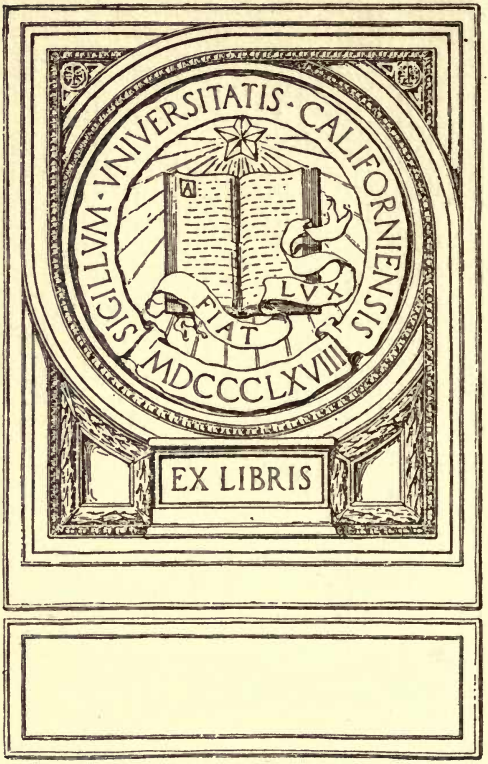
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Laundry Manual

BY

L. RAY BALDERSTON

DIRECTOR OF THE DEPARTMENT OF DOMESTIC SCIENCE IN BOARDMAN MANUAL TRAINING HIGH SCHOOL, NEW HAVEN, CONN. INSTRUCTOR OF LAUNDERING IN TEACHERS' COLLEGE, COLUMBIA UNIVERSITY

AND

M. C. LIMERICK

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PREFACE TO THE FIFTH EDITION.

ADVANTAGE has been taken of the opportunity afforded by the increasing demand for a fifth edition of this manual to improve and enlarge it in accordance with the original purposes of the book. The chapters on stains and cleansing have been enlarged, and chapters on the methods of soap making and disinfecting clothing have been introduced. Other additions have been made, all intended to add to the usefulness of the book.

MAY, 1913.

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CHAPTER I.

PROCESS OF WASHING ALL CLOTHES IN GENERAL.

Washing is a mechanical means of removing dirt. A clothes board is used and the clothes are rubbed so as to remove the dirt. If some of the clothes are very coarse and dirty, they may be cleaned with a short, small scrubbing brush. This is good for hand towels and overalls. The clothes are washed first on the right side and then are turned and washed on the wrong side.

Rinsing.—After the two washings, the clothes should be rinsed in clear water so as to remove any loose dirt before putting them into the boiler.

Boiling.—The clothes, after being rinsed, are wrung and soaped all over, and placed in the boiler with clear, cold water. A few pieces of soap may be thrown into the boiler for suds. After coming to a boil the clothes should boil briskly for five minutes; briskly, so as to keep the scum from settling on them. If they are not clean they may boil longer. Use a clothes-stick to open the clothes and to take them from the boiler.

Rinsing is again necessary after boiling. The water should be cold and clear. Two waters for rinsing will whiten the clothes and will remove all soap. Clothes should always be rinsed well before bluing as the soap and blue combine and cause iron rust.

Bluing.—Blue water is made by adding indigo to clear cold water. If lumps of indigo are used, they should be tied in a cloth and then rubbed in the water until the water is the required color. Test by holding in the palm of the hand, or by bluing a small garment. Blue water should not be too deep in color. The bag of bluing should be tightly squeezed before putting it away, to prevent the wasting of the blue.

The clothes should be opened well before going into the bluing, so that they will not be streaked with blue. The clothes, if quite yellow, may remain in the blue water a little while. The water should be well stirred every time the clothes are added, as the indigo settles to the bottom and will streak the clothes. In making the bluing, the water should be well stirred each time before more blue is added. After bluing, the clothes are wrung and are then starched, or not, as is necessary, and then hung.

Starching.—Thickness of starch depends upon the articles to be starched. Starch is used (1) for stiffening clothes; (2) to make them look well; (3) to keep them clean longer. In its raw state, it is a white glistening powder found in all cereals. It should have a long cooking or the clothing will not iron smoothly. Borax is added to give a gloss and to whiten and stiffen the clothes. The wax or candle will keep the iron from sticking. All articles stiffened with hot starch should be dried before they are sprinkled.

In using cold starch, the articles should be thor-

oughly dry before being starched or they will not take up enough starch to make them stiff. Each article should be squeezed and placed separately in a cloth, rolled tightly and allowed to stand about one hour before ironing.

Hanging should be in the open air. The line should be perfectly clean and the pins clean. The line should not be left out to get soiled, and the pins should be scrubbed well when soiled. Always shake the garments well, hang straight, and with the wind.

Folding.—When dry, the clothes should be stretched and folded carefully; then they will have fewer creases and will iron more easily.

Sprinkling.—They are sprinkled, rolled, and allowed to stand an hour or so, sometimes over night, before ironing. If they stand some time they will be more evenly dampened and will iron more easily. Pound the rolls to distribute the moisture.

Irons.—Irons should be of various sizes, 4 to 8 lbs.; small ones with points for small clothing; heavy ones for table and bed linen; polishing irons for cuffs and collars; Mrs. Potts' irons for convenience. Iron holders oval in shape are less likely to scorch. They may be made of heavy material and covered with ticking or denim.

Care of Utensils.—Wooden tubs should be scrubbed with warm water and soap, and clean water left in them to prevent shrinkage. Set tubs should be washed, scrubbed, wiped dry and covered.

Clothes line and clothes pins must be frequently washed. They should be put away, as soon as

the washing is down, in bags or boxes to keep the dust from them. Buy a good quality as they will last longer, if properly cared for.

Irons which are rusty should be rubbed while warm with beeswax, and then rubbed quickly with a cloth. Irons are improved by washing frequently with soap and water, then rubbing with sand soap. Rinse with boiling water and wipe dry. Place on the stove and when hot rub with beeswax. Wipe with a cloth before using. Irons not in use will be kept from rusting if covered with wax, or grease, and wrapped in brown paper. They should always be kept in a dry place.

CHAPTER II.

GENERAL LAUNDRY.

Equipment of Home Laundry.

Agate pan for starching.
Bosom board.
Clothes basket or pail.
Clothes boiler (tin with copper bottom).
Clothes horse.
Clothes line.
Clothes pins.
Clothes pin bag.
Clothes props.
Clothes stick.
Clothes wringer.
Duster for lines.
Flannel.
Heavy cloth for tubs and boiler.
Heavy irons.
Heavy paper.
Iron holders.
Iron rests.
Ironing table and board covered with canton flannel or coarse blanket and a fine cotton cloth. The table should have a drawer.
Polishing iron.
Saucepan for starch.
Scrubbing brush.
Set tubs, three or four.
Skirt board.
Sleeve board.
Small pieces of muslin and cheese-cloth.
Small pointed irons.
Spoon for starch.
Strainer for starch
Wash board.
Water pail.
Wax.

Reagents.

Alum.
Ammonia.
Borax.
Bran in cheese cloth bags 9 x 9 inches.
French chalk.

Hydrochloric acid.
Javelle water.
Naphtha.
Oxalic acid.
Salt.
Vinegar.

Other agents:
Bluing,
Kerosene,
Paraffine,
Starch,
Turpentine,
Washing powders.

Outline of Laundry Work.

I. Preparation of the Wash:

Sorting,
Removing stains,
Water used,
Soap,
Blue.

II. Method of Washing:

Soaking,
Washing,
Rinsing,
Boiling,
Rinsing,
Bluing,
Starching,
Hanging,
Drying,
Sprinkling,
Stretching,
Folding.

III. Ironing.

IV. Folding.

General Rules for Home Work.

All clothes, whether washed at home, or sent out to a laundry, should be plainly marked. If sent out of the house, the articles should be counted and two lists made, one for the laundry and one for reference. When the clothes are returned from the laundry, they should be recounted and aired before being put away.

Clothing is better mended before being washed, but if not attended to at that time, it should be done before the articles are put away. A certain order should be observed in putting clothing away so that the same things may not be constantly in use.

Washing is the mechanical cleansing of clothes to remove all impurities and dirt. This is necessary for health and cleanliness. All clothes should be washed at least once in two weeks: once a week being still more cleanly and sanitary. If clothes are only washed every two weeks, they should be put away with care and should be thoroughly dry.

Sorting is the separating of clothes, before washing, into the divisions in which they are to be washed.

Table linen,	Towels,
Bed linen,	Flannels,
Body linen,	Stockings,
Handkerchiefs,	Prints.

There are several equally good methods for sorting. The flannels may be washed first, but no matter when they are washed, they must be washed alone and with great care. Embroideries have not been classified with the regular laundry, as they are seldom washed at the same time; and also because they require such care in quick drying and ironing while damp, that the laundress has not the time to care for them properly. They should be collected and washed when there is time to care for them.

Removing Stains.—In sorting the linen, care should be

used to find all stains, and the garments should be laid aside, so that each stain may have its individual treatment.

Table linen may have tea and coffee stains, grease spots, chocolate or fruit stains.

Aprons and dresses may have ink or grass stains, and rust or grease spots.

Sheets and clothing may have grease or rust spots.

Each stain should be carefully examined and removed, if possible, before any washing, as the hot water and soap are likely to set stains.

Clothes which are damp, and allowed to lie folded, are likely to mildew. This is a vegetable growth and hard to remove, as it attacks the fibers of the cloth.

Reagents.—Soda, ammonia and Javelle water should not be used in large quantities. They loosen the dirt so that the clothes require less rubbing, and the work is done in shorter time. When a chemical is used, the clothing must be rinsed very thoroughly, with clean water, to entirely remove any traces of it from the fabric. All chemicals should be thoroughly dissolved and mixed with water before being used on the clothes.

Soaking Clothes.—With cleaner clothes it is unnecessary, but if clothing is very soiled, the dirt will yield more readily if the garment is soaked for several hours in water to which some reagent, preferably soap, has been added. The clothing then requires less rubbing and for that reason garments do not wear out so quickly.

Soap Solution.—Three quarts of water, one pound of soap. Cut soap into fine pieces, cover with cold water and place on the back of the range, where it will dissolve slowly. Enough of this should be added to each tub of clothes to make a strong suds.

Washing.—If clothes have been soaked over night, on wash-day morning wring out the cleanest clothes. Rinse two tubs and fill half full of hot water, put in clothes and wash with soap. When washed, wring, drop into second tub of water and wash a second time; then wring from this water, soap articles and drop into the boiler.

Boiling.—Let clothes scald, but unless very soiled do not boil long; stir and press clothes down in boiler with a wooden stick. When clothes are scalded take out of boiler, place in a tub of clean, hot water. It is better to rinse in two clear waters before putting into the blue water. Wring from bluing water, starch or hang to dry.

When the first set of clothes is scalding, rub out the second, in the same manner, and then continue with the third, until all the clothes are washed. Plenty of water and thorough rinsing are essential to good laundry work.

Hanging.—After clothes have been blued and starched, they should be hung out to dry. Sheets and table cloths should be washed first as they take a longer time to dry. Lines should be fastened very securely, always wipe with a damp cloth before hanging clothes on them. See that clothes pins are clean and unbroken. Every piece of clothing should be turned wrong side out before being put

on the line. Hang articles of the same kind together. Fasten by bands if possible, never by corners, as the strain is apt to tear the garment. White clothes should be hung in the sun, colored clothes and flannels in the shade. Starched articles are better not to be hung in a strong wind as it takes the starch out of the fabric.

Folding.—Clothes should be sprinkled and folded as quickly as possible after they are dry. Fold all articles smoothly and evenly, and roll tightly, and the ironing will be much easier. Place a towel or piece of muslin in the basket, before putting in the clothes. Have an end of a table cleared and begin with smaller pieces. Napkins, towels, pillow cases may be folded together. Roll firmly and wrap a towel around each bundle. Starched pieces should be protected from the air by being wrapped in pieces of cotton material. Sheets, pillow cases, towels and underclothing should be dampened only slightly. Table linen should be well sprinkled, and all starched pieces should be very damp. Clothes iron more easily if they have been dampened and folded several hours.

Ironing.—The board or table should be firm and unwarped and covered with a soft covering and then with a clean covering of muslin. The irons should be clean and smooth. A newspaper with about a half cupful of salt on it may be used for smoothing irons. Rub irons in the salt, then on a piece of cheese-cloth, being careful to wipe the sides. A folded newspaper should be laid at the end of the board for rubbing the irons, also a stand for iron and

a piece of wax. A soft cloth and a small bowl for water. Irons become smoother as the heat grows more even; for this reason always begin to iron the coarse articles first. When coal is put on the fire, the irons grow cooler; handkerchiefs and small fine pieces may be ironed at this time. Starched clothes require the hottest irons. The fire is kept in better condition, and less time is lost on ironing day, if only a small amount of coal is added at a time. Every article should be ironed until it is dry, and then should be hung on a clothes-horse to air.

Folding.—Care should be taken to fold clothes, according to directions given under special chapters. Draw clothes-horse near the table and fold garment by laying it first on the table, and then into its particular fold. Care should be taken to put all articles carefully into the basket in which they are to be taken up-stairs.

CHAPTER III.

STAINS.

Character of Stain.	*Reagent.*
Blood,	Cold water,
	Fels Naptha soap and warm water,
	Cold raw starch,
Brass,	Lard,
	Olive oil,
Chocolate,	Borax and cold water,
Tea,	
Coffee,	Boiling water,
Fruit,	Boiling water,
	Javelle water,
Glue,	Vinegar,
Grass,	Fels Naptha soap and water,
	Ammonia and water,
	Alcohol,
	Molasses,
	Paste of soap and cooking soda,

CHAPTER III.

STAINS.

Method of Removing.

Wash in cold water until stain turns brown, then rub with Fels Naptha soap and soak in warm water.

If thick goods, make a paste of raw starch and apply several times until the stain is removed.

Rub either lard or oil on stain, then wash in warm water and soap.

Sprinkling the stain with the borax and soaking in cold water first, will aid the action of the boiling water.

Spread stained part over a bowl, pour boiling water on it from a height so as to strike the stain with force.

Use same as for coffee stains.

Use Javelle solution and boiling water in equal quantities and immerse stained portion, allowing it to soak a few minutes, then rinse thoroughly with boiling water.

Apply vinegar with a cloth until stain is removed.

Wash in Fels Naptha soap and warm water.

Ammonia and water applied at once if not on delicate colors.

Wash in alcohol.

If color may be affected, use molasses or the paste; spread on and allow to stand for several hours.

Grease,	Warm water and soap,
	Detergent,
	Ether,
	Gasoline.
Indigo,	Boiling water,
Ink,	Milk,
	Oxalic acid,
	Salt and lemon juice,
	Javelle water,
	Collins' Ink Eradicator,
Iodine,	Ether,
	Chloroform,
	Fels Naptha soap and warm water,
Iron rust,	Hydrochloric acid.

Wash in warm water and soap.

If heavy clothing rub with detergent or ether.
Wash in gasoline.

Wash in boiling water. Sometimes boiling the article will draw out the spots of indigo formed from imperfect bluing.

If stain is fresh, place stained portion in milk and allow to stand. If milk is discolored use more.

Wet with cold water, pour oxalic acid on the stain, let stand a few minutes and then rinse. When stain is removed, wash in water to which ammonia has been added.

If stain is dry and well set, cover with salt and lemon juice, or use Javelle water as for other stains.

Use as directed on the box.

Note.—Either of the last three methods is likely to extract color. If the kind of ink is not known, it is best to try the different reagents on a small piece of the goods before attempting to remove stain. Some ink, owing to its chemical composition, is more easily removed by one method than by another.

Let stand in ether or chloroform until iodine is dissolved and disappears.

Wash while fresh in Fels Naptha soap and warm water.

Spread stained portion over a bowl containing one quart of water and one teaspoon borax. Apply acid, drop by drop, until stain brightens, then dip stain at once into water. If not removed, use same method until stain disappears. Care should be taken to use either borax or ammonia in rinsing water.

Iron rust,	Lemon juice and salt,
Kerosene,	Fuller's earth,
Lamp black,	Kerosene, Fels Naptha soap,
Machine oil,	Cold water and Ivory Soap, Turpentine,
Meat juice,	Cold water and soap,
Medicine,	Alcohol,
Mildew,	Lemon juice and sunshine, Paste: soft soap, 1 tablespoon powd. starch, 1 lemon (juice), salt.
Milk, Cream,	Cold water,
Mucus,	Ammonia, Soap,
Mucus mixed with blood,	Salt and cold water,

Sprinkle stain with salt and moisten with lemon juice; lay in the sun. This method is slower and less likely to affect material. Either method will extract color.

Cover the stain with thick layer of hot Fuller's earth and let it remain twenty-four hours, then brush off.

Wet with kerosene, then wash with Fels Naptha soap and warm water.

Wash in soap and cold water.

Rub stain with turpentine.

Wash in cold water, then follow with soap.

Soak in alcohol.

Put on lemon juice and let stand in direct sunlight.

Cover the spot with the paste and allow to stand forty-eight hours. A second application may be necessary.

Wash in cold water, then follow with soap.

Soak in ammonia water, then wash in cold water and soap.

Two tablespoons salt, one quart cold water. Soak for several hours. Use double quantity of salt if articles are of thick material or badly stained.

Paint,.....Benzine,.....
Turpentine,

Perspiration,.....Soap solution and sunshine,

Javelle water,.....

Scorch,.....Sunlight,.....

Stove polish,.....Fels Naptha soap and cold water,.....

Varnish,.....Alcohol,.....
Turpentine,

Vaseline,.....Turpentine,.....

Wagon grease,.....Lard,.....
Olive oil,

Wax,.....Absorbent paper and warm iron,.....

Wine,.....Salt and boiling water,.....

Rub with benzine or turpentine. For delicate colors, chloroform or naphtha is best.

Place in sunshine, having been previously washed with soap suds.

Javelle water may be used on white goods.

Hang in sunlight, and slight scorch will be removed.

If washed while fresh, the stain is easily removed.

Wet the stain with alcohol or turpentine and allow it to stand a few minutes, then wet again and sponge off with a clean cloth. Continue this until stain is removed. In case the color is affected by alcohol, sponge with chloroform; but for blue material use dilute vinegar.

Wash a *fresh* vaseline stain with turpentine. Soaking may aid the removal. Stain cannot be removed after it has been boiled.

Rub either oil or lard on stain, then wash with warm water and soap.

Scrape off all that is possible, then place blotting paper over spot and press with warm iron. This will soften wax and cause it to be absorbed by the paper. If there is color as from colored candle wax, use alcohol to extract color after removing wax.

Put thick layer of salt on stain as soon as made, then treat with boiling water as fruit stains. Boiling milk may be used in the same way.

CHAPTER IV.

TABLE LINEN.

Stains:—Fruit,
Tea and coffee,
Chocolate,
Grease,
Iron rust.

Soaking.—Soak table linen one-half hour in lukewarm water.

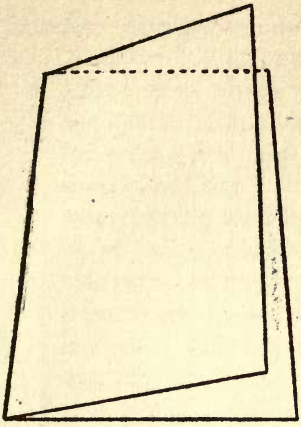
Washing.—Table linen does not need so much rubbing because it is rarely very dirty. The clothes-wringer should be loosened for all table linen as the material is soft and creases easily.

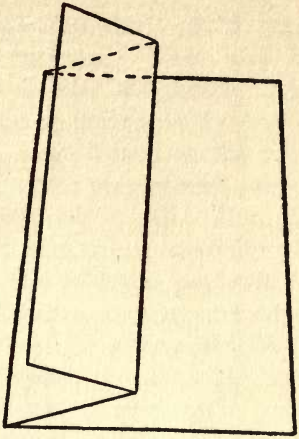
Rinsing,
Boiling,
Rinsing,
Bluing,
} See pages 7 and 8.

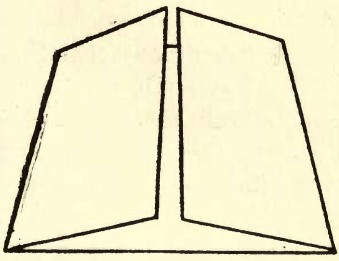
For table linen, the blue water should not be as deep in color as for other fabrics, because of the softness of the material.

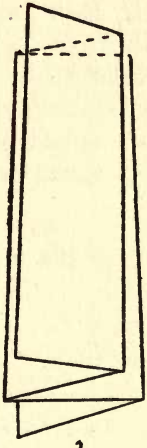
Hanging.—All table linen should be well stretched and hung very straight.

Sprinkling.—Table linen should be thoroughly and evenly sprinkled and then, when ironed dry, the gloss will be more perfect and the pattern will shine prettily. Fold evenly, roll tightly and wrap in a heavy cloth.









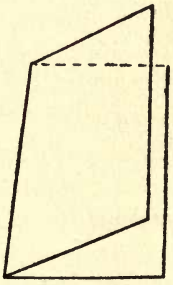


Plate No. 1.

THE FOLDING OF TABLE LINEN.

Ironing.—Use heavy irons and iron dry. Fold table linen by folding selvages together. They may be folded with either three or four lengthwise folds. See chart. Napkins should be ironed partly dry on the wrong side, and then, when ironed on the right side, ironed dry. Fold all edges very evenly, except when folding the lengthwise folds in half. Here the upper half should be drawn back about one-half inch, otherwise, in making the last fold this part will be pushed out about that distance, making the edges uneven. This applies as well to *table cloths*, *sheets* and *handkerchiefs*. Embroidery on all table linen should be ironed on the wrong side, on a board covered with an extra piece of padding over which a clean soft cloth has been laid. *Doylies* may have the fringe brushed with a strong whisk broom rather than combing, which tears the fringe, trimmed evenly with scissors. *Tray cloths* should be folded in three folds if it is necessary to fold them. It is better to lay them flat, or roll around a paper roll.

BED LINEN.

Stains:—Vaseline,
Medicine,
Iron rust,
Blood.

Soaking.—Soak half an hour with soap in lukewarm water.

Washing.—*Sheets* should be washed on both sides and, in order that every part receive attention, they should be washed systematically from one side to

the other. *Pillow cases* should be turned wrong side out in the washing, and then left in that condition until folded for ironing. In washing bed linen the hems require the most care. They should be well soaped and rubbed.

Rinsing,
Boiling,
Rinsing,
Bluing,
} See pages 7 and 8.

Hanging.—*Sheets* may be hung out full, as a tablecloth; if a pole is not used, they must be folded in half over the line. *Pillow cases* are hung by the seam opposite the hems. If opened to the wind, they are liable to be torn, as there is no opening opposite.

Folding.—Fold hems of *sheets* together, having sheet wrong side out. Pull until even. Fold the crease over to the hems, making four folds. Fold the outside hem back to the crease, having the right side of hem out. See chart for tablecloths. Turn pillow cases right side out.

Ironing.—Care should be exercised in ironing hems. The *sheets* may be folded with the ordinary fold, or may be folded the same as tablecloths. (See chart under table linen.) *Pillow cases* should be ironed very smooth, especially the hems. If there is embroidery on the cases it should be ironed *first*, and on the wrong side. Always iron the case itself by beginning in the corner where the side and end seams meet; iron from the side seam across the case. The *cases* should be folded in thirds; that is, with only two creases.

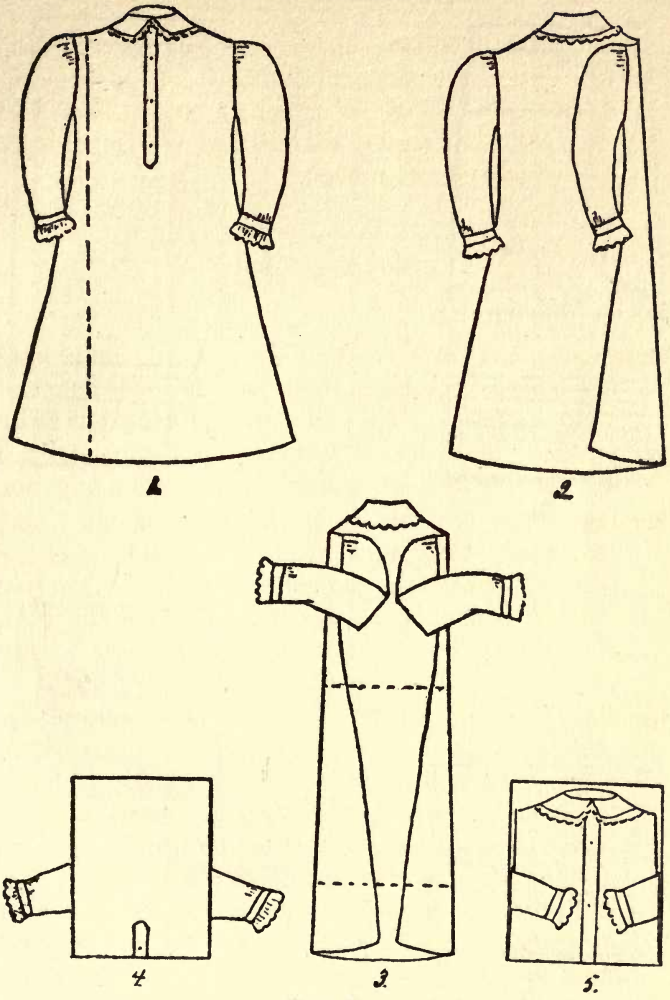
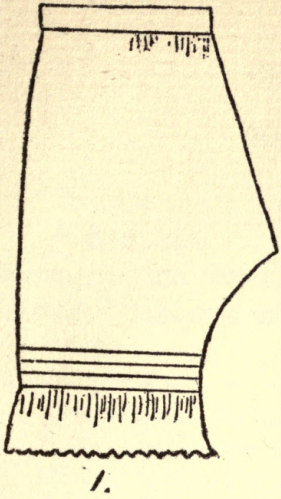


Plate No. 2

THE FOLDING OF NIGHT DRESSES.



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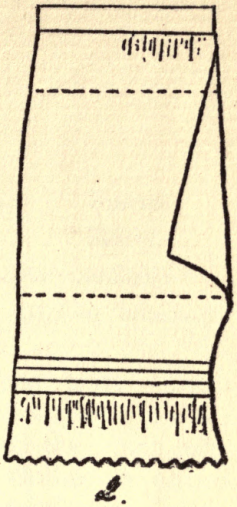

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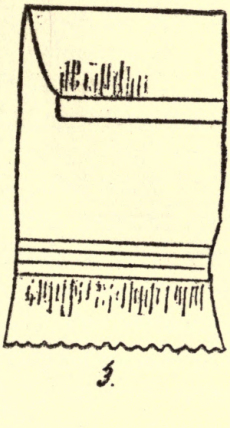

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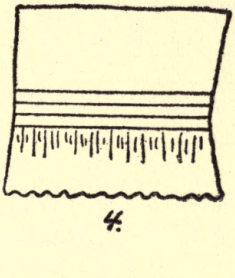

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Plate No. 3.

THE FOLDING OF DRAWERS.

CHAPTER V.

BODY LINEN.

Drawers,	Handkerchiefs,	Aprons
Nightdresses,	Corset covers,	Skirts.

Stains.—Grease, blood, iron rust, vaseline, medicine.

Soaking.—Soak one-half hour with soap in lukewarm water.

Washing.—Wash in warm water and soap. Wash drawers and nightdress in the first water on the right side, in the second water on the wrong side. If two waters are not used, the clothes are turned and both sides washed in the same water. Soap the bottom hems, seams and bands well and rub thoroughly. In wringing, turn the buttons inside, and be sure to turn them flat so as not to force them off.

Rinsing, page 7.

Boiling.—Soap bands, seams and hems well before boiling. Boil briskly for five minutes and then rinse in cold water.

Bluing, page 8.

Starching.—For trimming, the starch should be thinner than for the body of the garments.

For *trimming* use:

½ tablespoon starch,	¼ teaspoon lard,
½ cup cold water,	1 teaspoon borax,

1 qt. boiling water.

For *body of garments* use:

$1\frac{1}{2}$ tablespoons (instead $\frac{1}{2}$ tablespoon) starch. Add the cold water to the starch, lard and borax, stirring to remove lumps; then slowly add the boiling water, stirring constantly. The starch should be cooked slowly one-half hour and strained. Borax stiffens and the fat smooths it. Add a little blue water to the starch. Use starch very hot. Wring as dry as possible and rub in with the fingers.

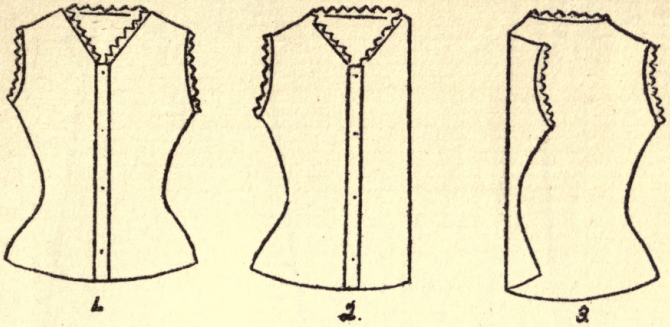
Starch: Cuffs and yoke of *nightdress*.
Hems and tucks of *drawers*.
All of *corset cover* with thin starch.
Ruffle of *skirt*, or sometimes the lower half.

Hanging.—Hang wrong side out and with the wind.
Nightdress, by one side of lower hem.
Skirt, by one side of lower hem.
Drawers, by the band.
Corset cover, by one of fronts, or thrown over the line and pinned by middle seam of back.

Sprinkling.—Sprinkle the *body* of the underclothes well, but not too heavily. Rub the *lace* and *trimming* between the fingers, which have been dipped in water. Both hems and trimming should be well sprinkled; the hems, because they are thick and the trimming, because it is thin and likely to dry quickly.

Folding.—Lay trimming all inside and fold in the hems before folding the garment. Roll smoothly and tightly.

Ironing.—Iron embroidery on flannel and on wrong side. Iron all garments quickly, ironing as large



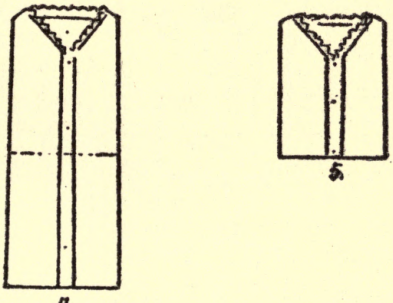
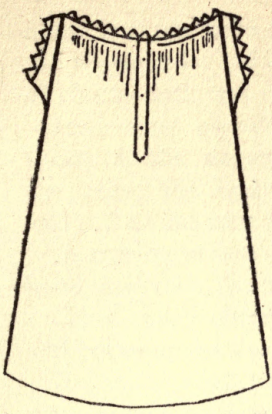


Plate No. 4.

THE FOLDING OF CORSET COVERS.



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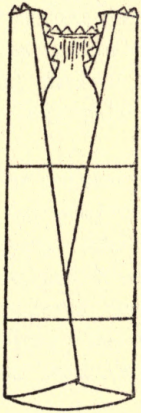

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Plate No. 5.

THE FOLDING OF CHEMISES.

a space at one time as is possible. Iron buttons on the wrong side. If clothes are too dry, use a piece of cheese-cloth wet in clear water for dampening.

In ironing *nightdress*, iron the embroidery and tucks on the sleeve, then the sleeves. Then iron the yoke, the body of the nightdress, and then fold. Run the iron well into the gathers.

In ironing *drawers*, iron the trimming, tucks, the band, and then the body.

Corset covers should be ironed with smaller iron, and between the seams.

In ironing *skirt*, the ruffle is ironed first, and then may be laid back without wrinkling while the hem of the skirt is ironed. Iron the band, then the body. Do not fold the skirt at once but hang to dry, as the folds are usually damp.

Handkerchiefs are ironed the same as napkins.

Towels, with the exception of those with colored borders, are washed and boiled as body linen. They are ironed on both sides and folded in three lengthwise folds.

Note.—Do *not use* alkaline substances, as soapine, pearline, washing soda, for *diapers*, as they remain in the fabric after drying, and irritate. Cloths of this nature should be put to soak in cold water as soon as soiled. Ammonia may be used, as it is volatile and so will leave the fabric. Fels Naptha soap and warm water may be used in place of the washing powders.

CHAPTER VI.

FLANNELS.

Washing.—Four short rules may be observed in washing flannels:

Wash one piece at a time.
Do not soak, boil or rub.
Do not wash in dirty water.
Wash in waters of same temperature.

Flannels should be washed either first or last so that they may have the attention they require. They should be passed quickly from one water to another, until ready for the line.

Wash in *lukewarm water* to which melted soap has been added—one-fourth pound of Ivory or Wool soap in one quart of water. This is necessary as soap should not be rubbed on flannel. Wash up and down in the water without rubbing, if possible. It is a mistaken idea to wear flannels as long as possible, thinking they will shrink when first washed. If this idea is followed, the flannels become so soiled that rubbing is necessary. Any mechanical treatment, as rubbing or wringing, causes the fibers of which flannels are made to shorten; hence the garment shrinks.

If *very soiled*, use 1 tablespoon ammonia to 2 gallons of water.

In many cases, better results may be obtained by using a second suds.

Rinsing.—Rinse in two or three waters, all of the same temperature as the first wash water. Adding one tablespoon of glycerine to the last water helps to keep the wool soft.

Bluing.—Blue as other clothing being sure to have blue water same temperature as the wash waters.

Hanging.—*Squeeze* as dry as possible, or put through the wringer. Shake well, pull in shape and hang to dry in a moderately warm place. Flannels often shrink from being hung too near a fire and dried quickly.

Hang wrong side out and, when nearly dry, turn.

Blankets may be stretched in curtain stretchers to dry, instead of being hung.

Stockings or *socks* may be dried on wooden forms. This is frequently done for children's socks.

Knitted shawls or *squares of flannel* should be dried on a sheet placed on the floor or table. Unless held by stretchers, all flannels should be pulled and stretched into shape while drying.

Ironing.—*Underwear* and *stockings* are pressed off after drying. Press stockings on wrong side

Flannel shirts, shirt waists, skirts and *blankets*, not dried in stretchers, may be ironed by laying a slightly dampened cheese-cloth over the flannel and pressing with a moderately hot iron. In removing the cheese-cloth, the fibers will be drawn up, giving the flannel the fluffy appearance of new material.

Soap for Washing Blankets.

1 large bar Ivory Soap,
3 quarts cold water,
2 tablespoons borax
½ cup wood alcohol.

Shave the soap into the cold water and heat to boiling point. When cold, add borax and alcohol.

Put one quart of this solution into the first tub, one pint into the second tub and then rinse in clear water. All three waters should be of the same temperature. Follow the rules above for washing. This solution will wash four pairs of blankets.

CHAPTER VII.

SHIRTS, SHIRT WAISTS, COLLARS AND CUFFS.

Stains:—Rust,
Grease,
Ink,
Fruit.

Washing.—In washing, care should be used as the color may fade. It is well to guard against this by using, at each washing, salt and water, 1 tablespoon to 1 gallon of water, or vinegar and water, ¼ cup to 1 gallon water. Sometimes one, and sometimes the other is better. If it seems faded before putting it into water, rinse in vinegar and water.

Rinsing.—Rinse quickly in clear water: then in vinegar and water, using proportions above.

Boiling.—*Do not boil colored clothes.*

Starching.—The *whole shirt waist* may be starched with starch made as follows:

1½ tablespoons starch,
½ cup cold water,
½ teaspoon borax,
1 qt. boiling water.

Prepare and cook as described on page 35.

Use one-half at first, and, as it thins and cools, use the rest.

For *black waists*, the starch may be darkened

with one-half cup of coffee solution, reducing the boiling water that much.

Blue waists may have blue water added to the starch before starching.

Do not add blue water to the starch for pink, green or lavender shirt waists. If desired, the starch may be colored with corresponding dye.

Drying.—Hang by the neck-band so that it will dry well; if of delicate colors, hang out of the sun.

Cold Starching.—Cold starching is done when the garments are sprinkled. When the shirts and shirt waists are dry, the bosoms, collars, and cuffs may be starched with cold starch, page 66; roll them separately in a damp cloth and lay inside the sprinkled waist for one hour.

Sprinkling.—Sprinkle as other starched clothes and at the same time the collars and cuffs are cold starched.

Collars and *cuffs* are treated the same as those attached to shirt waists and rolled in a damp cloth.

Ironing.—*Shirts.* First iron the bosoms on a bosom-board. This is a small board of about the same width as the shirt bosom, consequently the bosom may be ironed without the body of the shirt interfering. A board of the same shape may be fastened permanently to the end of a laundry table. It should be covered, as any ironing-board, with flannel and muslin, but not made too soft.

After the bosom is ironed, remove the board; iron the neck-band and wrist-bands, then the sleeves and the body of the shirt.

Shirt Waists.—Pull the collars and cuffs into

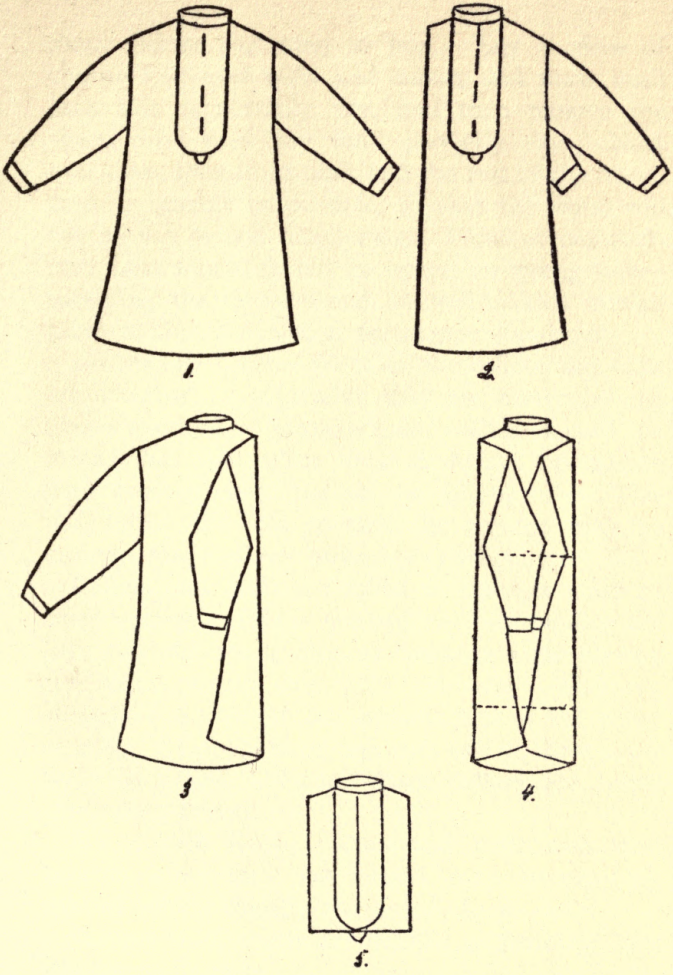

Plate No. 6.

THE FOLDING OF SHIRTS.

shape before beginning to iron. Lay a piece of cheese-cloth over cuffs and collars and press until each side is partially dry, and then remove the cheese-cloth and iron until perfectly dry. Next iron yoke, then front plait and the rest of the waist. Iron as quickly as possible, so that the waist will not need a second dampening. Piqué or embroidered shirt waists should be ironed on wrong side—excepting the sleeves—and on well-padded ironing table, so that the cord or figure may stand out.

Collars and Cuffs.—Whether the collars and cuffs are attached or adjustable they are ironed by the above method. Turned-down collars should be ironed flat, and when finished should be rubbed with a damp cloth just on the folding line. This will soften the fold so that the turning may be accomplished without blistering or cracking.

Collars and cuffs are rolled in the last stage of their ironing. This is accomplished by passing the iron over the wrong side, at the same time curving the collar or cuff over after the iron. The iron should be started at the extreme end of the collar or cuff. This should be repeated two or three times from each end. Turned-down collars are rolled after being folded.

For a dull finish, collars and cuffs and shirt bosoms, after they are ironed, may be carefully rubbed with a slightly moistened cheese-cloth.

Flannel shirt waists are washed as flannels. See chapter on flannels.

Silk Shirt Waists.—Wash-silk waists are washed as colored waists. Before they are entirely dry,

iron on the wrong side. A little gum water (described on page 64), will give slight stiffness if desired. Iron as silk on page 57.

Laundry Method of Starching.— *Use five tablespoons* of starch for this instead of *one and a half* as used for the body.

A cloth should be stretched on the table and tacked to keep it smooth and tight. The starch will be like a jelly and should be rubbed in with the fingers. The rubbing is not complete until the various thicknesses of material are as one. Then the starch must be wiped from both sides by a damp cloth. In finishing the rubbing, see that the goods are free from wrinkles and, if striped, that the stripes are perfectly straight. Hang to dry.

Sprinkling.—After drying the second time, the shirt or shirt wasit may be sprinkled. Dampen the *bosom* of the shirt, the *cuffs*, the *front plait* and the *collar* (if attached) by rubbing on both sides with a damp cloth. Sprinkle the rest of the waist or shirt evenly and then roll, folding the heavily starched parts in a damp cloth.

CHAPTER VIII.

COLORED CLOTHES.

Stains.—Stains in colored clothes must be removed with great care, as the reagents themselves are likely to leave a stain. Often the original stain is less noticeable than that produced by the chemical used to remove it.

Washing.—Colored clothes must not be soaked. They may be rinsed in water containing salt or vinegar. This may set the color before the washing. Wash as quickly as possible in clear water, with little soap. Very hot water will dull the color.

Salt or vinegar may be added to the rinsing waters (there should be two) to brighten the colors. For proportions see page 45.

Avoid using strong yellow soaps, ammonia, and all washing powders.

Boiling.—Colored clothes must not be boiled.

Starching.—For dark goods, the starch should be colored as for shirt waists. The starch will show less if the garment is wrong side out when starched. If desired very stiff, starch after they are dry, as in the case with the shirt waists.

Hanging.—Hang in the shade and dry quickly.

Sprinkling.—Do not sprinkle until a short time before ironing, being careful to wrap each piece separately while damp.

STOCKINGS.

Washing.—Stockings are first washed on the right side and then turned and washed on the wrong side. The feet should have special care.

Rinsing.—Rinse in *clear* water, as the rinse water used for other clothes contains lint, which will cling to the stockings. New stockings should be rinsed in salt water to set the color. Stockings, as well as colored clothes, are *not* boiled.

Hanging.—Stockings are rinsed, blued and hung wrong side out. They should be pulled into shape when hung and pinned to the line by the top.

Ironing.—Stockings are not sprinkled, but are ironed on the wrong side.

Silk stockings are washed in same manner as silks, pages 56, 57.

Woolen stockings same as flannels, page 42.

CHAPTER IX.

EMBROIDERIES.

Washing.—Make a suds of Ivory Soap and warm water. Wash the embroidery up and down in the suds, without rubbing, until clean. Rinse thoroughly, as soap will make them yellow. Do not allow to stand in water. If several pieces are to be washed, wash one at a time and hang out straight, so that the colors will not touch each other. By the time the last piece is washed, the first one may be ironed. They may be ironed at once if preferred, as they should not be sprinkled, rolled, or folded. Do not blue or boil.

Ironing.—In ironing, lay several thicknesses of flannel on the table or board; over this place a clean, soft cloth. Iron on the wrong side until dry. If a large piece and much plain linen, turn and iron lightly on the right side, where there is no embroidery, to give a gloss to the linen. If a circular piece, iron straight across the grain of the goods, instead of around the embroidery and then in the center. This will prevent the center from puffing up. Always have the goods perfectly straight and iron with the grain. If inclined to pucker, have some one hold it and iron straight across, holding the iron until the cloth is dry. Do no fold but lay away flat or roll on a heavy roll of paper.

LACES.

Washing.—Baste the lace, first, on strips of cheesecloth, being careful to baste all points down. Then put the lace into warm soapy water and let stand for some time. After standing, wring out and put into fresh, soapy water. Squeeze, shake out, and squeeze again, taking care to work gently as the threads are very tender. Do this until the lace is perfectly clean. Rinse in clear water. If yellow, lace may be bleached by laying in sun or by soaking for a few minutes in Javelle water. A final rinsing in borax water (4 teaspoons—1 pint) will give a slight stiffness like new lace. Gum arabic may be used in place of borax.

Black laces may be made ready for washing in same way as white laces and then washed in clear dark tea or coffee solution.

Lace curtains should be well shaken and soaked in several soapy waters before being washed. If very fine, it is well to baste edges to strips of cheesecloth.

Clear Starching.—Laces may be clear starched and in that way given a little of a new appearance. Judgment should be used in starching lace curtains. The thinner the material, the less likely to hold starch.

Clear Starch.

1 teaspoon starch. $\frac{1}{4}$ cup cold water.

1 quart boiling water.

Cook $\frac{1}{2}$ hour, strain, and use hot.

Dip the lace into the starch solution and squeeze very dry. Then clap in the hands until almost dry. Clap by putting one end of the lace between the middle and forefinger of one hand, holding the other end in like manner with the other hand. Clapping scatters the starch through the meshes of the lace or fine muslin. Do not let the lace dry before ironing or stretching.

Ironing.—If ironed, lace should be laid on a piece of flannel covered with a soft cloth. Iron on the wrong side, being careful to iron out all the points.

A much better way, however, is to fasten the lace to a pillow or stretched sheet, by pinning every point down. No pins should be inserted in any other places besides the points, as the scallop will be out of shape and irregular.

Lace handkerchiefs should be washed and partly dried, then put in the hot starch and wrung out, then clapped and ironed.

Renaissance lace may be ironed by placing over it a piece of muslin which has been wrung out in cold starch; over this lay a dry cloth. Iron slightly with a hot iron; remove the starched muslin and complete the ironing by using the top cloth.

Lace curtains are not ironed, but are stretched in curtain stretchers and dried. Here great care should be used in pinning the points. If curtain stretchers cannot be procured, the curtains may be pinned to the carpet which has been covered with a tightly stretched sheet. Curtains may be stiffened by using bran water, page 64.

CHAPTER X.

CLEANSING.

Before putting garments away for the summer, see that all the soiled spots are removed. This is necessary to prevent moths.

Woolens.—In washing black or colored woolen goods, it is better to first rip the garments and then remove the linings. Take out all the threads. Shake and brush well. Wash in soap bark or detergent. Do not allow to become dry, but iron while quite damp. Iron on the wrong side until perfectly dry. If only one or two spots, cleanse with detergent or any good cleansing solution. In using cleansing solutions, it is well to test a small piece of the material first, as sometimes the colors will change by the ether which is present. Clear water and a little white soap is often all that is needed.

Undyed Silks may be soaked for a few hours in cold water. Squeeze or lightly rub in soaking water. Wash in soap lather. A little dissolved borax may be added to the wash water if the silk is much soiled or greasy. Wash by squeezing more than rubbing, unless the soil is very obstinate. If pure white, let the last rinsing be slightly blued, but not for cream white. In last rinsing water, whether blue or clear, put into every pint of water one

teaspoon prepared gum arabic, which will give a slight firmness. Wrap the silk in soft cloth and press very dry with the hands. Leave it rolled until ready for ironing. It requires no drying.

For *ironing*, lay the silk on the table right side up and very smooth. Cover with a thin, smooth cloth. Run the iron lightly over it at first, then iron until dry. Colored silks and stockings must be done in the same way, but without soaking or being laid aside while dampened. They should be finished off quickly. A little vinegar in the last rinsing water will help brighten and set the color. All silks, except the stockings, will have a better appearance if a little gum is added to the last water. For large articles a little boiled starch, much diluted, may be used and will be cheaper.

Hangings of any kinds, which are full of dust, should be gently but thoroughly shaken before being wet. If dust is not removed, it becomes a kind of mud, which, when wet, is not only difficult to remove, but discolors the fabric permanently.

Eiderdown may be washed in the same way as flannels. When nearly dry, press on the wrong side. It is a great improvement to the garment to brush it with a stiff clothes-brush after ironing. Brush with the nap.

Light Colored Velvets may be cleaned by brushing with corn-meal until the soil is removed. All velvets may be freshened or folds taken out by steaming.

To Steam Velvets, stand a hot iron on end and cover the bottom of it with a wet cloth. Over this pass

the velvet, holding the wrong side next to the damp cloth.

Cretonnes should be washed in bran water to which dissolved soap has been added. The material should be washed with a kneading, squeezing motion, each piece being washed separately. Wash as quickly as possible, not allowing to soak. Soaking, as well as rubbing, will cause colors to run. To set the colors, rinse in strong solution of salt and water. Hang in the shade to dry as the sun will fade the colors.

Down Quilts.—Shake quilts to remove dust, then soak in lukewarm water and soap solution. When dirt is loosened, wash with a kneading motion. When water is soiled, change, add warmer water and more soap solution. Proceed in this manner until the quilt is clean. The edges, if very dirty, may need to be rubbed on a board, but this is likely to take out the color, and is only necessary when the quilt is very dirty. Rinse in clear water and wring dry. Hang straight and change position while drying. When dry lay on a broad table and with several persons holding the sides, shake well to distribute the down. The quilt may be pressed with a cool iron before shaking.

Ribbons.—Wet ribbons and stretch on a clean table, then scrub with a small brush and soap until clean. Rinse in clear water, keeping ribbon smooth and straight. Remove some of the water by running the hand down ribbon and pressing out the water. Stretch on the table again and allow the ribbon to dry. Wash ribbons may be ironed with a cool iron when nearly dry.

Altar Linen.—No starch or bluing should be used in washing altar linen. The ironing board and irons should be thoroughly cleaned before ironing.

Surplices and Cottas, if yellow, may be whitened by using a little bluing in the rinsing water. No starch should be used. All the embroidery should be ironed on the wrong side, and on a board covered with heavy flannel.

To Clean with Gasoline.—Do all work in the open air. Gasoline may be used for cleaning or removing spots of grease from any material. Mark the spots and especially soiled places; immerse the whole garment, washing all, but giving special attention to the grease and soil. It will be more satisfactory to wash the whole garment as the gasoline is very likely to make rings. Rinse in fresh gasoline, squeeze dry and hang in the air until dry and the gasoline has evaporated. The gasoline may be saved by allowing the dirt to settle and pouring off the clear solution. This may be used for the first wash at another time.

White Kid Gloves may be gasolined the same way. A soft brush will be found a great help in all gasoline cleaning.

CHAPTER XI.

DISINFECTING CLOTHING.

Clothing is disinfected to destroy all germs of infectious diseases. It should be done as soon as removed from sick room. Burning is the most effective treatment but many could not afford the loss. A substance must, therefore, be used which is strong enough to kill the germs and not destroy the fabric. At the present time some of the best disinfectants known are extreme heat, corrosive sublimate, formic aldehyde, carbolic acid. The last three should be used with great care.

Boiling.—If clothes are to be disinfected by boiling, the process should be repeated three days in succession, an hour each day. Soap or soda may be used in the boiling water, as they too will act as disinfectants. Three successive boilings are necessary to give ample time for the development of the spores which have not matured at the time of the last boiling. Sunshine bleaches and purifies, still further, the clothes which have been boiled. The action is more rapid if the material is moistened, and somewhat soapy and if spread on the grass so that the whole surface may be in the sun.

Corrosive Sublimate, chemically called bichloride of mercury, is probably one of the best disinfectants. It is a deadly poison and should be used with great care. It also acts on the lead pipe of the plumbing,

so should be well diluted if poured down drains. It is well to color the water slightly with indigo so that other people may not think it clear water. The bichloride tablets are dissolved in water, using one to one quart of water.

Formic Aldehyde is an equally good disinfectant and probably safer to use, as it is volatile and non-corrosive. A solution is made by using one part formic aldehyde to eight hundred parts of water.

Carbolic Acid may be bought in the clear filtered form and used for clothing and household goods, or in the brown liquid which is most suitable for drains. Dissolve the crystals in water, using one part carbolic to twenty parts water. Steep the clothes in this solution for one hour, at the end of this time the clothes will be effectively disinfected. Carbolic, if used too strong, will destroy the fabric and corrode the skin.

CHAPTER XII.

SOAP MAKING.

General Directions.

Preparation of Fat.—Fresh fat or oil may be used for making soap; but fat left from frying is equally good and more economical for ordinary soap. If cooking fat is used, it should be clarified by boiling in it several pieces of raw potato. The scum which rises should be taken off and the fat strained through cheese-cloth. It is then ready for soap. For toilet soaps, fresh oil and fat should be used.

Mixing of Soap.—Dissolve lye in cold water and set aside to cool. The lye mixture should be stirred with a stick. Lye irritates the hands; hence it is better to protect them by putting paper bags over them.

If borax and ammonia are used, add them to the lye mixture before adding the fat. Perfumery is added just as the soap thickens.

All soap mixtures should stand until of the consistency of honey, and then be moulded.

Moulding of Soap.—A small quantity of soap may be moulded in an agate pan, which should be wet before pouring in the soap mixture. Larger quantities are cared for more easily by pouring the mixture into a wooden box. In this case, line the box with several thicknesses of yellow paper, greasing the top layer on the side next the soap.

Individual round cakes may be formed by using agate gem pans for moulds.

Agate ware or wooden utensils should be used in the mixing and moulding of soap, as the lye will eat the tin and so ruin a good pan.

All soap should stand in a moderately warm temperature until hard, and then may be cut into cakes.

It is more economical to dry the soap by spreading it on paper in a warm room.

Soap No. I.

5 lbs. clarified fat, 1 can best lye,
$1\frac{1}{2}$ qts. cold water, $1\frac{1}{2}$ tablespoons borax,
$\frac{1}{2}$ cup ammonia.

Soap No. II.

$5\frac{1}{2}$ lbs. clarified fat, $3\frac{1}{2}$ pts. cold water,
1 can lye.

Toilet Soap.

1 lb. cotton seed oil, 10 tablespoons lye,
$\frac{3}{8}$ lb. white lard, $1\frac{3}{4}$ cups cold water,
5 drops of lavender and oil of geranium.

Individual Recipe.

(For Class Work.)

$\frac{7}{8}$ tsp. lye, $3\frac{1}{2}$ tsp. cold water,
$5\frac{1}{2}$ tsp. clarified fat.

RECIPES.

Bran Water.

½ cup wheat bran, 1 pt. cold water.

Mix the cold water with the bran. Boil one-half hour, then strain and add another pint of warm water. If articles are greasy or very dirty, add melted soap to the bran preparation. Wash by squeezing and shaking in water as rubbing causes the color to run. Bran water will stiffen articles washed in it. If stiffness is not desired, rinse articles in salt and water.

Gum Water.

1 oz. best gum arabic, ½ pt. boiling water.

Pour the water over the gum and let stand. Stir occasionally until dissolved. Strain through fine muslin, then bottle. This will keep a long time and may be used according to the stiffness required.

Javelle Water.

1 lb. washing soda, ½ lb. chloride of lime,
1 qt. boiling water, 2 qts. cold water.

Put the soda into an agate pan and add the boiling water. Dissolve the lime in the cold water. Let the mixture settle and pour the clear liquid into the dissolved soda. Bottle, and keep in a dark place.

Javelle water forms a very efficient bleaching liquid for unbleached fabrics, as well as for cotton goods that have become yellow with dirt and age. To remove stains from white goods, soak the article in equal quan-

tities of Javelle water and hot water until the stain disappears; then rinse thoroughly in several waters, and finally in dilute ammonia water. Articles washed in Javelle water have a strong odor of the chloride of lime, and the final washing in water to which ammonia has been added will help to destroy this odor. Use 1 tablespoon of ammonia in 2 quarts of water. Javelle removes all stains and all colors, and therefore should not be used on colored goods. If articles remain too long in the Javelle water, the fiber will be injured.

Detergent.

1½ oz. white castile soap,	1 oz. ether,
1 oz. alcohol,	4 oz. ammonia.

Cut soap fine and heat in 1 pint of soft water until dissolved. Then add 3 quarts of cold water and the other ingredients. For cleaning black goods, use 1 wine glass of this liquid in 1 pint warm water. If this makes the article too stiff, add more water. For removing spots from woolen goods, as men's clothing, apply (only slightly diluted) with a sponge. It is always safer to test any cleansing solution with a piece of the material before attempting to remove stain, as the ether may affect the color.

Alum Water.

2 oz. alum,	1 gal. water.

This is used for rinsing curtains, muslin hangings and children's dresses, rendering them non-inflammable.

Cold Starch.

2 tablespoons laundry starch
½ teaspoon borax,
2 cups cold water.

Dissolve the borax in a little boiling water; add the cold water gradually to the starch; mix well, then add the dissolved borax. Stir before using.

Boiled Starch.

1½ tablespoons starch, cold water,
1¼ teaspoons lard,
1 teaspoon borax, if used,
1 qt. boiling water.

Add enough cold water to the starch to make a thin, milky mixture entirely free from lumps; then add borax and lard and slowly the boiling water, stirring constantly; cook 15 minutes. Use starch very hot.

CHAPTER XIII.

REAGENTS.

Water is generally known as the great dissolving agent. This particular property renders it quite impossible for pure water to be found in nature. The character of these impurities depends entirely upon the source from which the water is obtained. In our every day laundry work the impurities which concern us most are soot, dirt, and carbon dioxide. Many impurities are practically insoluble, and are said to be suspended or floating in the water, and if left for a time they will settle at the bottom of the vessel and the clear water may be poured off. Water with these floating impurities may also be cleared by filtering.

The chief impurity for our consideration is carbon dioxide, as it increases the solvent power of water and enables it to disolve limestone, which renders it "hard." Hence water may be called "soft" or "hard." Soft water easily forms a suds with soap, while if it is hard, when soap is used, there will be a scum on the water. Hard water may be softened by using alkalies, as soda or ammonia; by boiling, and thus depositing the minerals which make it hard, or by a slower method of exposing to the air.

Soaps are manufactured by mixing a fat and an alkali (like soda or potash). The value of the soap depends upon the alkalies present, and upon the

kind of fat; many varieties have coloring matters and perfumes in addition. Some are kneaded like bread dough, therefore they contain air, and in that way they are made to float. It is more economical to buy soap in large quantities, so that it may be put in a moderately warm room to dry and harden.

Soap may be used as a solid, or it may be dissolved in water and used as a solution. The action of the soap is more concentrated if the hard soap is rubbed directly on the material. This should only be done, however, when the material is strong and without color, and should never be done for flannel or woolens, even if white.

Other agents are generally used, either to soften the water, whiten the clothes, or to make the rubbing easier. These are agents whereby the laundress hopes to make laundry work less of a drudgery.

Washing Soda is sodium carbonate which is found in soda lakes, in marine plants, but chiefly obtained from common salt.

Soda, like soap, has great cleansing and solvent powers. It is for these reasons that it gains such favor with the laundress and housekeeper. In washing greasy material, soda acts as the alkali with the fat, saponifying it and making it easily removable by water.

Soda should not be used with colored fabrics, because of fading or destroying the coloring. It should not be used in washing flannels, as its action is to harden the fibers and cause the flannel to shrink and harden.

Soda should always be dissolved before coming in contact with clothes either in the tub or boiler. It is of great assistance in washing very dirty clothes but at no time should be used too abundantly as the action is hard, if not on the clothes, on the hands. Use one tablespoonful of soda to one gallon of water.

Alum is used to clear the water. One tablespoon of alum dissolved in water and added to the water will precipitate the mud. If added to a tub of soiled water, it will precipitate the dirt, so that the water can be used again, if water is *very* scarce. (For the sake of thorough cleanliness not advisable.)

Ammonia is used in softening the water and removing dirt from the clothing. In its pure state it is a gas; this gas is passed into water and we have the ammonia solution of commerce. It is a most useful agent as it dissolves the grease in the clothes and removes dirt. Its volatile power renders it less injurious than washing soda, as it does not remain in the fabric and irritate the skin or destroy the material.

Borax is valuable in removing dirt, whitening the clothes, and giving gloss to them. One-half lb. to 10 gal. water is a good proportion when it takes the place of a washing powder. It is a salt, consisting of an acid and soda. It is not so violent in action as soda but has a powerful effect in softening the water. It is a good cleansing agent as it does not harm the material or color; hence it is the safest agent to use for delicate fabrics or colored material. Borax

has stiffening power. Use 1 tablespoon of borax to 8 tablespoons of starch. Borax will aid the removal of tea and coffee stains, if used before the stain dries.

Kerosene is used to loosen the dirt, and may be added in the proportion of 3 tablespoons to 1 lb. of soap, to the water in boiler.

Lye made from wood ashes is used for softening the water.

Paraffin Wax may be used instead of kerosene or turpentine, for the washing of very dirty clothes, in the proportion of 1 tablespoon to four or five gallons of water, to which 1 oz. washing soda and a quarter of a pound of soap has been added. Paraffin is a solvent of grease; it is volatile but has a disagreeable odor which clings to the clothes unless thoroughly aired. It is inflammable and should be used with care. Paraffin takes out paint stains, by dipping stain in paraffin and rubbing well, then wash in soap and warm water.

Washing Powders may be dry soap powders, but usually contain an alkali, which makes them more effective in their work and cheaper as to money value. They should all be used carefully, in order that they are not harmful to the hands or the clothes. Washing powders should be dissolved before being used.

Turpentine will whiten the clothes. It is volatile, so its characteristic odor will not remain in the clothes. It will remove grease, dissolve varnish and, if used with ammonia, will remove paint stains.

Blue or Indigo.—Indigo is made from a plant which

comes from Calcutta, Egypt and Guatemala. "The leaves and stems are covered with water and left to ferment. When fermentation ceases, the liquor is drawn off and violently agitated until the color is changed, when the indigo separates in the form of solid particles," Ultramarine, azure, Prussian and indigo are the solid blues most used. Ultramarine is the one most widely used and is the best. It is insoluble in water and gives a tint by means of a very fine powder which enters the cloth. Any of the blues are used to counteract the yellow from the soap. Garments should be thoroughly shaken out before going into the blue water. Prussian Blue is a chemical compound containing iron. If Prussian Blue is used, the clothes must be very thoroughly rinsed before putting into the blue water, as the alkali of the soap decomposes the iron compound and the result is seen in iron rust, and sometimes in a yellowish tint over the clothes.

CHAPTER XIV.

OUTLINE OF LAUNDRY COURSES.

These outlines are given as an aid to instructors. Three hour periods are the most satisfactory for laundry work. The classes should average eight students.

First Course.

I. Make Javelle Water, Detergent, Soap, and give general notes.

II. Removal of stains.
Wash.
Table Linen.
1 table cloth for every four students.
1 napkin for each student.
1 doylie for each student.

III. *Wash.*
Bed Linen.
1 sheet for every four students.
1 pillow case for each student.
Iron.
Table cloth, napkins and doylies.

IV. *Wash.*
Drawers and stockings.
Iron.
Sheets and pillow cases.

V. *Wash.*
Towels and plain colored pieces.
Iron.
Drawers and stockings.

VI. *Wash.*
Nightdress and corset covers.
Iron.
Towel and colored clothes.

VII. *Wash.*
Flannel underwear.
Iron.
Nightdress and corset covers.

VIII. *Wash.*
Embroideries.
Iron.
Embroideries and flannels.

Second Course.

I. *Wash.*
White skirts.
Wash and Iron.
Doylies and drawn work.

II. *Wash.*
Shirtwaists.
Iron.
White skirts.

III. *Wash.*
Knit and crocheted articles and flannel waists.
Iron.
Shirtwaists.

IV. *Wash.*
Woolen dress goods, down quilt, and blankets.
Iron.
Flannel waists.

V. *Wash.*
Collars and cuffs, child's dress, ribbons.
Finish quilt and blankets.

VI. *Wash.*
Silks.
Iron.
Silks, collars and cuffs, child's dress.

VII. *Wash.*
Laces, lace curtains.

VIII. *Wash.*
Collarettes, stocks, handkerchiefs.
Iron.
Collarettes, stocks, handkerchiefs.
Finish lace curtains.

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