gradually and use as little as possible. Turn the paste on to a slightly floured board. Do not knead, but make the paste smooth on top by turning the edges into the centre. Roll once to shape required. Chill before baking.

For a Pie. This quantity makes one pie with top and bottom crusts. Divide paste in two equal parts before rolling and roll each to a circle rather larger than the plate. Line a plate with one circle of paste. Take care not to stretch the pastry, but cover the edges well. Brush over this paste with white of egg to prevent it becoming sodden. Put in prepared fruit or other filling with sugar, flavouring and very little moisture. Dampen the edges of pastry, place over the top crust, press edges together firmly and ornament to taste. Bake in a moderate oven until the fruit is cooked. Test with a fork. A small hole at side of pastry should be made to allow steam to escape. The pastry has to be somewhat sacrificed to the fruit.

Pies With One Crust

Pies are more wholesome if made in a deep dish with only one crust. Fill the dish full of prepared fruit, add sugar to taste and a small quantity of water. Place an egg cup in the centre to support the crust. Cut off strips of pastry the width of the edge of pie dish, moisten this and lay pastry on, moisten again and place top crust over pie. Hold pie on one hand and cut off superfluous pastry, sloping handle of knife under dish so as not to leave the edge bare. Ornament edges with spoon, fork or knife. To glaze the top of crust, brush it over with white of egg.

Preparation of Fruit.

Apples. Pare, core, slice finely, sweeten, moisten slightly and flavour with a clove or two, lemon rind, or ground cinnamon.

Plums, currants, raspberries, blackberries, loganberries, remove stalk, wash in a colander, add sugar and a little water.

Pumpkin. See recipe under Pastry Fillings.

Rhubarb. Wash, remove ends and stringy side skin, cut in small pieces. Add plenty of sugar, but no water. Flavour with grated yellow lemon rind, sprinkle over a little cornstarch to prevent the juice running out. Cooked rhubarb may be made into rhubarb custard by adding a yolk to each cup cooked rhubarb. Cook in a pastry shell previously baked until the custard sets. Put whipped whites on top and brown slightly.

Flaky Pastry.

1½ cups pastry flour (7 oz.). ¼ cup butter (¼ lb.).
 ½ tsp. salt. ¼ cup lard (¼ lb.).

Blend lard and butter on a plate with a spatula, divide fat into three equal parts. Sift flour again with salt, chop one-third of fat into flour, mix to a dough with cold water. Turn paste on to a slightly floured board, give it a roll with the hand, then roll with a floured rolling pin to a long strip (first roll). Put the second third of fat on the top two-thirds of paste in small pieces. Fold the bottom third up and the top third down. Press the edges securely to enclose the air. Turn paste to the left so that folded edge is at left side, press paste

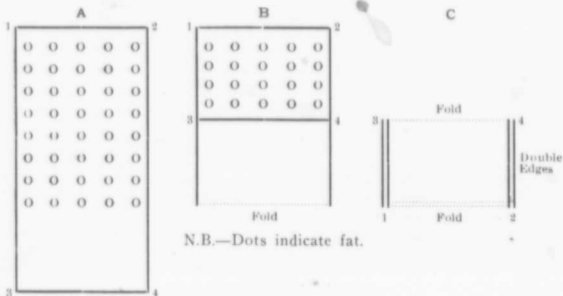
with rolling pin several times to distribute the air. Roll out again to a long strip (second roll). Fold in three as before, this time without putting on fat, turn, press edges, and roll again (third roll). Put on last third of fat as before, fold, press edges, turn and roll again (fourth roll). Fold in three again, press edges, turn and roll to shape required (fifth roll). Chill before cooking.

This paste rises in flakes. It is used for tartlets, patties, and meat pies.

More fat may be used if a richer paste is desired. Use as little flour as possible, but flour board and rolling pin slightly before each roll and see that paste does not stick.

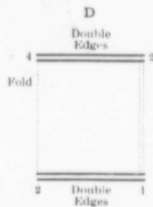
Paste may be kept uncooked for a week if wrapped in floured cheesecloth and made airtight in a tin.

Diagram to Illustrate Pastry Folds.



N.B.—Dots indicate fat.

Pastry Turned Ready to Roll Out.



PASTRY FILLINGS

Pumpkin Pie Filling.

- | | |
|----------------------------|--------------------|
| 1½ cups cooked pumpkin. | ½ cup sugar. |
| 1 tsp. ginger. | 1 egg yolk. |
| 2 tsp. cornstarch. | 1 cup milk. |
| ½ tsp. cassia or cinnamon. | 2 egg whites. |
| f.g. nutmeg. | 1 tbs. fine sugar. |

Add dry ingredients to the sieved pumpkin, mix with the beaten yolk and milk. Bake in pastry shell in a moderate oven. Whip whites stiffly, add the fine sugar and pile on the cooked pie just before serving. Whipped cream may be used instead of the whites.

Lemon Curd.

$\frac{1}{2}$ cup butter.	2 lemons.
1 cup sugar.	2 eggs.

Wash lemons, grate the yellow rind. Put rind, lemon juice, butter and sugar into a saucepan, stir until sugar is dissolved, then add the beaten eggs, cook over hot water and continue stirring until the mixture thickens. Put into airtight jars. This mixture keeps for months. Use to fill pastry or between layer cakes.

Egg Tart Filling.

1 egg.	$\frac{1}{4}$ tsp. vanilla.
1 cup sugar.	$\frac{1}{4}$ tsp. lemon essence.
2 tbsp. vinegar.	

Whisk egg, add sugar by degrees and beat until very thick and pale in colour. This takes five minutes. Add vinegar, vanilla, and lemon. Fill pastry shells two-thirds full. Bake in a very moderate oven until set.

Eccles Cake Filling.

4 tbsp. butter.	$\frac{1}{2}$ cup currants.
$\frac{1}{2}$ cup sugar.	1-6 tsp. grated nutmeg.
1 piece candied peel.	1 g. cinnamon.

Cream butter, add sugar, peel finely shredded and chopped, nutmeg, cinnamon and cleaned currants. Put a little of the mixture into a small circle of pastry, dampen the edges, fold these to the centre. Turn the cake over and roll lightly to a small oval shape. Cut three dashes with a sharp knife. Bake in a hot oven.

Mincemeat.

1 cup chopped suet.	juice of one lemon.
2 cups chopped apples.	$\frac{1}{2}$ tsp. cinnamon.
1 cup sugar.	$\frac{1}{2}$ tsp. nutmeg.
1 cup currants.	$\frac{1}{2}$ cup cider.
1 cup chopped raisins.	$\frac{1}{4}$ cup chopped almonds, or
1 cup chopped candied peel.	2 tsp. ratafia flavouring.
1 lemon rind grated.	1 cup chopped cooked beef if desired.

Mix all ingredients together. Pack in air-tight jars. Keep one month before using.

Cheap Lemon Pie Filling.

grated rind of 1 lemon.	juice of 1 lemon.
1 cup boiling water.	2 tbsp. butter.
1 tbsp. cornstarch.	1 egg yolk.
$\frac{1}{2}$ cup sugar.	

Meringue: 1 egg white, 1 tbsp. powdered sugar.

Wash lemon, grate the yellow rind only, add to the boiling water. Mix cornstarch and sugar, stir and pour on slowly the boiling water, stir and cook over the fire for five minutes. Remove from fire, add lemon juice, butter and egg yolk, stir and cook over boiling water until the mixture thickens. Pour filling into a cooked pastry open tart. Just before serving whip white of egg very stiff, add sugar and spread over the pie.

Cheap Custard Pie Filling.

$\frac{1}{4}$ cup sugar.	1 egg.
4 tbsp. flour.	1 cup hot milk.
f.g. salt.	$\frac{1}{8}$ tsp. flavouring.

Mix sugar, flour and salt with egg slightly beaten, stir and pour on the hot milk. Stir and cook over boiling water twelve minutes. Chill and use to fill eclaires or other cakes.

Chocolate Custard.

Make as above, using $\frac{1}{8}$ cup sugar and $\frac{1}{2}$ square Baker's chocolate melted over boiling water. Flavour with vanilla.

CHAPTER XXI.

STEAMED AND BAKED PUDDINGS

Steaming.

Steaming is cooking in the steam coming from boiling water. It is an excellent method of cooking for cereals, vegetables and many puddings, and is superior to boiling for cooking fish and meat as no nutrients are lost in the water.

Time. Allow rather more time for cooking by steam than water.

Steamer. A tin steamer with perforated bottom, and with sides 6 to 8 inches high may be made to fit any saucepan. There should be no escape of water vapour from the steamer. A strip of dough, or a clean cloth, folded around a poor-fitting steamer or lid will prevent this loss of heat.

Steamers with four sections may now be bought for about three dollars. They are made so that no flavour from one section can reach another, and a whole dinner may be cooked in the one vessel.

Puddings.

If a steamer is not available, puddings may be steamed in a bowl standing in a saucepan with boiling water coming only half way up the sides of the bowl. A kettle of boiling water should always be at hand to fill up the saucepan as the water boils away.

Fish and Meat.

Small pieces of fish and meat may be steamed between two buttered plates over a saucepan of boiling water. The plates should be inverted at half time, to cook both sides of food equally. The inner part of a double saucepan may also be used. In this case the heat of the surrounding water cooks the food.

Suet Crust.

3 cups flour.	$\frac{1}{2}$ tsp. salt.
1 cup suet (chopped)	1 $\frac{1}{2}$ cups (about) cold water or milk.
3 tsp. baking powder	

To Prepare Suet. Remove all skin and cysts from suet, flour it well (use the flour to go in pudding) and shave the suet in fine shreds, add more of the flour to keep it dry and chop until like fine breadcrumbs. Mix flour, suet, salt and baking powder together, add cold water to mix to a stiff dough. Roll to shape required. This pastry mixed a little moister and steamed two hours in a bowl makes a good, plain, wholesome pudding. Serve hot with golden syrup.

Meat or Fruit Pudding with Suet Crust.

Use the above quantities for a quart earthen bowl. Cut off two-thirds of paste, roll it to a circle large enough to line the bowl, which should be first greased. Bring the paste well up to the edges of bowl. Fill the bowl with prepared apples, blackberries or rhubarb, or meat with seasonings and water. Dampen the edges of the paste. Roll out the remaining third of pastry to exactly fit the top of the bowl, make the edges secure by rolling the double edges over. Cover with a greased paper. Steam fruit pudding 3 hours, meat pudding 4 hours. See directions for preparing meat under Beef Steak Pudding.

Roly Poly.

Roll out suet crust to a long strip, spread with jam, golden syrup or a mixture of chopped apple, sugar, currants and a little nutmeg. Take care not to spread these too near the edge. Dampen edges, roll up the pastry, make the ends and sides secure by folding double. Place roly poly in a scalded and floured pudding cloth, or a large sheet of greased paper, tie with string. Steam two hours or longer.

Variations of Suet Crust.**Ginger Pudding.**

1 cup suet (chopped).	1 tsp. soda.
3 cups flour.	$\frac{1}{2}$ cup molasses.
$\frac{1}{2}$ tsp. salt.	$1\frac{1}{2}$ cups milk or water.
3 tsp. ginger.	

Prepare and chop suet, add to flour, salt, and ginger sifted together. Mix molasses with soda, add the milk and mix with dry ingredients. Steam three hours in a greased mould. Serve with sweet sauce.

Fruit and Spice Pudding.

1 cup suet (chopped).	$\frac{1}{4}$ tsp. allspice.
3 cups flour.	$\frac{1}{2}$ tsp. salt.
$\frac{1}{2}$ cup sugar.	1 cup chopped dates, raisins or figs.
$\frac{1}{4}$ tsp. nutmeg.	$\frac{1}{2}$ cup molasses.
$\frac{1}{4}$ tsp. cloves.	1 tsp. soda.
$\frac{1}{2}$ tsp. cinnamon.	$1\frac{1}{2}$ cups milk.

Mix all dry ingredients with moist in order given. Steam 3 hours. In both these recipes $\frac{1}{2}$ cup butter may be substituted for the cup of suet.

Christmas Plum Pudding.**(No Eggs.)**

1 lb. flour ($3\frac{1}{2}$ cups).	2 tsp. soda.
1 lb. suet.	4 oz. bitter almonds.
1 lb. fresh breadcrumbs (4 cups).	$\frac{1}{2}$ lb. mixed peel.
1 lb. sugar (2 cups).	1 lb. currants (scant 3 cups).
2 tsp. mixed spice.	1 lb. sultanas (scant 3 cups).
1 tsp. each cinnamon, cloves, allspice.	1 lb. raisins (stoned) $2\frac{1}{2}$ cups.
1 nutmeg.	1 pint milk (2 cups).
1 tsp. salt.	

Skin, shred, and finely chop suet with the flour, add all dry ingredients, the almonds skinned and chopped, peel shredded finely and chopped, fruit washed and dried. Mix very stiffly with the milk. The mixture should be rather dry. Pack in well greased bowls, cover each bowl with a stiff flour and water dough to keep in the goodness and then a pudding cloth scalded and floured. Tie the ends of cloth together to make a handle by which to remove pudding from boiler. Boil or steam eight hours. After the puddings are baked and cool remove the cloths but leave the paste on. Wash and dry cloths and tie over puddings again. Store in a cool place, they will keep good six months. Boil one hour before serving. Serve on a hot dish, and a white sweet sauce separately. The above quantities should make five puddings.

Chocolate Pudding.

Make as for steamed sponge, omit apples and add 1 oz. melted chocolate and a little more sugar.

Steamed Sponge Pudding with Apples or Berries

2	tblsp. butter.	1	tsp. vanilla.
	$\frac{1}{2}$ cup sugar.	1 $\frac{1}{2}$	cup flour.
1	egg.	1	tsp. cream of tartar.
	$\frac{1}{2}$ tsp. (scant) soda.	4	apples, peeled, cored and sliced.
	$\frac{1}{2}$ cup milk.	1	clove.

Put the prepared apples, with clove, or any other fruit, into a greased bowl, pour over the following mixture, cover with a greased paper and steam one hour or bake half an hour. Cream butter, add sugar gradually and well beaten egg. Beat well, mix soda with milk and add to egg mixture. Sift flour with tartar, and add to the liquids. Serve sweet sauce or sugar with this pudding.

Baked Cottage Pudding.

1	egg.	1 $\frac{1}{2}$	cups flour.
	$\frac{1}{2}$ cup sugar.	1	tsp. cream of tartar.
2	tblsp. butter.	$\frac{1}{2}$	tsp. soda.
	$\frac{1}{2}$ cup milk.	$\frac{1}{4}$	tsp. salt.
	$\frac{1}{2}$ tsp. flavouring.		

Beat egg well, add sugar by degrees and beat. Melt butter and add, also milk and flavouring. Sift dry ingredients together and mix with the moist. Bake at once in a greased tin. Serve hot with egg sauce.

Egg Sauce for Cottage Pudding.

1	egg.
2	tblsp. sugar.
	$\frac{1}{4}$ tsp. vanilla or other flavouring.

Separate white from yolk. Beat each well, then unite and add sugar and flavouring and beat until thick and pale in colour. Serve cold uncooked.

Queen's Pudding.

1	cup bread crumbs.	2	egg yolks.
2	cups milk.	2	tblsp. butter.
	$\frac{1}{2}$ cup sugar.	4	tblsp. strawberry jam.
	$\frac{1}{2}$ lemon yellow rind.	2	egg whites.
1	tsp. lemon juice.	2	tblsp. powdered sugar.

Scald milk with crumbs, add sugar, grated rind, juice, egg yolks beaten, and butter. Pour into an earthen dish. Bake until set in a moderate oven. Spread jam over the cooked pudding. Beat whites stiffly, add the powdered sugar, spread roughly over pudding. Bake in a slow oven until the whites are set and a pale fawn colour. Serve hot or cold.

Bread and Butter Pudding.

4	rounds of thin bread and butter.	$\frac{1}{2}$	cup sugar.
3	eggs.	$\frac{1}{2}$	cup sultanas.
3	cups milk.		nutmeg.

Cut the rounds in half, place in a pie dish, over each round sprinkle some of the sugar, sultanas, and a few gratings of nutmeg on the top layer. Beat the eggs, add to them the milk and strain over the bread and butter. Soak half an hour, then bake in a slow oven until set and nicely browned. It takes about an hour.

Rice Pudding.

2 cups milk. 3 tbsp. sugar.
 ¼ cup (scant) rice. a little nutmeg or other flavouring.
 ¼ tsp. salt.

Put rice into a baking dish, wash with cold water and drain. Add salt and sugar, pour over the cold milk. Grate a little nutmeg on top. Bake slowly 1½ hours. If skimmed milk is used put a little butter on the top. This pudding may be made some time before it is cooked. The soaking of the rice softens it. Serve hot or cold with stewed fruit.

Sago or Tapioca Pudding

Make as for rice pudding. Water may be substituted for milk, and prepared apples added raw with the sago.

COLD DESSERTS**Junket.**

4 cups milk. 1 tbsp. cold water.
 5 tbsp. sugar. 1 junket tablet.
 1 tsp. flavouring.

Crush junket tablet and add to it one tablespoon cold water. Mix milk, sugar and flavouring together and warm to blood heat (98° F.), stir quickly whilst adding the dissolved tablet to the warm milk. Pour into the dish in which it is to be served, and leave in a warm place until junket is set. Do not stir or jar it. When set, chill, serve with stewed fruit. In cold weather warm the serving dish before pouring the liquid junket into it. A little nutmeg may be grated on top. This is a quickly made dish, easy to digest, and suitable for children and invalids.

Pineapple Pudding.

¼ cup butter. ¼ cup sugar.
 ½ cup flour. 3 egg yolks.
 3 cups hot milk. 3 egg whites.
 ½ cup pineapple juice. 1 cup chopped pineapple.

Melt butter, mix flour with it, add milk gradually, stir and boil three minutes. Remove from fire, add juice, sugar, and beaten egg yolks. Put the chopped pineapple in a baking dish, pour over the egg mixture. Bake in a moderate oven until set. Stand dish in a pan of water as for custard. When baked spread the whites, beaten dry, over the surface, making it rough and higher in the centre. Set the whites in a slow oven. When cooked decorate with a few cubes of pineapple. Serve hot or cold.

Bread and Fruit Pudding.

Cut stale bread in thin slices, remove crusts. Wet a pudding basin with cold water and line it with wedges of bread, cut these narrower at one end to fit the bottom of bowl. Fill corners with crumbs. Fill the lined bowl full with any hot stewed fruit which should be sweetened. Loganberries, blackberries, blueberries, raspberries and red currants or rhubarb are all suitable. Cover the surface of bowl with bread. Put bowl on a platter, cover bowl with a plate and stand on it a heavy weight. When cold turn the pudding out and serve with liquid custard.

Liquid Custard.

3 or 4 egg yolks. 2 cups scalded milk.
 ¼ cup sugar. ½ tsp. flavouring, or
 1 g. salt. 1 bay leaf cooked in the milk.

Beat eggs slightly (to give a smooth custard), add sugar and salt. Stir whilst adding hot milk. Cook over boiling water, stirring all the time. Custard

is cooked directly it coats the spoon. Strain at once into a cold bowl and flavour. If cooked too long custard will curdle. In that event put into a cold bowl quickly and whisk with a Dover egg beater; this cools it quickly and prevents further curdling but thins it slightly. The whites of eggs may be stiffly beaten and folded into the cooked custard. When eggs are expensive use two yolks and one tbsp. cornstarch. Add the liquid cornstarch to the scalded milk and cook five minutes before adding the yolks.

Caramel Custard.

Use the quantities for liquid custard. Put the sugar into a fry pan, stir constantly over the fire until it melts. Add this by degrees to the hot milk and proceed as above. Flavour with vanilla.

Chocolate or Coffee Custard.

Pour the scalded milk on to $\frac{1}{4}$ cup ground coffee or 1 oz. chocolate melted. Strain the milk coffee. Finish as for liquid custard.

Baked Custard.

3 or 4 eggs.	3 cups scalded milk.
$\frac{1}{2}$ cup sugar.	nutmeg.
f.g. salt.	

Beat eggs slightly, add sugar and salt, stir and add slowly the hot milk. Strain into a buttered dish, grate a little nutmeg on the top. Set dish in a pan of warm water. Bake in a slow oven until set, or the custard may be steamed at a low heat. When cooked a knife will leave it clean. Serve with stewed fruit. Caramel, coffee or chocolate may be used as for liquid custard.

Sweet or Savoury Custard for an Invalid.

Make as above, using less sugar. Make a small quantity, one egg. Savoury custard is often a pleasant change to an invalid. Use one egg and $\frac{1}{2}$ cup good beef tea. Steam or bake in a cup.

Blanc-mange or Cornstarch Mould.

2 cups milk.	$\frac{1}{4}$ tsp. salt.
6 tbsp. cornstarch.	$\frac{1}{2}$ tsp. flavouring.
3 tbsp. sugar.	

Mix sugar, cornstarch and salt together, stir in sufficient cold milk to make a liquid. Put the remainder of milk in top part of double boiler to heat. When milk boils, stir up the cornstarch and stir boiling milk whilst pouring in the cornstarch. Stir and boil five minutes. Add flavouring. Pour into a wet mould and chill. When set turn on to a glass dish and serve with stewed fruit.

Varieties. Before serving the pudding may be decorated with cherries and angelica.

A little cochineal added before moulding to half the mixture makes a variety in colour.

Fruit juice, such as rhubarb juice, may be used instead of milk.

Chocolate Mould.

Make as above by adding to the cornstarch 3 tablespoons cocoa and an extra spoonful of sugar. Flavour with vanilla.

CHAPTER XXII.

GELATINE

Gelatine for cooking purposes is obtained by boiling the connective tissue, bone, cartilage, gristle and skin of animals and fish. This is strained and purified. A coarser kind, known as glue, is obtained from hides, horns and hoofs of animals. The purest form of gelatine is isinglass, obtained from the air bladder of the sturgeon.

The commercial product saves much labour and time and is of equal value to the home prepared. Gelatine, when added to liquids with seasoning and flavouring, makes an attractive jelly.

Properties.

Gelatine softens in cold water, dissolves in hot, and jellies on cooling. A good gelatine has little or no taste, colour or odour and no sediment when dissolved in water. It is an expensive food.

Digestion.

Gelatine is very easily digested. It also aids the digestion of other foods by causing the gastric juice to flow more freely.

Value in Diet.

Gelatine is somewhat like the protein group, but is not a true protein. It will not build up or repair tissue but it is a sparer of protein. Its food value is very small, the sugar with it provides some heat. It makes a pleasant addition to the diet of a convalescent, being attractive and easily digested, and since it is a protein-sparer it helps to prevent a feeling of faintness from which invalids sometimes suffer.

Gelatine dishes are suitable to serve at the end of a substantial meal, where an attractive dessert rather than nutriment is required.

Caution. Jelly should be kept covered, as it is a good material for bacteria to grow in.

Method I.—Directions for Clearing Jellies.

- (1.) Use a large enamel saucepan, absolutely clean and without chips.
- (2.) Put all ingredients with liquid, all cold, egg shells (clean and crushed), whites (slightly whipped), into saucepan. Leave to soak half an hour if possible. The egg whites clear the liquid, for as they thicken and rise they entangle and hold the various impurities. The shells form a filter. The acid and sugar help in clearing.
- (3.) Heat slowly to extract flavour and to allow impurities to collect and rise. Whisk all together until jelly begins to simmer. Then stop at once, let it well boil up. If whisking is continued after boiling begins it prevents the scum rising properly and the jelly is not clear.
- (4.) Boil jelly one minute only and remove to a cool part of stove, half cover with a lid and let it stand until the crust cracks.
- (5.) Strain through a clean cloth or jelly bag into a clean warm bowl. Pour gently, so as not to disturb filter. Do this in a warm place out of a draught.

Heat cloth or bag with boiling water before using. Cheesecloth may be spread over a strainer on a bowl, or may be tied to the four legs of an inverted chair. Place a bowl below the cheesecloth.

(6.) Chill the strained jelly, and when quite cold pour into a wet mould and when firm turn out.

Proportions. Use 2 egg whites and shells to each quart. In summer if more gelatine is used proportionally, more egg is required to clear.

How to Turn Out a Jelly.

Loosen the jelly round the edge with knife or finger, pushing jelly inwards. Place over it the glass dish on which it is to be served, taking care to get the mould in the centre. Invert the mould and dish, place the thumbs on the mould and fingers under the dish. Shake the mould gently but firmly, and remove mould.

If the jelly is very stiff it may be necessary to put a cloth wrung out of hot water round the mould for a few moments before turning it out.

Cream or liquid custard may be served with jelly. Jellies may be served cleared or otherwise. They take longer to make if cleared. The appearance is improved but the nutritive value is not much increased. Directions for making both kinds are given.

JELLIES

Quick Lemon Jelly.

$\frac{1}{2}$ oz. or 2 tsp. granulated gelatine.	1 inch stick cinnamon.
$\frac{1}{2}$ cup cold water.	2 cups boiling water.
yellow rind of 1 lemon.	$\frac{3}{4}$ cup sugar.
1 clove.	$\frac{1}{2}$ cup lemon juice.

Method II. Soak the gelatine in cold water. Put the yellow rind, cinnamon, clove, hot water and sugar on to boil. Boil five minutes. Pour syrup on to soaking gelatine, stir until the gelatine is dissolved. Add the lemon juice and strain the jelly through two thicknesses of cheesecloth or a flannel jelly bag. When cold pour jelly into a wet mould. Leave in a cold place for 24 hours to set. Turn out on to a glass dish.

Cleared Lemon Jelly.

Use the ingredients as above with cold water and two egg whites slightly whipped, and two clean egg shells, crushed. Make by Method I.

Orange or Other Fruit Jelly.

$\frac{1}{2}$ oz. or 2 tsp. granulated gelatine.	rind of 1 orange.
$\frac{1}{2}$ cup cold water.	juice of 1 lemon.
1 cup boiling water.	$\frac{1}{2}$ cup sugar.
1 cup orange or other fruit juice.	

Omit orange rind with other fruit juices. Make by Method I. or II. for lemon jelly. Juice from canned peaches, loganberries, raspberries or pineapple may be used. Fruit and chopped nuts may be added to the above when they are partly set.

Coffee Jelly.

$\frac{1}{2}$ oz. or 2 tsp. granulated gelatine.	$\frac{1}{2}$ cup sugar.
$\frac{1}{2}$ cup cold water.	3 cups of strong, hot, clear coffee.

Instead of all coffee, $1\frac{1}{2}$ cups of coffee and $1\frac{1}{2}$ cups strong chocolate may be used. This makes a good combination. Soften gelatine in cold water 10

minutes, add the sugar and strong coffee or chocolate, stir until sugar and gelatine are dissolved. Strain into a wet mould.

Variations of the Above.

The whipped whites of two eggs may be whipped into the partially set jelly and the whole whipped until stiff.

Clear Savoury Jelly.

Make by Method I., using 2 egg shells and whites to one quart of well flavoured strong stock made from bones and meat of beef or veal with seasonings. The gelatine from the bones will cause this to jelly. One or two tablespoons of malt or tarragon vinegar added to the stock before it is cleared gives a sharp flavour.

Lobster, crab, or other cooked fish, game, or meat may be set in this jelly.

For uncleared meat jelly see meat recipes.

CHAPTER XXIII.

ICES

FROZEN DESSERTS

Food Value and Digestion of Ices.

Ices are made of water with sugar and fruit juice, custard, junket, milk or cream with fruit juice or other flavouring. Ices made with milk or cream contain the most nutriment.

Ices on account of their extreme cold are somewhat difficult to digest. Those made with cream, on account of their richness, may upset people with delicate digestions.

All ices should be eaten slowly and in small quantities, and should never be taken by anyone when overheated.

It is not wise to eat ices, especially rich ice cream, at the end of a heavy meal. In hot weather they form a pleasant dessert after a light meal, and are best eaten with sponge or other light cake.

Ices may be divided into six kinds:

I. Water Ices, made of fruit juice, sugar and water. One or two tablespoons of lemon juice are added to most fruit to sharpen and improve the flavour. If the sugar and water are made into a syrup the ice has a finer grain.

II. Sherbets are water ices, or milk with sugar and fruit juice, to which a small quantity of dissolved gelatine or the whipped white of egg are added to give more substance to the ice.

III. Junket Ices are made with a well flavoured and sweetened junket, which is poured into the freezer when in a soft, creamy condition, and then frozen. One part of cream to three parts milk makes a richer junket ice cream.

IV. Custard Ice is made of custard with or without cream. The custard needs to be well flavoured and sweetened. Use one or two tablespoons of extract to each quart. Chill custard before freezing.

V. Rich Ice Cream (sometimes called Philadelphia) is made of thin cream with sugar and flavouring. The cream is a finer grain if scalded and cooled. Sieved fruits may be added just before freezing.

All the above are stirred while freezing.

VI. Very Rich Ice Cream (Mousse or Parfait), made of double cream which is whipped, sweetened and flavoured, then put into a mould and packed in a freezer. This is not stirred whilst freezing.

General Rules for Freezing Ices.

- (1) Fit machine together and see that all parts are in good working order and oiled.
- (2) Scald freezer can and pail before and after using, then rinse in cold water.
- (3) The mixture must be cold before it is placed in the freezer.
- (4) The can should be only two-thirds full, as ices expand when frozen.
- (5) Use finely crushed ice (crush in a sack with a mallet) and coarse rock salt.

Allow **one** measure of salt to **three** of crushed ice for fine grained creams. Put a layer of ice three inches deep at bottom of pail around freezer can, then a measure of salt evenly over it, and continue this until ice is full level with top of pail. Pack tightly. The ice and salt in the above proportions may be well mixed in a pan and then packed around freezer.

Explanation of Freezing.

A mixture of ice and salt is much colder than ice alone. Salt has an attraction for water and causes the ice to melt. The melting ice absorbs heat from whatever is in the freezer can and reduces the temperature to freezing point. The finer the ice is crushed the more quickly it melts and freezes what is in the can. The mixture in freezer can is stirred all the time so that all parts may come in contact with the cold surface of the can and so quickly freeze.

(6.) Turn crank slowly at first until the mixture is chilled, then turn more quickly.

(7.) When the cream is frozen, remove the beater, scrape cream from sides of can and pack solidly. Put a stopper in opening of cover. Pack with ice and salt, using **one** part salt to four **parts** ice if more is needed. The freezing mixture should come to top of can. Cover top of freezer with newspapers or carpet. Leave cream one hour or more to ripen. Do not pour off the water from freezer, it will trickle out from hole in tub.

If no freezer is available, ices may be made thus: Take a clean lard pail. Into this put the mixture, cover and stand pail in a wooden or fibre tub. Pack well with ice and salt for freezing. Revolve pail carefully for five minutes, then leave. Stir contents of lard pail from time to time, scraping the frozen mixture from sides of pail. Small quantities may be made in baking powder tins. Place in larger receptacle, pack with ice and salt, and make as above by turning small tin slowly. Scrape frozen mixture from sides of tin frequently.

Fruit Water Ice.

2 cups water. 2 tbsp. lemon juice.
1 cup sugar. 1 cup fruit juice or fruit pulp, strained.

Orange, strawberry, raspberry and currant, apricot, plum, pineapple (chopped), banana or apple pulp may all be used. The juice left from canned fruit is suitable.

Method. Make a syrup of sugar and water, boil ten minutes and cool. When cold add lemon juice and fruit juice, strain, cool and freeze. The addition of one scant tablespoon or 2 sheets gelatine soaked and added to the syrup turns the above into sherbet; or, instead of gelatine, the syrup may be poured slowly on to a whipped egg white. When cool proceed as above.

Lemon Water Ice.

2 cups water. $\frac{1}{2}$ cup lemon juice.
 $1\frac{1}{4}$ cups sugar. 1 tsp. gelatine.

Make as above.

Lemon and orange ices are improved if a little of the thin rind of each is boiled with the syrup.

Milk Sherbet.

4 cups milk. $1\frac{1}{2}$ cups sugar.
1 tsp. gelatine. $\frac{1}{2}$ cup lemon juice.

Soak gelatine in $\frac{1}{4}$ cup milk. Scald remainder of milk and pour on to soaked gelatine, stir and dissolve. When cold add slowly to the sugar dissolved in the lemon juice. Strain and freeze. If the mixture curdles it will not be noticed when frozen.

Pineapple Sherbet.

4 cups milk. 2 tbsp. lemon juice.
1 tbsp. gelatine. 1 cup chopped pineapple with juice.
1½ cups sugar.

Make as for milk sherbet.

Other fruit pulp or fruit juice may be used instead of pineapple.

Custard Ice Cream.

2 tbsp. flour. 3 or 4 eggs.
1 cup sugar. 4 cups scalded milk.
¼ tsp. salt. 2 tbsp. vanilla or other extract.

Mix flour, salt, sugar together, add eggs slightly beaten, stir and add the hot milk. Cook over boiling water ten minutes, stirring constantly. When cold add vanilla, strain and freeze.

Half the above quantity of custard may be made and one pint of thin cream added to it just before freezing. Use the same quantity of sugar and flavouring.

Rich Ice Cream

4 cups thin cream. ¼ tsp. salt.
¾ cup sugar. 2 tbsp. vanilla.

Scald cream, pour on to salt and sugar, stir until dissolved. When cold add flavouring and freeze.

Fruit Ice Cream.

To the above add two cups of sieved fruit pulp or juice just before freezing. More sugar may be needed with some fruit.

Coffee Ice Cream.

Add two cups strong coffee, strained, to the ice cream before freezing.

Junket Ice Cream.

Make junket in the usual way, using rather more sugar and flavouring. Freeze when in a jelly-like condition.

CHAPTER XXIV.

CAKES

GENERAL DIRECTIONS FOR MAKING CAKES

Preparation.

- (1) Attend to the fire and see that the oven is heating.
- (2) Measure all ingredients, dry first, then moist.
- (3) Prepare the cake tin, grease it or line it with greased paper. Put the greased side next to the tin. Use lard for this.
- (4) Use an earthen bowl and wooden spoon for mixing.

Materials.

- (1) Fine, white, starchy flour makes the lightest cakes; if bread flour is substituted, use two tablespoons less to each cup. Sift flour before measuring it, add baking powder to flour and sift again.
- (2) Use good butter and fresh eggs.
- (3) Currants must be washed, dried and have the stalks picked off. Drop a few at a time on a plate to detect stones.
- (4) Raisins, stone; almonds, boil one minute and remove brown skins.
- (5) Shred candied peel finely and then chop.

Mixing.

Unless otherwise directed, cream the butter, beat and add sugar by degrees, then each egg separately, well beaten. Beat this mixture until thick and light in colour. Add the sifted flour and milk alternately to the egg mixture. The baking powder should be sifted in with the last of the flour, and the fruit added last of all.

If soda and cream of tartar are used, dissolve the soda in the milk, and sift the tartar with the flour.

If yolks and whites are separated, beat the yolks and add to the butter mixture, then add milk with flour alternately, and cut and fold in the whipped whites the last thing.

Baking.

Small, light cakes need a hot oven.

Sponge cakes require a slow oven.

Rich fruit and pound cakes need a moderate oven.

Place all cakes at the bottom of the oven at first.

If the cake burns underneath, place a wire cake cooler under the tin. If it becomes too brown on the top, place a piece of thick paper over it.

Time.

Divide the time stated for cake into four:

First quarter, cake should rise.

Second quarter, cake should continue to rise and begin to brown.

Third quarter, cake should continue to brown.

Last quarter, cake should finish cooking and shrink from the sides of the pan.

How to Tell if Cooked.

A cake when cooked shrinks from the sides of the pan. Light, spongy cakes are cooked when no dent remains if pressed with the finger.

To test a loaf cake, run a skewer into the centre. If the cake is cooked, the skewer will come out clean.

When cooked, remove cake from tin and place on a wire sieve or basket to cool so that the steam may escape.

To remove a cake from tin, if it is inclined to stick, press a knife close to the sides of the pan, pressing the cake gently inwards. Another method is to turn the cake on its sides; the weight of the cake then helps to loosen it.

One Egg Cake.

$\frac{1}{4}$ cup butter.	1	tsp. soda.
$\frac{3}{8}$ cup sugar.	2	tsp. cream of tartar.
1 egg.	2	cups flour.
1 cup milk.	1	tsp. lemon extract.

Instead of the soda and tartar, 4 tsp. baking powder may be substituted. Cream butter, add sugar by degrees, whisk egg and add to butter mixture, beat well. Dissolve the soda in the milk. Sift the tartar with the flour, add milk and flour alternately to the butter mixture, then beat the whole for five minutes and add the flavouring. Bake in a greased flat tin in a moderately hot oven about thirty minutes.

Variations.

By adding the following to the above, different cakes result:

Nut Cake. Add $\frac{1}{2}$ cup chopped nuts after the flour. Use only half amount of butter.

Chocolate Cake. Add $\frac{1}{4}$ cup cocoa or 2 oz. melted chocolate to the butter mixture. The cocoa should be mixed to a liquid with $\frac{1}{4}$ cup of the milk. Flavour this cake with vanilla.

Fruit Cake. Add $\frac{1}{2}$ cup prepared raisins, currants or sultanas and one piece of candied peel finely shredded and chopped, with the last of the flour. Flavour with grated nutmeg. Use a little less sugar and milk for this cake.

Spice Cake. Add 1 tsp. cinnamon, $\frac{1}{2}$ tsp. cloves, $\frac{1}{2}$ tsp. mixed spice to the flour.

Cocoanut Cake. Add $\frac{1}{2}$ cup cocoanut to the flour.

Christmas Fruit Cake.

$\frac{3}{4}$ cup butter.	1	cup raisins ($\frac{1}{2}$ lb.).
$\frac{3}{4}$ cup sugar.	1	large piece citron peel ($\frac{1}{4}$ lb.).
$\frac{1}{4}$ cup molasses.	$\frac{1}{2}$	cup almonds.
3 eggs.	1	tsp. mixed spice.
$\frac{1}{4}$ tsp. soda.	1	tsp. nutmeg.
$\frac{1}{2}$ cup warm new milk.	1	grated lemon rind.
1 cup currants ($\frac{1}{2}$ lb.).	$1\frac{3}{4}$	cups sifted flour.

Cream butter, add sugar by degrees, and molasses, beat well. Add the eggs whole, one at a time, beat the mixture thoroughly between each. Dissolve soda in milk and add to butter mixture. Add prepared currants, raisins cut in half, peel shredded, almonds shredded and browned in the oven, lemon rind grated, and spice. Cut and fold in the flour. Place in a round cake tin lined with paper. Bake in a slow oven about $2\frac{1}{2}$ hours, or steam two hours and then dry off in a slow oven one hour. This cake, if kept in an air-tight tin, will remain moist for months. It weighs about three pounds. It may be covered with almond paste and white icing. Decorate with angelica and cherries cut into fancy shapes.

Sponge Cake.

4	egg yolks.	$\frac{7}{8}$	cup flour
$\frac{3}{4}$	cup fine sugar.	$\frac{3}{4}$	tsp. salt.
1	tbsp. lemon juice.	4	egg whites.
	grated yellow rind of $\frac{1}{2}$ lemon.		

Beat the egg yolks with the sugar until thick and pale in colour. Add the lemon juice and grated rind. Sift flour and salt. Whisk egg whites until stiff and dry. Cut and fold the egg yolks into the whites, and when partly mixed cut and fold in flour. Do this carefully, otherwise the cake will not be light. Pour the mixture into a fancy or plain deep cake tin greased and floured. Bake in a moderate oven about thirty minutes.

Duck Eggs Sponge Cake.

Use two eggs to above quantities with $\frac{1}{2}$ cup hot water. Whisk (whole) eggs, sugar, hot water and flavouring twenty minutes. Cut and fold in flour. This is a delicious cake and keeps well.

Chocolate Sponge Layer Cake.

3	egg yolks.	$\frac{3}{4}$	tsp. salt.
1	cup sugar.	$\frac{1}{2}$	cup cold water.
1	cup flour.	3	egg whites.
1	tbsp. cocoa or chocolate	1	tsp. vanilla.
2	tsp. baking powder.		

Whisk egg yolks until light, mix gradually with them the sugar and beat well. Sift the dry ingredients and add with water to the egg yolks. Lastly cut and fold in whites beaten to a stiff froth, and vanilla. Bake on greased plates. Put together with butter icing between.

Orange Cake (No Butter).

3	eggs.	$\frac{3}{4}$	cup cold water.
1	scant cup sugar.	1	cup flour.
	grated rind of 1 orange.	1 $\frac{1}{2}$	tsp. baking powder.
3	tbsp. orange juice.	$\frac{3}{4}$	tsp. salt.

Separate white from yolks. Whip whites stiff and the yolks until thick and pale. Add yolks to whites and beat again. Add rind, juice and water and beat again. Sift flour and baking powder, cut and fold into the egg mixture. Pour into a prepared baking tin. Bake in a moderate, not hot, oven about thirty minutes.

Fruit Cake Without Eggs.

1	cup shortening (lard and butter mixed).	3 $\frac{1}{2}$	cups flour.
1 $\frac{1}{2}$	cups sugar.	2	tsp. mixed spice.
1 $\frac{1}{2}$	cups milk (sweet or sour).	1	tsp. cinnamon.
2	tsp. (level) soda.	$\frac{1}{2}$	tsp. cloves.
2	tbsp molasses.	$\frac{1}{4}$	tsp. nutmeg.
1	tsp. salt.	2	cups fruit.
1	tbsp. vinegar.	2	pieces candied peel.

Cream butter and sugar, add molasses mixed with soda, then milk. Sift all flour and spices together, add to moist ingredients, beat well. Last of all add the prepared fruit, peel and vinegar, mix quickly and turn at once into a prepared tin. Bake in a moderate oven 1 $\frac{1}{4}$ hours if a deep tin is used, less if in a shallow tin.

Swiss Jelly Roll (no Butter).

2 eggs.	1½ tsp. baking powder.
½ cup sugar.	1½ tbsp. milk or water.
1 scant cup sifted flour.	½ tsp. flavouring.
¼ tsp salt.	¾ cup fruit jelly.

Whisk eggs, add sugar, and whisk until thick and pale in colour. Add flavouring. Sift flour, salt and baking powder together. Cut and fold into the egg mixture. Pour into a flat tin lined with greased paper. Bake in a hot oven about seven minutes. Turn on to a sugared paper. Spread with warm jelly. Roll up quickly and wrap in the paper to keep in shape. This must be done quickly or the cake will not roll.

Gingerbread.

½ cup molasses.	1 egg.
½ cup sugar.	1¾ cups flour.
½ cup sour milk or cream.	½ tsp. salt.
1½ tsp. soda.	2 tsp. ginger.
2 tbsp. melted lard.	1 tsp. cinnamon.
butter or dripping	

Sift flour, salt and ginger into a bowl. Make a hole in the centre, add sugar, molasses, sour milk mixed with the soda, butter and a well beaten egg. Mix and beat all well together. Pour into a greased flat baking tin. Bake in a moderate oven about thirty minutes. The addition of a few pieces of preserved ginger cut finely and a little of the syrup improves this cake.

Ginger Cake Without Eggs.

¼ cup butter or dripping.	flour to make a stiff dough.
¾ cup molasses.	1 cup boiling water.
2 tsp. ginger.	2 tsp. soda.
1 tsp. cinnamon or mixed spice.	

Cream butter, add molasses, ginger and spice, stir in sifted flour to make a stiff dough. Pour the boiling water on to the soda and mix it quickly with the dough. Beat well. Pour into a greased bread or cake tin. Bake in a moderate oven about one hour. This cake will keep moist in an airtight tin for some weeks.

Corn or Johnny Cake.

2 cups Indian cornmeal.	½ cup molasses.
1 cup white flour.	½ cup sugar.
1 cup sour milk.	1 tbsp. butter.
1 cup sweet milk.	1 tsp. salt.
1½ tsp. soda.	1 egg.

Mix cornmeal, flour, sugar and salt together. Make a hole in the centre, add molasses, butter melted, sweet milk, soda dissolved in sour milk, and a well beaten egg. Mix thoroughly and beat for five minutes. Bake in a flat greased baking tin in a hot oven about 35 minutes. Serve hot with butter.

Eclaires, or Cream Cakes.

½ cup butter.	1 tbsp. sugar.
1 cup boiling water.	½ g. salt.
1 cup sifted flour.	3 large eggs.

Bring butter and water to boiling point, stir and add flour, salt and sugar sifted together. Beat mixture over the fire until it leaves the sides of the pan clean. Remove from the fire, add one egg at a time, unbeaten, beat each well in

the mixture. Drop the mixture in spoonfuls on a greased baking sheet, shape in circles. Bake at the bottom of a hot oven about twenty-five minutes. To serve, open cakes at the side and insert whipped cream sweetened and flavoured, or custard filling. See Pastry Fillings.

Seed Cake.

$\frac{1}{2}$ cup butter.	$2\frac{1}{2}$ tsp. baking powder.
$\frac{3}{4}$ cup sugar.	$\frac{1}{2}$ tbsp. caraway seeds.
2 eggs.	$\frac{1}{2}$ cup milk (scant).
$1\frac{1}{2}$ cups flour.	

Cream butter, add sugar by degrees. Add eggs whisked, beat all well together. Add sifted flour and milk by degrees, and baking powder with the last of flour. Add seeds and bake in a lined bread or cake tin in a moderate oven about $1\frac{1}{4}$ hours.

Cocoanut Pyramids.

1 cup icing sugar.	3 egg whites.
2 cups of desiccated or fresh cocoanut, grated.	

Whisk eggs until stiff, add sugar by degrees and continue whisking. Fold in the cocoanut. Take a small portion in the palm of one hand and shape each to a cone. Place on a slightly greased flat sheet, press each firmly to make it stand. Bake in a moderate oven about twenty minutes. They should be slightly coloured at the top. Store when cold in an air-tight tin. This quantity makes about twenty-four. The egg yolks may be used for cake below.

Golden Cakes.

4 tbsp. butter.	$\frac{1}{2}$ cup milk.
$\frac{1}{2}$ cup sugar.	1 tsp. almond flavouring.
3 egg yolks.	1 cup sifted flour.
$\frac{1}{4}$ tsp. salt.	$1\frac{1}{2}$ tsp. baking powder.

Cream butter, add sugar by degrees. Beat eggs until thick, add to butter mixture and continue beating until the mixture is very light. Add the milk and flavouring. Cut and fold in the sifted flour, add the baking powder with the last of the flour. A few chopped cherries may be added with the flour. Bake in greased tins about twenty-five minutes in a moderate oven.

SMALL CAKES

Cornflour Cakes.

2 tbsp. butter.	$\frac{1}{2}$ cup flour.
1 tbsp. lard.	$\frac{1}{2}$ cup cornstarch.
$\frac{1}{2}$ cup sugar.	$1\frac{1}{4}$ tsp. baking powder.
1 egg.	$\frac{1}{2}$ tsp. flavouring.
a few candied cherries.	$\frac{1}{4}$ cup milk.

Cream butter and lard with sugar, add beaten egg and beat all together. Sift flour, cornstarch, baking powder and salt together. Add to the egg mixture alternately with the milk. Bake in greased muffin tins. This quantity makes ten. Half fill tins. Put half a cherry on each. Bake in a hot oven fifteen minutes.

Cocoanut Rock Cakes.

2 cups flour.	$\frac{3}{4}$ cup sugar.
1 cup cocoanut.	3 tsp. baking powder.
$\frac{1}{2}$ tsp. salt.	1 egg.
3 tbsp. butter.	$\frac{1}{2}$ cup (about) milk.
3 tbsp. lard or dripping.	

Mix flour and cocoanut together, chop and then rub in the butter and lard. Add sugar and baking powder. Mix with the egg well beaten and sufficient milk to make a stiff dough. With two forks make small rough heaps on a greased baking sheet. Bake in a hot oven about fifteen minutes.

Variation. Instead of cocoanut, half a cup of fruit may be used with a little grated nutmeg to flavour.

CAKE AND PASTRY ICINGS**Quick Icing.**

3 tbsp. liquid, hot water, milk, fruit juice or coffee.	
$\frac{1}{2}$ tsp. flavouring.	1 cup icing sugar.

Stir the sifted sugar into the liquid until the mixture coats the spoon without running off. If water or milk are used, $\frac{1}{2}$ tsp flavouring must be added. Spread frosting over cake with a spatula knife. Dip knife into water, shake off surplus water and spread icing evenly over cake with wet knife.

Chocolate Water Icing.

3 tbsp. boiling water.	1 cup icing sugar.
1 tsp. butter.	$\frac{1}{2}$ tsp. vanilla.
1 square (1 oz.) Baker's unsweetened chocolate.	

Grate chocolate and melt over boiling water. Add butter to boiling water and mix with melted chocolate, stir in sifted sugar until of a consistency to spread.

Mocha, Chocolate or Coffee Butter Icing.

$\frac{1}{2}$ cup butter.	
2 oz. (2 squares) unsweetened chocolate.	
or $1\frac{1}{2}$ tsp. strong coffee essence.	
1 cup icing sugar.	

Cream butter, add chocolate or coffee, or half of each may be used. Beat and add sifted sugar gradually.

Mocha Icing. Make with coffee, and roll cakes in chopped almonds browned in oven.

Royal Icing.

1 egg white.	
$\frac{1}{2}$ tsp. lemon juice.	
1 tbsp. cold water slightly blued with washing blue.	
$1\frac{1}{2}$ cups icing sugar.	

Beat egg white slightly, continue beating and add the sifted sugar by degrees, add lemon juice and blue water as the mixture thickens. The blue is added to prevent the icing appearing yellow when dry, the water should be only just coloured. This icing, if used to cover a cake, should be just stiff enough to spread. For piping it must be very thoroughly beaten and should cut cleanly when it is ready to put into a slightly damp piping bag.

White icing may be coloured green by adding a little spinach juice, pink with cochineal, brown with chocolate.

To Prepare a Cake for Icing.

Brush off all crumbs, cut off uneven parts. If necessary brush the cake over with the beaten white of egg and let this dry before spreading with icing. The egg white sets the crumbs.

Almond Icing.

1 cup ground almonds. 1 egg yolk, or $\frac{1}{2}$ egg white.
 $\frac{1}{2}$ cup fruit or icing sugar. $\frac{1}{2}$ tsp. orange flower water.

Mix almonds with sugar. Beat egg and the water, mix with the dry ingredients. The paste will appear dry but if worked with the hands the liquid is sufficient. Turn on to a sugared board, roll to shape required and press on to cake. Flour rolling pin with icing sugar.

Fondant Icing.

Make fondant as for candies and leave for twenty-four hours. Melt fondant over hot water, stirring continuously. If necessary, thin slightly by adding a little hot water or syrup. Flavour to taste and colour if desired. The fondant must be poured quickly, hot, over a cake, as it quickly cools and sets. Small cakes lift with two skewers and dip into the warm fondant. Dip twice if necessary. Crumbly cakes should first be glazed with white of egg and when dry may be dipped in melted fondant.

COOKIES**Ginger Cookies.**

$\frac{1}{2}$ cup dripping or lard. $\frac{1}{2}$ tsp. salt.
 $\frac{1}{4}$ cup brown sugar. 2 tsp. ginger.
 $\frac{1}{2}$ cup molasses. $\frac{1}{4}$ tsp. soda.
 $1\frac{1}{2}$ cups flour.

Mix lard, sugar and molasses, bring to boiling point. Sift flour, salt, ginger and soda. Mix with moist ingredients to a stiff dough. Chill and then roll out on a floured board to one-eighth inch thickness. Cut out with round cutter. Bake in moderate oven about ten minutes. When cold store in air-tight tin.

Jumble Cookies.

2 tbsp. butter. 2 tsp. milk.
 2 tbsp. lard. 1 cup flour or more.
 $\frac{1}{4}$ cup sugar. 2 tsp. baking powder.
 1 egg. $\frac{1}{4}$ tsp. salt.
 1 tsp. flavouring.

Cream lard, butter and sugar, add well beaten egg and continue beating, add milk and flavouring. Sift flour, baking powder and salt. Stir these into the moist ingredients. The dough should be soft but easy to handle. Divide into twenty equal pieces. Roll each in the hands and coil on a greased tin. Bake in a moderate oven 12 minutes.

Rich Shrewsbury Cookies.

$\frac{1}{4}$ cup butter. $\frac{1}{2}$ egg.
 $\frac{1}{4}$ cup sugar. grated rind of half a lemon.
 $\frac{1}{4}$ cup sifted flour.

Cream butter and add sugar. Add well beaten egg and beat all three, add lemon rind and flour. The dough should be stiff enough to roll. Turn on to a floured board, roll to one-eighth inch in thickness. Cut out with round cutter. Decorate with a small piece of cherry. Cook in a moderate oven until a pale fawn colour. When cold store in air-tight tin.

Peanut Cookies.

4	tblsp. butter.	2	tsp. baking powder.
$\frac{1}{2}$	cup sugar.	2	tblsp. milk.
1	egg.	1	tsp. lemon juice.
1	cup flour.	1	pint freshly roasted peanuts.
$\frac{1}{8}$	tsp. salt.	-	-

Shell, skin and roll peanuts, save a dozen whole for tops of cakes. Cream butter, add sugar by degrees, egg well beaten. Sift flour, salt and baking powder together. Add to butter mixture with milk, lemon, and, lastly, the peanuts. Drop from a teaspoon on to a greased tin, leave room for spreading. Place a half nut on each. Bake in a moderate oven about twelve minutes.

Oatmeal Cookies.

1 $\frac{1}{2}$	cups flour.	$\frac{1}{2}$	cup lard and butter mixed.
$\frac{1}{2}$	cup coarse oatmeal.	$\frac{1}{4}$	cup hot water.
$\frac{1}{2}$	cup sugar.	1	egg.
1	tsp. baking powder.		

Mix flour, oatmeal, sugar, salt and baking powder. Melt lard and butter, add to them the water; add these to the dry ingredients with the well beaten egg, and mix to a stiff dough. Turn it on to floured board, roll to one-eighth inch, cut out with a round cutter. Bake on a greased tin in a moderate oven until brown round the edges. When cold store in air-tight tin.

CHAPTER XXV.

SANDWICHES

Directions for Cutting Bread and Butter.

- (1.) Use bread at least a day old. It may be white, wholemeal, graham or Boston brown bread.
- (2.) Sharpen a knife and heat it frequently if new bread has to be used.
- (3.) Cream butter and spread sparingly on loaf with a spatula before cutting slice. If the crusts are to be cut off do not spread butter on edges of loaf.
- (4.) To keep a loaf even turn loaf between each slice that is cut. The slices for reception sandwiches should be very thin and the crusts are removed, those for lunches may be rather thicker and the crusts may be left on.
- (5.) Spread buttered side of slice with the sandwich filling, cover with a slice of plain bread and butter, press firmly, remove crusts and cut into small dainty shapes—such as squares, fingers, diamonds, triangles, circles and half moons.
- (6.) Serve piled neatly on a plate covered with a doily. Garnish savoury sandwiches with parsley, sweet sandwiches with nuts, cherries or flowers.
- (7.) If sandwiches are made some hours before they are to be used, they should be wrapped in paraffine paper and then in a cloth wrung tightly out of water and should be kept in a cool place. Dish just before serving.

Sandwiches contain much nourishment in a small bulk.

SANDWICH FILLINGS

Cold Cooked Meat Sandwiches.

Beef, lamb, ham, pork, veal, chicken or game may be used. Cut meat in very thin, small pieces, or preferably pass it through a meat mincer. Season with salt, pepper and mustard; if it is liked, moisten with good gravy, meat essence, butter creamed, or boiled salad dressing. A little pickle spread on cold beef or lamb is an improvement, or a lettuce leaf, sliced cucumber, or tomato may be placed on the meat. Beef loaf cut in very thin slices makes a good sandwich.

Club Sandwich.

Between slices of thin toast or bread, place thin slices of cooked bacon and chicken, add a lettuce leaf and garnish with olives. Serve hot or cold. Equal quantities of minced cooked bacon, chicken and chicken's liver makes a tasty filling. Bacon and calves' livers, minced, may also be used.

Cold Cooked Fish Sandwiches.

Salmon, lobster, crab, sardines or anchovies make the most tasty fish sandwiches. Remove all skin and bone, flake or chip fish, season with salt and pepper, moisten with a few drops of vinegar or lemon juice, or a tablespoonful of boiled salad dressing. Serve between bread and butter with or without one of the following placed on the fish: cress, lettuce leaf, peeled cucumber sliced, chopped olives, gherkins or other sour pickles. A thin slice of salmon loaf with a lettuce leaf and a little salad dressing makes a good filling.

Egg Sandwiches.

Rub hard boiled eggs through a strainer, season with salt and pepper, moisten with boiled salad dressing, spread between slices of bread and butter.

Cheese Sandwiches.

Cream, milk, Canadian or Gruyere cheese make good sandwiches. Cream the cheese with a fork or rub it through a strainer. If it is hard cheese, grate it. Moisten the prepared cheese with butter, creamed, or boiled dressing, season with salt and cayenne. Chopped nuts, olives, gherkins or other sour pickles may be added to cheese sandwiches, or a few thin slices of prepared cucumber, tomato or a lettuce leaf may be placed on the cheese.

Nut Sandwiches.

Walnuts, almonds or peanuts skinned and chopped and mixed with apples or celery, or added to chopped dates, moistened with a little boiled salad dressing, make a nutritious sandwich filling and take the place of meat.

Sweet Sandwiches.

The following may be spread between thin slices of bread and butter or small, dainty tea biscuits cut in half; jelly, jam, marmalade, chopped figs, dates or raisins mixed with clopped walnuts, peanuts or almonds.

A LUNCH BOX FOR A CHILD

Box. A collapsible lunch box may be bought or a shoe box may be used. If the shoe box is too large, cut it in half, slip one half into the other and adjust to size required with paper clips or a few stitches. Make the lid the same size as box. A piece of white oilcloth makes a far better outside covering than paper; it is waterproof and may be used as a small table cloth. A strap is preferable to string to fasten the box. A plentiful supply of greaseproof paper and paper table napkins should be on hand; they cost but little, and add much to the daintiness of the meal, consequently more is eaten and digestion is indirectly helped.

A collapsible or paper cup, a fibre plate, and a plated fruit knife may be included in the box. A clean half-pint medicine bottle and cork is the best thing for liquids.

Food. Vary the food as much as possible.

A lunch for a child should include food rich in protein, such as bread (which may be buttered) with eggs, cheese, nuts, or minced meat. The addition of lettuce, watercress, sliced cucumber or tomato to sandwiches is a great improvement. Always put in fresh or dried fruit, beside water, sugar and mineral matter; these supply the necessary bulk. Simple cake, cookies and a little candy are also suitable for the sweet part of the meal to provide heat and energy. Do not give sandwiches every day; plain white or wholemeal bread and butter, with a hard boiled egg, or a meat patty are an agreeable change. Wrap each kind of food separately in paper, pack the food tightly in the box to keep it moist. Put that to be eaten last at the bottom of the box. Put a paper napkin on the top.

Dishes Suitable for a Lunch Box.

(I.) First or Meat Course.

Sandwiches of white bread, wholemeal, graham or Boston steamed bread or crackers with butter, with any of the fillings given under Sandwiches, such as

meat, fish, eggs, cheese or nuts. Plain bread and butter with a hard boiled or stuffed egg, or slices from a beef loaf, salmon loaf, or head cheese, make an agreeable change, as does a meat pasty occasionally. See Rule 4 under Sandwiches.

(II.) Sweet Course.

Plain Cake
Gingerbread
Pie
Custard in a cup
Junket in a cup
Nut bread, buttered
Raisin bread, buttered
Corncake, buttered
Biscuits, buttered
Muffins, buttered

(III.) Fruits.

Bananas
Oranges
Apples
Cherries
Strawberries (in cup)
Peaches
Grapes
Pears
Dates
Figs
Raisins
Nuts
Prunes (dried or cooked)

(IV.) Drinks.

Milk
Lemonade
Orangeade
Water, if that at school
 is not pure.

CHAPTER XXVI.

CANNED FRUITS AND VEGETABLES, JAMS, FRUIT, JELLY AND PICKLES

BACTERIA, YEASTS AND MOULDS—THEIR ACTION ON FOODS

In the air bacteria, yeasts and moulds are floating. They attack some foods and cause them to spoil by producing objectionable flavours, odours and gases.

Bacteria are exceedingly small, one-celled organisms which can only be seen by the help of a microscope. They divide and multiply very rapidly; one in 24 hours may produce seventeen to twenty millions if they have the right food, warmth and moisture. Bacteria are found in all air, especially near foul water and decaying matter. They are killed by excessive heat, if kept at a temperature of 212° F. for ten or fifteen minutes. Some kinds produce spores (a kind of seed). These require longer heating. Bacteria attack all food rich in protein, such as meat, eggs, fish, peas and milk. Bacteria cause most trouble with canned goods. Peas, beans and corn contain a larger proportion of protein nutrient, and when canned need to be kept at 212° F. for two hours to ensure all bacteria spores being killed.

Uses. Some bacteria are useful and are used for producing flavour in cheese and butter, and vinegar from fruit acids.

Yeasts. Yeast is a low form of plant life, an oval, one-celled organism. A single yeast plant is 1-2800 of an inch in size. Yeast grows very readily by budding. The bud breaks off and forms a new yeast plant. Sometimes spores are produced. As yeast grows it gives rise to the process of fermentation by which carbonic acid gas is produced. Yeasts attack foods which are moist and contain sugar or starch, and protein, such as bread dough and any sugar liquid, such as uncovered preserves. Yeasts are killed at 212° F. At freezing point their growth is suspended. They grow best at about 66° F.

Fruits that are put up with equal weight of sugar are not so likely to be attacked by bacteria or yeasts, as they do not readily grow in such strong sugar solutions.

Moulds are spores floating in the air. They like moist, starchy or protein foods and fruits. When a mould spore falls on such, it sends forth a thread which branches and gradually travels all over the food, changing its colour as it grows older, from whitish gray to blues, reds, or yellows. Moulds generally only affect the top of jams, jellies and liquid foods and may be removed without injury to the food, but if left long enough they will work their way through solid food, such as bread or cheese.

CANNED FRUITS AND VEGETABLES

Fruits and vegetables are canned or preserved by sterilizing the food, the jars into which it is put, and sealing it so that all air is excluded, since food will only remain good if kept free from the bacteria, yeasts and moulds found in the air.

Canned fruit is cooked until tender in a weak sugar solution, it is then made air-tight in sterilized jars. By this method the flavour of the fruit is better preserved than when much sugar is used.

To Sterilize Jars.

Test. Before sterilizing, test jars to make sure they are perfect. Fill with water, adjust rubber and cover and fasten tightly. Shake well and reject those jars on which any moisture occurs.

To sterilize, fill jars with cold water, place on a false bottom in a fish kettle of cold water. Bars of wood or a piece of perforated zinc may be used as a false bottom. Bring jars to boiling point and boil 15 minutes. Just before using empty and fill whilst hot. Place covers in water also. Suspend rubber bands in boiling water 5 minutes. Use new rubbers each year.

General Rules for Canning.

- (1.) Fruit for preserving must be perfectly fresh, sound and dry, ripe but not over-ripe. Remove all bruised parts. In over-ripe fruit the jellying substance called pectin has changed and lost its power of gelatinizing.
- (2.) Kill all bacteria by sterilizing fruit, jars and utensils used.
- (3.) Cook fruit in earthen or graniteware utensils, and use wooden or silver spoons and knives, because fruits contain acids which may form a poisonous compound if exposed to air and brought into contact with tin or iron.
- (4.) Prepare fruit as below.
- (5.) When filling jars, stand jar on a cloth wrung out of hot water and wrap a second damp cloth round jar, or the jars may stand in a pan containing two inches of boiling water. Avoid all draughts, otherwise jars may crack.
- (6.) Fill jars to the brim with syrup. If the supply is short, add boiling water. Introduce a sterilized silver or wooden spoon between fruit and sides of jar to free from air bubbles. Place sterilized rubber and cover on, make airtight. Cool on a board out of a draught. When cool retighten covers, as glass shrinks as it cools.
- (7.) Label jars with name, date and year.
- (8.) Store all preserves in a cool, dry place.

To Prepare Fruit and Vegetables for Canning.

Apples. Wash, pare and core. Cook at once or cover with cold water. Wash and remove stem and blossom, but do not peel for jelly, cut in quarters.

Pears. Wash, pare, half and core. Cover with cold water to preserve colour until ready to cook.

Plums. Wipe with damp cloth and prick skins all over with a new wooden toothpick, or the skins may be removed.

Peaches. Plunge into boiling water a few seconds (use a wire basket) then into cold. The skins may then be easily removed. Cover with cold water as for pears.

Pineapple. Remove skin, eyes, and core, and cut in finger lengths or shreds.

Rhubarb. Wash, wipe, remove tough skin, cut in neat pieces. Fill sterilized jars with prepared fruit, place jar under faucet of cold running water twenty minutes. Remove air bubbles with spoon. Make jar airtight.

Currants. Strain and wash.

Cherries. Remove stalks, wash and, if possible, stone.

Strawberries, raspberries, blackberries, blueberries. Remove stalks and wash quickly and drain at once.

Tomatoes. Remove skins as for peaches.

Corn. Remove husk and silk, cut grains from husk with sharp knife.

Peas. Shell and wash.

String Beans. Wash, remove coarse strings, slice into short pieces. Beans should be young.

Syrups for Canning.

I.	II.	III.
1 cup sugar.	1 cup sugar.	1 cup sugar.
1½ cups water.	1 cup water.	2 cups water.

Method. Put sugar and water into a granite saucepan, stir until sugar is dissolved, bring to boiling point and boil ten minutes or longer without stirring.

Fruits vary in sweetness or water according to the amount of sun or rain in a season. This must be thought of in selecting one of the above syrups.

Use Syrup I. for peaches, pears, sweet plums and cherries, and for most berries.

Use Syrup II. for watery fruits, acid fruits, and for other kinds if the season is a very wet one.

Use Syrup III. for canning as by Method III., because of the evaporation during the cooking of fruit. It may also be used for other methods if the fruit is much sweeter and dryer than usual.

Quantities. Large fruits require about one pint of syrup to fill each quart jar. Small fruits, because they pack closer, require rather less.

Three Methods of Canning.

(I.) **Fruit Cooked With or Without Syrup in Steamer or Washboiler.** Fill sterilized jars with prepared raw fruit, with or without syrup. Place lids lightly on. Stand jars in steamer over cold water, put lid on steamer, heat water to boiling point and boil 10 to 15 minutes. Remove from steamer, fill up to the brim with hot syrup, finish and make air-tight. See Rules 5 to 8. If a steamer is not available, use a wash boiler. Put a false bottom in boiler as for sterilizing jars. Stand preserve jars, prepared as above, on the false bottom, taking care they do not touch one another. Pour in warm water to come half way up the jars, bring water gradually to boiling point and boil ten minutes. Finish as by Rules 5 to 8.

(II.) **Fruit Cooked in Syrup in Oven.** Fill sterilized hot jars with prepared raw fruit, cover with hot syrup. Remove air bubbles as by Rule 6. Place jars in a hot oven on a sheet of asbestos, or in a baking tin containing two inches of hot water. Cook fruit ten to fifteen minutes. Remove from oven, add more syrup to fill to the brim and finish by Rules 5 to 8.

(III.) **Fruit Cooked in Relays in a Syrup in a Saucepan.** Make syrup in a fairly deep saucepan. Put prepared fruit into it in small quantities. As the fruit is cooked fill sterilized jars with it, shake down gently, fill to the brim with hot syrup, and finish by Rules 5 to 8. This method is suitable for a small quantity of fruit.

Canned Tomatoes.

Tomatoes, on account of the quantity of acid they contain, are easier than other vegetables to can. Remove skins, leave whole or slice, add one teaspoon salt to each quart. Place without water in a saucepan, bring to the boil and boil for ten minutes. Finish by Rules 5 to 8.

Canned Vegetables.

Corn, peas, beans, asparagus tips, may all be canned but require longer cooking than fruits.

Prepare the vegetables as for ordinary cooking. Fill a jar with the prepared vegetable, add one teaspoon of salt to a quart jar, fill to the brim with cold water, adjust rubber and cover but do not tighten. Place in steamer or wash boiler (as for canning method I.), bring to boiling point and boil one hour. Remove

from steamer, tighten covers and cool. The next day loosen spring fastener of cover and cook again as before for one hour. Remove from steamer as before and tighten cover. Repeat this on the third day, and after the third cooking make air-tight again. By this method bacteria and spores should all be killed.

Orange, Lemon, or Grapefruit Marmalade.

Fruit. Bitter Seville oranges should be used for marmalade. If sweet oranges are used allow one lemon to every two oranges. A grapefruit is equal to two large lemons.

Grapefruits make good marmalade with an equal quantity of lemons.

Lemons alone may be used for marmalade.

Select, in all cases, sour, juicy fruit.

Quantities.

To each lemon or sour orange allow:	{ 1 cup cold water, i.e. $\frac{1}{2}$ pint.
	{ 1 cup sugar, i.e. $\frac{1}{2}$ lb.
To each grapefruit allow:	{ 2 cups cold water, i.e. 1 pint.
	{ 2 cups sugar, i.e. 1 lb.

If the oranges are sweet take $\frac{3}{4}$ cup of sugar to each.

Method. Wash and wipe the fruit. Remove peel neatly in quarters or eighths. Cover peel with cold water, bring to boiling point, cook for about $\frac{1}{2}$ hour. Strain and reserve the water. Remove white pith from peel with spoon or knife. Keep the pith. Take several pieces of yellow rind together and with knife or scissors cut it into fine shreds. Remove pith from oranges and slice the fruit thinly, remove pips and add them to the pith. Put pips and pith and water in which peel was boiled on to cook, simmer for one hour, strain, measure and make up with cold water to required quantity. Put sliced pulp and peel into preserving kettle and pour over the cold water and that from pips. Leave for 24 hours to soak. The next day boil the fruit and water for two hours, until it looks clear. Heat sugar on a dish in oven, add it to the boiled fruit and boil for about half an hour longer. Stir occasionally to prevent it burning. When juice jells slightly as it leaves the stirring-spoon the marmalade is cooked. Pour into hot jars. Make air-tight when cold. Store in a cool, dry place.

Note. It is a substance called pectin in the white pith of the peel that causes marmalade to jelly. The pith may be left on peel and eaten if desired. If removed, boil well in water to extract the pectin and use the water as above for the marmalade.

PRESERVES OR JAMS

Preserves are richer than canned fruit. A small quantity only is eaten at one time.

Preserves are made by cooking prepared fruit with sugar only. Use $\frac{3}{4}$ lb. to 1 lb. of sugar to each pound of fruit, taking into account the sweetness of the fruit. Strawberries require an equal weight. Put a layer of fruit at bottom of a preserving pan, slightly crush, add a layer of sugar, continue until pan is half full. Gradually heat sugar and fruit, stir constantly, bring to the boil, boil steadily forty-five minutes. Remove all scum as it rises. Put into jars, cover with new white paper dipped in brandy or alcohol, then put over it a paper dipped in white of egg. Make air-tight. Finish by Rules 7 and 8. Small fruits make the best preserves.

Fruit Jelly.

Apples, crabapples, currants, blueberries, plums, quinces, grapes, blackberries, raspberries and peaches, all yield jelly. Those mentioned first make the best. The

jellying power of a fruit depends on the amount of pectin it yields when cooked. The fruit must be dry and not over-ripe. See Rule 1 for canning.

Directions for Jelly-making.

- (1.) Prepare fruit as for canning. See page 98.
- (2.) Juicy fruits, such as currants, grapes and juicy berries, need no water. Apples and quinces should be nearly covered with water. Plums and dry berries may need a very little water.
- (3.) Place fruit in preserving pan, crush it to extract some juice. This is not needful when water is used.
- (4.) Cook fruit slowly until it falls to pieces. Stir occasionally to prevent burning.
- (5.) Pour fruit and juice into two thicknesses of hot damp cheesecloth or a flannel or felt jelly bag may be used. Let the juice drip; do not squeeze the fruit, or juice may be clouded. After straining, cover fruit again with water and boil to extract more juice; this will make a second-grade of jelly. The cheesecloth, or a clean white towel, may be made into a bag to hang, may be spread over a colander, or tied to the four legs of an up-turned chair. In all cases a clean basin must be put to catch the juice.
- (6.) Measure juice and to each pint of juice allow from $\frac{3}{4}$ to 1 lb. of granulated sugar, that is, $1\frac{1}{2}$ to 2 cups sugar, according to the sweetness of juice.
- (7.) Heat sugar on a flat dish in oven with the door open, stirring sugar occasionally.
- (8.) Reheat strained juice to boiling point and boil juice gently from five to twenty minutes, according to the thickness and sweetness of it. Thin, sour juice, like that of some apples, requires fifteen to twenty minutes.
- (9.) Add heated sugar to boiling juice, stir well until sugar is dissolved, boil gently one to three minutes and skim carefully. The time varies with fruit and season. Directly the juice jells slightly as it drips from stirring-spoon it is ready to remove from fire. Pour into clear glass jelly jars. Finish as for preserves, or cover with melted paraffin wax, make air-tight with screw covers. Stand jelly in a sunny window for a few hours, as this brightens it.

Note. A scented geranium leaf at the bottom of a jar of apple jelly gives it a good flavour.

If apples are lacking flavour, a few whole cloves may be added whilst apples are cooking, or a few strips of yellow lemon rind.

Currants and raspberries mixed make a good jelly.

In a recent bulletin issued by the Cornell Reading Course the results of interesting experiments in jelly making are given; and the following test for pectin in fruit juice:

"Test. Take equal quantities, say two tablespoons, of fruit juice and grain alcohol, mix well and cool. A gelatinous mass will appear in the liquid if pectin is present."

From this we may deduce the following rule: If fruit juice does not jell well, as for example, rhubarb, boil it (before adding the sugar) with the white pith from lemons or oranges, as this contains large quantities of pectin.

PICKLING

Pickling is preserving with salt and an acid, generally vinegar. Spices and peppercorns are added, and also sugar to some pickles. The vegetables are covered with a weak brine for twenty-four hours. This should be well drained off before the acid is added, otherwise the pickle will be too salt. All pickles should be kept a few weeks before being eaten.

Spiced Pickle Plums and Pears.

7 lb. fruit.	2 oz. whole cloves.
4 lb. brown sugar.	1 quart vinegar.
2 oz. stick cinnamon.	

Wash fruit and remove stalks. If pears are used, peel and quarter if large. Small pears are suitable. Put spices, tied in cheesecloth, with vinegar and sugar to boil for ten minutes. Cook fruit in the syrup in small quantities until tender. Place cooked fruit in jars, boil up syrup and fill jars. Make air-tight.

Crabapples may be done in the same way. They are usually washed but not peeled.

Green Tomato Pickle (Chow Chow).

8 quarts green tomatoes.	1 tbsp. allspice.
6 onions.	$\frac{1}{2}$ tsp. cloves.
6 green peppers.	$\frac{1}{2}$ tsp. pepper.
1 lb. brown sugar.	$\frac{3}{4}$ cup mustard.
1 tbsp. cinnamon.	3 quarts vinegar.
$\frac{1}{2}$ pint grated horseradish.	1 cup salt.

Chop tomatoes, onions and peppers finely. Spread on a dish and sprinkle with one cup salt. Let stand over night. Next day drain off brine, add spices and vinegar, heat to boiling point and stew gently one hour. Fill jars with the hot pickle and make air-tight.

Red Cabbage Pickle.

Wash cabbage thoroughly. Slice very finely with a sharp knife, spread on a dish, sprinkle with salt, leave for twenty-four hours. Next day drain off brine. Boil vinegar with spices twenty minutes and cool. Fill jars with uncooked cabbage, pour over the cold boiled vinegar and spices. Make air-tight. This is a cheap and excellent pickle. The cabbage should be crisp and a good colour when pickled.

Proportions.

2 quarts vinegar.	2 blades mace.
1 oz. peppercorns.	2 oz. bruised ginger root.

Boil together ten minutes. Use cold.

Pickled Beetroot.

Prepare and cook as for boiled beets. Remove skins and slice beets. Cover with cold vinegar previously boiled with a little salt and a few peppercorns. Make air-tight.

Pickled Onions.

4 quarts small white onions.	4 bay leaves.
boiling water to cover.	1 tbsp. peppercorns.
2 cups salt.	$\frac{1}{2}$ tsp. mace.
2 quarts vinegar.	$\frac{1}{2}$ cup sugar.
1 tbsp. cloves.	

Peel onions, leave whole, sprinkle with salt and cover with boiling water. Let stand a day and night. Drain and add more salt and water as before and leave for a day and night. Drain, and pack in jars, pour over hot vinegar, spices and sugar previously boiled five minutes. Make air-tight. If the onions are desired more tender, before adding the hot vinegar cover them with cold water and bring to boiling point. Strain and finish as above.

Mustard Pickle.

3 cauliflowers (large).	$\frac{1}{2}$ cup mustard.
3 cucumbers.	1 tbsp. turmeric.
$1\frac{1}{2}$ cups salt.	$\frac{1}{4}$ tsp. pepper.
1 quart vinegar.	2 tbsp. cornstarch.

Wash cauliflower and break into flowerets. Peel cucumbers, remove seeds and cut into cubes. Sprinkle salt over all and leave for two days. Drain and steam until tender. Do not over-cook it. Mix cornstarch, pepper, turmeric and mustard to a liquid with a little of the cold vinegar. Pour remainder of vinegar on to boil. When boiling add turmeric, etc., and boil ten minutes. Pack jars with vegetables, pour over the hot vinegar mixture. Make air-tight.

Sweet Ripe Tomato Pickle.

7 lb. ripe tomatoes.	$\frac{1}{2}$ oz. ground mace.
$3\frac{1}{2}$ lb. sugar.	1 quart vinegar.
1 oz. ground cloves.	1 tbsp. salt.
$\frac{1}{2}$ oz. cinnamon (ground).	

Cover tomatoes with boiling water, cover dish and leave for five minutes; this loosens skins. Remove skins and slice tomatoes. Tie spices in a cheese-cloth. Put tomatoes, spices, vinegar and sugar in a saucepan and stew gently one hour. Bottle and make air-tight. The coarser tomatoes grown in fields are generally used for this pickle.

CHAPTER XXVII.

INVALID COOKERY

The doctor's directions as to the food for very sick people, and times for giving it, should be strictly followed. A convalescent is not able to digest all ordinary food. The diet should be light, nourishing and easily digested. Food for the sick may be classed under three heads:

(I.) **Liquid Diet** (for fever patients).

Sterilized milk.

Sterilized water.

Milk with soda water or lime water.

Peptonised milk.

Barley water.

Rice, toast, apple or lemon water or other fruit drinks.

Thin gruels of oatmeal, arrowroot, cornstarch or flour.

Mutton, chicken or veal broth.

Beef tea.

Beef juice.

Clear soup.

(II.) **Semi-Liquid Diet** includes the above with the addition of:

Milk and cereal puddings.

Sweet and savoury custards.

Egg nog.

Jelly.

Junket.

Bread and milk.

Crackers.

Dry Toast.

A weak cup of tea.

(III.) **Light Solid Diet** (for convalescents).

Fowl (white meat).

White fish (steamed).

Steamed chop.

Sweetbreads.

Tripe.

Egg in a nest, steamed egg, poached egg, or egg cooked lightly in shell.

Simple milk and egg desserts.

Rice pudding.

Souffles.

Simple gelatine dishes.

Baked potatoes (if vegetables are allowed).

Cauliflower is the easiest vegetable to digest.

Beef Tea.

The food value of **beef tea** and **beef extracts** is very small. They are chiefly valuable as stimulants to excite the appetite and to vary the monotony of a liquid diet. They should not be given in cases of diarrhoea.

The white of egg in water or milk is more nourishing than beef tea.

Jelly is chiefly useful to give between meals to prevent a feeling of faintness. It acts as a protein sparer. The sugar adds to its food value.

Fruit drinks are refreshing, not nourishing, except for the sugar. They should not be given in cases of diarrhoea; cold boiled water or rice water are then the safest beverages.

Rules for Preparing Food for Invalids.

- (1.) All food must be perfectly fresh and of the best quality.
- (2.) Absolute cleanliness must be observed in cooking the food, as an invalid's delicate appetite is easily disgusted.
- (3.) Prepare and serve only small quantities of food at a time.
- (4.) Use very little sugar or seasoning of any kind. The use of milk sugar, which is less sweet, is recommended for sick cookery.
- (5.) Avoid savoury, fat, or fried foods.
- (6.) If possible, never cook in an invalid's presence. Let each meal be a surprise.
- (7.) Vary the diet as much as possible.
- (8.) Serve the meals daintily. Use clean linen, silver and dainty china, with a few fresh flowers if possible. Use an oblong tray for choice, large enough to hold the dishes easily. Serve tea in a teapot, as it keeps hotter.
- (9.) The waitress should be spotless in appearance and cheerful. All worries must be left outside the invalid's room.
- (10.) Never leave unfinished food in an invalid's room. Unfinished food should be burnt.

Much sickness is due to improper feeding, either to food badly prepared and cooked, or to an incorrect proportion of the food nutrients in the diet.

A person who has been ill requires extra nourishment to build up the tissues wasted by disease.

DISHES FOR INVALIDS

Sterilized or Pasteurised Milk.

Sterilize a fruit jar and cover. Fill jar nearly full with milk, cover loosely. Place jar on a ring in a deep pan of cold water which should come as high as the milk. Heat until bubbles appear around the top of the milk. Remove pan to the back of the fire and leave for half an hour. Make the jar airtight and cool the milk quickly in the jar. Keep in a cool place.

Fresh milk should be prepared each day.

Albumenised Milk.

- 1 white of egg.
 ½ cup milk (2 tbsp. lime water may be added to milk).

Place the ingredients in a covered jar, shake vigorously until blended. Strain and serve at once. This may be slightly sweetened and flavoured if desired.

Albumenised Water.

- 1 egg white. 1 tsp. lemon juice.
 ½ cup water. 1 tsp. sugar.

Make as above for albumenised milk.

Note. The addition of an egg white to any beverage makes it a nourishing drink.

Water for invalids should be boiled and cooled if its purity is doubtful.

Rice Milk.

2 tbsp. rice
2 cups milk.
1-6 tsp. salt

Wash rice, add cold milk and salt to it; cook over boiling water one hour. Strain, serve hot or cold with or without sugar.

Milk Tea.

Make as ordinary tea, using scalded milk instead of boiling water. After it has stood three minutes pour off the leaves into another hot teapot.

Toast Water.

Toast a round of bread a delicate brown, cover with two cups of cold water, leave for half an hour. Strain and chill before serving.

Lemonade (I).

the strained juice of one lemon.
2 tbsp. sugar.
2 cups cold boiled water.

Dissolve sugar in lemon juice, add cold water and chill before serving.

Lemonade (II).

2 lemons. 1 cup boiling water.
 $\frac{1}{2}$ cup sugar. 4 cups cold water.

Shave the yellow rind thinly from one lemon, add to it the sugar, pour over the boiling water and leave until cold. When cold add the juice of the lemons, strain and bottle. Before serving dilute with the cold water. This quantity makes five tumblers. The oil in the yellow rind improves the flavour of the lemonade, but is apt to disagree with people having weak digestions.

Barley Water.

$\frac{1}{2}$ cup pearl barley. 1 quart boiling water.
juice and rind of $\frac{1}{2}$ lemon. 2 tbsp. sugar.

Pour boiling water over barley, rind, juice and sugar. When cold strain and serve. It is more nutritious if the barley is blanched and then simmered for two hours.

Oatmeal Gruel.

1 cup boiling water or milk.
1 tbsp. fine oatmeal.
1-6 tsp. salt.

Mix oatmeal and salt to a smooth paste with cold water, pour into boiling milk or water, stir until it thickens, then cook over boiling water from 40 to 60 minutes or longer. Strain, reheat, stirring all the time. Serve with salt or sugar.

Cup of Arrowroot and Arrowroot Pudding.

1 cup scalded milk, 2 tbsp. cold milk.
1 tbsp. arrowroot. f.g. salt.

Mix arrowroot and salt to a liquid with cold water, pour this into the hot milk, stir and cook over boiling water fifteen minutes. Serve in a hot cup with sugar.

Pudding. This may be turned into a light pudding by the addition of an egg, $\frac{1}{2}$ tbsp. sugar and 3 drops of flavouring. Add the beaten yolk, sugar and flavouring to the cooked arrowroot off the fire. Fold in the stiffly whipped white. Pour into a buttered saucer or baker. Bake in a moderate oven until lightly coloured. Serve at once.

Egg Nog.

1 egg.	1	tbsp. brandy or sherry, if ordered,
1 or 2 tsp. sugar.		or a little nutmeg.
$\frac{3}{8}$ cup milk.		

Beat egg, add sugar, stir and pour on either hot or cold milk, add flavouring. Strain into a glass and serve with a little grated nutmeg on the top. Heat glass for a hot egg nog.

Beef Tea.

1	lb. lean beefsteak.
1	pint cold water.
$\frac{1}{2}$	tsp. salt.

Remove all fat and skin from meat, cut meat into thin strips, scrape red meat from connective tissue. Put scraped meat with cold water and salt in top part of double boiler, leave in a cold place for one hour. Then put cold water in under part of saucepan and place that containing the beef tea over it. Bring water slowly to a boil, then move to the back of stove and let the tea cook very slowly for an hour longer. It must never boil. Pour off the tea, keeping the meat back with a fork, then put meat in strainer, press well and add to tea. Remove any fat with clean white paper. Reheat tea if necessary, but never boil. Serve in a hot cup with dry toast. Beef tea is a stimulant; it contains but little nourishment.

Fowl, Meat or Fish for an Invalid.

Put a lean lamb chop, well trimmed, the breast of a chicken, pheasant or partridge, or a filet of white fish, between two buttered plates over a saucepan of fast boiling water. Invert the plates every five minutes. Cook from fifteen to thirty minutes, according to size and thickness. Serve on a hot plate with or without white sauce. Decorate daintily. The meat may be placed on a greased tin, covered with buttered paper and cooked in the oven.

CHAPTER XXVIII.

A FIRELESS COOKER

Description.

A fireless cooker is an air-tight, insulated receptacle on the same principle as the Thermos bottle.

If food already heated, and covered by some boiling liquid is placed in it, the cooking of the food is finished by the heat already generated in the food, that is by the conservation or keeping in of the heat. Since no heat can escape from the cooker and no outside air penetrates into it, very little heat is lost. The following experiment illustrates the principle. A stew was made by placing tough meat in cold water, brought to boiling point over heat and cooked ten minutes at 212 degrees Fahrenheit. It was then placed in a homemade fireless cooker and left untouched for seventeen hours (less time would have done). When taken out the meat was tender and hot; it registered 140°. The 62 degrees of heat lost had cooked the meat.

The advantages of a fireless cooker are:

- (a.) Less fuel is used.
- (b.) The kitchen may be kept cool in summer.
- (c.) The cook can go out and come back to find a meal cooked without fear of burning.
- (d.) She has more time for other duties and recreation.

Porridge made at tea-time and placed in the fireless cooker will be ready cooked for breakfast. Dinner may be prepared and started on the fire lighted for breakfast; it may then be placed in the fireless and the fire let out.

How to Make a Fireless Cooker.

Take a box or tin with a close-fitting lid. Paste thick paper all over it and lid, either outside or inside, to make it as air-tight as possible. Fill box to brim with clean hay, excelsior, or sawdust. Make a hole in the centre and line hole with a large piece of cheesecloth. Bury the food to be cooked in this hole, leaving it in the vessel in which it was heated; it must be piping hot. Cover with cheesecloth and hay or paper; make air-tight immediately and shut box. Leave for several hours or over night in warm place. The food will be found cooked but may need to be reheated for a few minutes before it is served.

Food which may be Cooked in a Homemade Fireless.

In a fireless made as above only such foods as are cooked in liquids and require long, slow cooking can be cooked, as, for example, all kinds of porridge, rice puddings, stewed fruit, meat or tough chicken stews, meat stock, beef tea and some vegetables. In all cases some fuel is needed to heat the food. This may be accomplished on a coal or wood fire, which can then be let out; or over a gas, oil or electric heater. A fireless cooker is particularly useful to people living in gas or electric heated flats.

Manufactured Cookers.

There are many excellent fireless cookers on the market costing from five to twenty dollars.

One at sixteen dollars, with two holes, is furnished with four soapstones, two aluminum utensils with close fitting lids, and two frames for supporting soap-

stones. The outside is of wood and the interior finish is of metal. This is sanitary and easy to clean. It would be impossible to use soapstones without a metal lining for fear of spontaneous combustion.

Food which may be cooked in a Fireless with the use of soapstones. Large fruit cakes, light butter cakes and biscuits have been successfully cooked entirely in a fireless cooker by using soapstones heated over a coal stove or gas flame for twenty minutes. One stone is placed at the bottom of the fireless. On this the cake stands. Cover cake tin with a wire frying basket with handle removed. Place hot soapstone on basket. With heat above and below the food cooks as well and quickly as in an oven.

Meats may be roasted and vegetables boiled. A beef shin stew, prepared as in previous description was placed on a heated soapstone in a fireless and left for three hours only. The meat was perfectly cooked and the liquid jellied when cold.

Points to Remember When Using a Fireless Cooker.

(1.) The same utensil must be used all through the cooking, on the stove and in the fireless.

(2.) The utensil must have a tight-fitting lid and no handle at side. Aluminum utensils retain the heat longest, enamel next, and tin least of all. The food should, if possible, fill the utensil.

(3.) Where no soapstone or other heater is used in the "fireless," the food must be cooked from five to thirty minutes at boiling point, or just below, to heat the food through before it is placed in the cooker.

(4.) If soapstones, or other heaters, are used, the food may be placed in the cooker cold and raw, but such foods as are usually cooked in boiling water should also be immersed in boiling water when placed in the "fireless," as, for example, vegetables and meat.

Time. With soapstones, same time as with a range. Without soapstones, allow twice as long as usual or longer.

(5.) If no soapstone is used, any vacant space which occurs around the vessel containing the food must be filled in with hay, newspaper, or a cushion of hay.

(6.) Do not open the "fireless" until such time as the food should be cooked. If for any reason it has to be opened, reheat the food again before returning it to the cooker.

(7.) Each time after using the cooker, air it and leave it clean.

(8.) Remember that, since food cooked in a "fireless" without soapstones is cooked at a lower heat than on a stove, it may not keep quite as well, because all bacteria may not be killed. Soups and stocks need to be brought to boiling point again if they are to be kept.

(9.) A person needs to know how to cook before they can use a "fireless." All foods are prepared in the same way as for ordinary cooking up to the point when they are placed in the oven or left on the top of the stove to simmer. No roasting, baking or boiling can be done without soapstones.

(10.) A person will be wise if, during the first months that a "fireless" is used, notes in the following way are made:

Food	Utensil Used	Time Cooked Over Fire	Time in Fireless	Result

Fireless cooker cook books may be bought, and a book of directions is usually sold with a cooker.

CHAPTER XXIX.

PAPER BAG COOKERY

Directions.

- (1) Specially prepared paper bags must be procured. They can only be used once. A bag should contain no hole; if a small hole does occur, mend it with liquid white of egg or flour dough.
- (2) All cooking is done in an oven or a fireless cooker with heated soap-stones.
- (3) The bag must be placed on a cold grid shelf, a trivet or a wire cake cooler before it is put in the oven. In a "fireless" place it on the cross bars provided.
- (4) Use a bag larger than the food to be cooked. Grease it inside with butter, dripping or oil.
- (5) Fasten bag securely at end by three folds and secure with clips. Turn up the four corners.
- (6) **Heat of Oven.** This should be about 220°, white paper should colour slightly in a few minutes. The heat should decrease slightly after the first ten minutes.
- (7) **Time.** Allow rather less time than for the same food cooked without a bag.
- (8) **Serving.** Slip the bag on to a hot dish, cut down the centre and remove bag from under food. The top of bag may be split open slightly in oven during the last few minutes of cooking to brown contents if desired.

Food Suitable for Paper Bag Cookery.

Fish of all kinds.

Meat roasts.

Tender meat stews.

Bacon, liver, heart, kidneys, chops and cutlets.

Fowl and game.

Any vegetables cooked in a small quantity of water.

Tomatoes, mushrooms, marrow, green peas and beans.

Puddings may be cooked in paper bags but must first be made in a dish.

Advantages of Using Paper Bags in Cookery.

- (1) All nutrients and flavours are retained and the flavour is improved.
- (2) There are fewer pots and pans to clean and the oven is cleaner.
- (3) No basting is necessary.
- (4) The cooking is quicker.
- (5) There are no odours of cooking.

Books can generally be bought where the bags are purchased which give directions for the exact time of cooking.

CHAPTER XXX.

THE TABLE

HOW TO LAY A DINNER TABLE

(A.) Points to remember:

- (1.) The number of persons to be present.
- (2.) The food to be served.
- (3.) The time of the meal.

(B.) Collect apparatus, using a tray or trolley.

For General Use

Silence cloth.
Table cloth.
Flowers.
Dish mats.
Water jug.
Condiments.

Carvers

Carver rests

Serving spoons, ladles, forks and knives.

Serving dishes.

Bread, butter and relishes.

For Personal Use

Table napkins.

Forks.

Spoons.

Knives.

Glasses.

Plates.

N.B.—Put dishes and plates to warm for hot food.

Directions:

(1.) Put silence cloth on table and on that spread table cloth smoothly, its edges parallel with table.

(2.) Arrange flowers gracefully in a vase or basket for centre of table, or use a small, low plant.

(3.) Place a large mat for meat dish at one end with carvers crossed below it and carver rests at either side. Put two mats at the other end for vegetable dishes. At formal meals, which are served from a side table, no mats are required.

(4.) Arrange the rest of the articles for general use to give the table a balanced effect.

(5.) Place knives and forks in the order in which they are to be used, those used first on the outside. They should be at right angles to the edge of the table. The width of a large plate should be left between the inner knife and fork. Place forks at the left with prongs uppermost. Place knives at the right, sharp edges facing inwards. Place spoons with bowls down. Place a dessert fork and spoon at the top of each cover.

(6.) A salt and pepper should be accessible to everyone without the need of passing.

How to Wait at Table.

The waitress should be spotlessly clean and neatly dressed. The hands and nails should receive special attention.

Directions:

(1.) Serve guests first, ladies before gentlemen. At formal meals begin with the lady on the right of the host and continue straight down that side of table.

A second waitress will begin with the lady on the left of host and continue down that side.

- (2.) Move about quickly and quietly. When not busy stand quietly to one side.
- (3.) Have a clean table napkin for handling hot plates and dishes.
- (4.) Place and remove dishes and plates from the left hand or fork side.
- (5.) Fill glass from right hand side, two-thirds full.
- (6.) At formal meals replenish a guest's needs at discretion. Remove plates as each individual finishes. At informal meals wait until all have finished before removing any plates or dishes.
- (7.) Always remove meat plates before removing joints. Do not remove more than two plates at one time.
- (8.) The table must be cleared of all unnecessary articles and the crumbs removed before bringing on the dessert. A finger bowl half full of tepid water, resting on a doiley on a plate with a dessert knife and fork on either side, should be placed before each guest before the dessert is brought on.

Note. On the side table should be extra cutlery, silver, bread, iced water, and a knife box for soiled silver and knives. Finger bowls if they are used.

How to Clear a Table.

Remove on a trolley or tray the soiled dishes as follows:

- (1.) Glasses and water jug. Empty each glass into water jug.
- (2.) Silver, keeping forks and spoons separate. These may be put into jugs with water, or into a japanned knife box. Knives in a jug with water to cover blades only. This loosens stains.
- (4.) Plates and dishes, scrape and stack these.
- (5.) Remove broken food on to clean dishes.
- (6.) Put sauces and gravies into kitchen china.
- (7.) Refill cruets, salts and peppers.
- (8.) Replace unsoiled utensils and table appointments.
- (9.) Use sweeper to take up crumbs.
- (10.) Air room and put it in order.

Table Etiquette.

- (1.) Wait until the hostess is seated before taking a seat.
- (2.) Do not begin to eat until those on either side are served.
- (3.) Eat and drink quietly, take small mouthfuls.
- (4.) Do not talk with the mouth full.
- (5.) Do not drink with food in the mouth.
- (6.) The fingers should not touch the knife blade or fork prongs.
- (7.) The knife should never be put into the mouth.
- (8.) Toothpicks should not be used at table.
- (9.) If finger bowls are used, remove bowl and doiley from dessert plate and place in front of it. At end of meal dip fingers in water and dry on napkin.
- (10.) Wait for hostess to rise first.
- (11.) If a guest, leave table napkin unfolded on chair or table.

How to Wash up after a Meal Single Handed.

Preparation.

- (a.) Put on plenty of water beforehand, to heat during the meal.
- (b.) Put saucepans and dishes used in preparing meal to soak; use hot water and soda for greasy articles, and cold water for starchy and milky utensils.
- (c.) Put kitchen in order, leaving table and sink ready for dishes.

Washing up Apparatus.

Two dish pans, draining tray, dishcloth or mop, clean dish towels, boiling water, soap in shaker, washing soda, or soap powder.

Directions:

- (1.) Clear table (see page 112) and arrange soiled dishes on right of sink.
- (2.) Make a soapy lather in dishpan half full of boiling water. This should be changed whenever the water becomes greasy. Have a rinsing pan two-thirds full of boiling water on left of dish pan, replenish when necessary.
- (3.) Wash with mop, rinse, drain and dry: (a) glass; (b) silver; (c) dishes, beginning with the cleanest; (d) steel knives, remove grease, scour with potato and bathbrick to remove stains, wash and dry; (e) saucepans, baking pans, inside and out; dry these with dishcloth wrung dry and finish drying on cool part of stove.
- (4.) Put away dishes.
- (5.) Empty dish pan, use running water and plenty of soap to wash inside and outside of dishpan, rinse and dry.
- (6.) Take fresh hot water in rinse pan, wash and rinse towels, dishcloth and mop. Dry out of doors if possible. Wipe and replace pan.
- (7.) Empty or burn garbage; make garbage can clean.
- (8.) Scrub table, sink and draining boards. Flush sink drain with boiling water, use soda if necessary.
- (9.) Rub over range and kettle with newspaper, sweep kitchen and dust.

Kitchen Garbage.

The garbage pail should be lined with newspaper, which makes its removal easier and cleaner. Only dry food should be placed in the garbage pail. If this is not fed to animals it should be burnt when cooking is finished.

Empty tins and broken crockery should be kept separate from food. Tins which contained food should be scalded before being thrown away, to prevent the growth of bacteria.

CHAPTER XXXI.

CURRENT LOCAL PRICES OF FOOD MATERIALS

ARTICLE	Pound		Ounce	ARTICLE	Pound		Ounce
	\$	c			\$	c	
Arrowroot				Jam (1 lb. jar)			
Almonds (shelled)				Jelly (packet)			
Apricots (dried)				Lemons (dozen)			
Apples				Lard (3 lb. pail)			
Angelica				" (loose, lb.)			
Baking Powder (Royal)				Lentils			
$\frac{3}{4}$ lb. tin				Linseed meal			
$2\frac{1}{2}$ lb. tin				Macaroni			
Butter (cooking)				Molasses			
" (fresh)				Nuts—			
Bread (white loaf)				Walnuts			
" (wholemeal loaf) ..				Peanuts			
Bananas (dozen)				Peas (dried, whole, green)			
Beans (dried)				" split			
Cocoanut (loose)				Pepper white (loose)			
Cocoa, Baker's, $\frac{1}{2}$ lb. tin.				" black (loose)			
Chocolate, Baker's				" (tin)			
$\frac{1}{2}$ lb. pkt.				Prunes			
Cayenne Pepper				Pumpkin (tin)			
Cheese				Peel, candied, (mixed) ..			
Cherries (crystalized) ..				" " (lemon)			
Carbonate of Soda				" " (citron)			
Cream of Tartar (loose) ..				Potatoes (best)			
" " per $\frac{1}{2}$ lb. tin.				Oranges (dozen)			
Cornmeal				Onions			
Cornstarch				Olives (bottle)			
Coffee (berries)				Raisins (loose)			
Currants				" (packet, seeded) ..			
Curry Powder (bot.)				Rice (whole)			
Dates				" flour			
Eggs				Salt (3 lb. bag)			
Figs				Sauces (Worcester)			
Flour (bread)				Sultanas			
" Wholemeal				Sugar, granulated			
" Pastry				" fruit			
Flavourings, 2 oz. bot. ..				" icing			
Ginger (whole)				" brown			
" (ground)				" lump			
Golden Syrup (tin)				Spices—			
Gelatine, Knox (pkt.) ..				Whole cloves			
Herbs (tin)				" nutmegs			
Bay leaves (oz.)				" mace			
Junket Tablets (bot.)				Stick cinnamon			
Jam (5 lb. tin)				Ground cinnamon			

CHAPTER XXXII.

FIRST-CLASS KITCHEN EQUIPMENT

Iron and Tin Ware.

Range. The best kind of range is made of malleable iron; it requires no blackleading, but is cleaned with oil. For hard or soft wood or coal, 6 holes, oven 20x20, with warming closet, water tank, etc., \$50.00 to \$80.00, average \$ 70.00

Coal Scuttle .....	.75
Large wooden coal box, painted black, sloping front,	2.00
Coal shovel, black japanned .....	.10
Poker and lifter, each 10c. ....	.20
Tea kettle, black tin or enamel	1.00
Large sheet iron meat pan .....	.20
Steel frying pan .....	.35
3 Bread tins, each 15c. ....	.45
1 Broiler .....	.15
1 Pepper dredger .....	.10
1 Cream or egg wire beater .....	.15
1 Dover egg beater .....	.15
1 Wire strainer, fine .....	.05
1 Wire strainer, coarse .....	.25
1 Flour sifter .....	.25
2 Oblong trays, 1 small, 1 large	1.50
1 Nickel towel rack .....	.15
1 Bread grater .....	.10
1 Dust pan, black japanned .....	.10
1 Japanned knife box .....	.35
*1 Tin steamer, four parts	2.50
1 Tin steamer to fit a large stew pan .....	.50
6 Tin plates, each 5c. ....	.30
1 Muffin tin, 12 holes .....	.20
1 Set skewers .....	.15
1 Frying basket .....	.25
1 Round cake tin .....	.15
1 Wire cake cooler .....	.15
1 Potato ricer .....	.35
1 Vegetable masher .....	.10
1 Toasting fork .....	.10
1 Tin measuring cup, 3rds and 4ths marked .....	.10
1 Meat cleaver .....	.75
*1 Galvanized iron oil can	1.00
1 Meat grinder	1.50
*1 Pair scales	3.25
1 Painted tin flour dredger .....	.10
*1 Set flour tins, assorted sizes	3.00
1 Match safe .....	.15
*3 Tin scoops .....	.35
1 Soap saver .....	.15
Carried forward	————— \$ 93.45

Brought forward	\$ 93.45	
1 Pie lifter 10c., 1 can opener 10c., tacks 5c. ....	.25	
1 Hammer 25c., screwdriver 15c., wrench 35c. ....	.75	
*1 Set Mrs. Pott's irons with handle and stand	1.25	
*1 Electric iron, \$4.50 to \$7.50	7.50	
		\$103.20
Crockery and Glass		
1 Doz. quart preserving jars .....	.85	
1 Doz. pint preserving jars .....	.70	
1 Doz. jelly tumblers, screw top .....	.50	
1 Jelly mould .....	.25	
2 yellow mixing bowls, each 25c. ....	.50	
1 Set pie dishes .....	.90	
1 Mirror .....	.25	
		3.95
Sundries.		
*1 Wringer, \$3.50 up	3.50	
*1 Fibre tub	1.00	
1 Clock	1.00	
*1 Refrigerator, \$10.00 upwards	10.00	
*1 Ice cream freezer	2.25	
1 Slate or pad .....	.05	
*1 Bread mixer	2.25	
		20.05
Kitchen Cloths.		
1 Doz. tea cloths	1.25	
1 Doz glass cloths	1.50	
6 Dish washers .....	.30	
3 Cheesecloth dusters .....	.15	
4 Crash oven cloths .....	.50	
3 Roller towels (3½ yds.)	1.35	
1 Ironing sheet (undressed cotton) .....	.25	
1 Ironing blanket .....	.50	
*1 Yard American cloth for cleaning .....	.25	
		6.05
Cutlery, Spoons, Forks, Metal.		
1 Vegetable knife .....	.05	
2 French knives (25c. and 50c.) .....	.75	
1 Doz. metal forks .....	.35	
1 Doz. metal teaspoons .....	.35	
1 Doz. metal tablespoons .....	.35	
2 Wooden spoons .....	.20	
1 Meat saw (nickel) .....	.35	
1 Steel .....	.25	
1 Pair scissors .....	.25	
*1 Double meat chopper .....	.25	
*1 Palette knife .....	.30	
		3.45
Brushes and Wooden Utensils.		
1 Salt box .....	.25	
*1 Kitchen stool (high)	1.00	
1 Kitchen chair	1.00	
1 Table, plain deal, with drawers	3.00	
Carried forward		\$ 5.25

Brought forward	\$ 5.25
1 Wash board .....	.30
2 Nail brushes .....	.10
2 Scrub brushes, 20c. ....	.40
1 Whisk broom, long handle	1.00
1 Bannister brush .....	.65
1 Towel rack, 8 arms	1.00
1 Meat board .....	.25
1 Pastry board .....	.75
1 Rolling pin .....	.25
1 Mop .....	.40
1 Pail .....	.25
1 Mop wringer	2.00
1 Dish mop .....	.05
1 Chopping bowl .....	.25
*1 Ironing board	2.00
*1 Kitchen cabinet (Hoosier)	40.00
	<hr/>
	\$ 54.90

Enamel Ware.

1 Soap dish .....	.10
3 Saucepans, straight sides with lids	1.50
2 Lip saucepans .....	.45
2 Kitchen bowls .....	.50
1 Hand bowl .....	.30
1 Pitcher, 1 qt. ....	.50
*1 2-qt. milk can with cover .....	.50
1 Sink strainer .....	.50
6 Enamel plates .....	.60
1 Washing up pan .....	.75
1 Garbage can with cover .....	.75
*1 Preserving kettle .....	.80
*1 Bread kneading pan with cover	1.10
1 Water bucket (white)	1.00
*1 Fish kettle	1.25
1 Butter cooler with cover .....	.50
	<hr/>
	11.10
Total	<hr/>
	\$202.70
Total cost of first class kitchen equipment	\$202.70
Less cost of articles starred, including Range, \$70.00, and Cabinet, \$40.00	154.40
	<hr/>
Cost of essentials, without stove	\$ 48.30

CHAPTER XXXIII.

HOUSE PLANS AND FURNITURE

Each girl before starting housekeeping should possess clear and definite ideas as to the points of a good house as contrasted with a poor one, and the average cost of the same. Excellent books may be obtained on the subject.

If renting, or buying a house ready-built, make what alterations are necessary to make it convenient. Housework should be made pleasant, light and interesting. It is a good plan to sit down in the different rooms of a house to think where improvement is desirable and possible. Some improvement should be made each year. Housewives too often put least value on the three most valuable assets they have: health, strength and time.

Rented Houses.

Before going into a rented house, have all alterations promised by landlord finished, and, unless the last tenants were known, it is safer to have the whole house fumigated, is case of infectious diseases, the germs of which may cling to walls and cupboards.

The following points should be borne in mind when planning the various parts of a house and buying furniture:

- (1) **Suitability.** Is it suitable for the purpose for which it is to be used?
- (2) **Sanitation.** Is it easy to keep clean?
- (3) **Harmony.** Will it harmonize with the whole and make for order?
- (4) **Use or Beauty.** Is it either useful or beautiful?

As Mr. Daniels, in his work called "The Furnishing of a Modest Home," explains, "Nature should be taken as the source of inspiration and guide," and he shows that Nature plans for "fitness to purpose, order and simplicity."

(1.) Desirable Site.

This should be high and face the south. The distance from business or school must be taken into consideration and the time and cost of transportation.

The opportunities for social intercourse and the matter of desirable neighbours need to be remembered.

(II.) House Plans.

A house should be built and arranged for the needs of the inmates. Plan to that end. Think of the future and the pairs of hands available to do the work. The outside appearance should not be studied to the detriment of the interior.

Windows. Have plenty of windows and avoid dark corners. Windows must open top and bottom for good ventilation, and if necessary should be screened all over.

Halls should be passage ways; if used as rooms draughts must be prevented.

Cloakroom with washing accommodation on the ground floor is a convenience.

The living room should be the brightest and most comfortable room in the house. An open grate makes an attractive centre and is an outlet for foul air.

Bedrooms, when possible, should have sheltered sleeping porches, otherwise leave space for the bed so that the head may be towards the light, not facing.

Cupboards should be in every room. Those for clothes should be light and have outside ventilation, with rails to support coat and dress hangers, and shelves for hats and boots. Provide cupboards or drawers in living rooms for work or toys.

Space for keeping household linen and storage for trunks must be arranged.

Bathroom should be near or over kitchen that it may be warm in winter. This and the "toilet" should be sanitary in every respect and well ventilated.

Kitchen needs to be well lighted and conveniently arranged to save steps between sink, stove and worktable.

A lift from basement, through kitchen, to top floor of house, saves many steps for the housewife.

Pantries must have outside windows and should face the north. Built-in receptacles for food materials should be dust and mouse proof.

(III.) Colour Scheme.

In choosing the colour for different rooms, consider the house as a whole, especially those rooms opening into one another, and the halls in relation to the rooms.

Colour should be chosen with reference to the quantity and quality of light which enters a room, whether from the north, south, east or west. The colouring of a room affects the nerves of those who use it, and should cheer and soothe, not depress or irritate.

Balance of colour. The floor should be the darkest, as in nature, the walls somewhat lighter, and the ceiling lightest of all.

(IV.) Floors and Woodwork.

Make these dust and waterproof, and avoid many shiny surfaces. The natural finish of a wood, either oiled, waxed or stained, is preferable to varnish and paint.

It is better to put money into a good floor than a carpet. Rugs for the centre of the room, in preference to carpets which cover, are easier to move and keep clean.

The walls, floor and woodwork of bathroom, toilet and kitchen should have non-porous and washable surfaces.

(V.) Walls.

Calcimine, alabastine or paint, with stencilled conventional border designs, are more hygienic wall coverings than paper, but the latter are warmer.

Plain unfigured papers are restful to the eye and make the best background for pictures.

Study how to correct low or too lofty ceilings by means of wall coverings.

Decide on the patterns and colours of curtains, furniture and woodwork before choosing the wall coverings.

Bedroom walls should be light coloured.

Burlaps or panelling for the lower parts of halls and stairways make a strong finish.

(VI.) Furniture.

Avoid cheap ornamentation and imitation in wood or brass.

Straight simple lines in furniture are better than poor curves and tawdry decorations. The latter harbour dust and dirt.

Chairs should be chosen for comfort and should support back and head. A couch should invite repose.

Chests of Drawers and Wardrobes should open easily and be arranged with divisions to hold various garments.

Beds. Spend money on good mattresses rather than on expensive bedsteads.

All furniture should be on castors or "domes of silence" to protect the floors and make it easy to move for cleaning purposes.

Buy only that furniture which is useful and comfortable.

(VII.) Draperies and Linen.

Have as few draperies as possible because they hold the dust. Washing materials are hygienic, and good patterns in chintz and cretonne may now be obtained.

Avoid cheap lace curtains. Simple materials, such as cheesecloth, blue check gingham, or unbleached cotton, stencilled, make good bedroom curtains. Denim, casement cloth, monk's cloth or raw silk with bands of art cretonne, are suitable for living rooms.

Buy the best linen possible, as it is cheapest in the end. Buy sheets wide and long enough to tuck in well. Blankets should be light and wide.

(VIII.) Pictures.

Have few, and those few good. Photographs of well known pictures or places, or prints of the old masters, are more helpful to live with than poor oil or water colours.

The frame should be carefully chosen so that it is forgotten when looking at the picture.

Hang pictures so that the centre of them is on a level with the eye.

(IX.) Ornaments.

These also should be few and good. Put the test question when selecting: "Is this useful, or beautiful in line, colour and design?"

Living plants, cut flowers, and books are the best ornaments of a room.

CHAPTER XXXIV.

DIRECTIONS FOR COOKERY UNIFORM

Pinafore.

Ladies' Home Journal Pattern (No. 6187).

This is a nightgown pattern, cut all in one piece, with kimono sleeves. It is easy to make, easy to launder, and makes a comfortable pinafore.

Pinafore to be made of **white sheeting** (48 inches or wider) with:

- (a.) Square neck.
- (b.) Long sleeves, to be gathered into a loose wristband.
- (c.) Slit down the centre of back width and make to button.
- (d.) To cover dress to hem of skirt.

Cap.

Materials. $\frac{3}{4}$ yd. white cheesecloth. 1 yd. of tape, $\frac{1}{2}$ inch wide.

- (a.) Make each end of cheesecloth straight by drawing and cutting to a thread.
- (b.) Draw a thread $1\frac{1}{4}$ inches from one end and make a $\frac{1}{2}$ -inch hem to meet thread.
- (c.) Draw a thread $6\frac{1}{4}$ inches from the other end and make a 3-inch hem to meet thread.
- (d.) On wrong side of wide hem, five inches from one end, sew a tape across hem. Place the centre of tape to the centre of the width of the hem. When this cap is put on the tape passes under the hair, which is tied in with the ends of the cap.

This cap is cheap, light, cool, easily made and laundered.

Pot Holder.

- (a.) Cut open the back seam of a clean old stocking (the colour must be fast) down to the heel. Cut off the toe.
- (b.) Open leg of stocking, fold in three or four to make the size of a large saucer and cut out.
- (c.) Baste the circles together close to the edges. Any old woven undergarment may be used instead of stocking.
- (d.) Cover neatly with white cotton, leave $\frac{1}{2}$ open with hems.
- (e.) Fasten on with button and buttonhole.

Hand Towel.

To be made of white huckaback.

To be about half a yard long.

Ends to be hemmed.

Sew a button securely to centre of one hem.

Tape.

One and one-half yards of wide tape to hang round waist or neck to support holder and hand towel. Make an inch hem at each end, and buttonholes to fit buttons on towel and holder.

HOUSE MANAGEMENT

CHAPTER I.

CLEANING MATERIALS

A housekeeper should know something of the nature of the cleaning materials she uses and their effects on the different materials of which household utensils and textiles are made.

Alkalies and acids are used in cleaning, with or without some scouring material, such as fine sand, ground pumice stone or whiting. These are the foundation of most cleaning mixtures.

Acids and Alkalies used in the Home.

Acids.	Alkalies.
Cream of tartar.	Cooking soda (bicarbonate).
Lactic acid in sour milk.	Borax.
Lemon juice.	Ammonia.
Vinegar.	Washing soda.
Oxalic acid.	Potash or lye.
Salts of lemon.	} Poisons.
Muriatic acid.	

Alkalies turn red litmus paper blue. They are saltish and soapy in nature, and strong alkalies burn materials. When used with water they dissolve grease and dirt.

Acids turn blue litmus paper red. They are sour to taste. An acid will set free carbonic acid gas in cooking or washing soda. Acids if left on metals form a poisonous salt.

Acids remove fruit, ink and iron rust stains. Strong acids destroy the colour of textiles and the fibres; weak acids do not.

Effect of Acids and Alkalies on One Another.

Acids and alkalies neutralize each other, that is they stop the action of each other if they are of equal strength. Therefore in using an alkali for cleaning purposes, if it is found to weaken the material or affect the colour, at once apply a weak acid with water to neutralize or stop the effect. And if an acid, such as oxalic, is used for removing a stain, the article should immediately be washed with water containing an alkali, such as ammonia, which will prevent the acid destroying the material.

Strong alkalies and acids weaken delicate textiles, causing them to wear into holes, and they spoil enamel and other polished surfaces.

Soap and Soap Powders.

Soap powders are about fifty per cent. soda. They injure the skin, paint, and all delicate textiles, but they quickly dissolve grease and dirt.

Strong soaps contain much free alkali and should not be used on delicate materials or finished woodwork.

Scouring Materials, such as coal ashes, sand, powdered bathbrick or pumice stone, used on a damp cloth, all remove dirt by friction, but will spoil painted or polished surfaces.

The various scouring materials on the market in the form of cakes or powder are useful for scouring white wood, tins, zinc and sheet iron, but are liable to injure highly polished surfaces owing to the alkalies, acids or scouring material which they may contain.

CHAPTER II.

THE CHOICE, CLEANING AND CARE OF A KITCHEN SINK

Choice.

Kinds:

(1.) Porcelain, either white or buff colour. These look and wear well and are easy to keep clean. Buff coloured sinks do not stain as easily as white.

(2.) Enamel on iron. These look well and are easy to clean, but if the enamel chips, the iron is liable to rust and wear into a hole.

(3.) Zinc on wood is sometimes used, but does not look well and is difficult to keep clean.

(4.) Soapstone sinks are dark in colour and therefore do not look as well as white sinks, but they are not so hard on crockery as porcelain or enamel.

Buy a sink and back in one piece, with draining boards of the same material, which should overlap on either side of the sink. There should be no cracks where dirt may collect or vermin breed.

A sink with a plug is useful if a movable small strainer is fixed in pipe below plug.

The sink traps should be easily accessible and have a good water seal.

Daily Cleaning.

(1.) Wash sink, draining boards and sink back each day with hot water and soap, scrub if necessary. Remove obstinate marks by rubbing hard with bath-brick or a scouring soap on a cloth wrung out dry. Flush the sink drain with boiling water.

Care of a Sink.

- (1.) Never drop heavy articles on a sink.
- (2.) Never clean tins on a sink, as it scratches the surface; place them on a paper or on the draining board to scour.
- (3.) Before washing greasy articles, wipe the grease off with newspaper; burn the paper.
- (4.) After putting greasy water down sink, flush with soda water as below.
- (5.) Pour all water containing pieces through a sink strainer.
- (6.) Never use strong acids on an enamel sink.
- (7.) Turn off taps securely.

WEEKLY FLUSHING OF A SINK TRAP

Cleaning Apparatus.

Kettle of boiling water, half cup washing soda, one quart hot water, an enamel saucepan and funnel, potassium permanganate crystals or other disinfectant.

Directions.

- (1.) Sprinkle a few permanganate crystals over sink drain.
- (2.) Dissolve soda in a saucepan of water, bring it to the boil.
- (3.) Pour boiling soda solution through funnel down drain. Leave for half an hour to cut the grease.
- (4.) Wash and replace utensils.
- (5.) Pour a kettle of boiling water down sink drain to flush it.

THE CLEANING OF A SINK TRAP**Cleaning Apparatus.**

An enamel pail, sink strainer, large monkey wrench, trap brush with wire handle, quart enamel saucepan, half cup washing soda, a disinfectant, boiling water.

Directions.

- (1.) Put soda and 1 quart hot water into saucepan, dissolve and boil.
- (2.) Pour some disinfectant down sink drain.
- (3.) Place pail under sink trap. Unscrew cap of trap with the monkey wrench.
- (4.) Remove with brush all obstructions from trap.
- (5.) Pour the boiling soda water down sink through trap into pail. When trap is clean replace screw cap.
- (6.) Empty contents of pail into sink through strainer slowly. See that trap does not leak.
- (7.) Wash all utensils and replace.
- (8.) Pour kettle of boiling water down sink and leave sink clean.

N.B.—If the trap is cleaned periodically the sink will not become stopped up.

CHAPTER III.

THE CHOICE, CLEANING AND CARE OF A KITCHEN RANGE

Choice.

- (1.) A malleable iron range is the easiest to clean, as it requires no black-leading.
- (2.) Choose a plain stove with plain nickel; highly ornamented stoves are out of place and require more cleaning.
- (3.) A stove should stand on feet. It is then possible to sweep under it; otherwise an angle is formed with the floor where dust collects.
- (4.) A stove should be high enough to prevent the fatigue of stooping. An elevated oven is preferable.
- (5.) A stove should be so constructed that it retains as much heat as possible; for this reason the oven should be covered with asbestos.

Cleaning.

Apparatus:

Stove rake, ash sifter, stove brush, polisher, dauber, turpentine, blacklead or neatsfoot oil, old cloth, pail of hot water, soap or soda, newspaper or sacking, stove apron, gloves, cap.

Directions:

- (1.) Spread newspaper or sacking around stove.
- (2.) Shut drafts and checks.
- (3.) Remove ashes and soot from top, sides and under oven, brush under-side of covers. Rake out soot from door under oven.
- (4.) Shake down contents of firebox, remove clinkers.
- (5.) Sift ashes, retain cinders, brush top of stove.
- (6.) Wash inside of oven, then stove, beginning with bright parts. Use hot water with soap or dissolved soda to remove dirt or grease. Use as little water as possible, rinse cloth often.
- (7.) Lay fire.
- (8.) Mix blacklead to a thin paste with water and a few drops of turpentine, apply thinly, polish at once. A malleable iron range is not blackleaded but is rubbed over with neatsfoot oil.
- (9.) Tidy floor around and under stove. Wash if necessary.
- (10.) Wash cloth and pail, replace apparatus.

Clinkers may be removed by putting on a bed of hot coals a layer of clam or oyster shells or quicklime. The heat converts shells into quicklime, which loosens clinkers. Repeat treatment if necessary.

Care.

- (1.) If anything is spilled on the stove or in the oven rub it off at once with paper.
- (2.) Do not allow the stove to become red-hot.
- (3.) Clean thoroughly whenever necessary.

(4.) Close the covers and checks, open drafts and damper, apply a lighted match to the paper.

(5.) When the fire has well started, partly close the front and chimney drafts to prevent waste of fuel.

N.B.—In making up a fire never more than three parts fill coal box; leave a space for air to enter, shake down ashes and leave grate closed. Never poke a hard coal fire from the top.

HOW TO LAY AND LIGHT A KITCHEN FIRE

Apparatus.

Newspaper or sacking, neatsfoot oil and a thick cloth, or blacklead, dauber and polisher; stove brush; kindling wood, paper, coal and matches; stove gloves.

Directions.

- (1.) Spread newspaper in front of ashbox and shut front drafts.
- (2.) Shake down contents of firebox, remove clinkers.
- (3.) Sift ashes, retain cinders, brush top of stove, polish if necessary.
- (4.) Arrange in layers lightly to admit air: (a) a few cinders; (b) pieces of paper twisted in centre only; (c) small dry sticks cris cross fashion; (d) small lumps of coal.

GAS RANGE

Choice.

- (1.) Choose a plain stove, simple in design. It should stand on legs with an elevated oven, a separate broiler, and a warming closet.
- (2.) The bars over flame jets should all remove easily for cleaning.
- (3.) Under the gas jets should be a movable tray, made of fireproof enamel, to catch anything that cooks over.
- (4.) The stove should have a pipe opening outside for ventilation.

Note.—An excellent instantaneous gas water heater not connected with any stove may now be obtained.

Cleaning.

Apparatus:

The same as for cleaning a coal range.

Method:

- (1.) Place newspaper or sacking around stove.
- (2.) Remove oven shelves, tray under burners, dripping pan, and bars over gas jets. Scrape if necessary and wash in hot soda water and dry with an old cloth.
- (3.) Brush top of stove and oven and wash and dry. Do burners also; use a skewer if burners are blocked.
- (4.) Blacken stove or rub with neatsfoot oil.
- (5.) Replace all parts removed for washing.
- (6.) Light burners and oven for five minutes to complete the drying.

ELECTRIC STOVE

Choice.

- (1.) Have the stove part unscrewed from top of oven. Place each on a small table covered with zinc. This prevents stooping.
- (2.) It is wise to buy electric pans which fit on and grip the electric plates, as then no electricity is lost and food cooks more quickly.

- (3.) The top of the stove should have a hard surface easily washed.
- (4.) A separate meter should be obtained for electric cooking and ironing, so that the exact cost may be known as apart from light.

Cleaning.

Apparatus:

Pan of hot, soapy water, three old cloths, neatsfoot oil, dust pan and brush.

Method:

- (1.) Scrape plates if necessary, brush off dust from them and oven.
- (2.) Wash electric plates, oven shelves, oven and top of stove with hot water and soap, rinse and dry, finish drying by turning on heat for a few minutes.
- (3.) Put a very little oil on a clean dry cloth (an old stocking may be used) and rub over all parts washed.

Relative Cost. Coal range \$85.00. Gas range \$75.00. Electric range \$110.00.

CHAPTER IV.

SWEEPING

Apparatus.

Damp pieces of newspaper, sawdust or washed tea-leaves, a broom, a dustpan, dustcap and gloves.

Directions.

- (1.) Open window at the top, shut all doors and drawers.
- (2.) If possible put away small articles, and cover big furniture with dust sheets.
- (3.) Sprinkle the damp newspaper or other material over the floor.
- (4.) Begin to sweep that part furthest from the door. Keep the broom nearly perpendicular; sweep from the corners towards the centre; take up the dirt into the dustpan frequently.
- (5.) Leave the room shut up with window open for fifteen minutes, or longer, for dust to settle.
- (6.) Burn the dirt and paper and wash dustpan; also broom if necessary. Replace everything.

MOPPING AND SCRUBBING

Apparatus.

Mop and mop-wringer, scrub brush or a self-wringing mop; a pail half full of hot soapy water, a pail of clean cold water.

Directions.

A room should be swept before it is mopped.

- (1.) Dip mop in pail of water and half wring it.
- (2.) Begin to mop at the corner furthest from the door, rub a portion of the floor vigorously with the grain of the wood, rinse the mop and wring it tightly, then wipe the cleaned part of the floor dry, before doing more. If necessary scrub before rinsing floor.
- (3.) Change the water frequently.
- (4.) Leave the window open that air may dry the floor.
- (5.) Empty pail, wash it and the mop, and dry both. Replace everything.

DUSTING

Apparatus.

White cheesecloth dusters are the best, as they quickly show the dirt and are easily washed and dried.

Directions.

- (1.) Slightly dampen dusters in steam from a kettle or otherwise.
- (2.) Dust all small articles first, moving them, then the furniture on which they rest; do chairs and table next, lastly window sills, ledges, doors and baseboard. Take clean dusters when necessary. The dust should be wiped up, not flicked from place to place.
- (3.) Wash and hang cloths to dry.

CHAPTER V.

WINDOW CLEANING

Apparatus.

Stepladder, an enamel pan, clean cheesecloth, a damp duster, a chamois leather or newspaper, warm water, ammonia.

Directions.

(1.) Dust window shade on both sides. Take it down to do this and note which end goes in the socket.

(2.) Dust window and woodwork around it, both inside and outside.

(3.) Half fill pan with warm water, add one teaspoonful of ammonia to each quart. Stand the pan of water on newspaper.

(4.) Dip a piece of cheesecloth in the water, squeeze it almost dry, wash the glass well with this, rinse cheesecloth frequently, do the corners carefully, using a wooden skewer if necessary. Begin at the top of the window and work downwards.

(5.) Dry with dry cheesecloth or a linen cloth free from lint.

(6.) Polish with a chamois, crumpled newspaper or tissue paper.

(7.) Both sides of the window should be cleaned.

(8.) Replace window shade with care. See this works correctly.

(9.) Wash, dry, and replace apparatus.

Choose a dull, not sunny or frosty day for window cleaning.

CHAPTER VI.

THE CLEANING OF PAINTED AND VARNISHED WOOD

Apparatus.

Pail of warm water, wash cloth, two drying cloths, borax or ammonia, castile soap.

Directions.

- (1.) Put one tablespoonful borax or ammonia into half a pail of warm water.
- (2.) Begin to wash at the top of the wood and work downwards. Use as little water as possible on the wood, but rinse washcloth frequently. Wash only a small portion of the wood at a time and dry it before washing more. Rub with the grain of the wood. Use a little mild soap on the cloth for obstinate marks.
- (3.) Wash, dry, and replace apparatus.

Care of Finished Wood.

- (1.) Never use soda, washing powders, or strong soap on painted, varnished, or stained wood, as they spoil the surface finish.
- (2.) All finished woodwork is preserved and improved by being rubbed with coal oil, i.e., petroleum. The oil should be rubbed into the wood, left for an hour or two, and then be polished with a clean, dry duster. Clean old stockings may be used for this purpose.

CHAPTER VII.

THE CHOICE, CLEANING AND CARE OF SILVER

Choice.

(1.) Plain silver without ornamentation looks well and is easier to keep clean.

(2.) Solid silver, if thin, is light and bends easily. If of English make it usually has a lion rampant on it and it is said to be hall marked. Rogers 1847 is a good silver plate on white metal. Nevada silver is cheaper.

Relative cost of a tablespoon: Solid silver, \$3.00; Rogers 1847, 50c.; Nevada silver, 15c.

Cleaning.

Apparatus:—

Newspaper, silver polish or Colgate's silver soap, small soft cloth, soft tooth brush, two clean soft dusters, clean chamois leather and plate brush.

Directions:

Note.—If table silver is badly tarnished, wash and dry in usual way, using hot soapy water, immediately before cleaning as below. Salt on a damp cloth removes egg stains.

Large pieces of silver, such as teapots, cruets, or candlesticks may be cleaned by boiling them in a bath of hot water with 1 tablespoonful cooking soda to each quart.

- (1.) Spread newspaper on table.
- (2.) Mix polish well and apply with small cloth, rubbing all parts well. Use tooth brush to apply to raised ornamental surfaces.
- (3.) When polish is dry, use a duster in either hand, holding the article with one, and rub lightly with the other. Use plate brush for cracks and crevices.
- (4.) Polish with chamois.
- (5.) Wash and dry cloths and replace apparatus.

Recipe for Silver Polish.

Ingredients:

- 2 level tbsp. borax.
- $\frac{1}{2}$ cup alcohol or methylated spirit.
- precipitated whiting.

Method:

Dissolve borax in one cup of boiling water; when cold add alcohol or methylated spirits, and mix with these, gradually, sufficient precipitated whiting to make a thin cream. Keep in a bottle and shake before using.

A quick polish may be made by mixing precipitated whiting with ammonia. Colgate's silver soap is very good and clean to use.

Care of Silver.

- (1.) Keep table silver in sections. Never mix forks with knives or spoons.
- (2.) Store away in pockets of a soft material with individual space for each piece. For daily use these pockets may hang on a door. Silver not in use should have camphor packed with it and air should be excluded.

(3.) All silver articles should be frequently polished with a chamois. Table silver so treated after each meal seldom needs cleaning.

Cost per Dozen.

Kind	Solid	Rogers 1847	Nevada
Table spoons	\$23.00	\$6.00	\$1.60
Dessert spoons ..	20.00	5.00	...
Coffee spoons ...	8.00	2.50	...
Tea spoons	10.00	3.50	.60
Soup spoons	25.00	6.00	...
Large forks	33.00	6.00	1.60
Small forks	25.00	5.00	...

CHAPTER VIII.

THE CHOICE, CLEANING AND CARE OF KNIVES AND STEEL FORKS

Choice.

- (1.) The blade should be riveted to handle.
- (2.) The handle should be made in one piece.
- (3.) The handle should balance.

Average cost per dozen: Large size, \$4.00; small size, \$3.50.

Cleaning.

Apparatus:

Hot water, soap, dish cloth, towel, jug, potato, bath brick, a kamptulicon or leather covered knife board, duster, and newspaper.

Directions:

- (1.) Spread newspaper on table.
- (2.) Remove all grease by washing (see directions for washing up.).
- (3.) Remove stains with raw potato dipped in powdered bath brick, or use a scouring soap. Rub knives used to cut onions in damp earth.
- (4.) Wash and dry.
- (5.) Polish with cork and dry bath brick powder, or by rubbing on kamptulicon board with bath brick or knife polish. Polish (a) blade; (b) back, (c) points; (d) shoulder. If using a board, hold knife flat on board by handle, never touch blade with the fingers. Dust blade and handle with dry clean duster.
- (6.) Place in knife box, handles in same direction.

A steel fork is cleaned in same way, using bath brick and a piece of soft leather. Clean and dust thoroughly the guard and spring of a carving knife.

Care of Knives.

- (1.) Never allow the handles to lie in water, as it softens the glue and handles become loose.
- (2.) Remove acid stains at once.
- (3.) When not in use, grease and keep air-tight in stiff paper, as the moisture in air causes them to rust.
- (4.) Never use a best knife for kitchen purposes, as it spoils it.

CHAPTER IX.

THE CHOICE, CLEANING AND CARE OF PASTRY BOARD AND WHITE WOODEN UTENSILS

Choice.

Choose boards made of seasoned wood and free from knots.

Wooden utensils are made of either soft or hard wood. Soft wood, such as pine, spruce, poplar or basswood are whiter in color, but dent easily. They make nice looking pastry boards and rolling pins. The quartered and comb grain gives a board that wears smooth and does not sliver.

Hard wood, such as oak or maple, makes good table tops and chopping boards, but is darker in color.

Seasoned wood has the sap dried out and is less liable to warp or decay.

Cleaning.

Apparatus:

Cleaning mixture, sapolio or other scouring soap, knife, small crash towel, pan of warm water, scrub brush.

Directions:

- (1.) Scrape with back of knife and remove loose material.
- (2.) Wash over with cloth.
- (3.) Scrub by way of grain, using the mixture or scouring soap.
- (4.) Rinse well with warm water.
- (5.) Rinse with cold water to clear wood.
- (6.) Wring cloth out of cold water and wipe dry.
- (7.) Finish drying in open air if possible.

Note.—If oil or fat is spilt on wooden utensils, pour cold water on to harden it, or sprinkle with flour or starch to absorb it, then scrape and scrub with hot water and soap.

Mixture for Cleaning Wooden Utensils.

1 lb. whiting.	1 lb. soft soap.
1 lb. silver sand.	water to cover.

Put these materials into an old saucepan, cover with water. Bring to a boil, stirring occasionally, and boil gently for half an hour. Put mixture into a covered jar. Use on a brush. Yellow soap may be used if soft is not obtainable. Shred it and dissolve in a little water before adding to the other ingredients.

Care of Wooden Utensils.

- (1.) Avoid hot water and soda, as they turn wood yellow.
- (2.) Dry quickly without heat.
- (3.) Wash and scrub each time after use.
- (4.) Wooden tubs should be left with water in them to prevent shrinkage of wood.

CHAPTER X.

THE CHOICE, CLEANING AND CARE OF KITCHEN TIN, ENAMEL, ALUMINUM AND ZINC

Choice.

Tin goods are made by pressing thin sheets of sheet iron together into the required shape; they are then dipped into liquid tin. Cheap tinware is made of a poor and thin quality of sheet iron, and has a very thin plating of tin, which soon wears off and the article then easily rusts.

Buy well-balanced, heavy block-tin goods for hard use.

Enamelware goods are made of sheet iron coated with a glazed preparation. It is very brittle and easily cracks and chips if knocked or scratched, leaving the iron exposed. Buy the best quality of enamel, the coating is thicker and well finished, it does not chip so easily.

Examine each article carefully to avoid imperfect pieces, since once the enamel is chipped the article soon rusts and wears into a hole.

Aluminum cooking utensils should have steel or wooden handles.

Cleaning Tin.

Apparatus:

Pan of hot water, soap, soda, bath brick or scouring soap, a scouring cloth.

Directions:

- (1) If greasy, rub with paper to remove grease. Burn paper.
- (2) Soak before washing in hot water with a small piece of soda to remove grease.
- (3) Wash with hot water and soap. To remove obstinate marks rub hard with bathbrick or scouring soap on a damp cloth. Rinse and dry with dish cloth wrung dry.
- (4) Finish drying on cool part of stove.
- (5) Polish bright tins with whiting polish, as for silver.
- (6) Clean and replace apparatus.

Cleaning Enamelware and Aluminum.

Apparatus:

Pan of hot water, soap, bath brick or scouring soap, a dishcloth.

Directions:

- (1) Soak utensils used for flour and egg mixture in cold water, greasy utensils in hot soapy water.
- (2) Wash with hot water and soap. Remove obstinate marks with bath brick or scouring soap on a damp cloth, rub hard.
- (3) Rinse and dry with cloth. Replace everything.

Badly stained tin or sheet iron utensils will easily come clean if boiled one hour in a bath of soda water (use wash boiler). Use quarter cup soda to one gallon of water. Finish as above.

Badly stained enamel utensils will come clean if boiled one hour in hot soapy water. Soda dulls the surface of enamel and causes it to burn more easily. Soda should not be used for aluminum. Finish as above.

Care of Tin and Enamel Goods.

(1.) Thoroughly dry all sheet iron and tin goods, grease sheet iron with suet before storing away for a long period.

(2.) Never drop enamel goods, and do not scour or use in such a way as to spoil the surface.

Zinc is cleaned by scouring it with kerosene, and if necessary powdered bath brick. After using kerosene, wash zinc with hot soapy water, rinse and dry.

CHAPTER XI.

THE CHOICE, CLEANING AND CARE OF BRUSHES

Choice.

Buy brushes with good bristles in preference to expensive backs. Hair brooms are better than whisk brooms for wooden floors.

Cleaning.

Apparatus:

Warm water, borax, a clean towel, and thread for hair brushes and combs, soda and warm water for household brushes.

Directions:

(1.) Dissolve one tablespoonful borax in a little boiling water, add one quart lukewarm water. The water should not touch the back of brush.

(2.) Soak brush in water ten minutes. Then wash by dipping up and down until all dirt is removed.

(3.) Rinse in warm water, then in cold to harden the bristles.

(4.) Shake well and pat on a towel. Polish back.

(5.) Dry in the open air, bristles downwards.

Combs. Soak as for hair brushes and wash, using a nail brush to clean between the teeth. Clean paper or thread will remove obstinate dirt between teeth. Rinse, dry, and finish in open air.

Household brushes. Wash by first soaking, then dipping up and down, in a pail of warm water in which two tablespoonfuls soda is dissolved. Rinse in cold water. Shake. Dry in open air.

Care of Brushes.

(1.) Soak the bristles of all new household brushes in cold water for one hour before using.

(2.) Wash frequently. Hair brushes and combs should not be allowed to become very dirty. They need to be washed every two weeks at least.

(3.) Never use hot water for brushes. Wash and dry quickly.

CHAPTER XII.

THE CHOICE, CLEANING AND CARE OF FURNITURE

Choice.

- (1.) Avoid poor curves, straight lines are better.
- (2.) Avoid cheap imitation.
- (3.) Buy well made furniture; chairs should be strong and comfortable.
- (4.) All furniture should have as few dust surfaces as possible.
- (5.) A wax finish, polished, looks better than varnish.

Cleaning.

Apparatus:

Bowl of tepid water, castile soap, two cheesecloth dusters, a whisk, furniture polish, cotton waste or a clean soft rag, two flannelette dusters.

Directions:

- (a) Upholstered furniture. Brush well with dampened whisk.
- (b) Leather cushions. If soiled, wash with soft cloth wrung out of tepid water. Dry at once with cheesecloth. Dark leather polish as below.
- (c) Woodwork. If sticky, wash with tepid water and a mild soap, rinse and dry at once.

Polishing:

- (1.) Apply a small amount of polish with cotton waste. Rub hard with a rotary motion until polish appears.
- (2.) Finish polishing, using a flannelette duster in each hand. Polish lightly with the grain. Do crevices carefully.
- (3.) Burn cotton waste, as oily cotton may cause a fire through spontaneous combustion.
- (4.) Wash and replace apparatus.

Recipe for Furniture Polish.

- 1 cup or $\frac{1}{2}$ pint boiled linseed oil (this preserves wood).
- 1 cup or $\frac{1}{2}$ pint turpentine (this polishes).
- $\frac{1}{2}$ cup or $\frac{1}{4}$ pint vinegar (this removes stains).
- $\frac{1}{2}$ cup or $\frac{1}{4}$ pint methylated spirit (this dries and gives a gloss).

Mix vinegar and oil gradually to a thick cream, then add turpentine and spirits. Bottle, and shake before using.

To Remove White Spots from Furniture.

- (1.) Soak spots with kerosene, leave a while and rub off.
- (2.) Soak with methylated or sweet spirits and rub dry.
- (3.) Polish with furniture polish.

Note.—Some spots disappear if blotting paper is placed over them and a hot iron is held **suspended** above.

Care of Furniture.

- (1.) Clean and polish once a month.
- (2.) Rub up frequently.
- (3.) Use mats under all hot dishes or any receptacle holding water.
- (4.) Do not place near a fire or hot pipes.
- (5.) Wear nothing to scratch the backs of chairs.

CHAPTER XIII.

THE CHOICE, CLEANING AND CARE OF COPPER AND BRASS

Choice.

Copper is a soft and expensive metal. When used for kitchen utensils it is usually lined with steel. Food cooked in copper saucepans keeps at a more even temperature than in other metals. But copper needs much cleaning, as both it and brass are attacked by a green poison called verdigris.

Brass is an alloy of copper and tin. Brass and copper articles are generally coated with lacquer, which protects the metals. Choose heavy weight brass and copper goods.

Cleaning.

Apparatus:

Pan of hot water, soap, scouring cloth, dry towel, cleaning mixture, or an acid (vinegar or lemon juice) and salt, a soft clean duster or chamois.

Directions:

- (1.) Wash in hot soapy water. Scour the inside of a saucepan with bath brick on a damp cloth.
- (2.) Scour bright surface with the cleaning mixture, or, if badly tarnished, rub with salt and vinegar, or use part of a lemon dipped in salt.
- (3.) Wash a second time in soapy water to remove oily mixture or acid.
- (4.) Rinse and dry.
- (5.) Polish with soft duster or chamois.
- (6.) Wash, dry, and replace apparatus.

Care.

- (1.) Do not leave brass or copper exposed to damp air, or they will tarnish. Rub up frequently with dry duster.
- (2.) If an acid is used for cleaning it must be at once washed off. Articles so cleaned tarnish more quickly than if cleaned with the mixture.
- (3.) If green verdigris is formed on copper or brass, take care it enters no food or wound.

Mixture for Cleaning Brass and Copper.

- 1 oz. rotten stone.
- 1 oz. powdered bath brick.
- 1 oz. Sunlight soap, shaved and dissolved in quarter cup of water.
- 2 tbsp. turpentine.
- 2 tbsp. sweet oil.

Mix well together and keep in a covered jar. A paste of rotten stone and salad oil for cleaning is quickly made.

CHAPTER XIV.

THE DAILY CARE OF LIVING ROOM WITH DUSTING

Apparatus.

Dusters, carpet sweeper and string mop, or vacuum cleaner, apparatus for cleaning a grate and materials for laying a fire if there is an open grate.

Directions.

- (1.) Clean grate if necessary, lay fire and put apparatus away.
- (2.) Tidy room, put articles in their right places.
- (3.) Attend to plants and flowers.
- (4.) Open windows, weather permitting.
- (5.) Use a sweeper vigorously over rugs or carpet.
- (6.) After dust has settled, dust floor and baseboard with string mop.
- (7.) Dust contents of room and woodwork. The dusters should be slightly damp and the dust wiped up, not flicked from one place to another. Use clean dusters when necessary.

- (8.) Remove fingermarks from doors, walls, and light globes.
- (9.) Burn contents of waste paper basket and replace.
- (10.) Arrange window curtains and blinds.
- (11.) Empty carpet sweeper into newspaper and burn contents. Wash and dry dusters. Shake mop outside. Replace all apparatus.

The mop used, if soaked in kerosene oil and dried, will hold the dust until shaken outside. It may be washed when necessary.

DAILY CLEANING OF BATHROOM AND TOILET

Apparatus.

A disinfectant, scouring soap, a duster, closet-brush, closet-cloth, bath-cloth, and glass-cloth.

Note.—Two cloths, different in appearance, should be kept in the bathroom, one for the wash bowl and bath, and one for the closet. These can be used for the same purposes in the bedrooms.

Directions.

(a) Wash-basin:

- (1.) Wash tooth-glass and dry on glass-cloth.
- (2.) Clean taps over basin and bath with bath-cloth and scouring soap, rinse and dry.
- (3.) Wash bowl and dry.

(b) Closet:

- (1.) Pour down some disinfectant and flush closet well.
- (2.) When necessary wash closet-bowl with closet-brush, make bowl clean inside and out. Flush bowl again, holding brush in the flowing water. If the brush requires it, wash in hot soapy water, rinse and shake well, and dry outside. This brush should hang behind closet seat.
- (3.) Wash handle of water plug, closet seat on both sides and inside of cover, also floor around pan if necessary, using closet-cloth. Rinse and wipe dry. Once every two or three months the seat after it is washed should be oiled or varnished. This keeps the pores of the wood filled and prevents water soaking in.

Wash closet-cloth under running water in the bath, or over slop-sink, if there is one; wring it dry and hang near the closet. Change the cloth once a week.

(c) **Bath:**

(1.) Run in some hot water, clean bath inside, and out if necessary, use a scouring soap on the bath-cloth, rinse bath and cloth. Hang cloth behind the bath. Dry bath with duster. The floor should be swept and washed occasionally.

(2.) Dust room. Wash and replace duster.

THE DAILY CARE OF A BEDROOM

Each inmate of a house should be trained to open the bed after rising. The clothes should be stretched over two chairs by the open window. Wearing apparel should be put away, drawers and cupboards left shut and the room made neat.

Apparatus for Cleaning Toilet Utensils and Dusting.

Enamel slop pail, a jug of boiling soapy water, a disinfectant, clean cold water, a chamber cloth, wash-bowl cloth, carpet sweeper, duster, string mop.

Method.

- (1.) Put a little disinfectant into chamber, empty contents into slop pail.
- (2.) Rinse chamber well with half the hot soapy water and empty into pail, dry with cloth. Treat lid of chamber in the same way. Pour a little clean, cold water into chamber and replace lid.
- (3.) Empty contents of wash-bowl, wash soap dish and tooth-glass and dry.
- (4.) Wash and dry top of washstand.
- (5.) Fill up water jug.
- (6.) Empty, dry and replace wash-bowl, jug, and other utensils.
- (7.) Empty slop pail belonging to bedroom, rinse with hot soapy water and empty contents. (See that fresh drinking water is provided at night.)
- (8.) Empty waste paper basket and hair receiver.
- (9.) Make bed (this should air at least one hour).
- (10.) When necessary take up pieces with carpet sweeper, and dust if time permits, using string mop for floors.
- (11.) Empty slop pail, rinse with hot soapy water. Wash cloths used, and dry all in the open air. Clean and replace all apparatus.

THOROUGH TURNING OUT OF A BEDROOM

Apparatus.

Slop pail, jug of hot soapy water, two bedroom cloths, washed tea leaves, a whisk, cheesecloth dusters, dust sheets, carpet sweeper, broom, dustpan, brush cover, dust cap and apron.

Directions.

- (1.) Empty slops and water jug. Wash all utensils with hot soapy water (see Care of Bedroom). Pack all utensils into wash-bowl and cover.
- (2.) Brush mattress with whisk on both sides, dust bedstead bars, make bed, leave counterpane folded up. Spread clean dust sheet over bed.
- (3.) Dust all small utensils, place on bed, cover with a dust sheet, tuck in sides and ends securely to protect from dust. If a house trolley or large clothes basket is available, small things may be placed in it and taken out of the room.
- (4.) Roll up mats and take outside to shake. Move large furniture into hall, arrange it neatly to leave a passage.

(5.) Pin up curtains, shut doors, drawers, cupboards, and open windows at top.

(6.) Sprinkle prepared tea leaves, damp paper, or sawdust on floor, and sweep from the corners into the centre of room and towards the door. Use a broom, carpet sweeper, or vacuum cleaner vigorously for carpets and rugs. Use a soft hair brush for polished or painted floors. Take up the dirt with small brush and dust pan.

(7.) Leave the room shut up for half an hour for the dust to settle.

(8.) Shake and unpin curtains. Tie a clean duster over a broom, dust ceiling and walls carefully from top to bottom. Change duster when necessary.

(9.) Use a radiator brush to radiator and duster to finish.

(10.) Dust floor with duster over broom or use a mop.

(11.) Dust large pieces of furniture and replace in room.

(12.) Carefully fold top dust sheet from sides to centre and remove from bed; place outside room.

(13.) Replace small articles in room, also rugs. Make bed neat and dust bedstead. Fill up water jug.

(14.) Shake dust sheets outside, fold and put away. Wash duster and hang to dry. Clean carpet sweeper, vacuum cleaner, or broom and any other utensils used and replace everything.

Note.—Dusters and mops for dusting should be slightly damp or oiled.

Windows may be washed after the room is finished. Window shades should be taken down occasionally and carefully dusted on both sides.

Bedclothes, if the weather permits, may be aired out of doors and the bed made after the room is clean.

Living rooms are cleaned in a similar manner. The open fireplace is cleaned first instead of the toilet set.

HOME NURSING

CHAPTER I.

PERSONAL HYGIENE

Anyone who waits on sick people should be in perfect health. This is especially needful if the patient has an infectious disease, such as consumption. In order to be healthy attention must be paid to the following points:—

- (1.) **Cleanliness** of skin, hair, nails, teeth and internal organs.
- (2.) **Fresh air** in abundance all day long, and especially at night.
- (3.) **Exercise** every day, at least an hour's walk or play out of doors.
- (4.) **Sleep** in plenty. Sleep taken before midnight is the soundest.

Children of 10 to 15 years of age require 10 hours' sleep a day.

Children of 15 to 20 years of age require nine hours' sleep a day.

(5.) **Nourishing food** three times a day, consisting of milk, eggs, cereals, vegetables, fruits and a little meat. Children are better without tea, coffee, pickles or spices. The meals should never be hurried. The table should be neatly laid, and the food eaten with cheerfulness.

Cleanliness.

(a) **The skin** of the whole body should be washed every day. This can be done with a basin of water or in a bath, and should be followed by a brisk rub. The skin sends off waste matter, and also exudes oil to keep it supple; if it is not kept clean it cannot do this work well.

(b) **Hair** should be well brushed for five minutes night and morning with clean brushes. It should be washed every two or three weeks, according to the nature of one's work and the weather. Massage the scalp of the head with the tips of the fingers each night.

(c) **The teeth** should be brushed after each meal if possible, and always on rising and before retiring. A toothbrush should be scrupulously clean and should not be used after the bristles begin to loosen. Wash up and down between the teeth. Use castile soap or a powder. Food between the teeth may be removed with a silk thread. Never use a pin or needle, as these scratch the enamel.

(d) **The nails** should be brushed each time the hands are washed, and the quicks gently pressed down with a towel. Once a week soak the hands in hot water five minutes, then with sharp scissors cut the edges in a rounded shape and file them. Press down the quick with an orange stick and gently remove hard skin to prevent hang nails. The nails may be polished if desired. Wash and dry hands carefully. Equal quantities of glycerine and lemon juice rubbed into the hands at night keeps them clean and soft. Never clean nails with knife or scissors.

(e) **Internal organs.** The kidneys send off much of the liquid waste from the body. Nature's call should be attended to at once. The bowels or lower intestine send off solid waste matter. This should be expelled at least once a day, otherwise the whole body suffers, headache and bad breath result, and disease may follow. The kidneys and bowels perform their actions more easily if exercised at regular hours each day.

Wholemeal bread, vegetables, and fruit all help to prevent constipation. Each day a glass of water should be taken on rising, before going to bed and between meals.

CHAPTER II.

THE SICK PERSON'S ROOM

Size and Aspect.

The sick person's room should be as large and lofty as possible, and should have a sunny aspect. A south room in winter, and a westerly in summer, is suitable. An easterly room is too light in the morning and lessens the hours of sleep.

Ventilation.

The windows must open top and bottom, and a chimney is also an excellent outlet for impure air. The bed should be screened if necessary from direct draught in cold weather.

Furniture.

The room must be perfectly clean, and every unnecessary piece of furniture should be removed. There should be no carpet under a bed; a rug or two around the bed are better than a carpet, as the former can easily be removed for shaking. The bedstead should be a single iron one, the higher the easier it is for the nurse. A wire and hair mattress are most comfortable. The bedclothes should be light and warm. Use a clean sheet over the blankets instead of a heavy counterpane. The bedstead should be placed so that the light does not fall on the patient's face, and the bed should not be pushed against a wall. There should be a passage round bed. A small table near the bed, and another near the door for the nurse, are convenient. The washstand should be on castors. In infectious cases the chairs should not be upholstered. A comfortable chair and footstool should be provided for a night nurse. Fresh flowers brighten the room and a restful picture or two may be helpful. The walls of a sick room are more restful and hygienic if kalsomined instead of papered.

Care of the Sick Room.

Clothes and utensils used for an invalid's room should be kept separate from those used for the rest of the house, especially in infectious cases.

Toilet:

Empty all excreta immediately, use a disinfectant and flush closet well. Wash chamber or bedpan with boiling soapy water, dry, and place in readiness with a little disinfectant in it.

Floor:

Take the pices up with dustpan and a dampened brush, or use carpet sweeper, put damp paper on floor to keep dust down. Sweep so as to raise as little dust as possible. Burn refuse.

Dusting:

Dust all woodwork and floor with dampened cheesecloth. Burn this. Tidy room, give flowers fresh water and rearrange.

Leave blinds up as a general rule, except when patient is resting. Coal should be placed in paper bags or newspaper before being taken into a very sick person's room to avoid all noise.

All food dishes and medicine glasses should be removed from room when finished with, and if from an infectious patient they should be placed in a pail of water containing a disinfectant, and then be washed up separately from those used by the rest of the household.

Articles Required in a Home for Emergencies in Nursing.

Hot Water Bottle	Absorbent Cotton	Ipecacuanha Wine
Bed Pan	Sticking Plaster	Disinfectant
Invalid Cup	Bed Table	Vaseline in Tubes
Measuring Glass	Sal Volatile	Zinc Ointment
Thermometer	Castor Oil	Linseed Meal
Roller Bandages	Olive Oil	Mustard
Old Linen	Turpentine	

CHAPTER III.

HEMORRHAGE

Hemorrhage, or bleeding, is the loss of blood from an injured blood-vessel.

There are three kinds of blood-vessels:—

- (1.) **Arteries**, which carry blood from the heart to all parts of the body.
- (2.) **Veins**, which carry blood to the heart.
- (3.) **Capillaries**, which connect the end branches of the arteries with the end branches of the veins.

Blood from an artery:

- (a) is scarlet in colour;
- (b) escapes in spurts at each beat of the heart;
- (c) flows from the side of the wound nearest the heart.

Blood from a vein:

- (a) is of a dark colour;
- (b) flows in a slow, continuous stream;
- (c) flows from the side of the wound furthest from the heart.

Blood from a capillary:

- (a) is light red in colour;
- (b) flows in a continuous stream;
- (c) oozes up from all points of the cut surface.

How to Stop Bleeding from a Capillary or Other Wound.

- (1.) Apply direct pressure to the wound to stop the bleeding.
- (2.) Cleanse the wound with very hot or ice cold water.
- (3.) Apply a pad over wound and then a bandage.

For arterial and venous bleeding it is necessary, in addition to the above, to apply pressure by a tourniquet to the main trunk artery between the wounded artery and the heart, and for a vein apply tourniquet on side of wound furthest from heart. Send for a doctor in these cases, but do all that is possible to stop the bleeding.

Triangular Bandages.

Triangular bandages are used to make slings, to bandage the hand, foot, or head. They may also be used either as narrow or broad bandages, if first folded. Take a 38 inch or 40 inch square of cotton, fold diagonally in half and cut across fold. This makes two bandages.

Triangular Hand Bandage.

Place hand on bandage, with wrist on the centre of the longest side, bring the opposite point over the back of hand, cross the ends over this and tie around wrist. Carry the the loose point up over these and pin with safety pin.

Triangular Bandage as Arm Sling.

Place one end over sound side, let the other end hang down in front; bring the point of bandage behind elbow of injured arm, bend arm forward over middle of bandage, then carry the second end over shoulder of injured side and tie to the other end at back of neck by a reef knot. Bring the point at elbow forward and pin to front of bandage.

A Tourniquet.

Fold a triangular bandage twice (or handkerchief), tie a knot in the **middle**, place knot over artery or vein as close to wound as possible. Tie the two ends

of bandage on opposite sides of limb in a knot and pass a stick through this knot, and turn stick until bandage is so tight that it stops the blood flowing. Make stick secure. Cleanse and dress wound.

Roller Bandaging.

Bandages should be kept rolled up tightly.

Materials. Unbleached or white sheeting or gauze.

Sizes: Length, 4 to 6 yards; width, $\frac{3}{4}$ in., 1 in., $1\frac{1}{2}$ in., 2 in., $2\frac{1}{2}$ in., 3 in., 4 in., 6 in.

St. John's Ambulance General Rules for Bandaging.

- (1.) The bandage must be tightly rolled up before its application.
- (2.) Begin by placing the **outer** surface of roll next the skin, in order that it may readily unwind.
- (3.) Never unroll more than two or three inches of bandage at a time, and if by accident more is unrolled, roll it up before proceeding.
- (4.) Commence by making a couple of turns round the limb to firmly fix bandage.
- (5.) Bandage from below upwards.
- (6.) Bandage from within outwards over the front of the limb.
- (7.) Each turn of the bandage should, as a rule, overlap two-thirds of the preceding one.
- (8.) In reversing, the turns should be kept parallel and at equal distances apart, and downwards towards the extremity of the limb.
- (9.) Always form a figure of eight at a joint.
- (10.) Apply bandage firmly or it is useless. If the edges turn up on running the hand down it, the bandage is too loose.
- (11.) The bandage must not be so tight as to impede circulation.
- (12.) The pressure must be equally applied throughout.
- (13.) Fix bandage securely at the end by pinning it with safety pins.
- (14.) In taking off a bandage, gather the slack into a loose bundle and pass it round and round.

There are three methods of applying a roller bandage: (1) the Spiral; (2) the Reverse; (3) the Figure of Eight.

(1) **The Spiral** is made by simply encircling the limb with bandage, each circle being made to cover two-thirds of the preceding one. Use for parts of uniform (equal) thickness, as finger.

(2) **The Reverse** is made to tighten lower end of a bandage. Hold the lower loose edge of bandage with left hand, and with right hand turn the bandage downwards upon itself, drawing it tight. Encircle limb again and then make a second reverse. Repeat when necessary.

(3) **Figure of Eight.** At a joint. Apply bandage in a series of loops forming a figure eight.

To Bandage a Fore-finger use broad tape or $\frac{3}{4}$ in. bandage. Place hand palm downward. Begin at root of thumb, and leave a free end of three or four inches. Carry the roll across the back of wrist, encircle it twice in order to fix the bandage. Then take roller up the back of the hand from root of the thumb to between the first and second finger, and by one large spiral to the tip of the forefinger. Then cover by a series of spirals from tip to root. When root of finger is reached, carry bandage across back of hand to the wrist below little finger, and tie in a reef knot with the first loose end, or the end may be sewn or pinned with safety pin. Bandage other fingers in same way. If more than one is to be bandaged, a turn round wrist should be taken before beginning the second.

CHAPTER IV.

THE TREATMENT OF COMMON AILMENTS

(1.) **Hearache (Nervous).** Avoid reading and sewing. Put a hot fomentation on the back of head at top of spine, also on forehead. Some people prefer cold applications. Bathe behind the ears. Placing the feet in very hot water for five minutes sometimes relieves the pain. The patient should lie down in a darkened room, as the eyes also frequently ache.

(2.) **Headache (from stomach disorder).** This is usually accompanied with a feeling of sickness. Eat sparingly, avoid all rich food. It is better to fast entirely. Take one or two doses of Eno's Fruit Salts. Follow them in half an hour with a cup of hot water. A tablespoonful of Epsom salts in a cup of hot water is one of the most effectual remedies.

(3.) **Cold in the Head.** This is infectious. Patient should sleep alone.

Patient should go to bed, take a bowl of bread and milk, then steam head as follows, sitting up in bed: Into a jug of boiling water put a few drops of eucalyptus oil, hold head over jug, cover head and jug with a thick towel to keep in the steam, then inhale as long as possible. The steam and oil will break up the cold. Patient should dry face and rub vaseline on bridge and sides of nose and also grease nostrils. Great care should be taken to keep body warm and to have room well ventilated.

Instead of handkerchiefs use cheesecloth and burn.

(4.) **Cold in Chest.** The cautions as to warmth, fresh air, and a bowl of something hot in bed described above should be followed to induce perspiration. The chest and the back between the shoulders should also be well rubbed with goosegrease, compound camphor oil, or some good liniment. Cover chest and back with a silk handkerchief or flannel.

(5.) **Cramps.** Apply hot water bottles front and back. The cover of stove wrapped in newspaper may be used if no hot water is at hand. Cover patient warmly. A teaspoonful of sal volatile in a wineglass of water will sometimes relieve the pain.

(6.) **Sore Throat** may be infectious. Patient should sleep alone in a well ventilated room. Gargle throat frequently with half tablespoonful salt in a glass of water. Potash lozenges slowly dissolved in the mouth help to relieve the pain. Fresh pineapple and black current tea are also good. At night wring a cloth out of cold water, place round throat, and cover with flannel or a clean stocking. Sleep with these on.

(7.) **Rheumatic Pains** generally affect joints, and are a dull ache. Rub part affected with a good liniment. Take a tablespoonful of Epsom salts one day, after which take half teaspoonful in half cup boiling water, before breakfast (sip it slowly) every morning for a month. This keeps the bowels open each day, and the poison is removed from the blood.

(8.) **Diarrhoea.** Avoid fruit and hot food. Starchy foods may be taken. A cup of warm arrowroot will sometimes relieve the pain. If possible remain lying down with feet up. Consult a doctor if it continues.

(9.) **Constipation.** Make a regular habit and time for the bowels to act. Drink a tumbler of hot or cold water first thing in the morning, last thing at night, and between meals. Eat plenty of fresh fruit, vegetable and wholemeal bread. Take plenty of exercise.

POULTICES

A poultice is used to reduce inflammation, and should cover the part affected. Poultices should be as hot as can be borne, and should be changed often. A poultice to retain its heat must be $\frac{1}{4}$ inch thick.

General Rules.

- (1.) Heat mixing bowl, two large plates and material which is to hold poultice (either cotton batting or flannel).
- (2.) Cut material two inches larger all round than size of poultice.
- (3.) Rub a little vaseline over inflamed part before applying poultice.
- (4.) Apply all poultices (except mustard) directly on to the skin.
- (5.) After poulticing a part, cover the part warmly when poultice is removed.

Linseed Poultice. Pour one cup boiling water, more if a big poultice is required, into a hot bowl. Sift in linseed meal with left hand and stir with right, mix well, and when it cuts dry add a little olive or castor oil. Spread at once on warm cotton wool, fold over the edges, place between hot plates and take immediately to patient.

Bread Poultice. Prepare as for linseed poultice, using crumbled bread. Cover basin and keep hot near fire for five minutes. Drain off water and place on cotton wool. A teaspoon or more of powdered charcoal may be added to either linseed or bread poultice for a foul sore.

Mustard Poultice. Mix mustard and warm water to a paste for a very strong poultice, or use one part mustard to three parts linseed meal. Spread on cotton wool, cover with cheesecloth and rub vaseline on affected part before applying poultice over cheesecloth.

Starch Poultice. Make thick boiling water starch as for laundry purposes, and apply on cotton wool. This is very soothing, and retains heat well.

FOMENTATIONS

Fomentations are used to lessen pain and inflammation. They have almost the same effect as poultices, and are often used alternately with poultices.

Directions.

Spread a towel over a bowl, place on the towel a piece of flannel, pour over both boiling water, fold sides of towel over flannel, gather the dry ends of towel in either hand and wring tightly. Shake out the flannel and apply at once. Cover it with oilskin and fasten with bandages if necessary. Twenty drops of turpentine sprinkled over the flannel may be used for pain in the body. Change fomentations often. For continuous fomentations use a saucepan of boiling water and hold towel by four corners suspended in it with flannel inside, wring and apply.

Dry Heat. Heat any of the following in the oven, cover with hot flannel and apply: Bag of sand or salt, a flat tile or brick, or use a hot water bag or bottle. The round cover of a stove wrapped in newspaper may be used if no hot water is available.

CHAPTER V.

SOME EMERGENCIES

Croup.

Croup is caused by a false membrane forming in the windpipe. It may lead to suffocation unless vomiting occurs.

Symptoms. A peculiar loud, harsh cough, the breathing is difficult, rough and shrill, the skin is hot and the face flushed, the child either struggles for breath or becomes unconscious.

Treatment. Give one or two teaspoonfuls of ipecacuanha wine in warm sweetened water, give warm water until vomiting occurs. Repeat dose of wine in ten minutes if relief is not obtained.

Place child, sitting up, in bath of hot water, cover shoulders with flannel, then poultice neck and chest. Use three parts linseed meal and one part mustard. Keep room warm and moist.

Convulsions.

Symptoms. The limbs may contract, sometimes the thumb is tightly drawn across palm of hand.

Treatment. Put child at once into a hot bath or apply cloths dipped in hot mustard water to feet, legs, and lower part of body. When child has recovered, give a dose of castor oil.

A Faint.

Symptoms. Unconsciousness, partial or complete.

Treatment. Give patient plenty of air, place the head low, loosen clothing, keep the crowd away, rub the limbs. When patient can swallow give cold water, tea or coffee, or one teaspoonful sal volatile in a wineglass of water. A person may sometimes prevent a faint by ducking the head between the knees and keeping it there a few seconds, then going into the open air.

Sunstroke.

Symptoms. Unconsciousness, sudden sickness, faintness, giddiness, a difficulty in breathing. The skin is dry and burning.

Treatment. Remove at once to a cool shaded place, if indoors darken room and place in a draught. Strip patient to waist, keep him lying down with head and shoulders raised. Fan vigorously, pour cold water over head and neck until consciousness returns. Apply an ice bag to head and spine or use cold applications. Give patient cold water only to drink.

Drowning.

Place patient flat with pad under shoulders. Cleanse nostrils and mouth, pull tongue forward and fasten it there with rubber band or handkerchief. Bare body to waist. Use artificial respiration. When patient breathes apply hot bottles and blankets, and when able to swallow give brandy, hot tea, and coffee.

Burns and Scalds.

Cut off clothing, cover burn with linen soaked in olive or carron oil and make air-tight with bandage. Carron oil is an equal mixture of olive oil and lime water and should be kept on hand for burns. Give strong coffee or other stimulant to patient to prevent collapse. Rest the injured part.

Bruises.

Bathe with arnica mixed with an equal quantity of cold water.

LAUNDRY WORK

CHAPTER I.

Laundry work includes the washing and finishing of all personal and household textile fabrics. Laundry work is necessary:

- (1.) To free fabrics from dust, grease, perspiration, and other secretions of the body, also dead skin, hair and bacteria.
- (2.) To preserve the original colour of the fabric, to make it dry, and to retain its power of absorption.
- (3.) To preserve health.

In order to do laundry work well it is necessary to have some knowledge of textile fabrics, and also the nature of the different materials used in laundry work, and their effect on the fabrics.

Suitable equipment is a great aid to this work.

Laundry Equipment.

For laundry purposes buy only those utensils:

- (a) Which will not rust;
- (b) Which at once show dirt, i.e., white enamel pans are good;
- (c) Which have few dust crevices and are easy to keep clean.

Note.—See that laundry tubs, sinks and ironing boards are placed high enough to prevent backache.

Laundry Tub:

One or two fixed tubs, with hot and cold water above them, economize a woman's time and strength, as the lifting of water is very heavy work.

Porcelain tubs are the best, but expensive.

Enamel on iron are next best.

Of the movable tubs, the fibre or papier mache are the lightest and the easiest to keep clean. They do not rust. Prices: Porcelain tub, \$35.00; enamel on iron, \$15.00; fibre tub, \$1.25 to \$3.00.

Note.—If laundry tubs are placed in the kitchen, have wooden lids made to fit, so that they may be utilized as tables also.

Soap Dish:

Nickel plated, to hang on wash tub is convenient. Price 50c.

White Enamel Pail:

For starch making and other purposes. Price \$1.00.

Washing Machine:

Choose one with covered cog wheels, easy to run, simple in construction and easy to keep clean. This machine should be scrubbed each time after use, and a little clear cold water should be left in it to prevent shrinkage of wood. Oil bearings occasionally.

Prices: Hand power machine, \$7.50 and upwards; water power machine, \$17.00 and upwards; electric machine, \$70.00, with wringer attached.

Wringer:

Buy a good one, guaranteed, and with covered cogs. Loosen the screws when wringer is not in use, and cover with a cloth to keep it clean. Oil bearings occasionally. Clean rubber rollers by rubbing with a cloth dipped in kerosene, then rinse and dry carefully. Average price \$5.00.

A special kind to fit on very thick porcelain tubs is sold at \$9.00.

Mangle:

This is not a necessity, but it saves much ironing, and may be used for all flat work. There are two kinds, those with cold rollers, pressure alone doing the work, and those with one hot roller, heated by gas or gasoline.

Average price of one with unheated rollers, \$15.00.

Wash Boiler:

Those of copper are the best, usually tinned over. Price \$3.00 to \$4.00.

Clothes Line with Pulley:

Fix this so that all clothes may be hung out by laundress standing on back porch. Price, complete with pulleys, \$1.00.

Ironing Board:

Either a firm table may be used or the following: A firm, unwarped board, with crossbars at the ends to prevent warping, size of board 5 feet long, 17 inches at one end, 9 inches at the other. This should be hinged to the wall at one end and have a hinged leg at the other. When not in use it may be fastened up against the wall.

There is also on the market a good ironing board with collapsible legs, which sells for \$2.00.

Cover for Ironing Board:

An old blanket or laundry felt should be tied on to the ironing board, and over this part of a sheet, or unbleached cotton, should be tied with tape.

Shirt Board:

Should be of hardwood 17 inches by 12 inches. One side only should be covered with thin flannel and white cotton.

Irons:

Electric iron, the cleanest and best, \$4.50 to \$6.50.

A set of three Mrs. Potts' irons, \$1.50.

A set of three asbestos irons, \$1.75.

Flat or sad irons are sold by weight at 7c. a lb.

There are also irons heated by gas and denatured alcohol.

Care. Irons should be kept clean; scrape off with back of a knife starch or anything adhering to iron. Before using scour by rubbing on dry powdered bath brick, then dust and wax. Occasionally irons require cleaning with kerosene and bath brick, then wash with soapy water and dry. If left for any length of time they should be cleaned, then rubbed all over with melted suet to prevent rusting.

Clothes Horse:

A movable folding clothes horse, \$1.50. The best arrangement for airing or drying clothes is made of two or more bars of wood suspended from the ceiling near the stove. It is worked by a pulley. The clothes are out of the way when pulled up. Average cost, \$2.50.

Smaller Articles Needed for Laundry Work.

Many of these may be borrowed from the kitchen.

Washboard of glass or zinc, \$1.00 or 50c.

Enamel jug, \$1.00.

Kettle, \$1.00.

Enamel dish pan for small things, \$1.00.

A teaspoon, tablespoon and small wooden spoon, 25c.

Knife, 15c.

Clothes basket, \$2.00.

Two enamel saucepans, with lids, for soap jelly and starch, 60c.

Pegs in linen bag, to hang round neck of laundress, 40c.

Cloth stick, to stir and lift clothes from boiler, 10c.

Scrubbing brush, 25c.

Beeswax, 5c.

Bathbrick in box, 5c.

Iron stand:

A brick or the rim of a preserve jar do well for this purpose.

Iron Holder:

Cut a stocking down the back seam, fold it in four, invert a saucer on it and cut around. Baste the pieces of stocking together and cover with two circles of white cotton.

CHAPTER II.

LAUNDRY MATERIALS

Water.

Pure water is composed of two gases, two parts of hydrogen to one part of oxygen, and is expressed thus: H_2O .

Water is used in laundry work because of its great solvent power, that is, its power of dissolving substances. It dissolves and carries away the dirt on soiled clothing. Water will not dissolve grease.

There are two kinds of water:

Soft Water, which falls as rain or snow.

Hard Water, which contains mineral matter, and sometimes organic matter, which it has dissolved out of the ground over which it has passed. If the ground over which the water passes does not contain these mineral matters the water is soft. Hard water uses more soap, labor and time than soft, therefore hard water for laundry purposes should be softened.

Methods of Softening Water.

(1) **Boil it.** The carbonic acid gas is sent off and one kind of mineral matter (carbonate of calcium) is deposited. This is seen on the inside of kettles, a white, chalky substance.

(2) **Expose it to air**, collected in barrels. The carbonic acid gas passes off into the air and the carbonate of calcium falls to the bottom.

These two methods remove only one kind of mineral matter and the water may still need to be further softened.

(3) **Add Soap to it** until a lather appears. This is expensive.

(4) **Add Lime Water.** Dissolve quicklime in cold water. When it has settled, strain.

Quantity, one gallon of lime water to ten of water. This may be done in barrels.

(5) **Add Washing Soda.** This is a cheap and easy method.

Method: Dissolve one pound of washing soda in one quart of boiling water. Bottle and label soda solution.

Quantity: Use to one gallon of water two tablespoonfuls of soda solution, or more for very hard water.

(6) **Add Borax.** This is expensive, and is used for delicate materials.

Quantity: One tablespoonful dissolved in a cup of boiling water to each gallon of water.

(7) **Add Lye.** This method is useful for the hard waters of the prairies.

Quantity: One teaspoonful dissolved in a cup of boiling water to each gallon of water.

To Remove Iron from Water.

Collect water in barrels, add washing soda in the above proportion, allow to stand a week to settle before drawing off water.

To Remove Organic Matter from Water.

Collect in barrels. To each gallon add one teaspoonful alum and two teaspoonfuls borax dissolved in a cup of boiling water. Allow water to stand a week to settle before drawing any off.

SOAP AND SOAP SUBSTITUTES

Soap is made of fat, water, and an alkali, either caustic soda or potash. The alkali unites with the fatty acid to form soap, and glycerine is set free and removed.

Use in Laundry Work. A good soap contains a small excess of alkali sufficient to remove grease, which water will not do, hence it assists water in cleansing clothing. A poor soap contains too much free alkali, and is hurtful to hands and delicate fabrics. Soap may be adulterated by the addition of:

- (a) Too much water, which causes it to quickly waste.
- (b) Too much alkali, which makes it hard on the hands.
- (c) **Resin.** This makes the soap very yellow, but in small quantities resin whitens clothes.

Care of Soap. Soap should be bought some weeks before it is to be used, cut up and put to dry, as when dry it wastes much less in the water.

Soap Jelly.

A quarter lb. soap (odds and ends may be used).

One pint water.

Shred soap, add the hot water, place on side of stove until dissolved. Do not boil it.

Add sufficient to water to make a slight lather.

Soap jelly for woollens, silks and coloured goods should be made with a mild, not strong soap.

Soap Substitutes.

(a) **Soap Powders** are composed of soda, water and soap, probably half or most powders being soda. They are easy to use, and quickly lather, but are expensive when compared with the price of washing soda. These should never be used where soda is prohibited.

(b) **Soap Bark** is part of a plant, to be bought at the druggist's at 25 cents per lb. It is used for washing black and colored dress material, and other delicate materials. Less of it is required than of soap to raise a lather.

(c) **Osgall.** Procurable from a butcher.

Use. To wash carpets. Dilute well with water before using and dry articles so washed in the open air.

(d) **Bran, rice, potatoes or starch** boiled in water may all be used instead of soap for washing delicate fabrics.

Bran Water, for cretonne and crewel work:

Tie a handful of bran in cheesecloth, add one quart of cold water. Boil gently half an hour. Strain and add another quart of water and simmer half an hour longer. To the two quarts of warm water add a little soap jelly if the articles to be washed are very greasy and dirty. Bran water cleans and also stiffens slightly. Wash the articles by squeezing to prevent colors running.

Rinse in salt and water. Wring and hang to dry.

Rice Water, for washing cretonne, chintz, and prints:

Boil two pounds of rice in two gallons of water until soft. Pour this all into a tub, when lukewarm wash the garments in it, using the rice instead of soap. Meanwhile boil another 2 lb. of rice in two gallons of water. Strain off the water and reserve it for rinsing purposes. If the articles need two washing waters, wash a second time in plain water, using the strained rice to wash with. Rinse in the clear rice water, this will stiffen the article so that no dew will affect it. Hang to dry in the shade.

Iron on the wrong side. If it is glazed material, use a stone instead of an iron on the right side.

Potato Water may be made as rice water, using pared potatoes.

Starch Water is made in the same way as for hot starch, using more water.

CHAPTER III.

ALKALIES

The **Alkalies** used in home laundry work are: washing soda, lye, borax and ammonia. See chapter on Cleaning Materials, page 123.

Ammonia.

Ammonia is a volatile alkali and is used in washing natural coloured woollens, especially if they are very dirty or if the water is hard.

Use one tablespoonful to one gallon of water. It should not be used for coloured articles, as it draws the colour.

Borax.

Borax is a white alkaline powder found on the shores of various lakes in California, Peru and other places.

Properties: It dissolves in boiling water but not in cold.

Use in Laundry Work:

- (1.) It stiffens slightly.
- (2.) It gives a gloss to linen, and for that reason is added to starch. Use one tablespoonful borax to eight tablespoonfuls starch.
- (3.) It removes (with water) wet tea and coffee stains.
- (4.) It softens water and is not injurious to colored goods.

Use one tablespoonful of borax to one gallon of water

Washing Soda.

Washing Soda is prepared from common salt and also from certain sea plants. It is found on the shores of some lakes in America.

Properties:

- (1.) It dissolves in water.
- (2.) It softens water.
- (3.) It saponifies grease; that is, unites with grease, and thus aids water in cleansing very dirty clothes.
- (4.) It causes colours to run, and weakens delicate cotton or linen fibres.
- (4.) It shrinks woollen materials, causing them to become hard and felted.
- (6.) It hurts the skin, making it red and sore.

Care: Soda should be kept covered, as it becomes stronger if exposed to the air, by losing water.

Always dissolve soda in hot water before using it for laundry purposes, otherwise it may injure the clothing.

Caustic soda and lye are far stronger in their action than washing soda, and should not be generally used for laundry work except in making soap, or softening the very hard water of the Prairies.

Soda Solution.

One pound washing soda; one quart boiling water.

Boil soda in water until dissolved, cool, bottle and label. Use one tablespoonful to each gallon of water for washing coarse dirty clothes, also for boiling them.

Blue.

Laundry Blue is prepared from various chemical compounds, and liquid blue from dyes. That sold in solid form is the best for home purposes.

Ultramarine is a fairly satisfactory blue. A cake of blue should be tied in flannel before being used. It is then squeezed in the blue water until the right shade is obtained.

Blueing improves the color of white clothes; the water should be a pale blue when held in the hand for white clothes, darker for darker clothing.

Caution:

- (1.) Stir blue water each time before using.
- (2.) Never leave clothes lying in blue water.
- (3.) Carefully rinse clothes before blueing them, otherwise iron rust marks may appear.
- (4.) Tightly squeeze blue bag before putting it away, to prevent waste.

Mordants.

A mordant is anything which fixes a color.

Mordants used in laundry work are salt, vinegar, alum, and ivy leaf solution.

Vinegar.

Vinegar is prepared from cider; it is an acid.

Use in Laundry Work:

(1.) To act as a mordant, that is to make fast a color inclined to run; it is especially good for pinks. Use one tablespoonful to each gallon of water.

Step the clothes in a weak solution over night before laundering, rinse in the same after washing to revive color.

(2.) White clothes which are too blue are restored to their original color if steeped in a weak solution of vinegar.

Salt.

Salt is prepared from sea water. It acts as a mordant.

Use: A handful to each gallon of water. Soak colored cottons in this before washing. After washing they may also be rinsed in a salt solution. Salt is used with lemon juice to remove fruit stains.

Alum

Alum is a mineral salt. Dissolve one tablespoonful and add to each gallon of water for setting colours.

Ivy Leaf Solution. Use for setting dark blues, blacks and greens. Simmer two dozen ivy leaves in a quart of water one hour. Strain this into the washing water in which dark coloured prints are to be washed. It prevents the soap affecting the colour of the goods.

Turpentine.

Turpentine is obtained from gum trees.

Uses in Laundry Work:

(1.) To remove paint stains. Use equal portions of turpentine and ammonia mixed. Rub stain until it disappears.

(2.) **It whitens clothes** which have been badly stained. Add one tablespoonful to a boiler of clothes.

(3.) It is used in **cold water starch** to make the iron slip along easily. Use three drops to one tablespoonful starch.

Javelle Water for Bleaching Clothes.

- Use: To bleach clothes and remove stains.
- Half pound washing soda.
 - One pint boiling water.
 - Quarter pound chloride of lime.
 - One quart cold water.

Dissolve the soda in the boiling water. Let it cool. Dissolve the chloride of lime in cold water; when settled, pour off the clear liquid; add this to the liquid soda. Bottle, cork well, label and store in a dark place, as it loses its strength if exposed to air and light.

This bleach removes colour and must only be used for white clothes.

Quantities:

Stains. Dilute with equal quantity of water for stains.

Boiler: One tablespoonful of this, added to a boiler of clothes, helps to whiten them.

Paraffin.

Paraffin is drawn from wells.

Use in Laundry Work:

- (1.) It dissolves grease and saves time and labor in washing very dirty, greasy clothes.
- (2.) It removes paint stains.
- (3.) It dissolves dirt and grease on machines.

Directions for Washing Clothes with Paraffin or Kerosene.

(1.) Put clothes, dry and dirty, into wash boiler half full of boiling water, containing:

- One tablespoonful paraffin or kerosene.
- One tablespoonful washing soda.
- Half pound of shaved soap.

- (2.) Boil clothes quickly for one hour.
- (3.) Remove clothes with stick and rinse in three hot waters; the first two waters should contain one tablespoonful soda solution. It may be necessary to rub bands and very dirty parts in first water.
- (4.) Dry in the open air.

Gasoline.

Gasoline is prepared from paraffin by refining.

Use in Laundry Work:

- (1.) It is used to clean those articles, such as kid gloves, shoes, glace silks, and silk lace, which soap and water might injure.
- (2.) It removes grease spots from delicate fabrics.

Care:

- (1.) It is highly inflammable; never use near a fire or light.
- (2.) It is volatile; therefore keep it tightly corked.
- (3.) It has a strong odour; use with windows open.

Method of Using Gasoline for Washing Clothes.

- (1.) Wash the soiled article in gasoline only, use a flannel or soft brush to remove dirt.
- (2.) Rinse until clean in fresh gasoline, wring and hang in the open air in a shady place to dry.

(3.) When dry, finish silk and lace by ironing as usual. Finish kid gloves and shoes by rubbing them all over with French chalk. This restores their glossy appearance.

STARCH

Starch for laundry work is prepared from rice, wheat, Indian corn, and potatoes.

That made from rice is the best. It is pure white in colour. Most American starch is made from corn; this and wheat starch are cheaper and give greater body to clothes. Corn starch gives a slightly yellow tinge to clothes, and even wheat is not as pure a white as rice starch.

Starch is a white, granular substance; it is insoluble in cold water, partly soluble in hot water.

Cold water separates grains, boiling water causes the starch grains to swell, burst their cellulose coats, and a thick jelly-like substance is formed.

Uses:

- (1.) It improves the appearance of certain fabrics.
 - (2.) Starched clothes keep clean longer, resist moisture longer, and stains are more easily removed from them.
- Cold water starch stiffens more than boiling water starch, but the latter gives a clearer appearance to the clothes.

Starch Recipes.

Boiling Water Starch:

Two tablespoonfuls starch (equals one-quarter cupful).
 One level teaspoonful borax dissolved in one tablespoonful boiling water.
 A few shreds laundry wax or candle.
 Four tablespoonfuls cold water.
 One quart boiling water.

Blend the starch with the cold water, using the fingers. Add the wax, and dissolved borax. Stir vigorously and pour in sufficient boiling water to render the starch semi-transparent. Then add a cup of cold water. Cover with cheese-cloth to prevent a skin forming.

If very thick starch is desired, double the quantity of starch and use the same amount of water.

Many people use this starch without further cooking, but if cooked the starch is less liable to stick and it penetrates the material better.

Cooked starch is made as above, and is then cooked slowly for the following time. Stir it occasionally to prevent it burning or a skin forming.

Time for Cooking:

Rice starch, 10 minutes.
 Corn starch, 20 minutes.
 Wheat starch, 30 minutes.

If a mixture of starches is used, put the one requiring longest cooking on first, then add the other ten minutes later.

Articles usually put in Full Strength Starch.

Cotton blouses and muslins (desired very stiff) sun-bonnets, collars, and cuffs of one thickness.

Articles usually put in equal parts of Full Strength Starch and Water mixed.

Aprons, pinafores, skirts, underskirts, cheap laces, sideboard cloths, frills of underwear, prints, blouses, and muslins.

If the articles that are required stiffest are put through first, the starch is generally about the right consistency for those things needing less stiffness, or a little more water may be added.

If table linen and underwear are preferred not stiff, a good plan is to add one or two cups of hot starch to the blueing water for these goods. This gives them a slight body and prevents them soiling as quickly.

For bran and rice water for stiffening purposes see recipes under those headings.

Cold Water Starch.

Great care must be taken to have everything scrupulously clean in making this starch.

The collars and cuffs must be bone dry when they are starched.

Starch (No. 1 Rice), two tablespoonfuls (this stiffens).

Turpentine, half teaspoonful (this prevents iron sticking).

Borax, one teaspoonful (this gives a gloss).

Cold water, one pint (this mixes the ingredients).

Method:

Mix the starch to a cream with tablespoonful of cold water, add the turpentine, borax (dissolved in one tablespoonful of boiling water), then pour on remainder of water. Mix well and strain through cheesecloth into a clean bowl. Stir well each time before using it.

Gum Arabic.

Gum Arabic is obtained from a certain kind of acacia tree.

Use: It is used to stiffen laces, silks and some dress materials where starch is unsuitable.

To Prepare It for Laundry Work: Wash quarter pound solid gum arabic with cold water and place in a double saucepan with one quart boiling water. Stir occasionally. When dissolved, strain into a bottle.

Quantity: Use from one teaspoonful to one tablespoonful of gum solution to each cup of water, according to the stiffness desired. Laces require a stronger solution than silks.

This is used to stiffen delaines, nun's veiling, serges, madras curtains, and casement cloth.

CHAPTER IV.

TEXTILE FABRICS

Cotton.

Cotton is of vegetable origin, it is fibrous and surrounds the seed of the cotton plant. Under the microscope the cotton fibre looks like a long, flattened, twisted tube, thicker at the edges than in the middle. The cotton fibre is separated from the seeds, cleaned, carded, twisted and spun. It is then woven into material.

Effect of Alkalies on Cotton:

Cotton shrinks in a strong alkaline solution, and becomes slightly burned, having a brownish appearance. A weak solution does not injure cotton.

Effect of Acids on Cotton:

Cotton is destroyed by strong acids, but weak acids are not harmful to it. Coloured cotton loses its colour if exposed to the sun.

Linen.

Linen is manufactured from flax, it is the inner fibre of the stem that is used. A linen fibre under a microscope appears as a round, long, transparent tube, with thick, smooth walls and a central canal. Owing to its smooth walls it is smooth to the skin.

Linen is stronger than cotton, has more lustre, and is a better conductor of heat, which makes it cool to the skin.

The effect of alkalies and acids is the same as upon cotton.

Wool.

Wool grows on the skin of sheep and goats, from which it is cut each year.

A wool fibre under a microscope is seen to consist of a number of overlaying cells, the outer ones being irregular and serrated. These cells, as the wool is on the sheep's back, all point one way, from the root downwards, and they cannot interlock and shrink. But when wool is made up into material the fibres lie in different directions and the serrated edges are liable to interlock and the wool to shrink.

Wool shrinks if put into waters of different temperature, if a strong soap or soda is used in washing it, if rubbed in water, if dried too near heat, or if ironed with a hot iron.

Effects of Alkalies on Wool:

Wool is destroyed if put into a strong solution of soda or lye, the alkali dissolves the wool. Use neither in washing woollens.

Effect of Acids on Wool:

Weak acids do not injure wool, but strong mineral acids will destroy it.

Silk.

Silk is made from the silk fibre which the silk worm spins round its body in the chrysalis stage.

The silk fibre is smooth, round and glossy.

Silk is a delicate fabric and requires careful laundering.

It is injured if rubbed or twisted, as this breaks the fibres. Hot water, strong soap, and all alkalies injure silk, and turn white silk yellow.

Effect of Alkalies on Silk:

Strong alkaline solutions destroy silk by dissolving it. They also destroy the colour and rot the material if used as a weak solution.

Effect of Acids on Silk:

Weak solutions of vinegar are not harmful to silk, but strong acids destroy it.

CHAPTER V.

STAINS AND THEIR REMOVAL

Stains must be removed before washing, as soap and hot water fix many stains.

General Rules for Removing Stains.

- (1.) If a garment is stained more or less all over, steep it in a weak solution of whatever will remove the stain.
- (2.) A single stain should be stretched over a bowl or saucer, and before treating it moisten with water a ring round it to prevent the stain spreading.
- (3.) Whenever a stain has been removed the fabric should at once be washed out to remove all trace of the solvent.
- (4.) All utensils used for removing stains should be washed up separately from other things.
- (5.) All chemicals used to remove stains should be labelled poison, and kept out of reach of children and away from all food and medicine.

See note under "Cleaning Materials" on the effect acids and alkalies have on one another, page 123.

Fruit and Wine Stains:

- (a) Stretch stain over a bowl, if wet, rub stain with common salt and lemon juice, pour through boiling water until stain disappears.
- (b) If dry, stretch stain as before, moisten with javelle water and then pour through boiling water.
- (c) An article with many stains should be soaked for half an hour in a solution of one part javelle water to four of clear water.
Always after using javelle water rinse the article in clear water.

Iron Rust:

- (a) Spread stain over a bowl, moisten stain and rub on it some salts of lemon or oxalic acid. The latter is the stronger, both are poison. Then pour through boiling water until stain disappears. Rinse in ammonia water and then in clear water.
- (b) Javelle water is also sometimes effective. For a much stained article use a solution and soak the article in it as above for fruit and wine.
- (c) Cream of tartar with boiling water will sometimes remove iron rust.

Ink:

- (a) If wet, soak in milk (warm, cold, sweet or sour), or buttermilk. As the milk becomes discolored replace with fresh until stain disappears. Wash in cold water and dry in the sun.
- (b) Sometimes lemon juice and salt, used as for fruit and wine, are effective.
- (c) If dry use oxalic acid or javelle water as for iron rust.

Tea and Coffee:

- (a) If wet, stretch over a bowl and pour boiling water through slowly until stain disappears.
- (b) If dry, soak stain in cold water first, then put over a bowl, spread borax over stain and pour boiling water through it.

Grease:

- (1.) If on fast colours use soap and hot water.
- (2.) On cloth, scrape with a knife, place blotting paper below and above and use a hot iron, replace with fresh blotting paper as the old becomes greasy.

Another method is to cover the spot with a paste of French chalk and turpentine, leave for twenty-four hours and then scrape off.

Omit the turpentine for delicate fabrics.

- (3.) Rub with turpentine, chloroform, ether, or gasoline, and then hang in the open air. Use cheesecloth to apply these, then burn cheesecloth. Chloroform is useful for delicate materials and colors. Naptha soap will remove grease from white cotton.

Axle Grease, Pitch and Tar:

Rub the stained part with lard or butter. Leave for half an hour, then scrape off the grease. Rub with cheesecloth dipped in soapy water or turpentine on both sides of stain, then rub dry with clean cheesecloth.

Vaseline:

Sponge with ether or turpentine.

Paint Stain:

Rub with cheesecloth dipped in turpentine until stain disappears.

Use gasoline or alcohol for delicate-coloured articles.

Blood:

Soak in cold salted water, then rub out in cold water, afterwards wash in hot water with soap.

Perspiration:

Wash with hot water and Naptha soap. If obstinate, soak ten minutes in javelle water solution first.

Green Stains from Grass, etc., also Iodine:

Soak in alcohol, chloroform or kerosene, then wash in hot water with Naptha soap.

Mildew:

- (1.) Moisten stain with lemon juice, cover with soft soap, sprinkle with salt, keep moist and expose to the sun. Repeat until stain disappears.

- (2.) An article mildewed all over, soak in javelle water, one part to four of water. Then rinse in clear water and dry in the sun.

Scorch:

- (1.) Wet the scorch and expose to the sun, keeping scorch wet; or

- (2.) Soak with the following mixture and expose to the sun:

Scorch Mixture: Two onions, one pint vinegar, quarter pound fuller's earth and quarter pound washing soda.

Peel, slice, and chop onions, add to them the vinegar, fuller's earth and soda; stir and simmer fifteen minutes. Strain, bottle and label. This mixture will keep for years.

The sun is the best bleacher and all stains, if exposed to the sun and kept wet, will fade in time.

CHAPTER VI.

A WEEKLY FAMILY WASH

Suggested Order of Work:

Tuesday, if possible, is the best day to choose for washing, as this leaves Monday for preparation; but a housekeeper has to settle the matter of time for herself, and has also to take into consideration the amount of washing and the weather.

Monday.

- (1.) See that a supply of softened water, soap, soap jelly, soda, starch and blue, etc., are on hand.
- (2.) Sort the clothes.
- (3.) Remove stains.
- (4.) Mend holes (except stockings, these may be roughly drawn together).
- (5.) Put white clothes to soak.

Tuesday.

- (1.) Heat water.
- (2.) Rub clothes out of steeping water.
- (3.) Wash, starch where necessary, and dry:
 - (a) Woollens.
 - (b) Table linen.
 - (c) Face towels.
 - (d) Fine white things.
 - (e) Bed and body linen.
 - (f) Coarse towels and kitchen towels.
 - (g) Colored cottons.

Clean utensils and wash-house.

Fold clothes (slightly dampened) ready for ironing or mangling. They may be mangled and hung to air that night or mangled next day. Hang woollens to air overnight.

Wednesday.

Iron and air clothes.

Sorting and Steeping.

Sorting. Clothes are sorted into different piles to collect those of similar kind requiring the same treatment.

- (1.) Table linen.
- (2.) Face towels.
- (3.) Fine white muslins.
- (4.) Bed and body linen.
- (5.) Bath and kitchen towels.
- (6.) Handkerchiefs.
- (7.) Woollens.
- (8.) Coloured clothes.

Steeping or Soaking: White clothes are put to soak in warm soapy water, which softens the fibres, loosens the dirt, and makes washing quicker and easier.

If three tubs are available, put table linen and the cleanest white things in the first, bed and body linen in the second, coarse things and kitchen towels in

the third. Wet each article and soap the dirty parts, roll it up tightly and place in the tub of warm soapy water, the dirtiest at the bottom, the cleanest last of all on the top. In this way the cleanest clothes are first rubbed out of steeping water, and so escape the soiled matter from the dirtier ones. A tablespoonful of soda solution may be added to the steeping water.

Handkerchiefs should always be soaked alone, a bowl does for this, add a small handful of salt to the water as it dissolves the phlegm. They should be washed out separately before being mixed with other clothes.

If colds prevail, boil handkerchiefs separately.

White Curtains and Dirty Muslins should be steeped in several cold waters containing one tablespoonful soda solution to every gallon.

Woollens and Colored Cottons are not steeped unless the cottons are fast colours, in which case use cold salted water.

CHAPTER VII.

THE WASHING OF WHITE COTTON CLOTHES

Wring out clothes from steeping water and wash in the following order, doing the cleanest first and paying special attention to soiled parts mentioned below:

Order: Table linen; face towels, fine muslins, handkerchiefs, bed linen, body linen, kitchen clothes and towels.

Parts Requiring Particular Rubbing and Attention

Tablecloths:

- (a) The edges of cloth.
- (b) The part that hangs over the edge of table.
- (c) Fold down centre of cloth and wash on both sides of fold.

Collars and Cuffs:

Turn edges half way down to wash.

Fine Muslins:

Do not rub these, but wash by squeezing in the soapy water. Attend to neck and wrist bands, under side of sleeves, fronts, and armholes.

Nightdresses, Chemises:

Neck band, wrist band, bottom hem. Fold down centre of back and front and wash carefully from waist to hem.

Combinations and Drawers:

Bands, under arm, seat, and knees.

Washing.

Materials:

Hot water, hard soap.

Processes:

- (1.) Wash on right side with hot water with soap.
- (2.) Wash on wrong side with hot water with soap.
(The washing may be done in a washing machine.)
- (3.) Boil for fifteen minutes, put fine things in a cheesecloth bag.
- (4.) Rinse well in hot water until all soap is removed, otherwise the blueing may streak the clothes.
- (5.) Blue in cold water containing dissolved blue, stir blue water each time before using it and do not leave clothes lying in it.
- (6.) Starch those clothes which require hot water starch.
- (7.) Dry in open air, the thickest parts uppermost.
- (8.) When dry, remove, dampen those to be ironed and roll each garment separately, pack tightly in a basket lined with a damp cloth, cover clothes with another damp cloth.

Time is saved if clothes are taken in sufficiently damp for ironing.

The Boiler.

When clothes are put in the boiler, this should be half full of warm soft water with a little dissolved soap and a tablespoonful of soda solution. Bring the clothes to the boil and boil for fifteen minutes. Press them down with the end

of a rounded stick to keep clothes under water. Clothes are boiled to keep them a good colour and to purify them. They should be boiled at least once a month, even if they are washed with Naphtha soap at other times. Remove clothes from boiler with boiler stick, a few at a time; hold a pan or tub close to boiler to receive them.

General Rules for Drying

- (1.) Dry in the open air if possible, as it whitens and purifies the clothes.
- (2.) Wipe clothes line with a damp cloth and see that the pegs are clean. Pegs need to be scrubbed occasionally.
- (3.) Keep the clothes turned wrong side out.
- (4.) Hang the thickest parts uppermost.
- (5.) Hang the clothes to catch the wind.
- (6.) Hang coloured garments in the shade.

Pegging Out.

- (a) Peg nightdresses and chemises by the shoulders or bottom hem.
- (b) Sheets and tablecloths hang double, yet so as to catch the wind. Peg four inches in from the selvage on either side.
- (c) Stockings should be pegged by the feet.
- (d) Collars and cuffs should be strung on a tape.
- (e) Peg handkerchiefs three together.

How to Dampen Clothes

- (1.) Dampen clothes some hours before ironing, so that the moisture may spread evenly.
- (2.) Sprinkle clothes evenly all over, using warm water for starched things. Use the tips of the fingers or a clean whisk. The clothes must not be made too wet.
- (3.) Pull out frills, remove creases and fold the clothes length-wise, as evenly as possible; roll those clothes to be ironed, each article separately, frills and sleeves inside. Table napkins, handkerchiefs, and small towels, fold in half and roll up in half dozens.
- (4.) Pack the clothes in a basket lined with a damp cloth, cover with another damp cloth, and leave in a cool place until ready to iron or mangle.

N.B.—It saves time in dampening if the clothes are taken off the line before quite dry, and folded and rolled up ready to iron or mangle.

Clothes put through stiff starch are an exception, and need thorough drying to prevent the iron from sticking.

Mangling.

This takes the place of the iron for flat work.

See that the mangle rollers are perfectly clean, screw them down tightly.

Clothes for mangling should be slightly damp.

Fold by the seams without creases as evenly as possible.

Make the article into a long narrow even strip, double in half smoothly before mangling.

Tablecloths, napkins, sheets, towels and handkerchiefs fold in four length-wise, selvage to selvage first, then double the long strip thus formed by tablecloths and sheets into two. The hems must not be brought close together, as they would be too thick for the mangle.

As clothes are ready to be taken from the mangle others should be ready to go in before the last are entirely out, as this prevents injury to the rollers.

Turn the rollers slowly and keep the clothes even.

Air well all clothes after mangling.

CHAPTER VIII.

THE WASHING AND FINISHING OF WOOLLENS

Materials.

Warm soft water, soap jelly, ammonia or borax. If the water is not soft, add one tablespoonful of borax to each gallon. One part boiling water to one and one-half parts cold makes a good heat for woollens.

Processes.

Wash the cleanest and lightest in colour first.

- (1) Shake to free from dust.
 - (2) Wash by squeezing in warm soapy water on the right side. The soap lather must not be too strong, or it will injure the flannels. Squeeze woollens out of this water, turn on the wrong side.
 - (3) Wash by squeezing in a second warm soapy water, on the wrong side.
 - (4) Rinse until free from soap in clear warm water.
 - (5) White woollens and flannels may be slightly blued.
 - (6) Pass through wringer, or squeeze water out by hand. Wringing by hand is apt to twist the fibres out of shape.
 - (7) Shake to raise woolly fibres.
 - (8) Dry quickly in the wind, thickest parts uppermost.
 - (9) Iron with a moderately hot iron over damp cheesecloth. Flannel blouses look better if ironed. See method for ironing cotton blouses.
- Woollens, including stockings, do not need ironing, but should be neatly folded, stockings rolled together in pairs. Some people with sensitive skins like woollens that are to be worn next the skin ironed on the wrong side.
- (10) Air all woollens carefully.

Points to Remember in Washing Woollens.

- (1) Never use soda.
- (2) Never use hot or cold water.
- (3) Never rub woollens with soap or the hands, except the feet of stockings.
- (4) Never hang to dry in very hot sun or very near a fire, as all these things injure woollens, causing them to shrink, become hard, felted, and thickened.

Coloured Flannels.

These are washed as above, but for delicate colors the water should be only tepid, and the washing should be done quickly. Before washing, soak for five minutes in tepid water with salt (see card). This acts as a mordant and fixes the colour.

Natural Coloured or Jaegar Woollens

These may be washed like other woollens, or may be first treated as follows, especially when new:

To quite warm water add strong ammonia (one tablespoonful to a gallon), and soap jelly to raise a slight lather. Put the soiled woollens into this, cover

with a board to keep in the volatile ammonia, and the heat. Leave to steep for half an hour. Then wash and finish as for other woollens.

The ammonia dissolves the grease, softens the water, and thus aids washing.

Nun's Veiling, Delaines, Serges, and other woollen dress materials are laundered as for woollens. They may be slightly stiffened with gum arabic (see page 163) to restore their original body.

Shawls should be washed as woollens, but do not hang them to dry, as it spoils their shape. Instead, either pin out on a clean cloth on table or floor, or place loosely on a flat surface and turn constantly till dry.

CHAPTER IX.

THE LAUNDERING OF SILK

Glace and delicate silks and lace should not be washed with soap and water, but in gasoline. See page 161.

(1.) Washing silks are washed in the same way as wool, by squeezing in warm soft soapy water. Great care must be taken not to rub the silk nor to twist the delicate fibres.

(2.) To the last rinsing water for silks, which should be cold, add:

One teaspoonful methylated spirits to each quart of water. (This gives a gloss.)

Four tablespoonfuls gum water to each quart of water. (This stiffens.)

Do not use gum water for tussore silk.

For coloured silks add also:

One tablespoonful of vinegar to each quart of water. (This revives colour.)

Quarter cupful of salt to each quart of water. (This sets the colour.)

Blue the last water for white silks.

Squeeze the silk lightly out of this last rinsing water.

(3.) Fold the silk in cheesecloth and pass through wringer.

(4.) Roll in a clean dry cloth, leave for an hour before ironing.

To Iron Silk.

(1.) Silks are ironed whilst damp.

(2.) Iron with a moderately hot iron, but take great care, as silks easily scorch. If silk is rather damp, iron it first over cheesecloth.

(3.) Iron on the right side for glossy silk, on the wrong side for silk with a dull finish.

Silks should be washed and finished as quickly as possible.

China, i.e., tussore silk, should be quite dry when it is ironed.

CHAPTER X.

THE LAUNDERING OF COLOURED COTTONS

Materials.

Warm soft water, soap jelly, borax to soften hard water, salt, vinegar and ivy leaf water to act as mordants.

For very delicate colours, instead of soap use one of the following: soap bark, bran, rice or potato water. (See chapter on Starch.)

Boiling water starch should be made and allowed to cool before it is used.

Processes.

(1.) Wash in warm soapy water on the right side. Do not rub more than can be helped. Squeeze instead.

Add ivy leaf water for dark coloured grounds.

(2.) Wash in warm soapy water on the wrong side.

(3.) Rinse in clear warm water.

(4.) Rinse in cold water with the following:

To each gallon of water add a handful of salt (to set colours).

To each gallon of water add four tablespoonfuls of vinegar (to revive pink, blues and reds).

(5.) Starch in cooled boiled starch.

If the colours run add salt to starch also.

(6.) Dry quickly in the shade the wrong side out.

Points to Remember.

Avoid hot water, rubbing soap on, sunshine or great heat during drying, and do not allow clothes to lie long in the water, as all these things are likely to cause the colours to run.

To Iron Coloured Cottons.

Coloured cottons are dampened, rolled tightly and left for an hour or so before ironing, as other clothes are.

Take care to roll them in an old cloth and keep separate from other clothes if the colours run.

Iron on the right side unless there is a raised pattern.

The irons must not be too hot, or they will cause the colour to fade.

CHAPTER XI.

THE WASHING OF FINE WHITE LACE, CHIFFON, NET AND LACE CURTAINS

(1.) Soak over night in warm water, add one tablespoonful of dissolved borax to each quart for lace, chiffon and net.

For lace curtains add one tablespoonful of soda solution to each gallon. The soaking water for curtains should be changed two or three times.

(2.) Wash by squeezing gently in warm soapy water.

Real lace must be handled very carefully, and is often tacked to white cotton before being washed.

(3.) Boil, if necessary, for fifteen minutes, except chiffon.

Put laces in a cheesecloth bag for boiling, and curtains in a string bag.

(4.) Rinse until all soap is removed.

(5.) Stiffen by dipping in a cup of water, to which is added one or two tablespoonfuls of gum water, according to the stiffness desired and the texture of the lace. Loose open lace requires more in proportion.

If the lace is to be pure white add a little blue to the stiffening water; if cream add a little strained tea or coffee; if straw coloured make a strong infusion of hay water, and use this instead of clear water, for the stiffening water. A piece of white cotton in all cases should be used to test the coloured water before the gum solution is added.

Squeeze the lace from this water, place in a cloth and squeeze again.

(6.) Pin lace on a covered table, wrong side of lace up, place a pin in each scallop, leave until nearly dry, then remove pins and press with a moderately hot iron.

If the lace is shaped, take care to preserve the shape during drying; if it is straight keep the selvage edge on the edge of the table.

Curtains, except Madras, should be starched in boiled starch; use ecru starch if a cream colour, then stretch curtains on a stretcher, one over the other, or pin out each scallop on to a sheet on the floor, keeping the sides straight.

CHAPTER XII.

THE IRONING TABLE AND ITS FURNISHINGS

A firm table or ironing board is necessary. See chapter on laundry equipment for this.

Under the ironing board spread newspaper to protect clothing if it falls.

At the right hand side should stand an iron stand, a paper for testing iron, and if necessary an iron holder. Near by should be placed a bowl of warm water and a white rag for dampening dry parts.

Two cloths for dusting iron, a box of bath brick and a piece of beeswax should be at hand.

To Clean an Iron Heated on a Stove.

- (1.) Rub on powdered bath brick, dust this off, do edges carefully.
- (2.) Rub beeswax lightly over iron.
- (3.) Polish on a clean rag.
- (4.) Test for heat on clean paper before using.

If an iron becomes coated with starch scrape off with a blunt knife and clean as above.

To Heat an Iron Over Gas.

An iron plate with a small hole should cover gas flame, warm plate and wipe off moisture. Warm iron and wipe off moisture. If this is not done, both plate and irons will rust. An inverted pan placed over irons whilst they heat economizes the gas.

General Rules for Ironing.

- (1.) Iron in a good light.
- (2.) Iron those parts first which will crush and crease least, as, for example, trimming and bands.
- (3.) Keep the garment rolled up as far as possible; and cover with a damp cloth to keep it moist, if necessary.
- (4.) Avoid crushing the garment between the ironer and the table; push the finished work away from the ironer.
- (5.) Make the left hand work also; it should remove creases and pull the work taut to prevent creases.
- (6.) Dry all fullness carefully.

How to Iron and Fold a Handkerchief

- (1.) Place handkerchief smoothly, right side down next to table, with the name at right hand top corner.
- (2.) Iron all round edges, and then the centre part.
- (3.) Fold in half, from the bottom upwards, and iron.
- (4.) Fold in half again from the bottom upward and iron.
- (5.) Fold in half from left to right and iron.
- (6.) Fold in half again from left to right and iron.
- (7.) Turn and iron name.

This is a quick method of ironing both sides of a handkerchief without lifting it from the table.

To Iron and Fold a Table Napkin.

- (1.) Iron heavily on the right side of table napkin, do the edges first and centre part last.
 - (2.) Iron lightly on the wrong side as before, press again on right side.
 - (3.) Fold in a three fan fold, and iron.
 - (4.) Fold in three again, fan fold, having the name on the top, and iron.
- Irons for table linen should be hot and heavy.

To Iron and Fold a Table Cloth.

Since table cloths are large and heavy they are usually only ironed on the right side. A large table is necessary.

To Iron. First Method:

If space allows, roll the dampened cloth by the narrow side. Keep roll next the ironer. Unroll only as much as table will take. Iron this with the selvage threads, pressing heavily. Place the ironed portion over the back of two chairs on further side of table, as it becomes necessary roll ironed portion loosely. When the whole is ironed, fold in four lengthwise by screen fold and press folds. Air thoroughly.

When table cloth is aired roll it up and tie with tape.

Second Method:

Fold dampened cloth in four by the screen fold, then iron a quarter of it at a time. Fold as by first method.

To Iron a Plain Apron.

Iron with a hot iron.

- (1.) Bands on both sides.
- (2.) Hem of skirt on wrong side.
- (3.) Bib on right side.
- (4.) Skirt from hem to waist, running point of iron well into gathers.
- (5.) Air. Then fold as per chapter on folding.

To Iron Body Linen.

- (1.) Iron on the wrong side all trimming.
- (2.) Iron on both sides bands, yokes, upper and under parts of sleeves.
- (3.) Iron on the right side the body part of garment, running the point of the iron well into the gathers.

A Nightdress and Chemise are folded down the centre of the front, and are ironed front and back, first one side, then the other. Or they may be spread over a skirt board and ironed as a skirt is.

Drawers: Fold each leg down centre, iron fronts first, then the back. Do both sides of hem.

For folding see card on folding.

To Iron a Dress or Pinafore with sleeves, or Shirtwaist.

Iron:

- (1.) Neckband, yoke, cuffs on both sides.
- (2.) All embroidery on the wrong side.
- (3.) Armhole seam.

(4.) Fold sleeve by inner arm seam, iron front part of sleeve first, then under side, run toe of iron well into the gathers. Remove crease down centre of sleeve by opening it out on table, slightly dampen it and iron out.

(5.) Wrong side of bottom hem.

(6.) Body of garment, keep the neck at the left hand, and iron from hem to neck. The finished work should be pushed away from the ironer.

A dress is done in the same way, except that the body part of top is ironed before the skirt.

To Iron a White Cotton Petticoat.

(1.) Iron bottom hem on wrong side, then on the right. Do the part under frill at the same time.

(2.) Iron embroidery and tucks on wrong side.

(3.) Iron body part of garment on the right side.

(4.) Iron wrong side of waist band and strings, if there are any.

To Iron Stiff Collars and Cuffs.

Collars and cuffs, to be very stiff, must be starched in cold water starch. See page 163.

The collars and cuffs must be dry when starched, and quite wet when ironed. The irons must be very hot and clean.

To Iron:

(1.) Pull collar or cuff into shape.

(2.) Remove any loose starch with a clean damp rag.

(3.) Lightly pass a hot iron on the wrong side, pushing all fullness to the lower edge. Stretch collar lengthwise with the left hand as the right hand moves the iron.

(4.) Turn and press heavily on the right side, treating fullness as above. Continue pressing on the wrong side lightly and then heavily on the right, until the collar is dry.

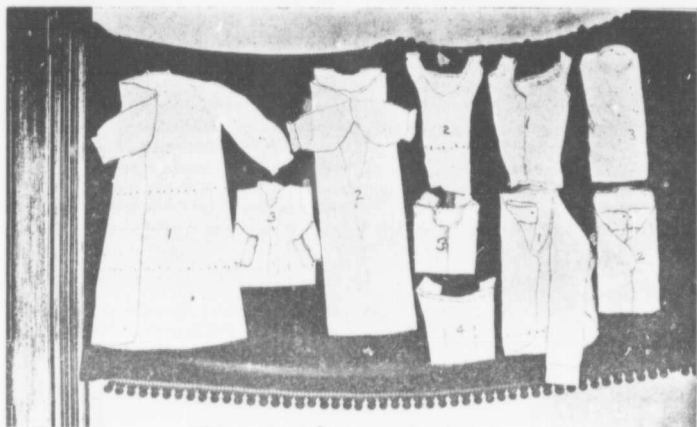
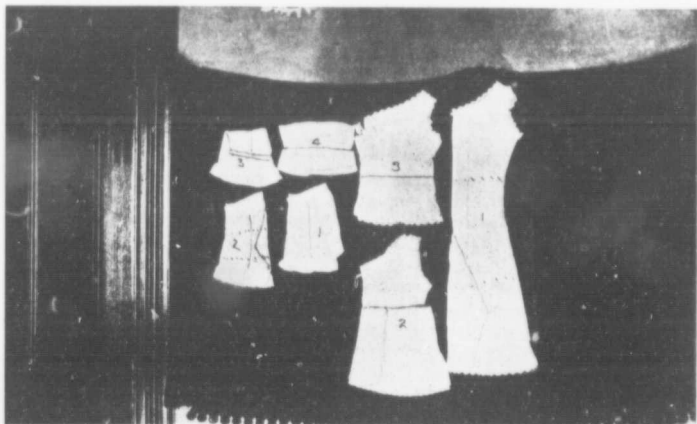
(5.) Curl and hang to air.

To Curl a Collar:

Pull collar sharply with left hand from under the iron, which should be pressed in the opposite direction.

CHAPTER XIII.

DIAGRAMS SHOWING FOLDING OF CLOTHES



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COOKERY

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MEMORANDUM

- 1/2 Cup Butter.
 1 Cup Sugar. (sifted)
 3 Eggs.
 2 Cups flour.
 1/2 Cup water.
 1/2 Cup Strawberry Jam.
 1 Teaspoonful Car. of Soda.
 3/4 Teaspoonful Cinnamon.
 1/2 " " Nutmeg.

Cream butter + Sugar, add yolks
 of eggs beaten, then water & flour
 alternatively. The nutmeg, cinnamon
 & soda should be sifted into
 the flour. Lastly add Jam &
 the white of one Egg.

Filling.

2 Tea cups of Sugar, 1/2 tea cup
 water, boil until it forms soft
 ball when put in cold water.
 Add to the stiffly beaten
 whites of two eggs. If liked
 a little vanilla flavoring may
 be added.

MEMORANDUM

Nut Loaf.

- 2 cups sifted flour
- 2 even teaspoonfuls baking powder.
- $\frac{1}{2}$ teaspoon salt
- $\frac{1}{2}$ cup chopped English walnuts
- 1 egg well beaten
- $\frac{1}{4}$ cup sugar
- 1 cup milk

Let it rise by standing in pan for twenty minutes before baking. Bake 30 to 35 minutes.

This makes 1 loaf

MEMORANDUM

1942

100

100

100

100

100

100

100

100

100

100

100

MEMORANDUM

Delicious Lemon Pie.

For crust - Three-quarters cup flour.
One-quarter cup shortening.
One-half teaspoon salt.
Enough water to mold well.

For Filling - Three cups sweet milk.
Two tablespoons flour.
One tablespoon cornstarch
Six tablespoons sugar
Grated rind of one lemon
Juice of two lemons
Two eggs.

Bake crust first, then put milk in saucepan & add flour & cornstarch (which has been mixed to smooth paste with water or milk); when milk is boiling, cook one minute, then add sugar, rind and juice of lemons, also yolks of eggs. Put in crust & beat whites for the top. Brown in oven.

MEMORANDUM

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MEMORANDUM

Nut Bread.

- 2 eggs
- 1/2 cup sugar, pinch salt
- 1 teaspoon melted butter
- 1 cup milk
- 2 cups flour
- 2 teaspoons baking powder
- 1 cup nuts.

Let raise 20 minutes
Bake thirty to forty minutes.

Beef Loaf.

- 1 lb. beef
- 1/4 bread crumbs - 1 cup
- bacon or ham raw
- salt and pepper
- 1 egg beaten.

Steam 2 hours.

MEMORANDUM

Mr Boggs' Mayonnaise.

1/2 cup vinegar (small) and fill
up with water. With little piece
of butter put on stove.

1 cup mustard

1/2 cup salt or less

pepper

2 drops sugar

1 cup flour or cornstarch

Mix dry ingredients together and
add 1 or more eggs, unbroken, and

3/4 cup milk canned, in hot steam.

MEMORANDUM

Madeira Cakes.

3 cups flour

1 1/2 cups sugar

1 cup butter = 1/2 lb.

1 tsp. baking powder

3 eggs. - salt.

about 1 cup milk
essence of lemon.

Slices of citron and sugar sprinkled
on top. Moderate oven.

Raison Cake.

2 cups flour

1 cup sugar

2 eggs - salt

1/2 cup sultanas or raisins

2 tsp. baking powder

peel

1/4 cup butter or butter & lard

1 tsp. vanilla

Sugar on top if desired.

MEMORANDUM

Pineapple Pie.

Juice of Pineapple of one large can.

$\frac{2}{3}$ cup water

Put on to heat.

1 cup sugar

2 tablespoons of flour

Add yolks of 3 eggs.

When cool add little butter,

pinch of salt,

juice of 1 lemon

and chopped pineapple.

Beat the whites of the eggs
to a stiff froth. Add sugar &
spread on top of pie. Place in
oven and bake to a golden-brown
hue.

MEMORANDUM

Date Bar.

- 1 cup dates
 - 1 " walnuts - chopped not too fine
 - 1 tablespoon cocoanut
 - 1 cup white sugar
 - $\frac{3}{4}$ " flour
 - 2 eggs
 - 1 desert spoon almond flavoring.
- Bake 15 minutes in moderate oven.

Date cake.

- $\frac{1}{4}$ pound butter
 - 1 cup sugar
 - 2 eggs well beaten
 - $\frac{1}{2}$ teaspoon soda dissolved in $\frac{1}{2}$ cup warm milk
 - 1 cup chopped walnuts - not too fine
 - 1 pound dates - cut fine
 - 2 cups flour
- Bake in slow oven
 $1\frac{1}{2}$ hours.

MEMORANDUM

Belgian Paste.

4 cups flour
2 " brown sugar
½ pound butter
2 eggs
½ teaspoon soda dissolved in hot water
½ cup chopped almonds

Mix sugar and butter,
add eggs, flour, soda, and nuts.
Make into thick paste, roll into
sausage shape, and leave over
night. In morning slice off quite
thin. Bake 10 minutes in
moderate oven.

MEMORANDUM

Pineapple Layer Cake Mrs. Goggins.

- 1 cup sugar } creamed together
1/4 " butter }
2 eggs well beaten - omit one white - I
1 cup pineapple juice
2 tsp. Baking Powder
1 3/4 cups flour

Bake in two layers.

- 1 cup sugar
4 tbsp. water - Boil till it threads,
Pour on beaten white of egg.
Whip till thick.

Spread both layers with crushed pineapple
and put frosting on top of that. Then place
one layer on top of the other.

MEMORANDUM

BOOKS AND MAGAZINES ON HOME PROBLEMS

These may be obtained from:
Whitcomb & Barrows, Huntington Chambers, Boston, Mass., U.S.A.
Postage extra must be allowed.

MAGAZINES

Boston Cooking School Magazine, per year	\$1.00
Good Housekeeping, per year	
The Mother's Magazine, per year	1.00
The Journal of Home Economics, per year	3.00
Department of Agriculture, Washington, Bulletins on Foods, each .....	.05
Department of Home Economics, Cornell University, Ithaca, N.Y., Bul- letins on Home Problems, each .....	.05

BOOKS

A-B-Z of Our Own Nutrition. Horace Fletcher	\$1.00
Art of Right Living. Richards50
Baby—a Book for Mothers and Nurses. D. R. Brown, M.D.	1.00
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Made-over Dishes. Rorer50
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Manual of Personal Hygiene. W. L. Pryle	1.50
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