

**College Bulletin No. 134. Issued Monthly. Extension Series VIII, No. 16**

Entered as second-class matter November 27, 1909, at the postoffice at  
Corvallis, Oregon, under the Act of July 16, 1894.

---

**BOYS' AND GIRLS' INDUSTRIAL CLUBS**

**DOMESTIC SCIENCE  
AND ART**

**Project Circular  
No. 3**

**Corvallis, Oregon  
March, 1914**

---

# **Oregon Agricultural College**

**EXTENSION SERVICE**

**RALPH D. HETZEL, Director.**

---

**SEWING: COTTON GOODS.**

**by**

**MRS. LULIE ROBBINS.**

**NOTE:** The paper, or story, mentioned in paragraphs 3, 4, and 5 on page 13 of the "Pony Circular" (College Bulletin No. 98) will not be required this year.

## **A SHORT STORY OF COTTON.**

All the materials you have been working with, including the thread, have been of cotton. Cotton is now our cheapest cloth, but once it was not so. Until we knew how to take out the many seeds, which cling tightly to the cotton in the boll or pod, cotton was expensive. A man, working hard all day long, could scarcely "pick" a pound. But the invention of a wonderful machine changed all that.

The story of how Eli Whitney invented the cotton gin is very interesting. Soon after the Revolutionary War and before George Washington died, (that will be an easy way to remember the date), although he was a northern young man, Eli Whitney was teaching a boy whose home was in Georgia, upon a large plantation ("farm" they say in the middle west, and "ranch" here in Oregon). One day several plantation owners were guests for dinner at the home where Whitney taught, and they discussed the great need of a machine to rid the cotton of its seeds; for they could not afford to grow cotton because of the labor it demanded. They also spoke of the wonderful fortune in store for the man who should solve the difficulty.

The young boy's mother spoke of Whitney's wonderful gift in working with tools, even to the making of those he

---

**The Bulletins of the Oregon Agricultural College are sent free to all residents of Oregon who request them.**

needed if he had none. The talk ended in Whitney's being asked to try; and as he worked all winter in a tiny shed, great secrecy surrounded all he did. Finally, after several months, the same people met to test the queer looking machine, which worked with a crank. It really took out the seeds, but the cotton caught in the wheels and clogged the machine; so that Whitney, in spite of the fact that he had proved that the seeds could be taken out by a machine, was greatly discouraged.

Indeed, many years passed before the cotton gin was perfected for use in factories, and many years more before Whitney received any of the fortune they had talked about his receiving; for patent laws did not protect inventors then as they do today and many people made machines and benefited from them before he did. Since that time, cotton manufacture has been one of the greatest industries of our country and Eli Whitney deserves to be called one of the greatest of inventors, for he made the great development of the cotton growing states possible.

Cotton from the field is packed in bales which weigh 500 pounds. In the United States these bales have a standard size of 54x27x27 inches. To make one bale, requires 1600 pounds of seed cotton. The value of cotton depends upon its length of fiber, fineness, strength, color, and cleanliness. In the manufacturing process, the fibers are ginned, combed straight, drawn out, twisted, and finally spun into threads firm enough to make the various kinds of cotton cloth we see in the stores.

Calico, the cheapest cloth, was first made in Calicut, India, a fact which accounts for its name. Its designs in colors are all printed on the cloth; such materials were once called "prints." Gingham is a plain weave the same as calico, but its colors are woven in on the looms. It also was first made in far away India. Percale is a printed cloth, but the weave is a little different; it is a firmer cloth than either of the others. Lawn is woven of light weight cotton thread; it gets its name from a city in France where it was first made. Its designs or colors are always printed and never woven.

#### CLOTHESPIN OR WORKBAG APRON.

*Materials.* One yard of galatea cloth, denim, ticking, percale, or gingham. While any of these materials may be used, some are easier to sew than others. Galatea is soft and strong; denim is strong but stiff; ticking, while not attractive,

is durable; and percale and gingham are light-weight materials for heavy use.

No. 60 thread and No. 7 needle for the coarser materials.

No. 70 thread and No. 8 needle for the lighter ones.

One bolt of white tape.

*Cutting.* Make two paper patterns according to the following directions, one for the upper part, for the pockets, the other for the lower one.

(1) On a fold of paper measure 7 inches along the upper edge and make a dot; measure 18 inches on the fold for the length and cut off straight.

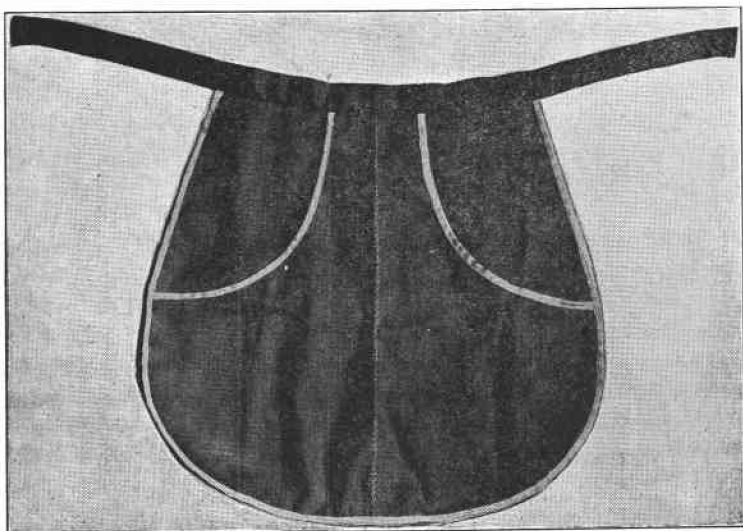


Figure 1. Clothespin or Workbag Apron.

(2) Fold the paper crosswise in the middle. Measure  $9\frac{1}{2}$  inches from the lengthwise fold on the crease just made and make a dot.

(3) From this dot draw a rounding curve to the lower end of the fold of paper.

(4) From the same dot on the crease, make a slightly rounding line to the top point (7 inches). Cut out the pattern.

(5) To make the pattern fit smoothly, measure  $\frac{1}{2}$  inch down on the center from the top and cut a slightly curved line to the upper corners.

(6) For the pockets, on another pattern (cut, folded, and creased the same as the first one) measure on the crease

9½ inches, which marks the end of the pockets; from this point draw an inward curve to a point 2 inches from the center at the top. Cut off the curved line.

(7) The band is three inches wide, on a lengthwise piece of goods; it should be long enough to lap 2 inches at the back.

*Making.* (1) Baste tape on the pocket openings, having half of the tape on each side. Sew on the machine.

(2) Place the pocket piece on the right side of the under apron and baste together, both at top and bottom. Baste tape around the apron with small stitches. Sew on the machine.

(3) Fold the apron lengthwise and crease. On the creased line put ½ inch basting stitches to guide the feather stitching, which is best done before the band is applied.

(4) Apply the band to the right side of the apron with machine sewing after first basting it. Hem it down on the

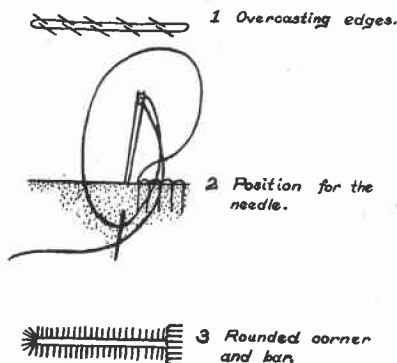


Figure 2. Buttonholes.

wrong side. The ends of the band beyond the apron are overhanded.

(5) Finish with a buttonhole on the right end, and the button on the left.

*Buttonholes.* Before making the buttonhole on the apron, practice making several buttonholes, and finish a strip of three, as an example of your work to place in your note book.

*Materials.* Lawn, gingham, or calico, 6x4 inches.

No. 70 white thread.

No. 8 needle.

*Preparation.* (1) Cut off any selvedge edges.

Fold in the middle, lengthwise; turn in ⅛ inch on both ends and the sides. Baste carefully and then overhand.

(2) Space the buttonholes equally distant, as on a garment, cutting each hole  $\frac{5}{8}$  inches long on the crosswise, or woof, thread of the goods.

(3) Begin at the end of the buttonhole nearest the overhanging and overcast the edges, with four or five stitches only, on each side, being careful not to take the stitches too deep. The thread should not have a knot.

(4) Begin again at the same place; put the needle in the material with the point toward you, drawing it but half way through. Take both threads at the eye of the needle; pass them under the point and towards the left side. Draw the needle out so that the thread is drawn from you instead of toward you, making a little knot in the edge of the hole. This twisted stitch is called a purl. The stitches should just cover the overcasting stitches, and should be close together.

(5) When the corner is reached, take slanting stitches, one straight out from the end of the hole, and two or three more slanting stitches rounding the corner. When the second corner is reached, it should be finished with a bar which strengthens the end of the buttonhole. This is made by drawing the needle down through the first stitch and up through the last one, drawing the edges of the buttonhole together. Take three stitches in the same place, work several buttonhole stitches over this cord, occasionally sewing through the cloth. Have the purl next to the hole. Put the needle through to the wrong side close to the last purl and fasten.

*To Sew on Buttons That Will Have a Strain.* (1) With a knot in the thread, put the needle through from the right side (to hide the knot) then back through a hole in the button. Place a pin over the center and sew over it: this allows the button to move easily when the pin is withdrawn. If the button has four holes, sew across from one to the other so the threads are parallel, instead of crossing them diagonally.

(2) Sew one button on the buttonhole model for the note book.

#### FEATHER STITCHING.

Using the basting stitches down the center of the apron as a guiding line, put the needle through from the wrong side at the top of the basting stitches. Holding the thread with the left hand, over the guiding stitches, put the needle in, a little space to the right of the starting place, bringing it out at the guiding line through a loop of the thread, as in the blanket stitch. Repeat on the left side, being very careful to keep the stitches the same size.

## HEMMED PATCH.

This patch is used in mending washable materials, and when done carefully shows very little. The worn place to be mended must be trimmed of all the weak threads, which should be cut out, leaving the corners square. This will make the finished patch a square or oblong.

The object of the patch being to replace the worn material as nearly as possible, it must be placed straight with the warp threads (the up and down of the goods) and the filling or

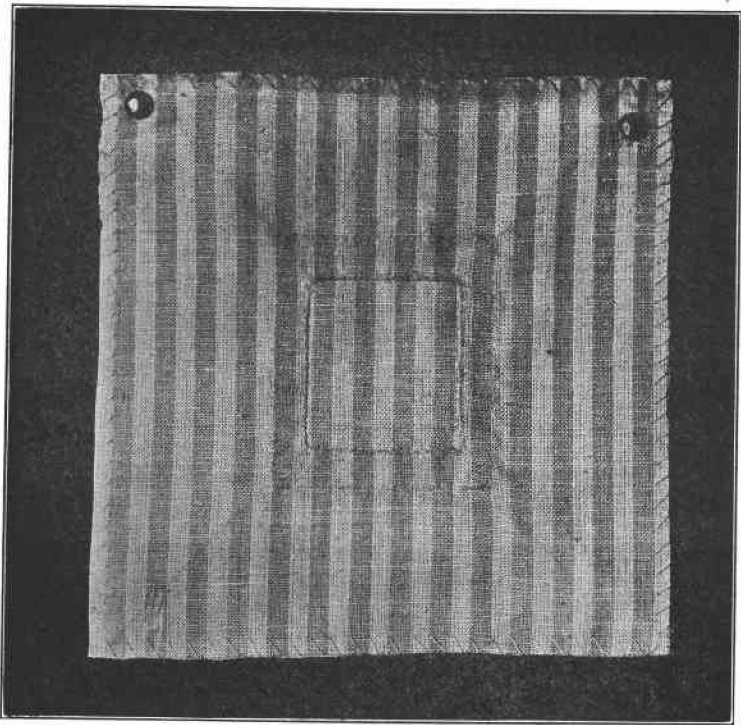


Figure 3. Hemmed Patch.

woof threads (the crosswise threads) matching the stripes or pattern of the goods exactly. An old piece of goods is best for the patch, as the threads in a new piece may be too strong. It should extend the same distance ( $\frac{1}{4}$  inch) from the hole on all sides, allowing for  $\frac{1}{8}$  inch turns for hemming. Baste the  $\frac{1}{8}$  inch turns before basting the patch on the under side of the garment; then on the right side make little diagonal cuts in

the corners of the hole and turn back the edges and baste them carefully; then hem with tiny stitches which will scarcely show. Hem the patch on the wrong side so that the stitches will show little on the right side. Do not use knots in the thread in any of the work.

#### COOKING OR DUSTING CAP.

*Materials.* White lawn, calico, or gingham.

No. 70 thread.

No. 8 needle.

Elastic or tape.

*Paper Pattern.* (One-half of the pattern).

(1) On the straight edge of a piece of paper measure 14 inches and cut off.

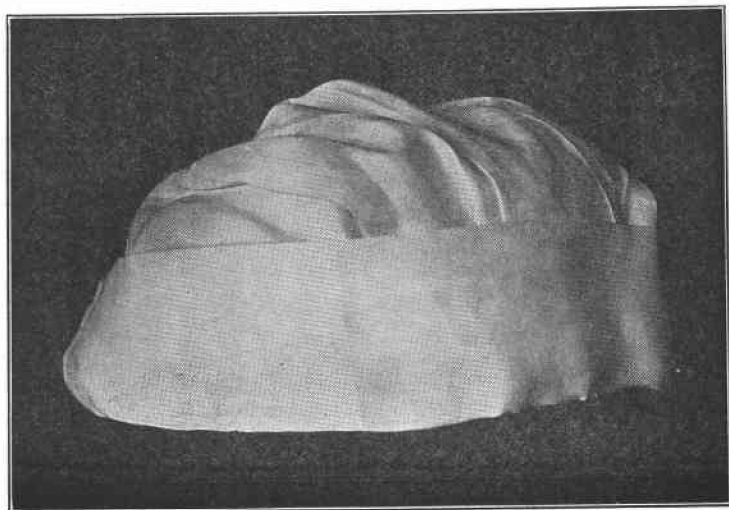


Figure 4. Cooking or Dusting Cap.

(2) Measure 9 inches from each end and make dots. Draw a straight line connecting the dots.

(3) Fold the paper in halves, crosswise, and crease. From this crease, measure  $\frac{1}{2}$  inch to the left of the line; mark it "A". From the crease and on the line toward the top, measure 2 inches; mark that "B".

(4) From this last point draw a curved line passing through "A" to the lower end of this line. From "B" make an outward curved line to the upper corner of the edge of the paper where you started.

(5) Cut out along the curved line. The straight line is the middle of the pattern.

*Cutting.* On a lengthwise fold of the material place the straight edge of the pattern. Cut. Cut a straight piece of goods for the band  $5\frac{1}{2}$  inches wide by 23 inches long.

*Making.* (1) Make a  $\frac{1}{2}$  inch hem at the bottom, allowing for  $\frac{1}{8}$  inch turn. Sew by hand.

(2) The top of the cap may be either pleated, making a little box pleat in front, with smaller pleats on each side; or, it may be gathered  $\frac{1}{8}$  inch from the edge, beginning about 8 inches from the bottom straight edge and making a second row of gathers  $\frac{1}{8}$  inch from the first row.

(3) Draw up the gathers to fit the band and fasten. Apply the band on the inside of the cap, hemming it neatly on the right side, covering the gathers. Overhand the ends of the band. The band turns back against the cap when finished, as in a Dutch cap.

(4) Leave the ends of the hems open at the bottom of the cap; draw a cord or the elastic through, and fasten, after fitting it to the head.

The measurements given for this cap are for the average; to fit those having a great deal of hair, the measurements may have to be increased. On the other hand, they may need to be made smaller for the young girls.

#### QUESTIONS FOR THE NOTEBOOK.

- (1) Which are the warp threads in a piece of cloth? What is another name for warp threads?
  - (2) What is the difference between calico and gingham?
  - (3) Where can you find out something about Eli Whitney not told in this circular?
  - (4) Can you tell why the hemming stitch is a stronger one than the running stitch.
-