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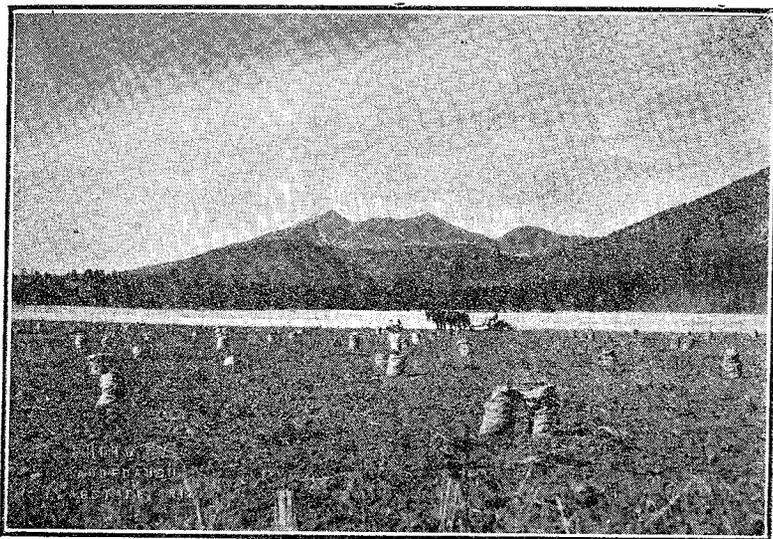
January, 1923

POTATOES

The Million Dollar Industry

HOW THEY GROW AND HOW TO USE THEM

By ROSA BOUTON, Home Demonstration Agent
Coconino-Navajo-Apache Counties



DIGGING POTATOES

Cooperative Extension Work in Agriculture and Home Economics, the University of Arizona College of Agriculture and the United States Department of Agriculture Cooperating Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914

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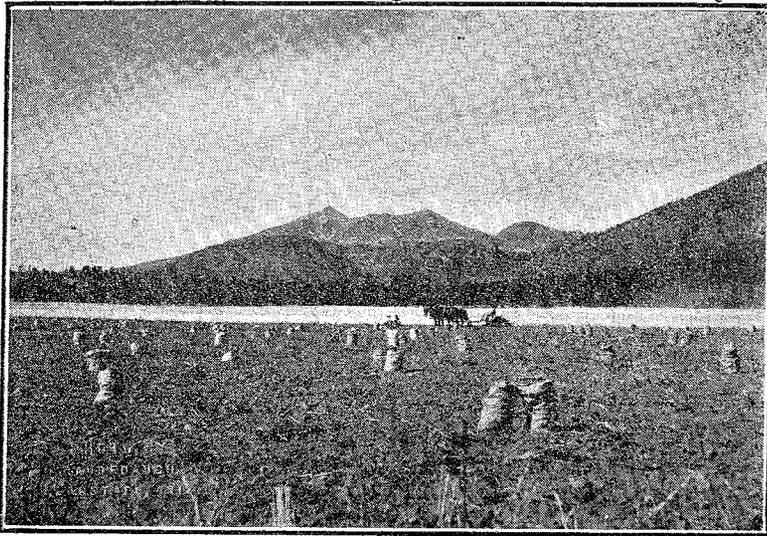
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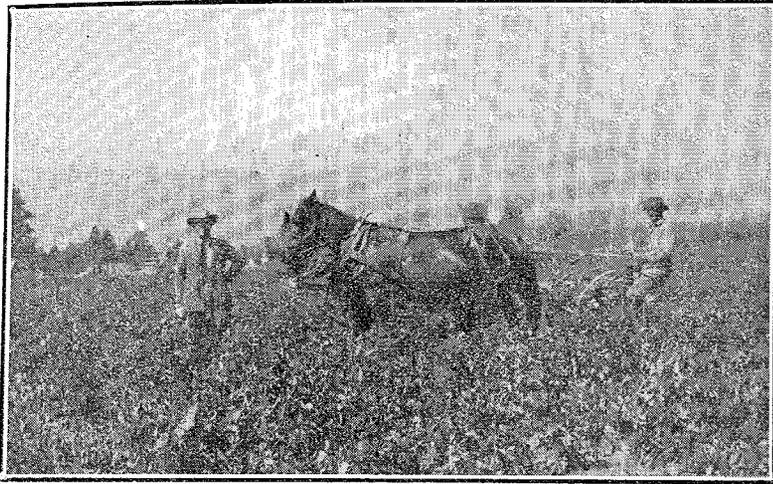


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P O T A T O E S

The Million Dollar Industry in Coconino County



CULTIVATING SPUDS

Oh, the Spud, the wondrous Spud,
 Could he do so, tell he 'wud'
All the things we say about him
 In Coconino County.
Could he take to all the markets,
 In mountain, desert, camp and valley,
Stories of his place in larder,
 Tales of how he heads the menu,
How he's welcomed by the housewife,
 How the children squeal and greet him,
How the fathers peel and eat him
 At the happy dinner hour,
Then the farmers soon could sell
 All the spuds that grow so well
In Coconino County.
 And their pockets soon they'd fill
With nickel, dime, and dollar bill
 In Coconino County.

CONTENTS

| | |
|---|----|
| Foreword | 3 |
| Where Potatoes Grow..... | 5 |
| History | 5 |
| Extensively Used..... | 6 |
| Food Value..... | 6 |
| Development of Potato Industry..... | 6 |
| Methods of Cooking Potatoes..... | 7 |
| Baked Potatoes..... | 7 |
| Variations of Baked Potatoes..... | 8 |
| Potatoes on the Half Shell..... | 8 |
| Franconia Potatoes..... | 9 |
| Ham au Gratin..... | 9 |
| Scalloped Potatoes..... | 9 |
| Chambray Potatoes..... | 9 |
| Scalloped Potatoes and Pork Chops..... | 9 |
| Steamed Potatoes..... | 9 |
| Boiled Potatoes..... | 9 |
| Boiled Potato Combinations..... | 11 |
| Creamed Potatoes..... | 11 |
| Potato au Gratin..... | 11 |
| Delmonico Potatoes..... | 11 |
| Pittsburg Potatoes..... | 11 |
| Potato Salad..... | 11 |
| Mashed Potatoes..... | 12 |
| Cottage Pie..... | 12 |
| Potato Cakes..... | 13 |
| Potato Soups..... | 13 |
| Fried Potatoes..... | 13 |
| Variations of..... | 13 |
| O'Brien Potatoes..... | 14 |
| Croquettes..... | 14 |
| Potato Apples and Pears..... | 14 |
| Potatoes as a Partial Substitute for Flour..... | 15 |
| Potato Rolls..... | 15 |
| Potato Doughnuts..... | 15 |

POTATOES

WHERE POTATOES GROW

In Coconino County, Arizona, around about Flagstaff and Williams and between the two places, people raise potatoes, think potatoes, eat potatoes, yes and sometimes sleep with potatoes, not only figuratively but literally, for until the Marketing Association of the Farm Bureau makes its prospective storage houses a reality, farmers must store their potatoes as best they can in pits, dugouts, and barns.

One cold night last winter when the mercury was falling way below zero, a thrifty farmer who had thousands of sacks of potatoes stored in his barn, instead of getting into his comfortable bed at nine o'clock, lighted his coal oil stove and took it with him to his barn where he slept with his potatoes, waking at intervals to see that all was well, even as a faithful nurse sleeps and watches her patients.

HISTORY

Though the potato is one of our best known and most widely used foods it is not mentioned in Ancient History. Four hundred years ago it was not known to the civilized world. We are indebted to our South American neighbors for this food, which was discovered about the middle of the sixteenth century by Spanish explorers. By them it was carried to European countries and our own America. Its first name was "Battata" which means "Papa", but how it gained its trade name "The Spud", is not definitely known, but it is probably derived from the Irish "Spaddy", one who digs with a spade.

One of the stories of its introduction into festive circles is as follows: Through Italy the potato went to Belgium. The Belgians were on good terms with the French and desiring to give expression to their friendliness sent to the King of France a present of a sack of potatoes. The King made a feast for his lords and nobles with the potato as the main dish. To His Excellency the King the dish of potatoes was first passed, then to the guests. The King tasted, said nothing but passed it on. Others did likewise. The silence was due to the fact, that though served with delicious mayonnaise, the potatoes were uncooked. The King was so disappointed that he commanded all the potatoes to be thrown outside the city. Fortunately soldiers soon camped near where the potatoes were dumped and the soldier boys discovered the appetizing baked potatoes in the ashes of the camp-fire.

The prejudice against this valuable food was slow in disappearing, but

Count Rumford did much to popularize it by using it in the nourishing soups he made for the poor in time of famine. It is said that at first he was compelled to smuggle in and keep hidden the potatoes he put in his soups.

During the terrible famine in Ireland in 1743 the potato again rendered valuable service by providing food for the starving people. Thus it gained the name of Irish. It is claimed that there has never been a serious famine in Ireland since that time.

Today the potato, of all vegetables, is most extensively used. This is due in part to its mild flavor of which one does not easily tire. For the same reason the potato lends itself to the production of many pleasing combinations with foods of more pronounced taste. It is wholesome and next to breadstuffs is our mainstay for starchy food. Indeed it may be advantageously used as a partial substitute for flour, in the production of many articles of food as, cake, bread, muffins, hot cakes, etc.

FOOD VALUE

The food value of the potato is due largely to its starch (carbohydrate) content, which, compared with other vegetables, is relatively high as it constitutes about 18 per cent of the potato. This starch produces heat to keep the body warm and energy to make the mechanism go. The power it generates is manifested in the varied activities of men and women, and of boys and girls. It is evident in work and play, at home, at school, on the farm and in the business world.

As to food value, perhaps next to starch, mineral matter is most important, because it helps to build bones, teeth, nerves and other tissues. The iron gives the red color to the blood and the potassium, which is present in comparatively large amounts, helps to keep the fluids of the body from becoming too acid, making them neutral or alkaline. The potato has enough protein (muscle builder) to be of value, but it contains only a trace of fat.

DEVELOPMENT OF THE POTATO INDUSTRY

With the purpose in mind of helping to increase the demand for potatoes and thereby aiding in the development of the potato industry in Coconino County, a letter was sent out to homemakers in this county making inquiry, first, as to the number of persons in the family; second, the number of pounds of potatoes used in one week, and third, a request for directions for preparing potatoes in four or more different ways. Following is a compilation of replies received:

First, the number of persons in families varied from two to eight,—average, three and eight-tenths.

Second, the smallest number of potatoes used in one week, by one

family, was two pounds for a family of three, and the largest, fifteen pounds for a family of two. The average amount of potatoes used by one person in one week was three and three-tenths pounds.

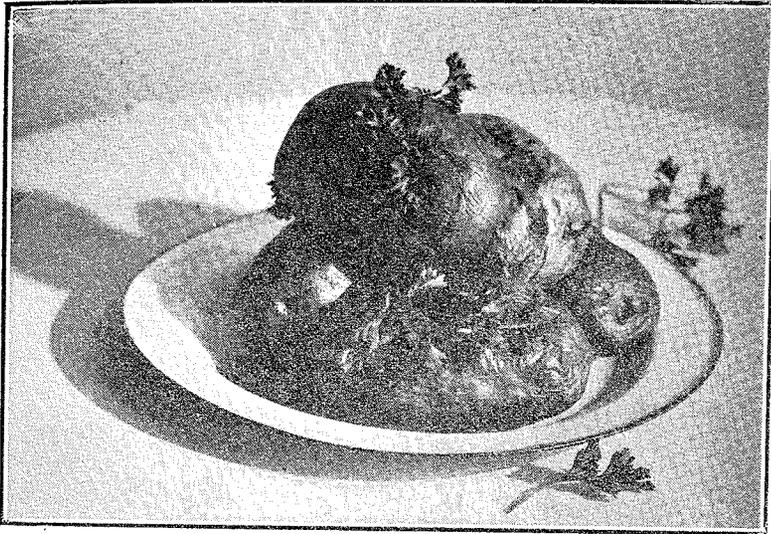
Third, thirty-one different ways of preparing potatoes for the table were reported, including baking, steaming, boiling and frying potatoes separately and in combination with other foods.

Some of these methods have evidently been devised by home-makers, while others have been obtained from co-workers and cookbooks. Following is a summary of suggestions and recipes received through these letters and gathered from experience and observation.

METHODS OF COOKING POTATOES

Old potatoes are improved by soaking two hours in cold water before peeling.

BAKED POTATOES



BLUE RIBBON, EARLY ROSE, BAKED POTATOES

If a potato is properly baked, none of the food value is lost, the best flavor is developed, and this food is more easily digested than if cooked in any other way. However, if the heat is not great enough to break down the cell walls of the potato, there results a soggy mass not easily digested. To let out the steam, the skin should be cracked as soon as the

potatoes are done. The same, or perhaps even better, results may be secured by inserting a fork on opposite sides of the potato when the outside has softened and the inside is still hard.

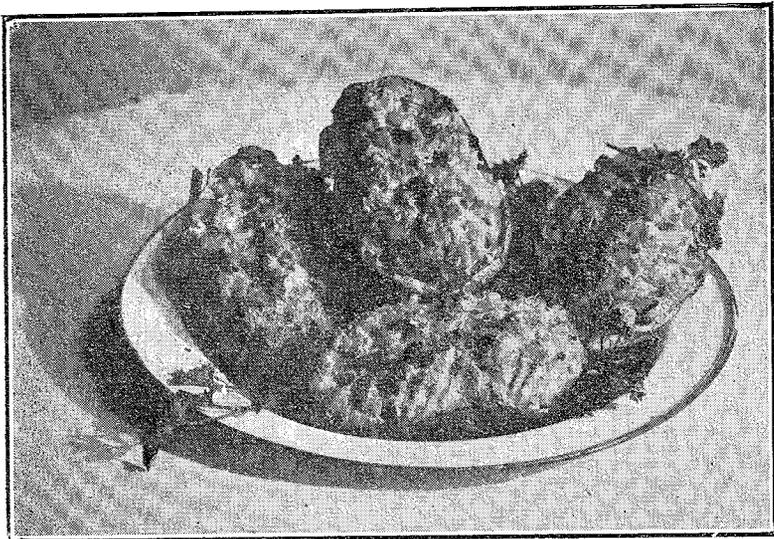
In letters received, directions for baking potatoes were given as follows: select potatoes of uniform size, scrub with brush, rub with fat, put in hot oven and bake until done.

VARIATIONS OF BAKED POTATOES

After baking potato, break open and insert a piece of cheese the size of a walnut.

Slit a large baked potato, hollow out a shallow cavity, and in it, break a whole egg. Return to oven and bake until egg is done.

The inside of a baked potato may be taken out, mashed, seasoned, and served at once, or after browning in a hot oven. Besides the seasoning



BLUE RIBBON, BROWN BEAUTIES, BAKED ON THE HALF-SHELL

of salt, pepper and butter ordinarily used, such additions as cream, milk, cheese, bits of bacon or eggs, whole or in part, were suggested.

Baked or boiled potato that has been mashed may be made more light, fluffy and nutritious, by folding into it the beaten white of egg. When prepared in this way, the potato should be placed in a hot oven for a few minutes before serving.

Potatoes on the Half-Shell.—These are made by cutting medium sized

baked potatoes lengthwise, scooping out the inside, seasoning to taste as above indicated, returning to the shell, brushing over the top with egg or sprinkling with grated cheese and browning in a hot oven.

Franconia Potatoes:—This is an excellent variation of baked potatoes, mentioned by a number of home-makers. Pared potatoes are parboiled, baked with roasting meat and basted with meat juices and fat. Sometimes the parboiled potatoes are roasted with pork chops or with meat drippings without the meat.

Ham au Gratin:—Place a slice of ham in a baking pan, peel potatoes and place around the ham, cover with milk and bake slowly for forty-five minutes or until the potatoes are done and milk has evaporated leaving a light brown skin over all.

Scalloped Potatoes:—Following are directions given by some of our correspondents for making this delicious dish: Pare and slice potatoes about one-fourth inch thick. Into a baking dish put a layer of these slices and sprinkle over it, salt, pepper and flour with a few pieces of butter. Put in other layers with seasoning until the dish is nearly full. Add milk until it may be seen above the slices. Bake in slow oven until the potatoes are done. One of the writers suggests varying this dish by the addition of cheese between the layers.

Chambray Potatoes:—These are prepared as for scalloping except that no flour or milk is put in.

Scalloped Potatoes and Pork Chops:—Prepare potatoes as for scalloping. Put slice of onion in on first layer, cook on top of stove for fifteen minutes, season pork chops and place on top of potatoes. Put in oven and bake twenty minutes. No butter required.

STEAMED POTATOES

Next in food value to the baked potato with its jacket on is the steamed potato, even though cooked without its skin, for no appreciable amount of mineral matter or protein is lost in this cooking process. Nevertheless this method is not in as common use as others because it requires more time and effort.

Steamed potatoes are prepared as for boiling, put in a closed vessel having a perforated bottom, which is then put over a kettle of boiling water. The water must be kept boiling hard every moment. They will require from thirty to forty minutes to cook.

BOILED POTATOES

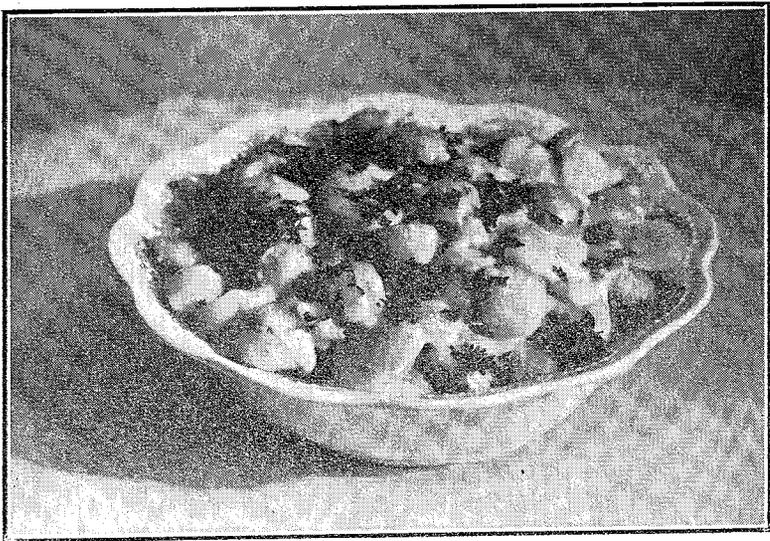
Boiling a potato is one of the simplest of cooking processes and few people realize how great is the waste of valuable food material due to improvident methods of boiling our most common vegetable. They do not appreciate the fact that the mineral matter the potato contains is

soluble in water and therefore a portion of it is lost if potatoes are boiled without their jackets.

The muscle building substance (protein), found in the potato, is similar to the white of an egg, and, like it, is soluble in cold water and hardened in boiling water. Therefore in order to retain this nutritious substance, put potatoes on to cook in boiling salted water. It is estimated that if potatoes are pared and soaked in cold water before cooking the amount of protein loss in one bushel is equivalent to that in one pound of sirloin steak.

Potatoes should boil steadily but slowly, as a considerable portion of the outside may be washed away by the rapidly boiling water before the inside of the potato is done. Some recommend overcoming this difficulty by adding a cup of cold water as soon as the outside of the potato is soft, thus driving the heat in to finish cooking the center and at the same time stopping further softening of the surface.

After draining the water from potatoes, which should be done as soon



CREAMED POTATOES

as they are cooked through, they should be returned to the stove and shaken as they dry. Thus they will become more mealy.

The substances extracted from pared potatoes by the water in which they are boiled may be advantageously used in soups, thus saving valuable food lost during the boiling process.

BOILED POTATO COMBINATIONS

A variety of appetizing dishes are prepared by combining sliced or diced boiled potatoes with creamed sauces, gravies or salad dressings, with the addition of other vegetables, cheese, eggs or meats. A number of these were mentioned in the letters. Directions for the preparation of some of these follow.

Creamed Potatoes:—These are prepared in different ways. One of the simplest methods is to pour cream sauce over whole hot potatoes from which the water has been drained. Another method is to heat in cream sauce diced boiled potatoes or balls cut from boiled potatoes with a potato cutter. These dishes are improved by sprinkling over them finely chopped parsley. Their nutritive value and attractiveness may also be increased by the addition of green peas.

Potato au Gratin:—This is prepared by putting creamed potatoes into a baking dish, covering with buttered bread crumbs and baking until brown.

Delmonico Potatoes:—The above may be varied by alternating with the layers of creamed potatoes grated cheese, thus producing so-called Delmonico Potatoes.

Pittsburg Potatoes:—Another delicious variation of creamed potatoes may be prepared as follows:

- 2 cups diced potatoes (previously cooked),
- 2 cups thin white sauce well seasoned.

Place diced and seasoned potatoes in a baking dish. Pour the sauce over them and cover the top with

- $\frac{1}{4}$ lb. cooking cheese, grated or pressed through sieve,
- $\frac{1}{2}$ can red pimentoes cut into bits,
- $\frac{1}{2}$ cup buttered bread crumbs.

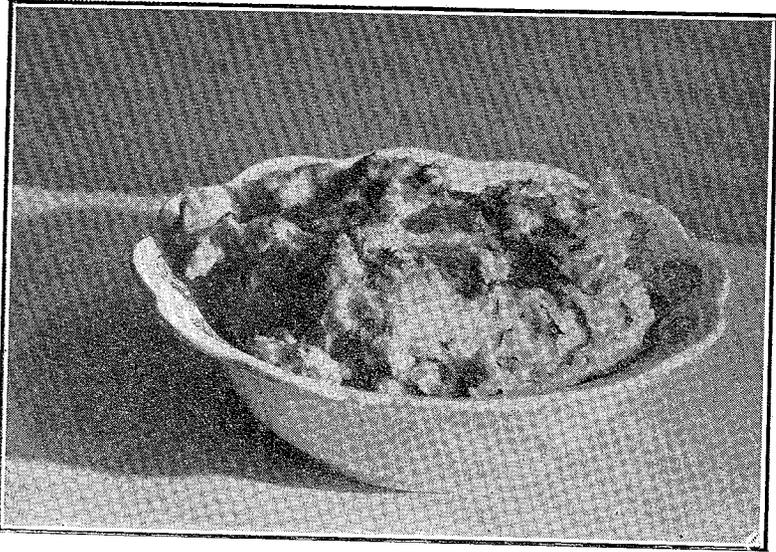
Use in order given. Place in moderate oven until the crumbs are nicely browned.

Potato Salad:—The making of an excellent potato salad is not as easy as some seem to think. There are so many poor dishes served under this name that one is tempted to give them the old appellation of "sour cold potatoes."

This salad is usually made from boiled potatoes—but properly baked ones are even better for this purpose. The potatoes should be diced and over each layer, as cut, should be sprinkled salt, white pepper, celery salt and finely chopped onion or onion juice. To the cut and seasoned potato add a plentiful supply of good salad dressing, either boiled or mayonnaise, and mix with a fork being careful to break the dice as little as possible. Let the mass stand several hours in order that the dressing may permeate the potato. Most salads are best served very soon after they are made but potato salad is improved by standing. This salad may

be garnished with one or more of the following foods: Celery, parsley, cucumbers, radishes, slices of hard boiled eggs, etc. A number of these things may be put in the body of the salad as desired.

Mashed Potatoes.—Suggested recipe for seasoning mashed potatoes: 2 cups mashed potatoes (having been boiled in salted water), $\frac{1}{2}$ tsp. salt, $\frac{1}{8}$ tsp. pepper, 2 tbsp. butter, $\frac{1}{2}$ cup hot milk. As one of our homemakers puts it, "Everyone knows how to prepare mashed potatoes." Yet,



MASHED POTATOES

though this, of all potato dishes, is perhaps the favorite, one often meets with mashed potatoes unworthy the name.

To prepare this dish, the potatoes should be properly boiled, mashed and seasoned to taste, as indicated above. After adding the hot milk the mass should be beaten with a fork or egg beater until creamy. If one desires excellent results, the beating is a very important part of the procedure. For serving, pile the fluffy mass in a hot dish. Put a piece of butter the size of a walnut on top, and over all sprinkle a little finely chopped parsley. This dish should be served hot, as lightness is lost by standing.

Mashed potato is prized, not only for itself, but because from it may be made a great variety of dishes. Directions for the preparation of some of these follow:

Cottage Pie.—Line a baking dish with warm mashed potatoes, fill with

small carefully selected pieces of left over roast beef and nice brown gravy. Cover with mashed potatoes. Brown in hot oven.

Potato Cakes:—These may be shaped from well seasoned warm mashed potatoes with or without the addition of egg yolk, rolled in flour, allowed to stand for an hour or more, then fried to a golden brown on both sides in a very little fat.

Potato Soups:—Mashed, as well as other forms of potato, are extensively used in the making of soups. An excellent soup may be made from the following recipe (Miss Farmer's Cook Book):

| | |
|-------------------------|------------------------|
| “3 potatoes medium size | 1½ tsp. salt |
| 1 qt. milk | ¼ tsp. celery salt |
| 2 slices onion | ⅛ tsp. white pepper |
| 3 tbs. butter | Few grains cayenne |
| 2 tbs. flour | 1 tsp. chopped parsley |

Cook potatoes in boiling salted water; when soft rub through strainer. Scald milk with onion, remove onion and add milk slowly to potatoes. Melt half the butter, add dry ingredients, stir until well mixed, then stir into boiling soup; cook one minute, strain, add remaining butter and sprinkle with parsley.”

Many mothers make milk gravy which the children enjoy. This can be easily transformed into a delicious soup by the addition of more milk, potato, a little scraped onion, celery salt and other seasoning according to taste.

One of our women suggests a soup made of potato with the addition of tomatoes, onion, macaroni, etc.

FRIED POTATOES

Of all cooked potatoes the fried varieties are least acceptable because they are most difficult of digestion. Therefore, these should not be given to children nor to adults who have digestive troubles. However, if people will have fried potatoes let them be so prepared that they will not be grease soaked as they often are. For example, if potato chips or French fried potatoes are made, care should be taken that the temperature of the fat is such as to cook the potatoes quickly without burning and that they be drained on unglazed paper as soon as taken out of the fat.

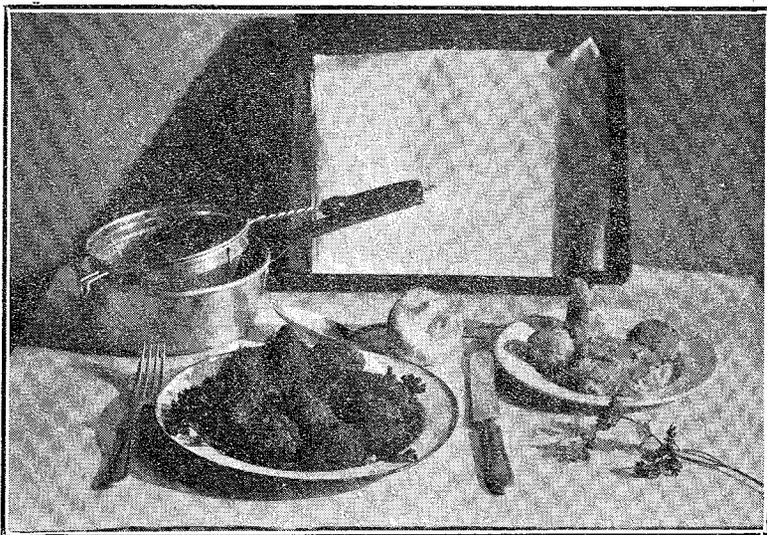
VARIATIONS

A number of the women mentioned frying potatoes both raw and boiled. Raw potatoes are sliced thin and fried with or without onions. They are more wholesome if only a small amount of fat is used, some water added, and the dish covered, thus partially steaming the potatoes.

One writer suggests dipping slices of raw potatoes in corn meal and frying them. Another suggestion is, “Put dices of bacon in kettle, add

onion, diced potatoes, salt, pepper, and cover with water. Cover closely and cook until done."

O'Brien Potatoes:—One of our home makers gave directions for preparing these as follows: "Fry three cups potato cubes, or balls, in deep fat, drain on brown paper and sprinkle with salt. Cook one slice of onion in one tablespoon and a half of butter three minutes; remove onion, and add to butter three canned pimentoes cut in small pieces. When thoroughly heated, add potatoes; stir until well mixed, turn into serving dish and sprinkle with finely chopped parsley.



CROQUETTES

Croquettes:—In letters received, these were mentioned. They are prepared by adding to well seasoned mashed potatoes, yolk of egg, onion juice and chopped parsley. The mass is well mixed and shaped into such forms as balls, pyramids, or cylinders. These are dipped into a mixture of milk and beaten egg, rolled in bread crumbs and fried in deep fat until brown, then drained on porous paper. The croquettes are less liable to break if allowed to stand an hour or more before frying.

Potato Apples and Pears:—These are shaped from a mixture like the above, except that the onion juice and parsley are left out, and that cream and sometimes a little nutmeg are added. They are fried in deep fat as described above. Whole cloves are used for blossom and stem ends.

POTATOES AS A PARTIAL SUBSTITUTE FOR FLOUR

A number of home-makers wrote of potato dumplings, rolls, pie, hot cakes, etc. The following recipes are given as illustrating this use of the potato:

Potato Rolls:—

| | |
|----------------------|-------------------------|
| "4 cups flour | 2 medium sized potatoes |
| 1 tsp. salt | (previously mashed) |
| 1 tbs. sugar | Water or |
| 7 tsp. baking powder | Milk |

Sift dry ingredients, add mashed potatoes and liquid enough to mix dough. Divide into small pieces, knead each, and shape into small rolls. Place on a greased pan, brush with fat, stand in a warm place ten to twenty minutes. Bake in hot oven. When done, brush again with fat."

Potato Doughnuts:—

| | |
|-------------------|----------------------|
| "1 cup sugar | 1 tsp. salt |
| 3 tbs. melted fat | 1 cup mashed potato |
| 2 eggs | 4 tsp. baking powder |
| 1 cup sweet milk | 4 cups flour |

Cream fat and mashed potatoes; add sugar, well beaten eggs and milk, add flour to roll out. Cut and fry in deep fat."

Limited space prevents the inclusion of all the good things given in the letters. Nevertheless, the cooperation of each individual is greatly appreciated and it is sincerely hoped that the cordial response will help many home makers to boost the

MILLION DOLLAR INDUSTRY
IN COCONINO COUNTY



University of Arizona

College of Agriculture
Agricultural Extension Service

A METHOD OF JUDGING FOWLS FOR EGG PRODUCTION



TYPICAL AUDIENCE, POULTRY CULLING DEMONSTRATION

PUBLISHED BY
University of Arizona
UNIVERSITY STATION
TUCSON, ARIZONA

University of Arizona
College of Agriculture, Agricultural Extension Service

Cooperative Extension Work in Agriculture and Home Economics, the University of Arizona College of Agriculture and the United States Department of Agriculture Co-operating Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.

A METHOD OF JUDGING FOWLS FOR EGG PRODUCTION

As formulated at the Judging School held at Cornell University, Ithaca, New York, July 1-6, 1918, and approved by the American Association of Instructors and Investigators in Poultry Husbandry. Revised July 5th-12th, 1919. Revised July 4th-9th, 1921. Revised July 3rd-8th, 1922, by Representatives of Poultry Departments, Connecticut, Indiana, Massachusetts, New Jersey, New York, Ontario Canada, Oregon, Wisconsin, participating.

CONDITION FOR LAYING

In order to lay well, a bird must have a sound body. As a first consideration, a bird must be *vigorous and healthy*. Vigor and health are shown by a bright, clear eye, a well set body, a comparatively active disposition and a good circulation.

Further, the bird must be free from physical defects such as crooked beak, excessively long toe nails, eyelids that overhang so that the bird cannot see well, scaly leg or anything else that would keep the bird from seeing or getting an abundance of food.

Age, condition, feed and range should be considered in culling a flock.

TYPE

The type of a bird indicates the degree of intensity with which it can lay. Type can be applied to any breed, age or sex, or condition at any time of year.

In order to make a record, a hen must not only lay long, but heavily. In order to lay heavily, she must have sufficient body capacity to digest large amounts of food rapidly. Large capacity in a laying hen is shown by a body that is relatively deep. The under line should be fairly straight and the back should be comparatively horizontal.

The back should be flat and wide and its width should be carried well back to the tail. The back that tapers decidedly or slopes down indicates a poor capacity.

The breast should be full, deep and prominent. The neck should be fairly short and well set. The legs should be of moderate length. The long-legged, round-shanked, long-necked, bony or crow-headed individual is not a good layer.

The keel bone should be long and generally curved. This frequently means that the abdomen of a good male will be small rather than large.

The head should be moderately fine with large, bold eyes set well out on the side of the head in an oval eye-socket. The head should be wide and flat at the top, and wider on top than below the jaws. A fat-headed, small, round-eyed, or cross-eyed bird or one with overhanging eyebrows, or having a comb with extremely narrow serrations is not likely to be a good layer.

Long, narrow feathers indicate a late maturing bird. Care should be taken not to confuse a bird that appears deep because of long, loose feathering with one that has an actual bone and flesh depth.

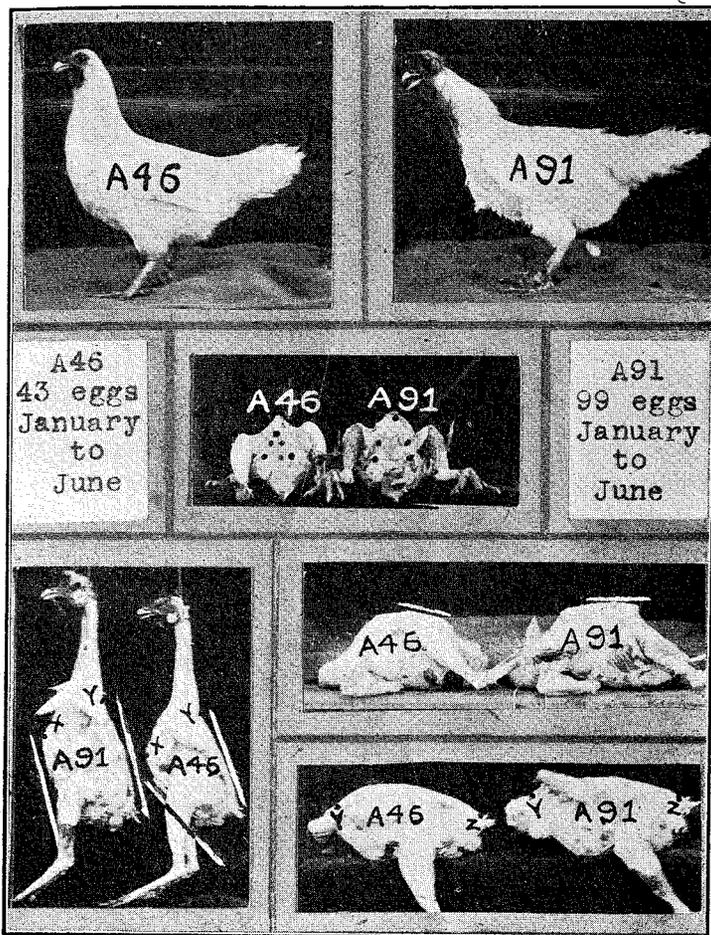
Depth and slab-sidedness may be measured by placing the thumbs on the middle of the back, the little fingers on the front end of the keel bone and the middle fingers on the rear end of the keel bone. Press in with the palms of the hands and do not squeeze the bird up with the fingers. The deeper and more slab-sided the bird feels, the better. It is relative depth that is desired and not actual depth. A big hen may be actually deep and yet relatively shallow and hence be a poor layer. Relative depth of front to rear of body may be measured by spanning the body with the thumb and middle finger from back to breast and sliding the fingers and thumb along the keel and back.

BODY CHANGES DUE TO LAYING

A laying hen has a large, moist vent, showing a wide dilated condition and looseness as compared with the hard, round, puckered vent of a hen that is not laying.

The whole abdomen, as well as the vent, is dilated so that the pelvic arch is widespread and the keel is forced down away from the pelvic arch. The more eggs a bird is going to lay the following winter, the greater will be the size of the abdomen. The actual size of the abdomen is influenced by the length of the keel, size of eggs laid and by the size of the bird. A sagging abdomen is undesirable.

Heavy production is shown by the quality of the *skin* and the stiffness of the *pelvic bones*. Fat goes out from the skin and body with production so that the heavy producers have a soft, velvety skin that is not underlaid by layers of hard fat. The abdomen in particular is soft and pliable. The *sternal processes* are very prominent and are generally bent outward. The thicker and blunter the pelvic bones and the greater the amount of



Hens No. A91 and A46 were trap-nested at the University of Arizona from January 1 to June 1. They were then slaughtered and the above photograph taken. Hen No. A91 produced ninety-nine eggs and hen No. A46 produced forty-three eggs from January 1 to June 1. The hens were hatched at the same time and were given the same feed and care. Note depth of abdomen, spread of lateral sternal process bones and pelvic bones as indicated by dots, wedge shape of body and prominence of pelvic bones and keel bone. The distance between X and Y on each hen is the same, also the distance between Y and Z on each hen is the same. (Photographs from the Arizona Experiment Station, University of Arizona)

hard fat in the abdomen, the less the production or the longer the time since production.

CHANGES IN SECONDARY SEXUAL CHARACTER

The *comb*, *wattles* and *earlobes* enlarge or contract, depending on the ovary. If the comb, wattles and earlobes are large, full, plump and smooth, or hard and waxy, the bird is laying heavily, but is not laying at all when the comb is dried down, especially at molting time. If the comb is warm, it is an indication that the bird is coming into production.

LOSS OF FAT DUE TO LAYING

Color, or pigmentation changes. (These should be observed by daylight.)

A laying fowl uses up the surplus fat in the body, especially it removes the fat from the skin. In yellow skinned breeds, the loss of fat and pigment can readily be seen by the loss of the yellow color. The different parts of the body tend to become white, according to the amount of fat stored in the body and the amount of circulation of blood through those parts. The changes occur in the following order:

The *vent* changes very quickly with egg production so that a white or pink vent on a yellow skinned bird generally means that the bird is laying, while a yellow vent means that the bird is not laying. It should be recognized that all yellow color changes are dependent on the feed, coarseness of the skin and size of the bird. A heavy bird fed on an abundance of green feed or other material that will color the fat deep yellow will not bleach out nearly as quickly as a smaller or paler colored bird. A bird with lustrous shanks does not fade as quickly as a dull shanked bird.

The *eye-ring*, that is, the inner edges of the eyelids, bleaches out a trifle slower than the vent. The earlobes on Leghorns and Anconas bleach out a little slower than the eye-ring so that a bleached ear-lobe means a little longer or greater production than a bleached vent or eyelid.

The color goes out of the beak beginning at the base and gradually disappears until it finally leaves the front part of the upper beak. The lower beak bleaches faster than the upper, but may be used where the upper is obscured by horn or black. On the average colored yellow-skinned bird, a bleached beak means heavy production at least for the past four to six weeks.

MOLTING

When a bird stops laying in the summer, she usually starts molting. The later a hen lays in the summer or the longer the period over which she lays, the greater will be her production, so that the high producer is the later layer and hence the later molter. The length of time that a hen has been molting or has stopped laying can be determined by the molting of the primary feathers. It takes about four or six weeks to completely renew the primary feathers next to the axial feathers and an additional one to two weeks for each subsequent primary to be renewed, depending on the type of the feather—very long or very wide feathers grow slowly.

TEMPERAMENT AND ACTIVITY

A good layer is active, intelligent and friendly and more easily handled than a poor layer. A low producer is shy and flighty and stays on the edge of the flock and will squawk when caught.



University of Arizona
College of Agriculture
Agricultural Extension Service

ARIZONA BOYS' AND GIRLS' CLUBS
GARMENT MAKING
SECOND AND THIRD DEMONSTRATIONS

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PUBLISHED BY
University of Arizona
UNIVERSITY STATION
TUCSON, ARIZONA

University of Arizona
College of Agriculture, Agricultural Extension Service

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Coöperative Extension Work in Agriculture and Home Economics, the University of Arizona College of Agriculture, and the United States Department of Agriculture coöperating. Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.

The material in this circular was assembled by Mrs. Mary Pritner Lockwood, Assistant State Home Demonstration Leader.

Suggestions have been taken from:

Clothing for Women—Laura I. Baldt.

Clothing Choice, Care and Cost—Mary Schenck Woolman.

How to dress well at small cost—Helen W. Atwater and Gertrude L. Warren.

Extension Bulletin No. 365—Oregon Agricultural College.

Extension Bulletin No. 9—Ohio State University.

Extension Bulletin No. 21—University of Nevada.

Extension Bulletin No. 42—Kansas State Agricultural College.

Thrift Leaflet No. 7—U. S. D. A. Treasury Department (out of print).

ARIZONA BOYS' AND GIRLS' CLUBS
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GENERAL PLAN OF THE WORK

CLUB GOAL

Garment making is an industry that finds a place in every home. Three demonstrations in garment making have been arranged so that a girl completing this work should be able to make and keep in repair her own clothes and help her mother with the family sewing. Progress in the work may be slow at first, but skill will come with repeated efforts. Girls soon discover that by doing their own sewing, they not only have the satisfaction of personal independence and the ability to be helpful to others, but they are also enabled to save considerable money. The girl who sews for herself can afford to have more clothes, made of better materials, than the girl who must pay some one else to make her garments. The objects of the work are:

1. To train the girl to make simple, well-chosen garments.
2. To teach the value of time by keeping records.
3. To encourage economy and simplicity in dress.
4. To stimulate the girl to become capable and self-reliant, both for her own sake and for the sake of others.
5. To dignify home-making.

REQUIREMENTS

Members must be between the ages of 10 and 19 on January 1 of the ensuing year. Each member must complete four exercises to finish the demonstration. Additional credit will be given for the elective, but it is not required.

SECOND DEMONSTRATION

EXERCISE I.

Choice of Envelope Combination or Princess Slip.

EXERCISE II.

Overhand Patch.
Buttonhole.
Garment Darn.

EXERCISE III.

Simple Wash Dress with set in sleeves (May be new or made over.)

EXERCISE IV.

All club member's own mending for 6 weeks.

Repair two garments for some other member of the family.

EXERCISE V.

Elective: Hemstitched Pillow Slip with simple embroidery.

THIRD DEMONSTRATION

EXERCISE I.

Laundering the complete wardrobe of club member for 4 weeks.

EXERCISE II.

General care of clothing.
Selection of clothing.

EXERCISE III.

Choice of Middy, Boy's Waist, or Man's Shirt.

EXERCISE IV.

Making new or made-over dress.

EXERCISE V.

Elective: Sport Hat or Garment for a member of the family.

Make final report and write story of work done.

BASIS OF AWARDS

In order to receive her pin, a club member must finish Exercises I, II, III, and IV, and must also write a story of her work and hand in a complete report on the form furnished for this purpose. Therefore, it is necessary that the club member keep a record of all the work that she does.

The final report will include a record of each exercise entered on the form furnished with this circular.

STORY

The club story should give a summary of meetings, social activities of the club and other matters not included in the more formal report.

In writing the story use all available aids in magazines and papers to make the story interesting and worth while. Samples of suitable materials and those actually chosen will help considerably in this connection.

SUGGESTIONS TO THE LEADER

The work of the leader is primarily to guide and inspire the girls in their efforts. It is suggested that the leader have the president of the club conduct the meetings and the secretary call the roll and keep a record of the attendance and, as far as possible, of the progress of each of the girls. For each meeting a program should be prepared. This may consist of group songs, readings, and individual numbers of various sorts. Possibly it would be of interest for each girl to bring anything new which she may see in magazines that bears on the activities of the club.

The following is given as an outline of procedure for a meeting:

1. Call to order by President of club.
2. Roll call by Secretary.
3. Minutes of last meeting by Secretary.
4. Reports of committees.
5. Unfinished business.
6. New business.

7. Instruction on problem.
8. Discussion of problem.
9. Social time in charge of committee.
10. Songs, yells, games, etc.

In making the articles the leader will give the necessary instruction in hand sewing and the use of the sewing machine. In case there is some one in the community who is qualified to give instruction in one of the lessons, it will be wise to seek this help. For instance, there may be a person who has had experience in constructing or designing garments, who would be willing to give a lesson or demonstration to the club group.

HOW TO BEGIN

At the first meeting take the enrollment, elect the officers of the club, including the president, vice-president, and secretary. Plan the work of the course and arrange the time of meeting. (Mail enrollment to your county extension agent if not previously enrolled.)

GARMENT MAKING—SECOND DEMONSTRATION

BASIS OF AWARDS

The following is a list of the required sewing, together with a statement of the work on which the awards are based.

The garments will be judged chiefly on workmanship, although consideration will be given to well selected materials, suitable trimmings and good design.

In each exercise the following points will be given special consideration:

EXERCISE I.—French seams, hems, finish of neck and armholes (this last may include binding or hemming); whipping on of lace or the application of fancy stitches.

EXERCISE II.—Follow instructions carefully. The work will be judged on neatness, accuracy, and selection of thread and materials.

EXERCISE III.—Seams; plain seam with overcasting, notching or pinking; open seam with overcasting, notching or pinking; French seams, felled seams, and French fell. Hems: Hand placed or stitched, turning or binding edge of hem. Other finishes: Facings, plackets, binding of armhole, gathering, and tucking. If old material is used, the ripping, repairing, and laundering of material will be considered.

EXERCISE IV.—Mending will be judged on neatness and the accuracy with which the club member has followed the instructions given for the hemmed patch and overhand patch, the stocking darn and the garment darn. Thread and materials should match. A club member should be able to decide whether a hemmed or overhand patch is more desirable.

EXERCISE V.—Elective: Pillow Slips. Seam; quality of hemstitching, evenness of embroidery and simplicity of design. An initial is suggested.

EXERCISE I

THE ENVELOPE COMBINATION

MATERIALS.—Berkeley cambric, cotton crepe, nainsook, barred muslin, long cloth, etc., may be used.

Thread to match material, probably No. 70, white.

Trimming.—Embroidery, insertion, beading or edging, crocheting, tating, linen lace, hand embroidery, feather stitching, etc. Designs worked with French knots in soft colors or white are very effective.

Pattern.—Select any commercial pattern you wish, according to bust measure required. Consider economy of material and labor in making. Patterns having a seam across the bottom require no buttons and buttonholes.

To Cut.—Study pattern carefully, making sure you understand the perforations. Test for bust measure and length.

Fold material lengthwise; pin all the pattern in place before cutting. Try turning pieces end to end to make sure you have placed to best advantage. Be sure center front lies along the lengthwise fold, and that the double perforations are parallel with it.

Cut out. Mark notches with colored thread.

To make.—Baste all seams on right side with notches matching; try on, making any necessary alterations. Complete the seams, following directions given for seams.

To Finish Neck or Armholes.—(1) If lace, crocheting, or tatting is used, make tiny hem and whip on lace.

(2) Face neck and sleeves with a bias piece cut from material, or bias tape purchased at the store. Lingerie tape may be run in the casing made by the bias tape. If so, hem end of bias tape and start basting at center front, having right sides together. Baste around neck, and when nearly around, measure amount required and hem end as before. Baste in position so that hemmed ends meet but do not lap. Stitch. Overhand lace to these edges, holding lace side towards you.

(3) If a plain finished edge is desired, turn hems and hold in place with chain stitch or feather stitching. This is used especially with silken underwear, the color of the thread used matching that of French knots used for trimming.

(4) Any pattern you select may be made straight across the top and a piece of lace edge and beading used to finish it, or hems may be turned at the top and basted and finished with machine hemstitching. If embroidery is used, it may be applied with a bias facing, basting right side embroidery against right side of garment. The facing is then basted in place, and all stitched together. Or it may be put on with a small French seam. To do this, cut away the muslin to $\frac{3}{8}$ inch of embroidery. Place wrong sides together, keeping edges even. Proceed as in a regular French seam.

(5) Embroidery may be used for both facing and trimming around the neck of a garment. To face with embroidery, trim off muslin edge to within $\frac{3}{4}$ inch of design. (Baste $\frac{1}{4}$ inch from edge.) Place on right side of embroidery against right side of combination suit, letting raw edges of embroidery extend $\frac{3}{8}$ inch beyond raw edges of garment, and baste $\frac{1}{4}$ inch from edge of embroidery. If used on neck of garment, start in center front; if on sleeves, at underarm seam. Then turn, crease $\frac{1}{8}$ inch turning and baste in place. Stitch both edges from the right side. Run tape in beading thus formed. Unless this facing is used as casing for tape, the seam in the embroidery would be less conspicuous at the

center back. Additional touches of hand work as embroidered initials, designs, etc., may be added as desired.

Fold garment in a damp towel, and press with a warm iron. Do not wash if it is to be exhibited.

THE PRINCESS SLIP

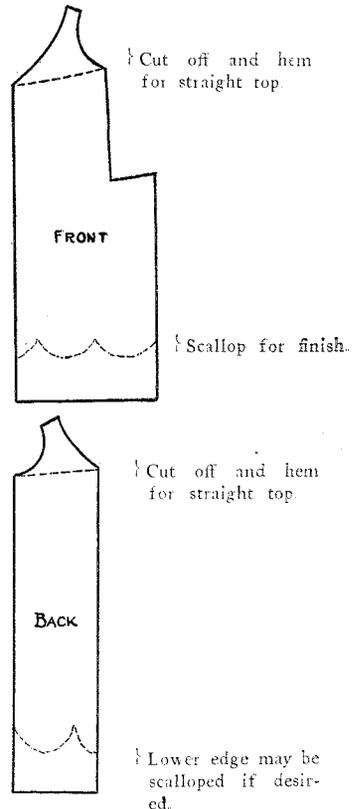
Materials.—Longcloth, nainsook, underwear mull, batiste, Berkeley cambric, lingerette or sateen may be used. Consult pattern for amount of material required. Match thread for stitching to material selected.

Trimming.—Same as envelope combination.

Pattern.—Choose pattern according to the age of the girl unless the girl is large or small for her age, when the bust measure must be followed. A very satisfactory type of slip for the older girl is illustrated by a cut from the "Farmer's Wife" shown below. This comes in all commercial patterns but an experienced seamstress will need no pattern. This slip may be made with a hip depth shadow proof hem, or with a 3-inch hem, or the lower edge may be scalloped and bound or finished with a crocheted edge applied to the scallops.

THE PRINCESS SLIP

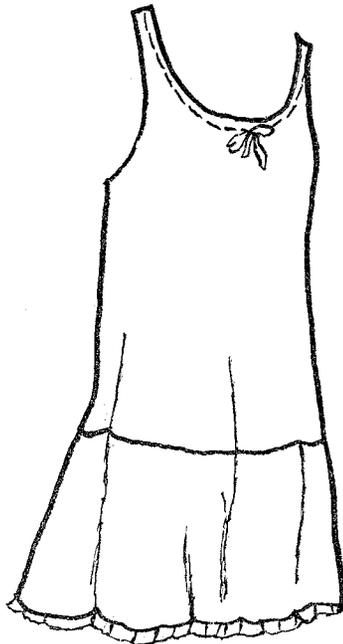
The top may be cut with round neck and armholes, or it may have a straight top with shoulder straps. The side seam in the upper part comes directly under the arms, while the skirt seams are at the back of the inset for fullness over the hips. This fullness should be half-way between the normal waist line and the hip line.





This slip pattern with shoulder straps, fit in waist, and fullness over hips may be used by the larger club girls. Patterns of this style may be obtained in all sizes. Size 36 requires $2\frac{5}{8}$ yards 40-inch material.

For the smaller girls the type of slip shown in McCall pattern No. 2146 is good. This slip may be made with a plain hem, or with flounce and trimming. A casing for lingerie tape or a beading may be used at the top, or if preferred, the neck may be finished with a binding and an opening in the back which is closed with buttons and buttonholes. No. 60 thread should be used for buttonholes. Make buttonholes and sew on buttons according to directions.



PRINCESS SLIP

To Make.—Baste all seams on right side with notches matching. Try on. Fit if necessary.

Baste again and try on once more. Stitch seams the width of the presser foot outside the basting stitches.

Trim, turn and baste French seam. Stitch width of presser foot from first stitching.

Remove bastings and turn work.

Try on slip. Correct length around bottom. It is a good idea for the younger girls to put a "growing tuck" just above the hem. Trim neck and sleeves to size desired.

Hem or apply flounce of embroidery to lower edge of slip. To apply flounce use the tuck seam. Finish neck and sleeves as desired, following directions given under Envelope Combination.

EXERCISE II

THE OVERHAND PATCH

The overhand patch is used to replace a piece in a garment where there will not be much strain and where it is desired to have the repaired place show as little as possible. It is joined to the opening with only one seam and each corner is held by a single stitch.

Materials.—

1. A torn dress skirt.
2. A piece of the same material.
3. Thread to match.

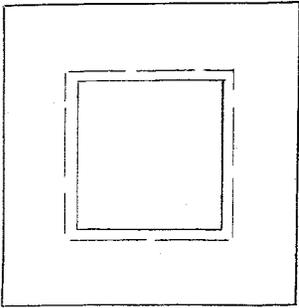
If the dress has faded it will be well to fade the piece used for patching.

Method.—Prepare the hole in the garment by cutting away the worn portion to a square, always keeping the cut edge on a thread of the goods. Clip diagonally outward from the corners of the hole $\frac{1}{4}$ inch, and crease the edges to the wrong side, basting them in position if the material will not hold the crease easily.

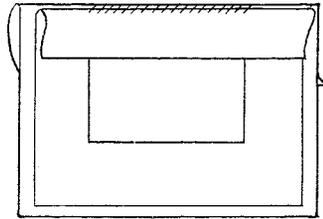
Cut a piece of material for a patch large enough to cover the hole easily. Place this patch on the garment, with the right side of the patch to the wrong side of the garment, matching perfectly the thread and design. Baste in position.

Next mark the outline of the hole on the patch. This may be done in one of several ways. If the material will hold a crease, crease the patch along the four sides of the hole. If the material does not crease easily, use chalk or bastings to mark the size of the hole.

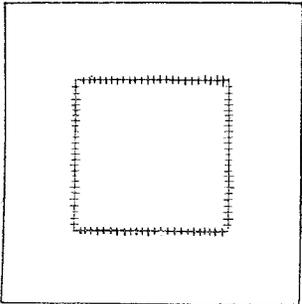
Remove from one side of the hole the basting which holds the patch and garment together. Fold the garment back to the right side of the material and fold the patch on the marked line to the wrong side of the material. Overhand these two folded edges with small stitches. Continue the overhanding, removing the basting from one side at a time.



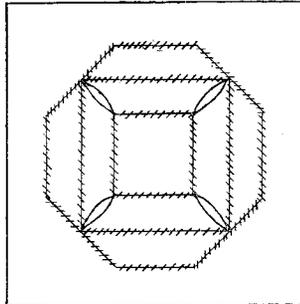
1.



2.



3.



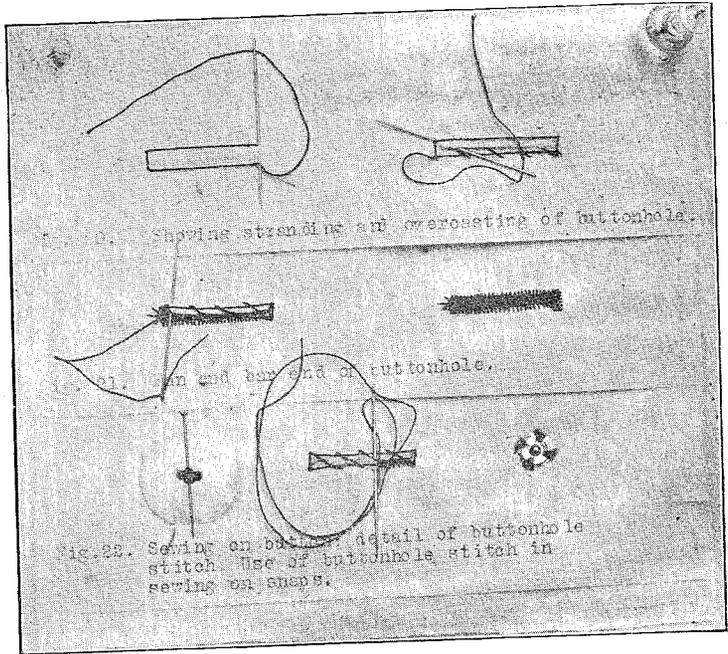
4.

Overhand or set-in patch: (1) Right side, patch basted in position on wrong side, (2) edges of garment and patch folded for overhanding, (3) right side finished, (4) wrong side finished.

When at a little distance, your completed patch should not be easily noticeable. Practice first on an old dress. Then try a plaid gingham to get practice in matching the cross stripes. Mend three holes in garments and show them to your club leader.

BUTTONHOLE

Take a square piece of cloth, fold and stitch around the edge. Cut buttonhole. Practice stranding, overcasting, and buttonhole stitch. Then cut a piece of white cloth 8 inches long by 4 inches wide. Fold and overcast. Cut a buttonhole $\frac{1}{2}$ inch long in the center of square, fan one end and bar the other.



Showing stranding and overcasting of buttonhole. Fan and bar end of buttonhole. Sewing on button, detail of buttonhole stitch. Use of buttonhole stitch in sewing on snaps.

Continue practice in making buttonholes; you will need them in making your dress. Practice until your leader says your work is satisfactory.

There are four steps in making a buttonhole: Cutting, stranding and overcasting, buttonhole stitch, and finishing.

Cutting.—A buttonhole should be cut a little larger than the button to be used, to give ease in buttoning. Use buttonhole scissors if possible, testing them on a piece of cloth, to be sure the hole is of the desired size, before cutting on the garment. Plan number of buttons to be used on a given space and divide it equally between them. Always cut buttonholes lengthwise on a box plait and *straight with the thread of the material.*

Stranding and Overcasting.—Stranding is used to strengthen a buttonhole and as a guide in making the stitches. Hold buttonhole over cushion of left forefinger so that edge of material is at the left. Enter needle at lower right hand, between the two thicknesses of material, bringing it up not more than $\frac{1}{16}$ inch from the edge. Carry needle to left corner of buttonhole and enter at same distance from edge of cut, bringing up an

equal distance from the edge on the upper side. Draw up thread but do not pull. Sew over this stitch to bring a long thread on the surface. Turn work and repeat on other side. When stranding is completed, the buttonhole is in a "box" of straight threads or "strands" and needle is in original position. Overcast sides of buttonhole, using three to five stitches, according to size of hole. Do not let stitches go farther from the edge of the buttonhole than the stranding thread. Cross to other side and overcast, bringing needle to original position as before.

Buttonhole Stitches.—Hold work as in stranding. Enter needle at lower right hand corner of hole, pointing needle directly toward you. Wrap double thread at eye of needle around the point from *right* to *left*. Pull needle through and straight away from you so that the knots or purls will lie evenly along the edge. Take another buttonhole stitch the width of a thread to the left and repeat to the corner. Group three slanting stitches at corner in a fan shape, the middle one being slightly longer than the others and directly in line with the cut. This finish gives added strength. Make second row of buttonhole stitches.

Finishing.—To make bar end: Take two more stitches overstranding thread at end of buttonhole. Turn work and take buttonhole stitches over these, taking up a few threads of the cloth each time. The purl edges will be turned toward the inside of the buttonhole. Fasten thread on the wrong side by running under stitches or by two small buttonhole stitches.

Bar both ends of buttonhole if in a box plait.

Always try to have thread long enough to work entire buttonhole. If necessary to change, drop needle through the hole and fasten on wrong side. Enter new thread in position, catching in last purl so there will be no break in the edge.

THE GARMENT DARN

Select a garment with several tears; if possible, a triangular tear, a diagonal tear, and one straight with the thread of the material.

Materials.—If the garment to be mended is of woolen material, ravel threads from the same material to use in darning. If you have no extra piece of cloth, try to remove some from the seams of the garment.

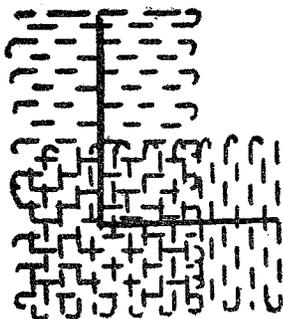
If the material is silk, untwist some spool silk of the same color and use one of the strands.

If cotton, get a very fine thread; use No. 120 for tears on white dresses, etc.

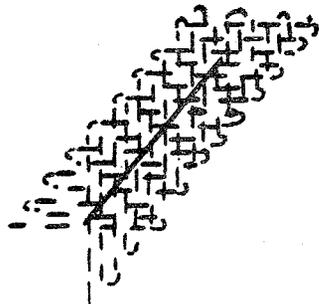
If repairing a tear, start about $\frac{1}{4}$ inch beyond the end and sew back and forth, turning the thread about that distance beyond the tear each time. This makes it strong so that it will hold. The loop at the turning allows for stretching in washing. Keep edges even so that it will be at-

tractive and use only enough threads to hold the worn ends in place or the darn will show badly.

A piece of cloth may be applied to a hole in the same way, using fine running stitches to hold it in place and overcasting the edges. This is called a darned patch.



THREE-CORNERED DARN



DIAGONAL DARN

EXERCISE III

A SIMPLE WASH DRESS

The directions given below are of a general nature and are designed to cover the fundamental problems of any simple dress.

Material.—Gingham, percale, chambray, linen, poplin, galatea, or any kind of thin material. Purchase amount called for on pattern. Test for fading before buying.

Design.—A one-piece dress is recommended. Each girl should study her own proportions and coloring before planning her dress.

Trimmings.—Bias of material, contrasting material for collar, cuffs, pocket, and belt, braid bindings, decorative stitches, piping, buttons (covered with material or pearl buttons), bound buttonholes, cable stitching, machine hemstitching.

Thread.—No. 70 for a gingham dress; No. 80 or 90 for a thin dress.

To shrink material and set color.—Ginghams and materials that shrink considerably should be shrunken before making. The best way is to dip in hot water, and hang by the selvage, turning to insure drying evenly. Use enough pins so that cloth will not sag and stretch, and when partly dry, press lengthwise of the material.

A simple way to set color is to add salt to the water used in shrinking. Allow 1 cup of salt to 1 gallon of water.

Pattern.—Choose any kind of pattern you prefer. Consider ease in laundering, material required, time needed for making, and use to which dress is to be put. Choose pattern according to age or bust measure. Purchase material required on chart.

To cut.—

1. Study cutting chart found in pattern envelope.
2. Identify each piece of pattern.
3. Lay pattern on material, making sure none is wasted.
4. Check to be sure all pieces are accounted for, and that those to be cut on lengthwise fold, etc., are properly placed. Pin.
5. Cut out, making a good even edge.
6. Mark notches and perforations with a colored thread.

If your material has an up and down, or right or wrong side, or if it is checked or striped, be careful to have the two halves of the garment alike.

To make.—Follow the special directions given on the pattern.

Follow the notches on the pattern in putting the dress together. Probably your dress will be a one-piece dress, which is simply belted in at the waist line.

Fitting.—Try on to see that the shoulder seams are right and that the dress hangs well.

Bottom of dress.—After the seams are finished, the sleeves in and the belt on, put the dress on and have someone level the skirt for you. A yardstick on which you have put a heavy chalk mark in white chalk for dark material or colored chalk for light material, is excellent for marking the hem. Stand the ruler upright on the floor and with one hand back of the material, rub the material against the chalk. When all of the chalk has rubbed off, rechalk the ruler and continue. Care must be taken to avoid stretching the material.

Make the hem from 2 to 4 inches wide. Lay any fullness at the top of the hem in plaits. Baste. Try on again to make sure that the dress hangs evenly. Stitch the hem close to the edge, on the sewing machine, or hem in place by hand.

PROBLEMS IN CONSTRUCTION

1. Seams: For gingham, lawns, voiles, tissue gingham and other thin materials French seams and plain seams are used. Flat felled seams are used for heavier materials, especially in tailored garments.
2. Shrinking of material.
3. Stitches; overcasting, hemming.
4. Fitting.
5. Setting in sleeves.
6. Applying collar and cuffs.

7. Making belt.
8. Handmade buttonholes.
9. Bound buttonholes or slip-in pockets.
10. Sewing on buttons, snap fasteners or hooks and eyes.

EXERCISE V—ELECTIVE

PILLOW SLIPS

Material.—Good quality pillow slip tubing. This comes in several widths, so purchase the right width for your pillows. Buy one-third more than the length of your pillow for each case. Use thread to match the quality of the cloth.

Making.—Divide the material into halves for the two cases. Straighten the ends of the cloth by the thread. Make a French seam across one end of the tubing. At the other end measure $6\frac{1}{4}$ inches up from the edge of the tubing and pull threads for hemstitching. Then on the outer edge turn $\frac{1}{4}$ inch, turning to the wrong side. Then turn back a 3-inch hem to the line of drawn threads. Baste the hem carefully and hemstitch. The hemstitching may be either plain, double, or diagonal.

Apply an embroidered initial or other simple design.

GARMENT MAKING—THIRD DEMONSTRATION

BASIS OF AWARDS

The following is a list of the required sewing, together with a statement of the work, on which the awards are based. The garments will be judged on workmanship, selection of materials, appropriate trimmings, well-chosen colors, and attractive design.

In each exercise the following points will be given special consideration.

EXERCISE I

Laundrying—

1. Variety of garments.
2. White garments—clear color; odor; care in handling; starching; bluing; ironing; folding.
3. Colored garments—color preserved; other points as for white clothes.

Garments must be exhibited for inspection.

EXERCISE II

Selection and Care of Clothing—

1. Care of underwear and stockings.
2. Care of outside clothing—woolen and cotton garments.
3. Care of shoes, gloves and hats.
4. Selection of samples for color combinations and selection of cuts from magazines to illustrate good lines for different types of figures.

EXERCISE III

Choice of Middy, Boy's Waist or Man's Shirt.—Neatness and accuracy in cutting and fitting of garment and of machine work in fell seams, hems, sleeve plackets, application of collar and cuffs, braid trimming on middy.

EXERCISE IV

New or made-over dress.—Same as simple wash dress, Demonstration II. This may be a more difficult problem.

EXERCISE V

Sport hat, paper hat or child's hat.—Workmanship, design, color, appropriateness. Garment for other member of the family same as III and IV according to problems involved.

EXERCISE I

LAUNDERING THE COMPLETE WARDROBE OF A CLUB MEMBER

In this exercise, we wish each member to launder all the garments she might wear in one day: as nightgown, knitted underwear, one pair hose, bloomers, waist or combination suit, petticoat, and dress. At least one of these garments must be colored. Set color in this garment before washing. Full directions are found in Farmers' Bulletin 1099 which accompanies this exercise. Use a naphtha soap if clothes are much soiled—never use a yellow soap on colored materials. Practice removal of iron rust, fruit stains, grass, ink, and grease stains.

Do not boil clothes over 3 minutes, as longer boiling makes them yellow. Rinse very thoroughly as soap left in clothes when rinsing in the bluing water will often leave iron rust. Always hang clothes by the straight of thread except in a high wind. Hang colored clothes in the shade. Sunshine whitens other garments. Dresses hold shape better if hung on hangers. Clean the clothesline with a dampened cloth before hanging up the clean clothes. Clean clothespins in like manner if they have been left on the line.

When the clothes are perfectly dry, gather and sprinkle for ironing. Starched clothes will stick to the iron if they have not been completely dried before sprinkling. Open all plaits, smooth collars and belts in sprinkling or the garments will not be moistened evenly, and the drier parts will scorch when ironed. Linen and starched clothes will require more moisture than the others. Roll tightly in a dampened towel and let stand a while before ironing. In warm weather, iron after about an hour or they will be too dry. If unable to iron as planned, spread out to dry before laying away, otherwise they are likely to sour or mildew.

Be sure to have a clean iron. If it is rusted, rub with fine sand paper or Bon Ami. Wash, heat, brush bottom with wax, and rub clean. Until you are experienced, it is wiser not to iron with too hot an iron. If you cannot have an electric iron, very satisfactory gasoline irons may be obtained. These save heating the room with the stove on a hot day. Iron lace first, then collars, sleeves, waist and last the skirt, of a dress. In ironing a slip, iron lace first about neck and sleeves, then flounce and last, the body of the garment. Dry thoroughly, fold and put away all garments except dresses and fine waists. Hang these on hangers. Hangers may be made from heavy cardboard, shaped and hung with a string, or whittled from pine wood.

In writing the report of this exercise give a list of articles laundered and of equipment used.

EXERCISE II

CARE OF CLOTHING

Choose well-shaped, well-fitted garments; they wear better than those that strain and pull.

Mend rips and tears when they first start. It saves stitches and prevents the garment from losing shape.

Keep clothing clean; brush or shake frequently; remove spots as soon as they appear. Launder or clean before the garments are badly soiled.

Brushing.—Woolen garments should be brushed after each wearing. Regular brushing keeps them clean much longer than an occasional brushing. When dust is left on a garment it seems to sink in and to collect more dirt and grease, thus becoming harder and harder to remove. Cotton clothing should be shaken rather than brushed, for brushing roughens the fiber and makes the dirt cling.

Airing.—Every time a garment is worn it should be aired thoroughly. Hang on a chair in front of an open window so it will be fresh in the morning. See that your night clothes are aired before hanging them in the closet. Hanging clothes in a closet without first airing gives a close odor to the closet and to the clothes. Air your closet often; it is a good plan to leave the closet door open at night.

Storage.—After airing and brushing your garments, hang on coat, skirt, or trouser hangers in the closet. Hangers may be made or purchased for a small sum and will aid in preserving the shape of the garment and also in keeping order in the closet. Your closet must be kept in order or your clothes will be mussed. Garments that are not used much should have a cloth cover or paper bag to protect them from the dust. Perhaps you have made one in your club work. A paper sack can be used to protect your very good hat. Clothing that cannot be put in the closet should be folded and put in a drawer or a box.

The discussion at one of the club meetings should be on the daily care of clothing and should cover the importance of mending, sewing on buttons and other fasteners, brushing and airing clothing, the use of dress covers and shields, hangers, shoe trees, etc.

The discussion at several meetings might well be given to consideration of the problems involved in well-selected clothing.

1. In selecting colors each girl should consider her own type. The color guide enclosed with this circular can be used as a reference.

2. Combinations of colors should also be studied. For this each girl should bring samples of colors from the scrap bag at home and discuss suitable color combinations.

3. Suitable kinds of materials for making different types of dresses, such as school dresses, and afternoon dresses, should be studied. If the girls

wish to combine plain and checked gingham in the same color or the same material in two colors and mount these on cards, it will increase the interest in the study.

4. Choice of pattern for the tall girl or the thin girl is another subject for discussion. This lesson will be much more valuable if the girls select cuts from fashion magazines and catalogues illustrating good lines for different types of figures. These pictures should be cut out and mounted on cardboard or paper so that each girl will have a set of illustrations showing good lines for different types of figures.

5. Healthful clothing should be given consideration. The advantage of having the weight hang from the shoulders, freedom of movement, the right amount of clothing for the proper warmth of the body, well-fitting shoes, should all be included in this discussion.

6. How to buy wisely might well be discussed with each exercise.

Buy only what is really needed.

Choose material and garments that will harmonize with what you have.

Do not select those which will soil quickly.

Buy as good material as you can afford. It will pay in the end.

Notice the weave, finish, and color.

Select simple underwear.

Choose garments and hats that are appropriate and well made.

Buy shoes of standard color and good leather with medium-low broad heel. See that they fit well.

Avoid styles extreme in design and color.

Remember that good workmanship makes a more effective garment than elaborate trimming.

EXERCISE III

MIDDY, BOY'S WAIST OR MAN'S SHIRT

Materials.—Galatea, drilling, duck, or Indian head. Shrink the material before making. The collar and cuffs may be of contrasting material. Use a commercial pattern. A study of ready-made middies will suggest variations of style. The stitched felled seam is used in the middy as well as in the boy's waist and man's shirt. Strive for the tailored effect in stitched fells.

To make.—Study pattern carefully and identify each piece. Place on cloth and adjust pieces for economical cutting of garment. After cutting the middy the first step in construction is the facing for the opening. Make a double row of stitching down the center front before cutting the opening. Mark with thread the neck opening on both the front and the facing. Place the right side of the facing to the right side of the garment and stitch on both sides of the marked line. Cut down between the stitchings and turn the facing to the wrong side. Turn under the raw

edges of the facing $\frac{1}{4}$ inch except at the neck. Baste and stitch.

When the facing is finished, buttonhole around the bottom of the opening for about $\frac{1}{4}$ inch on each side to prevent tearing when the garment is being put on.

Shoulder Seams.—Baste the shoulder seams with the wrong sides together and the notches matching, basting as far from the edge as the seam allowance indicates. Before stitching, try on the blouse to see if it fits, basting the underarm seam temporarily for this purpose. Make any necessary alterations and finish the shoulder seam with a stitched fell seam, turning it toward the front. The seam should be $\frac{1}{4}$ to $\frac{3}{8}$ inch wide when finished.

Pocket.—The two types of pockets commonly used in the middy blouse are the set-on or patch pocket, and the set-in or bound pocket.

1. Patch Pocket. Baste and stitch the hem in the top of the patch pocket. Turn over the sides and bottom $\frac{1}{4}$ inch. Pin the pocket in the correct position, baste, and stitch with machine close to the edge. Especial care is required to stitch the edge of the hem at the corner of the pocket. Start the stitching $\frac{3}{8}$ to $\frac{1}{2}$ inch from the upper edge and $\frac{3}{8}$ to $\frac{1}{4}$ inch toward the inside of the pocket. Stitch to the top of the pocket, turn and stitch along the edge, and then turn again and stitch around the edge of the pocket to the other side of the top, where this double stitching is repeated. Draw ends of threads through to wrong side and tie them.

2. Bound Pocket. The set-in or bound pocket used in middies resembles a bound buttonhole on the right side of the garment. The method of starting this pocket resembles that for a bound buttonhole except that the binding piece is usually large enough to complete the pocket as well as to bind the edge of the opening.

Collar.—The collar of a middy is usually double and is made and attached as any double collar is attached. If braid and emblems are used on the collar, sew them to the upper piece before attaching the lining.

Sleeves.—Lay the middy flat and sew the opened sleeve in the armhole with a stitched fell seam on the right side. The finished seam should turn down on the sleeve.

Underarm Seam.—The underarm seam and sleeve seam are made as one continuous seam. A stitched fell seam should be used. This may turn either to the front or to the back if a placket is to be made for the cuff opening. If the opening for the cuff is to come on the seam line, the seam must turn to the front.

Placket.—A regulation bound or faced placket may be made in the sleeves, or the seam may be opened for about two inches and finished with a binding on the under side and a facing on the upper side

Cuff.—A double cuff is usually made and attached as any double cuff is attached. If braid is to be used on a cuff, it should be sewed on the right side before the lining is turned up. Some middy sleeves are finished at the hand with a hem or facing instead of a cuff. This method is usually followed when the fullness of the sleeve is taken out in tucks which run to the wrist.

Bottom.—The bottom may be finished with a hem or may be gathered into a band.

If a boy's waist or man's shirt is chosen the construction problems are similar to that of the middy except for the front opening which is finished with a plait in shirts and waists. For men's shirts ready-made neck bands are advised.

EXERCISE IV

DRESS

Decide on type of dress. It is suggested that either a school dress or afternoon dress be chosen.

Materials.—

1. School dress.
Gingham, linen, linene, percale, kindergarten cloth, serge, poplin, etc.
2. Afternoon dress.
Organdy, voile, tissue gingham, swiss, dimity, flaxon, flat crepe, printed crepe, or other silk material.

Design.—Simplicity should be expressed in this dress. Study your own figure and choose a pattern with becoming lines.

Color.—Use the color chart. Consider purpose of garment and texture of cloth when choosing the color. Delicate shades can be used for an afternoon dress.

Trimmings.—The tailored effect is desirable for the school dress. For the afternoon dress a corsage of handmade flowers, ribbon, ruffles, tucks, lace, embroidery, bindings, or hemstitching may be used.

CONSTRUCTION PROBLEMS

- | | |
|---|-------------------------------|
| 1. Use of patterns. | 6. Setting in dress. |
| 2. Use of sewing machine. | 7. Hanging garment. |
| 3. Stitches: basting, running, hemming, joining bias for facings. | 8. Placing hem. |
| 4. Seams: fell seams, French fell, French seams, plain seams. | 9. Setting on pockets. |
| 5. Fitting garment. | 10. Making belt. |
| | 11. Application of trimmings. |
| | 12. Sewing on fastenings. |
| | 13. Making buttonholes. |

If woolen material is used the special problems involved are: Pressing wool; finishes for wool seams; putting in a hem in a woolen dress; the tailored placket and ways of trimming a woolen dress.

For the makeover garment.—If woolen material is used, rip carefully, remove all threads, and renovate the material according to instructions in Farmers' Bulletin 1099. The emphasis in this problem should be put on the preparation of the material and the handling of it, so that the garment when finished will look tailored. Suits, coats, or dresses of older members of the family can be made over into attractive garments for children.

Whenever possible, make your dress entirely from old material; it seldom pays to combine old and new material, as the new will outwear the old. Collar, cuffs, belt, and pockets may be made of new material where necessary. A plain cloth combined with a check, plaid, stripe, or mixed-weave material in which the color of the plain piece is repeated will make an attractive garment. Two plain materials in contrasting or harmonizing colors combine well, but two fancy materials should not be used in the same garment.

Cutting.—Since your material is old and in pieces, it will be necessary for you to take great care in placing your pattern to avoid badly worn places, so that you get the best pieces where they will show most and get the hardest wear. Plan the entire lay-out of the pattern before cutting into the material.

Piecing.—You may find it necessary to piece the material. If so, be careful to match the design of the cloth and stitch your material together in a plain seam. Spread the seam open. Dampen directly over the stitching on the wrong side and press carefully. It is best to do this piecing before cutting out.

Small holes and thin places should be carefully darned with ravelings of the material in order that they may be inconspicuous.

Try to have piecing come where it will show least. Piecing can sometimes be made to look like a decoration. For example, two pieces for the waist are too short and need piecing. Why not put a yoke on the dress? The skirt is too short. A band of material can be put on around the bottom instead of hemming the skirt in the usual way. The material is not wide enough to fit across the hips. A panel may be inserted, or piecing may be done under the pockets.

EXERCISE V

ELECTIVE

A simple sport hat has been suggested for this elective, since a girl often wishes to make a hat to complete her costume. The soft hat made without a frame is shown below. This hat may have a pieced or round

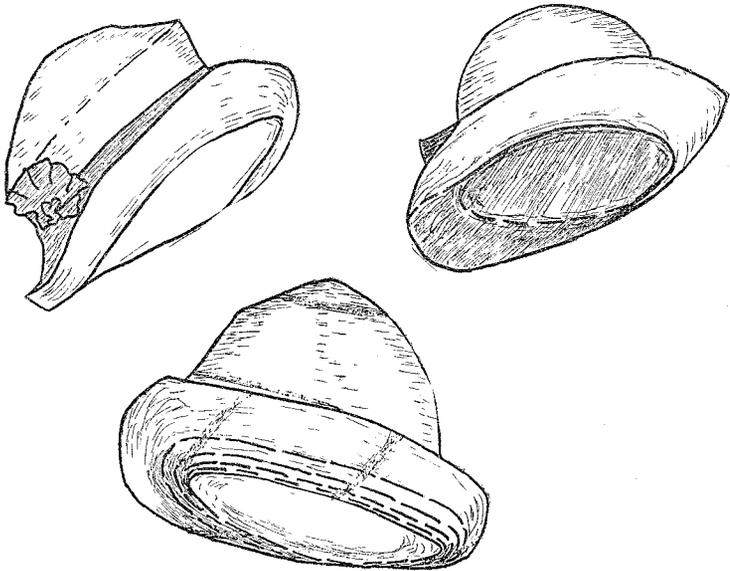
crown and a roll brim. It may be made of wool, of silk, or of braided strips of cloth. Patterns for these hats may be secured from almost any commercial pattern firm. A pattern for the roll brim, oval crown sport hat will be furnished by the Extension Service on request.

Many persons find the crepe paper hats made from special hat paper desirable for summer wear. Full directions for making paper hats may be secured from the Dennison Paper Company at any store which handles the Dennison goods. For patterns for sport hats use the following:

Pictorial Review Pattern 4968.

Delineator Patterns 5418, 4973, 4451.

Children's Hats—Ladies Home Journal Pattern 2474.



If a garment for some other member of the family is chosen for the elective it will involve problems given in the foregoing exercise.

GENERAL INSTRUCTIONS

TO USE THE SEWING MACHINE

Before using a sewing machine read carefully the instruction book which accompanies it. Learn the names and uses of the different parts and locate them on your machine. The tension is the part that controls the speed with which the thread is drawn from the spool. Find it and study how it works. Underneath the needle plate of the double-thread

A SUGGESTIVE COLOR

| FLAXEN OR GOLDEN HAIR, FAIR SKIN, BLUE | | | | | |
|--|------------------|---|---|---------------------------------------|---------------------------------|
| BLACK | WHITE | BROWN | BLUE | GREEN | GRAY |
| Very becoming (Especially good with touches of blue - gold or cerise.) | Good | Only very dark shade. | Nearly all shades, including blue-grays, turquoise. | Both pale and dark. | Pearl, warm shades. |
| LIGHT GOLDEN-BROWN HAIR, BLUE OR GRAY EYES, VIVID | | | | | |
| Best of all Jet, not blue. | Excellent. | Very dark Not golden. | Dull old blues and pastel tints. | Dull as well as dark shades. | Pale. |
| *AUBURN OR SANDY HAIR, BLUE OR | | | | | |
| Good, especially transparent. | Cream and ivory. | Rich, deep, dark. Others carefully avoided. | Blue-gray, navy, peacock Soft old shades. | No, unless much color and white skin. | Pearl, do |
| BLACK OR DARK BROWN HAIR, BLACK OR BROWN EY | | | | | |
| Very good, especially with color touches and ecru lace. Velvet best material. | Cream, ivory. | Golden - brown, tan. | Pale and dark. | Dark. | Silver |
| †BLACK OR DARK BROWN HAIR, BROWN, GRAY OR B | | | | | |
| Good. | Cream and ivory. | Golden and golden-tan. | All shades. | Not becoming. | All shades Blue-gray. |
| ‡BROWN OR BLACK HAIR, BLUE OR GRAY | | | | | |
| Only with cream and a touch of bright color. | Cream and milk | Chestnut, golden | Navy. | To be avoided. | Warm with or. Flame go, orange. |
| <p>*Sallow blonde must be very careful in choosing colors, but she will find cream and deep ivory (not dark reds and yellow, with creamy lace, becoming.</p> <p>†A girl of this type will find pastel shades more becoming than strong colors.</p> <p>‡The dark woman who is sallow must choose carefully from among the dark or dull shades with to Never forget to give due consideration to the age of the wearer when selecting a color. Pink is not dark and gray-blue, gray and purple in various shades and combinations, are her most becoming colors.</p> | | | | | |

A SUGGESTIVE COLOR GUIDE¹

| DARK OR GOLDEN HAIR, FAIR SKIN, BLUE EYES, DELICATE COLOR | | | | | | |
|---|--------------------|---------------------------|--------------------------------------|------|------------|--------------------|
| BLUE | GREEN | GRAY | PURPLE | RED | YELLOW | PINK |
| Light blue, including pale blues, turquoise | Both pale and dark | Pearl, dove, warm shades. | Mauve, heliotrope, wistaria, violet. | Dark | Very pale. | Pale and old rose. |

| BROWN HAIR, BLUE OR GRAY EYES, VIVID COLORING IN LIPS AND CHEEKS | | | | | | |
|--|------------------------------|-------|-------------------------|---|--------------|---------|
| Light blues and pale tints. | Dull as well as dark shades. | Pale. | Heliotrope (dull tone). | Better not use unless sheer fabric with plenty of lace. | Palest buff. | Palest. |

| *AUBURN OR SANDY HAIR, BLUE OR BROWN EYES | | | | | | |
|---|---------------------------------------|--------------|---|-------|-------------------------|-----------------------|
| Light blue, navy, soft blues. | No, unless much color and white skin. | Pearl, dove. | None, unless much color and very white skin | None. | Sunset, apricot, amber. | None (touch of rose). |

| DARK BROWN HAIR, BLACK OR BROWN EYES, DARK SKIN WITH COLOR | | | | | | |
|--|-------|---------|---------------|---------------------------------|-----------|------------------------------|
| Dark and dark | Dark. | Silver. | Not becoming. | Cardinal, crimson, red (clear). | Any shade | Coral rose, (pale), old rose |

| DARK BROWN HAIR, BROWN, GRAY OR BLUE EYES, CLEAR, FAIR SKIN | | | | | | |
|---|---------------|-----------------------|---------------|-------|-----------------|--------|
| Shades. | Not becoming. | All shades Blue-gray. | Use carefully | Dark. | Mustard, amber. | Shell. |

| BROWN OR BLACK HAIR, BLUE OR GRAY EYES, OLIVE SKIN | | | | | | |
|--|---------------|--|----------------|---------------------|-------------------------------|-----------|
| Dark blue. | To be avoided | Warm with color. Flame, tango, orange. | To be avoided. | Deep rose, crimson. | Maize, amber and deep apricot | Old rose. |

she will find cream and deep ivory (not dead white), gray in soft rich tones, with burnt orange or ecru lace, brighter than strong colors.

Among the dark or dull shades with touches of bright color in the trimmings; rose and flame are particularly good. Older women when selecting a color. Pink is only for the youthful. The woman of sixty or over will find that white, black, and gray combinations, are her most becoming colors. No woman is too old or too young to wear white.

machine is the shuttle carrying a bobbin wound with thread. Learn how to remove the shuttle; thread the bobbin and put it back into the shuttle and replace the shuttle correctly. Find where the length of the stitch is controlled and learn how it is adjusted. Study the directions for operating the machine. Loosen the stop-motion screw which releases the balance-wheel and disconnects the sewing mechanism so that the needle will not work while treading. Practice treading until you can do it evenly and easily. Running a machine is not so tiring if the treadle is pressed first with the toe and then the heel, alternating the feet as in running instead of using both feet at once. Place a piece of paper under the presser-foot and practice with the machine unthreaded until you can stitch straight, even rows. Always have something under the presser-foot when the sewing parts are working to prevent injury to the foot. Learn to thread the machine and then practice on cloth until you can do straight, even stitching. To turn a corner, stop the machine with the needle in the cloth at the corner, lift the presser-foot, turn the material, using the needle as a pivot, lower the foot and continue stitching. In removing the work from the machine, have the needle at its highest point, raise the presser-foot and draw the material back and to the left. Cut the threads with the thread-cutter or with scissors. Draw the ends of the threads to the wrong side and tie them. Perfect stitching with a lock-stitch machine is alike on both sides. If one stitch looks looser than the other the tension is not correctly adjusted. If the bobbin thread is drawn to the upper side of the cloth, the tension is too tight. If the spool thread is drawn to the lower side, the tension is too loose. The length of the stitch should conform to the material, a longer stitch being made on heavy cloth than on thin material. The needle should be the correct size to carry the thread which is being used. Keep the machine well oiled and always release the band when the machine is not in use. This prevents stretching.

TO MAKE PATTERNS LARGER OR SMALLER

The waist pattern.—If your pattern is too large across the shoulders and bust, but is the right length, lay a plait in the pattern from the center of the shoulder to the bottom edge. Have this plait large enough to take out one-half of the amount required to make the front fit. In the same way, lay a plait in the back which will take out one-half of the required amount in the back. Remember the pattern is made for only one-half of the garment.

If the pattern is too small, increase the bust measure by drawing a line straight down from the center of the shoulder through the waist line, on both front and back pieces of the pattern. Cut through these lines.

Separate the pieces of the front enough to give one-fourth the whole amount needed. Do the same with the back piece.

If the pattern is too long, lay a plait in the waist part between the armseye and waist line, which will bring the waist line in the right place.

To shorten front and back—Lay a fold across the pattern about two inches above the waist line, both back and front, taking up the extra length. To make the pattern longer, cut 2 inches above the waist line and separate for desired length.

To make a smaller armseye, cut higher under the arm, by lengthening the under-arm seam at the armseye.

Sleeve patterns.—To make a sleeve pattern wider and longer, cut it through the middle crosswise and lengthwise, spreading the pieces apart to give the required length and width.

To increase the width of the sleeve more at the top than at the bottom lay the pieces farther apart at the top than at the bottom. To make a sleeve pattern narrower and shorter, fold it on the lines given above instead of cutting it, taking up the extra width and length. To make a fitted sleeve pattern longer, make two cuts in it, one half-way between the shoulder and the elbow and the other half-way between elbow and wrist. Spread the pieces apart enough to give the desired length. To make a fitted sleeve pattern shorter, fold it across at the same points above and below the elbow.

Skirt patterns.—To make a skirt pattern longer, cut the pieces across 12 inches below the waistline and separate them sufficiently to give the desired length. To shorten a skirt pattern, fold the pieces across 12 inches below the waistline, taking up the extra length. To make a skirt larger at the waistline than the pattern, slope the material out gradually from the line of the hip measurement to the required width at the top. To make a skirt pattern smaller at the waistline than at the hips, slope each piece in from the line of the hip measurement to the required width at the top.

The whole skirt pattern may be made wider by cutting each piece in two lengthwise and spreading the pieces apart enough to give the extra width required. It may be made narrower by folding each piece through the middle lengthwise, taking up the extra width.

FITTING GARMENTS

After pinning carefully to keep the pieces from stretching, baste as much of the dress together as possible before the first fitting; shoulder and underarm seams, the hems at the opening of the waist, and the seams of one sleeve. If there is any danger of the neck line stretching out of shape while working with it, baste a tape or straight piece around it to hold it temporarily.

Try on the dress to see whether the shoulder and underarm seams are right. If the shoulder seam draws, it may be because the armseye is too tight, or the seam itself needs changing. If the seam needs changing, rip it out and place so that no wrinkles remain. Sometimes it is necessary to raise or lower the front more than the back. A normal shoulder line should run from the highest part of the shoulder to the neck, slightly toward the back at the neck.

The underarm seam should come directly under the arm and should allow the proper fullness in the waist at this place. Take this seam in or let it out to regulate the fullness of the waist under the arm.

Be sure that the armhole is large enough so that it does not draw or wrinkle, in either the front or back of the waist. If it is too tight, make a few short cuts in the edge of the material in the under part of the armhole, continuing to cut and test for tightness until all is released. Never cut away any of the material; clip it, but leave the original edge.

Place pins around the armhole to mark the proper line for sewing in the sleeve.

Mark the corrected neck line with pins. If the neck is too large, make the shoulder seams deeper. If the neck is too tight, make the shoulder seams smaller. If the neck is too high, clip the edges slightly to allow the neck line to drop where it belongs. Remove wrinkles at the shoulder by ripping the shoulder seam and refitting the backs and fronts, always holding the back slightly full on the front. Alter a waist that is too tight or too full across the bust by letting out or taking in the underarm seams.

Sleeves.—Place the basted sleeve on the arm and pin it to the waist at the top of the shoulder, at the underarm, and once in front and in back. Test the sleeve for fullness and length, always bending the arm to judge either. When in, they should be comfortable and the straight of the material should be in line from the highest point of the shoulder to the elbow. Before attaching sleeves or collars, turn the shoulder and underarm seams toward the front.

Put the dress on again and determine the proper length. Be sure it fits properly.

Turn the hem according to instructions on page If the dress is long enough to hem, the hem will be turned on the chalk mark around the bottom. If the dress is to be faced it should be cut evenly on the marked line and a shaped facing applied.

A one-piece dress should not fit snugly, neither should it be large enough to be slovenly in appearance.

or in parallel rows. Use rather coarse, single thread and do not draw up tight as the buttonhole would pucker when in place. It is easier to keep the threads loose, if a pin is placed across the top of the button and then sew over it. When finished draw out pin, bring needle out between button and cloth, and wrap thread around several times to form a "neck." Fasten thread underneath with a buttonhole stitch.

Sewing on snaps.—Sew upper halves of snaps at regular intervals on upper part of placket, using three or four buttonhole stitches at each opening. Fold placket in place and with needle, take up a few threads where center of snap falls on opposite side of placket. Dot with pencil and place center of other half of snap on this point. Sew in place. Never use snaps on belts where there will be much strain for they will not hold.

Sewing on hooks and eyes.—Use buttonhole stitch and follow same direction for placing as for snaps. Buttonholing does not work as rapidly as the plain overhanding stitch, but it will not pull out easily and so pays in the end.

Plackets.—1. Skirt placket. Cut a lengthwise strip of material 2 inches longer than twice the length of opening and from 1 to 2 inches wide, depending on the kind of material. Pin first. Begin to baste at the top of the placket, putting the right sides of the material together. Baste down to the bottom of the opening and up the opposite side as though both sides of the opening were in a straight line. Stitch. Crease the side that is to lap over on the stitching and hem in place. Allow the under side to extend to form the underlap of the placket. Fasten securely at the bottom so that it cannot tear out. This is the most often used of the different kinds of plackets.

2. Sleeve placket. Cut a strip twice as long as the placket opening, plus 1 inch, and $1\frac{1}{2}$ inches wide, for each sleeve. Cut a piece of the same width but only once the length of the opening, plus $1\frac{1}{2}$ inches, for each sleeve. Place the long strip with its right side to the wrong side of the underarm edge of the placket opening, **allowing the extra length to extend beyond the end of the placket**, and stitch in a $\frac{3}{8}$ -inch seam. Turn to the right side, creasing a seam depth from the last stitching. Clip the strip the width of the first seam at the end of the opening. crease the strip its entire length in a line with the crease where it is attached to the opening. Crease opposite side of strip its entire length so that when finished it will be 1 inch wide. This crease is to the wrong side of the strip. Baste and stitch the strip, like a facing, to the end of the opening. Fold upper end of strip over onto the part stitched in place, and crease across at the end of the opening. Lay the raw edge of the opening over the strip, and baste down so that the two cut edges are

exactly together, taking care not to pucker the material. Crease the smaller strip along both its sides so that the finished strip will be 1 inch wide. Crease the upper end into a point.

Baste this smaller piece to the placket opening so that it extends $1\frac{1}{2}$ inches beyond the end of the placket and both sides, long and short strip, exactly coincide. Stitch all around close to the edge.

3. Tailored plackets. Plackets in heavy materials are finished in a variety of ways, depending on the kind of material and the nature of the garment. There are two common ways of making plackets in skirts and dresses made from heavy materials; (1) finishing with the two-piece placket, and (2) finishing with the seam itself when the seam is wide enough for the purpose.

4. Two-piece plackets. For the two-piece placket a binding, or extension, is made by the piece on the left side and a facing, or lap, by the piece attached to the right side.

Cut these pieces about 1 inch longer than the opening to be finished. Apply them as any bindings or facings are applied and fasten the ends of the pieces together at the bottom of the placket with machine or hand stitching. The ends may be bound, overcasted, or turned in toward each other to keep them from ravelling.

In the case of very heavy materials and those which will not ravel, finish the left side with a piece of material which is just the desired width plus one seam allowance. Attach it with a plain seam on the left side of the skirt and allow it to extend under the right side. Pink or bind the outer edge. Finish the right side with a facing, but pink or bind the free edge and leave it loose instead of turning it under and stitching it as an ordinary facing. Usually when this method is used it is best to place a piece of seam-binding or selvage under the position of the fastenings to act as a reinforcement.

Where a wide seam is allowed in the skirt, finish the placket with the seam, the edges of which are bound or pinked. Fold the upper lap back along the seam line as a facing and place a piece of seam-binding under the lap near the fold as a reinforcement for fastenings.

Cut the seam on the side of the extension piece slightly below the placket and almost to the seam stitching in order to allow the piece to extend smoothly under the lap. Finish the outer edge with pinking or binding. Place a piece of seam-binding on the under side of this extension also, to act as a reinforcement.

Bound buttonholes.—Bound buttonholes are made of material instead of thread, and they are durable and ornamental as well as useful. They can be made in any material but are especially good in thick cloth in which it is difficult for the average person to make good looking handmade but-

tonholes. Bound buttonholes can be placed either crosswise or lengthwise according to the demands of the garment. One-half inch or more should be allowed between the end of the buttonholes and the edge of the garment. Bound buttonholes are finished on the wrong side with a facing, which may be a continuation of the cloth of the garment or a separate piece sewed on for the purpose.

1. Mark the width and exact position of the buttonhole with basting stitches.

2. Cut the binding piece 2 inches longer than the buttonhole and about $2\frac{1}{2}$ inches wide, and baste it directly over the buttonhole mark with the right side of the binding against the right side of the garment.

3. On the mark for the buttonhole, stitch (with the machine) a rectangle the length and the width of the desired buttonhole.

4. Cut along the center of the rectangle to within $\frac{1}{8}$ inch of either end, and from these points, cut directly into each corner. The cut must run exactly to the stitches in the corner but not through them.

5. Draw the binding strip through the cut to the wrong side. Fold the binding evenly over the cut edges on the wrong side and lay the fullness at the ends of the buttonhole in a box plait.

6. Hold this binding permanently in place with stitching made by taking a small stitch on the right side in the crease and a long stitch on the wrong side. The box plaits also should be held in position with several small stitches. Trim off the surplus material to within $\frac{1}{4}$ or $\frac{1}{2}$ inch of stitching.

7. Catch-stitch the edges of the buttonhole together and press carefully.

8. Fold and baste the facing of the garment in position and cut it directly over the opening of the buttonhole. Turn in the cut edges and hem them to the binding. Again press the buttonhole.

The nature of the material in which the buttonhole is being made determines whether the cut edges of the seam are turned into the buttonhole or away from the buttonhole when the binding is fastened permanently over them. If the material is firm and reasonably heavy, the edges can be turned away from the buttonhole; otherwise, they should be turned into the buttonhole to add strength and body to the binding piece.

Seams.—1. Plain Seam. This is the simplest kind of seam. Place the right sides of material together and baste $\frac{1}{4}$ inch from edge. Just underneath basting, sew up seam, using running, halfback, or stitching stitch, or stitch on sewing machine, depending upon the use of seam. Trim the raw edges and overcast to keep them from raveling. The edges of the seam may be overcast together or pressed open, as in an open seam, and each edge overcast. In some materials it is desirable to notch or

pink the edges of the seams instead of overcasting. In woolen material, plain seams are best. Stitch according to the bastings and press open. Use the sewing machine. If the material does not fray, no further finishing is required. For material which frays, the seams must be overcast or bound.

2. Bound seam. This is like the plain seam except that a strip of lining, silk, or binding ribbon is sewed over the edges to keep them from fraying.

3. Tailored seam. Stitch on wrong side of material as for plain seam $\frac{1}{2}$ to $\frac{3}{4}$ inch from edge. Press the seam open and then stitch $\frac{1}{8}$ to $\frac{1}{4}$ inch on each side of the first stitching.

4. French seam. Make plain seam on right side of garment. Trim to $\frac{1}{8}$ inch from edge. Turn, creasing exactly on first line of stitching. Baste and stitch $\frac{1}{4}$ inch from edge or just enough to cover entirely the raw edges of first seam. This finished seam is then on the wrong side. Press. A French seam is possibly the easiest closed seam to make and is used on underwear and all thin materials.

5. Flat fell. Baste and stitch as for plain seam, only have raw edges on the right side of garment. Trim one side to $\frac{1}{8}$ inch, crease edge of wide side and baste flat onto the garment, taking care to keep both sides smooth. This seam may be hemmed, or stitched, or if in flannel underwear, the cut edge may be catch-stitched. This makes a flat seam and is a good one to use when the seam comes next to the body and when two lines of stitching are not objectionable.

6. Stitched fell. This is like the flat fell, except that both seam and fold are stitched by machine. Stitched fells are finished on the right side, therefore, baste with the wrong sides together.

7. French fell. Baste two pieces of cloth together so that one extends $\frac{1}{8}$ inch beyond the other. Fold the piece that extends $\frac{1}{8}$ inch. Crease again so that the edge of the fold just covers the line of basting. Baste in place. Stitch. This is a good seam to use where no stitches are desired to be seen on the right side. It is easily made, as it requires only one row of stitching. It is suitable for thin materials.

8. Tucked seam. This is used to set on flounces and to apply ruffles. Make tuck seam by making a $\frac{1}{4}$ inch tuck around bottom of garment with a $\frac{1}{4}$ inch seam allowance below it. Baste wrong side of ruffle to wrong side of garment. Stitch. This should bring stitching just under edge of tuck. Turn down tuck and stitch on edge.

Hems.—A hem is a finish for the edge of garments made by turning two folds in the material. The first fold is $\frac{1}{8}$ to $\frac{1}{4}$ inch deep, and the second fold depends upon the desired width of the hem.

1. Plain hemming stitch. This stitch is used to hold folded edges together, as hems, facings, fells, etc. Hold work over forefinger of left hand and keep in place with middle finger. Conceal end of thread by taking a shallow stitch just through fold. Then, point the needle toward the left and take up a few threads of the cloth and a few threads of the fold. Continue working from right to left, taking stitches from $1/16$ to $1/8$ inch apart. The stitch will slant both on the right and wrong sides.

2. Vertical hemming stitch. This is used for sewing hems of silk, woolen, or any material when invisible stitches are desired. Instead of slanting the stitches as in plain hemming, fasten the thread in the edge of the hem. Then, catch a thread of the cloth directly opposite and slip the needle under the hem into edge of hem $1/8$ to $1/4$ inch to the left. This makes a vertical stitch on the wrong side and a stitch that does not show on the right side.

3. Napery or damask hem. This hem is used on towels or table linen. Fold a narrow hem. Turn this back to right side of the material, creasing so that two folds are formed. Overhand these two folds together. When completed, open, turn the hem back in place, and press flat.

4. French hem. This is used on fine underwear, especially where lace is to be sewed. It is made in the same way as the napery hem except that the hem is first turned toward the right side instead of the wrong side of the material. It is then folded back on the wrong side and overhanded. It is left on the wrong side instead of turning it back and pressing as described for the napery hem. Lace may be put on at the same time by holding it so that the right side of the lace and the right side of the material are together. In this case, the overhanding stitch is taken through three thicknesses.

5. Rolled hem. This hem is used on thin materials or on handkerchiefs. The edge is trimmed evenly, then rolled between the thumb and first finger of the left hand, keeping the hem toward the worker. An overcasting stitch is used, inserting the needle under the roll, but not catching it. Bring the needle through at upper edge of the roll. This stitch does not show on the right side.

6. Faced hem. This hem is used where there is not enough material to allow for a turned hem, or on curved edges where a facing makes a smoother finish. For a straight hem, a straight facing should be cut allowing $1/2$ inch more than the width of the hem. This will allow for $1/4$ inch turn at each edge. Place the right side of the facing against the right side of the material. Sew a $1/4$ inch seam. Then turn the facing to the wrong side, and continue as for a plain hem.

If a facing is used on a curved edge, a bias piece, or a piece cut the same shape as the curved edge must be used.

7. Scalloped hem. If the material is long enough, a hem may be turned up on the right side first. The scallops are marked using a round object, such as a cup, or a bottle. This object should be placed $\frac{1}{8}$ inch from the edge, and a curve marked halfway around it. Then mark another scallop next to it, always taking care that the point where the two scallops join is an equal distance from the lower edge of the hem.

After the marking is done, stitch along this line. Do not stitch to a sharp point where the scallops join but rather in the form of a curve. Cut off the material so as to leave a $\frac{1}{8}$ inch seam. Clip almost to the stitching in several places along the upper part of the scallops. Turn the scallops out so that the hem is on the wrong side, and hem and stitch. A decorative stitch may be used on the right side at the top of the hem, if desired. A very simple crocheted edge may be used on the bottom of the scallops or the scallops may be left plain.

To hem a woolen dress turn the skirt up on markings for length. Make the hem the same depth all around. The hem should not be more than 2 or 3 inches deep in heavy material and in light weight material should not be over 3 inches. If the material is heavy it is better to bind the edge of the hem instead of turning it under. To do this, cut a bias strip of cambric or lawn the color of the dress material (if possible) 1 inch wide and long enough to go around the skirt. (Several lengths will need to be stitched together.) Lay the right side of the cambric and the right side of the hem together and stitch $\frac{1}{4}$ inch from the edge. Crease the cambric along the stitching so that the edge of the dress is out flat. Turn under the other edge of the cambric and baste to the dress. Stitch close to the edge of the cambric. Press the hem carefully under a damp cloth.

Facings.—A facing is used in place of a hem: (1) Where there is not length enough to turn in a hem; (2) where a hem would be unwieldy; and (3) sometimes as a trimming. There are three kinds of facings: those cut on the straight of the material, those cut on the bias, and those shaped like the edges they are to face.

To apply a facing, baste to garment or article, placing the right side of the facing to the right side of the garment and stitch in a seam. Remove bastings and turn facings to the wrong side of garment. Do not turn directly on the stitching but just beyond it so that the joining will not show on the finished garment. Baste in place near the edge, if the material is not of the kind that will retain the crease. Turn under the raw edge and baste in place. Hem by hand or stitch on the machine.

Gathering.—Gathering consists of fine running stitches. It is used in joining a full part of a garment to a plain part. Make a crease $\frac{1}{4}$ inch from the edge in the part that is to be gathered. Divide the material that is to be gathered and the part to which this is to be joined into four equal parts and mark with thread. Use a double thread or a coarse single thread a few inches longer than the space which is to be gathered. Make a large knot in the end of the thread so that it will not pull through. Insert the needle on the wrong side to conceal the knot. Hold the work with the right side of the material toward you. Sew with fine running stitches in the crease already made, taking several stitches before drawing the needle through. When the space is gathered, make a knot in the end of the thread taken from the needle. Place a pin in the cloth vertically close to the last stitch. Draw up the thread so that the gathers are rather close together and wind it around this pin. Holding the gathers between the left thumb and forefinger, with the eye of a coarse needle stroke down beside the fold of each gather and press it close against the next one, working from left to right. This makes the gathers lie smoothly when ironed. Tighten or loosen the gathering thread, if necessary, to make the gathered part equal to the length of the band and fasten it by wrapping it round a pin as before. Place the marks in the gathered part to the corresponding marks in the band, having the right sides together. Pin each mark and at the ends. With the point of the needle adjust the gathers so that the fullness is evenly distributed. Holding the gathers toward you, baste them fast to the band with small stitches exactly along the gathering thread. Stitch on the machine or sew with the back stitch.

Tucking.—Tucks are folds made in a garment for ornament or so that the garment may be lengthened when necessary. Decide how wide the tucks are to be and how far apart they are to be placed. Then make a gage, having one part the width of the tucks and the other part twice the width of the tucks plus the distance between them. Make the first crease as far from the edge of the material as the long part of the gage. Make the second crease as far from the first one as the short part of the gage. The third crease should be as far from the second one as the long part of the gage and the fourth crease as far from the third as the short part of the gage, and so on until enough creases are made for all the tucks. Be sure each crease is exactly on a thread. Fold the cloth at the first and third creases and baste the tucks in place along the second and fourth creases and baste the tucks in place along the second and fourth creases. Stitch the tucks on the machine or sew with a fine running stitch. Narrow tucks $\frac{1}{8}$ inch apart, in groups of three or five, make a pretty trimming.

Hemstitching.—Hemstitching must be done along the thread of the material as threads must be drawn in preparation for the work.

1. To prepare material, decide upon the width of hem to be made, measure up from the edge of the material, twice this amount plus $\frac{1}{4}$ inch for the first fold of the hem; at this point draw the thread from the material. The number of threads to be drawn, or the width of open work to be made at the top of the hem, will be determined by the weight of the material, the depth of the hem and the size of the article which is being made. When the threads are all drawn, fold and baste the hem to place, being careful to have the edge of the hem lie exactly along the lower edge of the drawn space.

2. To work, hold the wrong side of hem toward you, the line of open space along the cushion of first finger of the left hand, pass the needle from left to right through the first fold of hem; to conceal the end of the thread, do not use a knot. Now pass the needle from right to left behind a group of four or five threads in the drawn space and pull the thread through, again pass the needle behind the same group of threads and through the folded edge of hem, but not through the cloth behind the hem, draw the thread tightly, thus holding the group of threads close together, repeat with each new group of threads.

3. Double hemstitching. After the foregoing line of work has been accomplished, turn the article around and repeat the same stitch on the opposite side of drawn space, using the same group of threads on this side, thus making straight bars of threads across the open space.

4. Diagonal hemstitching. Make the first row as in plain hemstitching. In the second row, let the needle lift half of each of the group of threads in first row, thus making a zig-zag line of bars.

SHORT CUTS

1. As soon as you have learned to use the sewing machine and to stitch accurately, you can pin seams and hems instead of basting them, putting in a pin every 2 or 3 inches, placing the pins at right angles to the edge so that they will not interfere with the needle.

2. After the garment has been fitted, stitch the shoulder seams and the opening at the back and front, then open the underarm seams again and finish the neck. This makes it possible to work on the neck with it spread out flat.

3. To gather, loosen the lower tension, lengthen the stitch, and then stitch along the edge to be gathered. The upper thread can then be pulled up to gather the cloth as much as desired.

4. Learn to use the hemming attachments of your sewing machine. They will save you a great deal of time and will make more accurate hems.

5. To turn and crease evenly for hand hemming the hems of napkins and tablecloths, unthread the needle of your sewing machine and run them through the hemmer.

6. Press wrinkled patterns before putting them on the material.

7. Always press wrinkled material before attempting to cut it.

8. Press the second turn of a French seam.

9. In the case of cotton, linen, or silk, press both the first and second turns of a hem.

10. Many times a bias piece can be cut more economically than a fitted facing. It can be pressed to fit a rounding edge.

11. The binder may be used to finish the edges on aprons, collars, and housedresses, the neck and armholes of underwear and the seams of garments which require binding.

CARE OF CLOTHING

References: Farmers' Bulletin 1099, Home Laundering; Farmers' Bulletin 659, The True Clothes Moth.

Outer garments.—(Thrift Leaflet No. 7). Hang carefully when not in use. Plenty of rods and hangers save space and prevent wrinkles.

Keep covers over delicate garments or others worn only occasionally to protect against dust and rubbing.

Do not keep partly-soiled garments in an unaired place. They are likely to become discolored.

Fold carefully all garments kept in drawers or boxes.

In putting garments away for the season, guard against wrinkling, stretching, fading, and insects. Fold so that creases will correspond as far as possible with the folds into which the garment falls in use. Do not allow weight to rest on folded garments. Garments of firm materials may be left hanging, if carefully covered against dust and insects; but sleazy materials, heavily trimmed garments, and circular skirts are likely to be stretched out of shape by their own weight. Keep in the dark to avoid change of color.

Removable and washable collars, cuffs, and linings save cleaning in women's dresses, waists, and coats.

Brush and shake outer garments after each use. Brush with the nap.

Keep tailor-made garments carefully pressed. Cover with a thick damp cloth and use a heavy, hot iron. Some of the special boards and cushions used by tailors are convenient and may be made at home.

Remember that "shine" is caused by the wearing down of the nap and sometimes by grease. Remove by sponging, pressing, and brushing up the nap with a stiff brush. A tablespoon of ammonia may be used to a quart of tepid water for sponging.

Protect woollen garments against moths by brushing and shaking thoroughly, out-of-doors and if possible in the sun; then wrap carefully. Remember that the harm is done not by the moths or millers, but by the caterpillars which develop from the tiny eggs which the moths lay. Tar bags, cedar boxes, mothballs, and other "repellents" may prevent moths from getting in to lay eggs, but cannot be relied upon to prevent eggs already there from hatching.

Remove dust from silk by wiping with a piece of velvet, a soft cloth, or a soft brush.

Avoid pressing silk with a hot iron; the heat injures the fiber, and sometimes the color.

Stockings.—Darn promptly small holes in stockings and other knitted underwear. A stitch in time saves the garment. Rub a piece of soap across the end of a run to stop it until you can mend it.

Wash stockings frequently. It prevents continued strain on the same part of the stocking, and rotting and change of color from perspiration.

Wash new stockings before wearing to remove the sizing; otherwise holes may appear at once.

Wash out silk stockings, socks, and underwear frequently; it prolongs their service.

Shoes.—Have shoes carefully fitted. Well-fitting shoes look better and wear better, besides being more comfortable. Poor quality shoes are seldom economical.

Alternate two pairs; they last longer. Slip shoetrees into shoes when you take them off; it makes them keep their shape longer.

Keep shoes clean and well-brushed; a dressing made with a little oil and well rubbed in prolongs the wear of leather and kid.

Clean canvas shoes on shoe-trees to prevent shrinking. Sponge with a little water and soap that contains whitening or use a commercial cleanser.

Dry wet shoes slowly on shoe-trees or stuffed with paper.

Protect shoes with rubbers in wet weather. Even with careful drying the moisture tends to rot the sewing threads.

Do not wear "run-down" heels; they spoil the shape of the whole shoe.

Have small rips mended at once; often they can be sewed at home.

Gloves.—Buy gloves of good material, well-stitched, and well-fitted; they are cheapest in the end.

Prolong the life of gloves by blowing up and pulling gently into shape after use and mending rips as soon as they start.

Hats.—Keep hats looking fresh by dusting them before putting them away after each wearing. Use a soft brush; or, for fine felt, silk beaver,

silk, satin, or velvet hats, a piece of silk or velvet. Get the dust out from under the edges of bands, folds, and trimmings.

Do not allow bands, bows, trimmings, linings, or sweat bands to become loosened; tack them in place as soon as they begin to rip.

Store your hats where they will not gather dust; paper bags or hat boxes are good for those worn only occasionally.

TO REMOVE SPOTS AND STAINS

Stains should be removed before the garment is laundered and as soon as possible after the stain is made.

Some common stains and the method of removing them are given below:

Blood and Meat Juice.—Use cold water, soap and cold water, or starch paste.

Bluing.—Use boiling water.

Chocolate and Cocoa.—Use borax and cold water; bleach if necessary.

Coffee and Tea.—

1. Clear. Use boiling water; bleach if necessary.

2. With cream. Use cold water, then soap and cold water.

Cream and Milk.—Use cold water, then soap and cold water.

Fruit and Fruit Juices.—Use boiling water; bleach if necessary.

Grass.—Use cold water, alcohol, or a bleaching agent.

Mildew.—May be removed when fresh, but is very difficult to remove if allowed to stand. Spread with a paste made of lemon juice, dissolved soap and salt, and expose to sunlight. Mildew not too deeply set may be removed by soaking in buttermilk.

Grease and Oils.—Use French chalk, blotting paper or other absorbents, or warm water and soap; gasoline, benzine, or commercial cleaner.

Ink.—

1. If stain is fresh, place stained portion in sweet or sour milk and allow to stand for several hours.
2. Wet stain in cold water and drop dilute oxalic acid on the spot, let stand a few minutes and rinse in ammonia water.
3. If a stain is dry and well set, cover with salt and lemon juice, or use javelle water.
4. Soak stain in hot vinegar.
5. Ink eradicator may be used.

SELECTION OF CLOTHING

The Effect of Lines in Dress.—A line may give the figure the appearance of being large or small, tall or short, according to its direction. The horizontal lines appear to increase one's breadth, while the vertical lines

increase one's height. Lines may be made by seams, tucks, folds, plaits, gathers, drapes, panels, openings, trimmings, also selected in materials as stripes, plaids, etc.

1. *Styles for Thin Girls.* If you are tall and thin, wear garments that make you appear shorter and broader. Broad collars and belts, ruffles, flounces, puffs on the hips, and trimming that forms your proper lines. Avoid all vertical lines, stripes or points.

2. *Styles for Stout Girls.* The stout girl should wear garments that make her appear taller and more slender. Vertical lines and panels give height, especially if planned to come near the center of the figure. Pointed effects in tunics, collars and vests are good lines for the stout girl. One piece dresses are better than waists and skirts. Avoid loose sleeves, tight, short sleeves, large collars, full drapes, trimmings with horizontal lines and full tunics.

Effects of Materials in Design.—

1. Low lustre fabrics tend to reduce proportions.
2. Coarse weave in fabrics increases apparent size.
3. Rough surfaces increase size.
4. Large patterns in dress goods attract attention to the size of the wearer, therefore stout people should use plain and small figured dress patterns.
5. An indistinct and narrow stripe is especially good to give height to the stout person.

HOW TO CHOOSE A BECOMING COLOR

Importance.—Color is one of the first things that attracts or repels in a costume. The color of your clothes expresses culture and refinement, or the very opposite of these. Select your colors carefully. Be sure they are becoming to you and suited to the purpose for which they are to be used. Choose soft, rich colors rather than bright, gaudy ones.

Color gives life and "feeling" to dress. Some people are born with more of a feeling for colors than others, but such a feeling can be developed.

Study Colors and Study Yourself.—Before buying ready-made garments, try them on. Before buying material for any garment, hold it up to the face and note its effect. The color should clear the complexion and bring out to good advantage the coloring of the hair and eyes. It should be dull enough to form a background, so that the face will show to good advantage. If the garment is to be worn in the daytime, note the effect of the color in good daylight. If it is to be worn at night, try it in a good artificial light. A color which is becoming in one material

may not be so in another. There are so many shades and tones of the same color that you cannot depend upon any color, as blue, always being becoming to you because one shade of it is. Below are given some general ideas as to the becomingness of certain colors to certain types. Few people are true to type, however, so that it is always best to try. (Study the color chart enclosed.)

White intensifies a color. It brings out the pink in a face, but increases sallowness. Cream color counteracts yellow in the face. Gray makes an adjacent color less brilliant, but at the same time it takes on a tint of the complement of that color. Gray next to green appears faintly pink. Black dulls a color, therefore is good with warm or bright colors. It makes the face look pale. Black and white bring colors together.

One color will blend with another, if the second color contains a small amount of the first. Greenish blue will blend with greenish yellow. Medium blue will blend with rose that has a little blue in it. Complementary colors, as yellow and purple, red and green, orange and blue, emphasize each other.

A line of some shade of white at the neck of a costume makes the color of the garment more soft and becoming.

Transparent materials, such as chiffon and net, used on the neck of a costume are becoming.

Mixed colors are worn more easily than pure intense colors.

Very light or very dark shades are usually more becoming than the intermediate shades of any color.

Yellow, neutralized or softened, is becoming to mixed types.

The color of the hair and eyes can be emphasized by a touch of the same color in the costume.

