DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1917, No. 3

PINE-NEEDLE BASKETRY IN SCHOOLS

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WASHINGTON
GOVERNMENT PRINTING OFFICE
1917

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INTRODUCTION.

Of all the handicrafts employed in the United States for educational purposes none has been more generally or more successfully used than basketry. Various materials suitable for basket making have found their way into the manual training classes. Even such exotics as reed and raffia have been freely used, but the growing tendency to employ native materials should be commended and encouraged by instructors in the manual arts, not only for economic reasons but also because of the educational value to the student of discovering resources near at hand and of accepting and developing native materials, especially when the results that may be accomplished are of equal or even greater artistic merit than those achieved with foreign materials.

Pine-needle basketry offers just these educational opportunities. It furthers, besides, an interest in a handicraft which has delightful artistic possibilities, and presents a means of conserving to practical utility a valuable resource of the Southern States, a resource now going almost wholly to waste.

The Indians of the eastern and southern parts of the continent seem to have been a pottery-making rather than a basket-making people; otherwise there would be records and specimens of their work in basketry. There is no doubt that they would have found in the needles of the longleaf pine as attractive a material as the western Indians have found in cedar root, cedar bark, grasses, and the twigs and vines of plants indigenous to their section.

The withes or twigs of willow or osier have lent themselves successfully to the making of baskets, large and small, in the Southern States. Grasses, rushes, vines, hickory splints, white-oak splints, straw, corn shucks, and other local materials are extensively used with more or less expenditure of time and labor in their preparation for use in basket weaving.

The needles of the longleaf pine are ready for immediate use, requiring only to be gathered from beneath the trees which shed them. The facility with which pine needles may be gathered and

shipped, and the almost inexhaustible supply, render them a profitable resource not only for the making of baskets within the habitat of the longleaf pine tree, but one which, shared with other sections, would bring in an appreciable revenue to the South Atlantic and the Gulf States.

It is in the hope of stimulating the people of these States to a recognition of the educational and economic value of this neglected resource, and to suggest a means of turning a native American material to practical and artistic advantage that this bulletin has been compiled.

PINE-NEEDLE BASKETRY IN SCHOOLS.

HISTORY.

The leaves or needles of the longleaf pine were first made into baskets by Mrs. M. J. McAfee, of West Point, Ga. It was during the stress of the Civil War times; the family supply of hats was about exhausted; the nearest town was 30 miles away, and there was no train or trolley by which to reach it. While looking around for some native product to use in making the needed hats Mrs. McAfee chanced to see a load of pine straw that had been brought up to cover the potato beds. She saw that these needles, or pine straw as they were called, were long, slender, and pliable, and it was then that the idea of a pine-needle hat came to her.

She experimented with the needles, sewing them together with cotton thread, and finally the pine-needle hat was the result. She made hats for several members of the family, and then did nothing more with her craft for many years. The craft was revived by Mrs. McAfee after the story of the hats had many times entertained her grandchildren. She, with the neighborhood children, was gathering pine needles for a pillow and she told the story to them. They asked her to make a hat for them to see, and gathered the needles for her. She made a hat or a basket for each one of them, and in so doing her skill and her interest in the craft returned. Since that time she has made many baskets, exhibiting them at the Georgia fairs, and at the Appalachian Exposition at Knoxville, Tenn., besides disposing of many through arts and crafts associations. For the past seven or eight years she has been teaching pine-needle basketry at the Summer School of the South at the University of Tennessee.

THE LONGLEAF PINE.

The "Georgia pine," the "Southern pine," the "Yellow pine," are among the many names given to the species known botanically as *Pinus palustris.*

It is the tree of widest distribution and greatest commercial importance in the Atlantic forest region of eastern North America. It is principally confined to a belt of 125 miles in width in the lower parts of the Southern States which border on the Atlantic and Gulf shores.

The wood of the longleaf pine is especially suitable and valuable for heavy constructions in the building of bridges and trestles, for

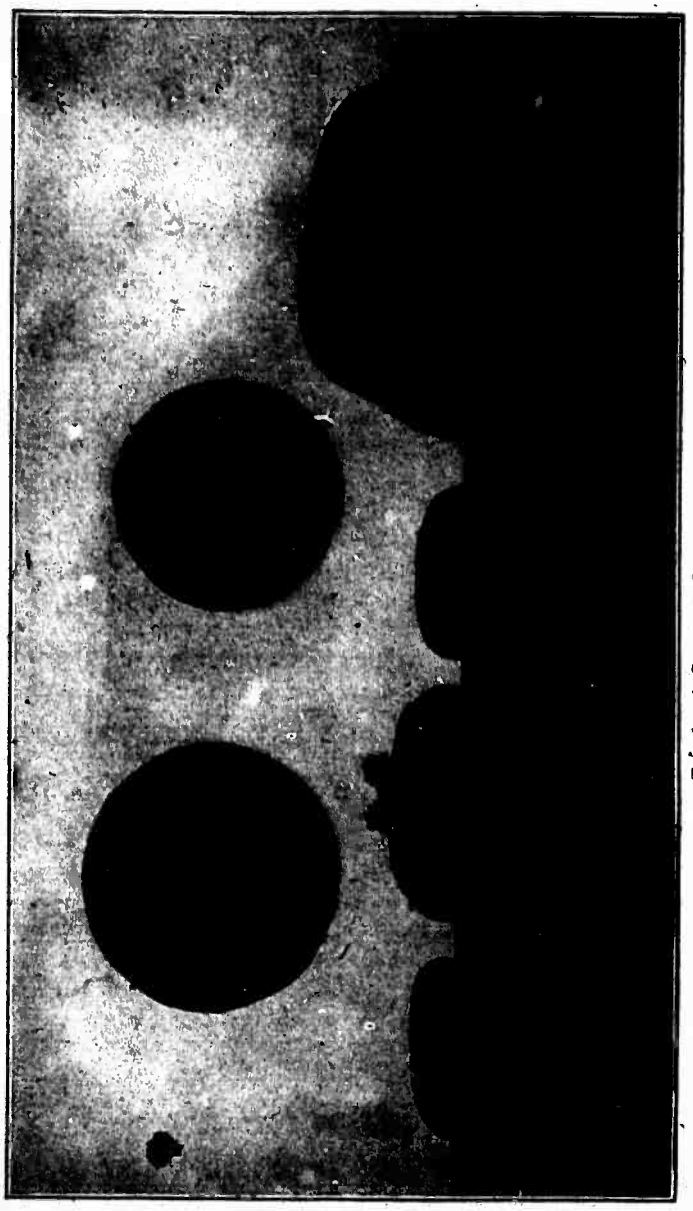

FIG. 1.—A GROUP OF PINE BASKETS.

beams, masts, and spars in shipbuilding, and for crossties. It is exported in increasing quantities to foreign ports and dockyards. Something like 1,500,000,000 board feet, or about one-third of all the

lumber made in the South, is sent to foreign and domestic ports annually, while much is retained as material for home building purposes, for furniture, and for fuel, either as cord wood or as charcoal.

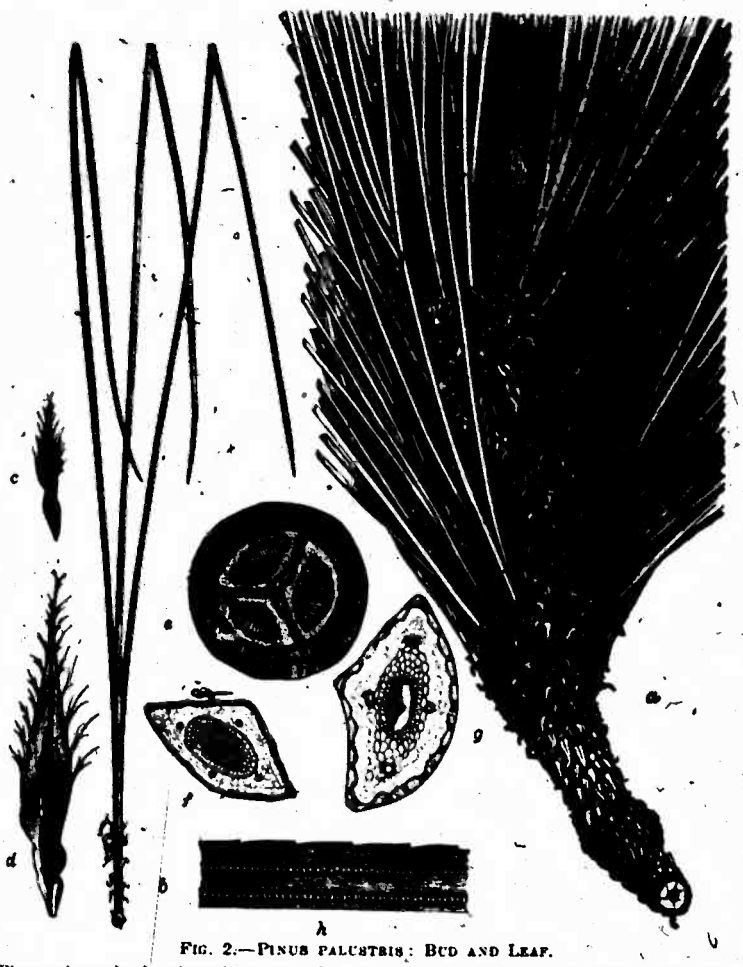

FIG. 2.—PINUS PALUSTRIS: BUD AND LEAF.

Fig. *a*, branch showing the terminal spring shoot of the season with characteristic, large silvery white winter bud; the bundles of leaves arise from the axils of the leaf-bracts of the last two seasons, the first leaves of the second year already shed; *b*, detached bundle of mature leaves with sheath; *c*, *d*, scales of the sheath, magnified three and nine times; *e*, transverse section through base of leaf bundle showing imbrication of sheath scales, magnified 30 diameters; *f*, transverse section of an immature leaf, magnified 30 diameters; *g*, transverse section of a mature leaf, magnified 45 diameters, showing the microscopic structure (as pointed out for *P. echinata*, *f*, *f*); *h*, longitudinal section of the dorsal side of a mature leaf showing two rows of stomata and the serrated edge, magnified 45 diameters.

Being extremely resinous, the wood of the longleaf pine is very inflammable, and is valuable for kindling, whence it is called light-

wood. The resinous quality of the wood renders it suitable for posts, piles, and other uses requiring resistance to moisture.

The chief economic value of the resinous products—tar, pitch, and turpentine—is in the manufacture of naval stores, an important industry in the pine belt of the South and one of the most important of all the resources of the American forests. From the needles of the pine is distilled a balsamic oil, similar to spirits of turpentine.

BASKETS.

It is from the needles of the longleaf pine that the baskets are made. As the needles fall from the tree, they are very nearly ready for use. No dyeing, elaborate cleaning, or other preparatory processes are necessary. The beautifully polished surface of the needles renders the basket finished when the last stitch has been put in and the last ragged end clipped off. No varnishing, waxing, or other finishing process is required. The natural brown of the cured needles is beautiful and permanent, and the resinous odor an ever present reminder of the great out-of-doors.

HARVESTING NEEDLES.

Brown needles.—As the needles fall from the trees in autumn they are a rich brown color, and are very nearly ready for use. Gathered at this season they seem less brittle, and need only to be spread out in the shade for a few days to dry. On the older trees the leaves are rarely over 8 inches in length, but during the period of the most active growth of the tree the needles are found from 12 to 18 inches long.

Green needles.—The green needles are perhaps best if pulled from the tree in autumn, although the needles from many pine branches used in Christmas decorations are dried and worked into baskets. The green needles dried in the shade retain a soft, dull green color.

MATERIALS USED IN COMBINATION WITH PINE NEEDLES.

A pleasing variety may be made in the decoration of pine-needle baskets by the use of materials other than pine needles. There are many native grasses, sedges, and rushes; indeed the materials are as varied as the localities in which the workers live. One of the most successful combinations is found in the use of the stem of the maidenhair fern with the needles. The depth of color in the stems is very handsome with the soft brown of the needles or with the dull green. The maidenhair fern grows wild in many parts of the country, and if the stems be carefully cut the root of the fern is uninjured. These stems may be gathered in the summer, or they may be taken after the first frost has blighted the leaves. They should be spread out to dry in the shade for a few days.

PREPARATION OF MATERIALS.

Drying.—The pine needles and the local grasses, rushes, fern stems, or whatever other material is to be used in combination should be thoroughly dried. This allows one to be reasonably sure of the color as well as of the shrinkage.

Sorting.—The needles should then be sorted, those that are defective, broken, or twisted being discarded. The longest needles are not always the best ones. Generally those that are about 10 inches long are the ones to select.

Removing the sheath.—Three leaves are united in one bundle and these are inclosed at the base in a sheath from one-half an inch to an inch in length. The easiest way to remove this sheath is to cut the bundle about an eighth of an inch from the end. The needles may then be easily slipped out.

Fuming.—A very dark brownish green color is secured by fuming the brown needles with ammonia. This is done by placing the brown pine needles in a jar, then placing in the jar a small uncovered vessel containing strong ammonia, care being taken not to let the needles come in direct contact with the ammonia. The top may then be securely fastened on the jar and left from 18 to 24 hours.

Cleaning.—It often seems best to clean the needles before they are used, especially if the trees are near enough to a railroad to get the soot from the engine. They may be washed with warm water and soap, care being taken to use a cloth, as the edges of the needles are very sharp. They must then be thoroughly dried before they are used.

Dyeing raffia.—Raffia (*Raphia ruffia*) is a palm fiber, imported from Madagascar. The commercial product comes in the form of narrow ribbons and is largely used by florists in binding plants. It has of recent years been used to a very great extent by basket makers. Raffia in the natural color may be used in making pine-needle baskets, but usually the sewing material should harmonize more closely with the needles.

Raffia takes dye readily, and the aniline dyes are not very difficult to work with. It requires a large amount of experimental work to be successful with vegetable dyes, but the colors when finally obtained are more likely to be permanent than those produced by the aniline dyes.

NOTES.

The following notes on the dyeing of raffia, together with a few recipes, will be found valuable:[1]

Soak raffia a number of hours before immersing it in a mordant or dye. If in a great hurry, wash it in hot water. This softens the raffia quickly.

[1] From School Arts Magazine.

Have the mordant and dye at the boiling point when the raffia is added. Never boil raffia, as boiling seems to cook it and weaken the fibers.

Turn the raffia constantly while steeping, so that the heat and dye can reach all parts equally to prevent spotting. Allow the raffia to remain in the mordant a long time, as it seems to take the dye more evenly. Boil all dyes thoroughly in a brass or enameled kettle, and strain the liquid carefully.

Wear rubber gloves when removing the material from the dye.

RECIPES.

Eight quarts of water are allowed to each of these recipes:

Red 1. One pound of madder, 6 ounces of cochineal, 4 ounces of cutch. Dissolve in boiling water and boil 2 hours. Mordant the raffia 2 days in 5 ounces of alum and 5 ounces of cream of tartar.

Red 2. One pound of madder, 1 pound of logwood, 12 ounces of cochineal, and 8 ounces of fustic. Soak all night in warm water, boil 2 hours. Mordant as in No. 1. Let the raffia simmer 6 hours or more.

Orange 1. One-half cup of extract of quercitron, 1 pound of madder. Mordant as in No. 1 for red.

Orange 2. One pound of madder, 4 ounces of fustic. Mordant as in No. 1 for red. These two recipes are very deep in color. For lighter tones use one-third or one-half the amount of dye.

Copper color 1. One pound of madder, 4 ounces of powdered cutch. Mordant as in No. 1. Let the raffia simmer 6 hours.

Brown 1. Four ounces of madder, dissolve in warm water. Boil one-half hour. Let raffia simmer from 1 to 6 hours.

Brown 2. Eight ounces of madder.

Brown 3. One pound of powdered cutch. Dissolve in boiling water. Boil one-half hour. Add 1 ounce of blue vitriol. Let raffia steep 6 hours.

Brown 4. One pound of powdered cutch, 6 ounces of blue vitriol, 1 pint of strong ammonia. Leave raffia in the dye 12 hours. Rinse the raffia in cold water before drying. If this does not give a dark seal brown, make a fresh dye and repeat the process.

Yellow 1. Fill the kettle with sweet fern. Cover with water and boil. Mordant the raffia for 2 days in 5 ounces of alum.

Yellow 2. Yellow dock root gives a yellow that lasts forever. The powdered form is most easily handled. Mordant as in No. 1 for yellow.

Yellow 3. Boil one-half pound of gold thread in 8 quarts of water. Mordant as in No. 1 for yellow.

Green 1. Boil thoroughly a kettleful of boulder or hay-scented ferns. Mordant, 4 ounces of blue vitriol. All ferns tested give satisfactory results.

Green 2. Raffia dyed with yellow dock root and dried thoroughly, if dipped in a bath of indigo blue, will give lighter and darker tones of green according to the length of time it remains in the bath.

METHODS.

GROUP 1. STARTING A COILED BASKET.

Fastening needles.—To start a coiled basket, first select a few of the most pliable needles, from 5 to 20, according to the size of coil. Soak them for 10 minutes in warm water. Wipe off the excess moisture and arrange the needles, smooth surface outwards and sheath ends together, in a small round bundle. Holding the bundle securely,

slip some of the sheath ends back, so the end of the bundle tapers to a rather sharp point, and fasten the raffia in the following manner:

Form a loop about 2 inches long near one end of a thin strong piece of raffia, and place the loop against the bundle of needles, the short end of the raffia extending beyond the sheath ends about 1 inch. Hold securely, and with the long end of the raffia wind closely over

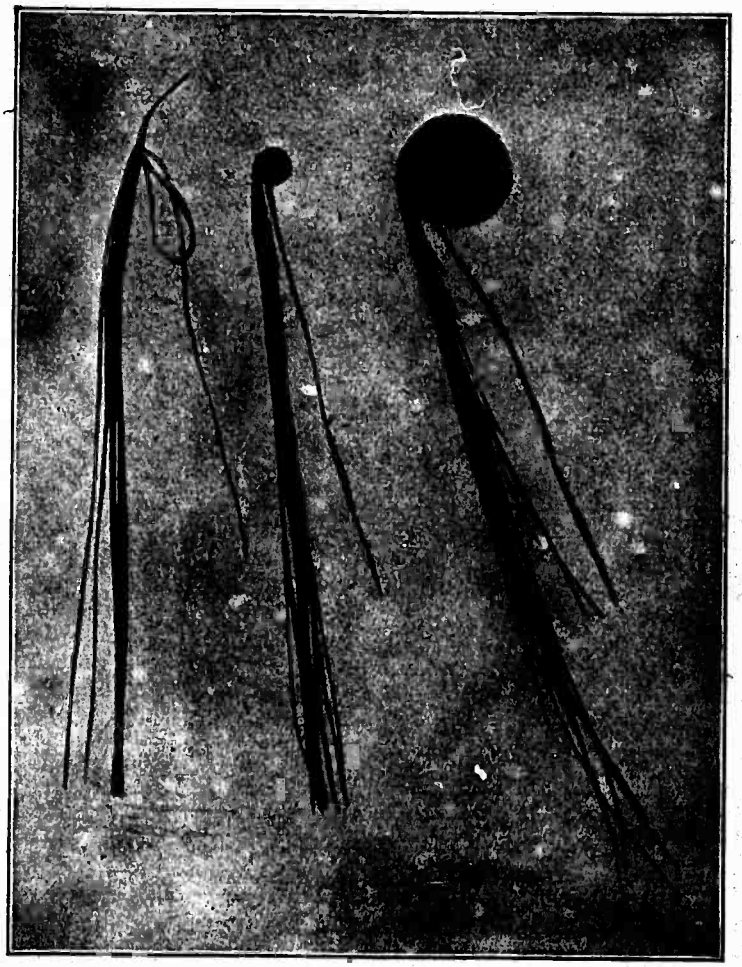

FIG. 8.—*a*, FASTENING NEEDLES. *b*, BEGINNING SPIRAL. *c*, SPIRAL.

loop and needles for about 1 inch, beginning at the sheath end of the bundle. When the sheath ends have been covered, first take any loose raffia that may have remained at the start of the winding, by pulling up the loop; then slip the winding end of the raffia through the loop. Pull up the short raffia end until the loop has been taken up and the winding raffia has been securely fastened, but not drawn

into the bound end of the bundle. Do not loosen the hold on the needles or the winding until the whole process has been completed. Otherwise, the needles will not be held firmly enough in the bundle for the worker to accomplish the turn easily.

Beginning spiral.—Thread the long end of the raffia into a sharp raffia needle. While the pine needles are still moist and pliable, shape the pointed bundle into a small close coil and fasten securely with a few stitches, sewing through the coil.

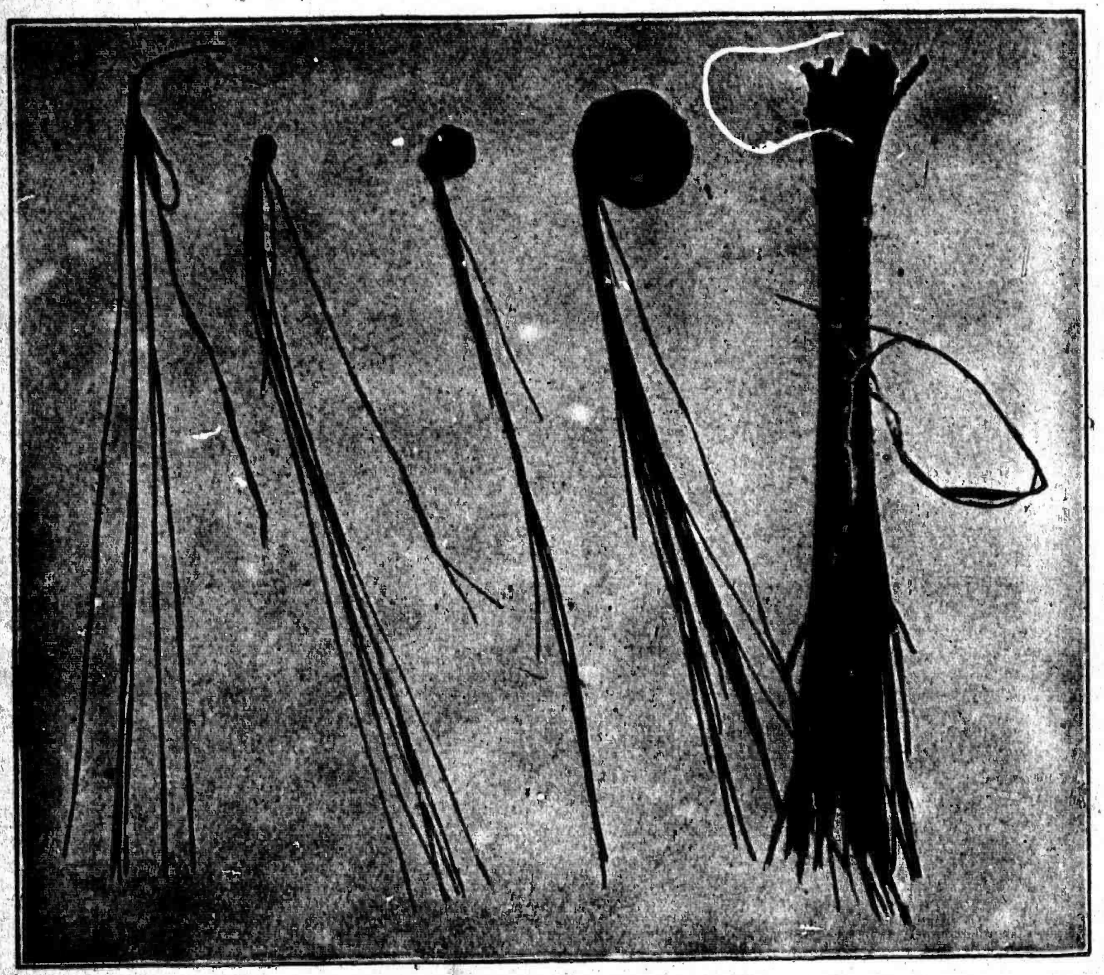

FIG. 4.—*a*, FASTENING NEEDLES; *b*, FASTENED COIL; *c*, THE PINE-BASKET STITCH; *d*, ADDING EXTRA STITCHES; *e*, PINE-BASKET STITCH IN DETAIL.

Making the spiral stitch.—Take a stitch through the center just made, around the bundle of pine needles and repeat until one row has been completed. In the second row the stitches are made an eighth of an inch apart. The needle is stuck through the coil. Third and succeeding rows: The raffia is now at the front of the work. Place it over the bundle and push the sewing needle diagonally through the coil in the preceding row, starting it in at the back on the right-hand side of the stitch, and letting it come out at the front on the left-hand side of the stitch. Continue this stitch throughout the basket. In making the spiral stitch put the sewing needle each time

through the coil, working it carefully between the pine needles so as not to pierce their surface.

Experience has shown that a more firm and sturdy basket can be made by the use of the stitch next shown, the pine-basket stitch.

GROUP II. MAKING A COILED BASKET WITH THE PINE-BASKET STITCH.

Fastening needles.—Prepare a bundle of needles as directed under Group I.

Making foundation stitch.—When the end of the bundle of needles has been made into a small coil, proceed in the following manner:

Make a stitch through the upper edge of the small coil, pull the raffia through and carry it once around the bundle of needles, bringing it to the front again between the bundle and the coil. This makes a long stitch on the upper surface of the work, and leaves the strand of raffia between the coil and the bundle, at the left of the long stitch. Insert the needle between the bundle and the coil at the right of the long stitch, pull the raffia through and draw the stitch very tight. Leave a small space and repeat until one row around the coil has been completed.

The worker proceeds from right to left, and the surface toward the worker is to be the outside of the basket. It is extremely necessary that these stitches be evenly spaced in the beginning, as any variation becomes more pronounced as the number of rows increases. The number of stitches to be used in the largest diameter of the basket is also determined at the start, since extra stitches are added uniformly, one in each space.

Making the pine-basket stitch.—This is an adapted Indian stitch. It is one which is capable of great strength and firmness, and is especially satisfactory when many strands or fibers are used together in a coil. After one row of the foundation stitch, the pine-basket stitch follows in succeeding rows.

To make the pine-basket stitch insert the needle from the under side of the work, between the bundles at the left of the first stitch in the row of stitches just completed. Pull the raffia through and carry it once entirely around the bundle. At this point tighten the raffia around the pine needles and hold securely at the back of the work with the fingers of the left hand. Next bring the raffia through at the right of this same first stitch and draw tight, letting the raffia slip from the fingers holding it as the stitch tightens. Carry the raffia over the bundle and bring it out at the left of the unfinished stitch, between the bundle of needles and the sewed coil. This will cause the two long parts of the stitch to cross on the upper surface of the work. Insert the needle at the right of the crossed strand and finish the stitch by pulling the raffia very tight. The stitch is

repeated, starting at the left of the next foundation stitch, and is continued throughout the basket.

The worker must be extremely careful not to pierce the pine needles with the sewing needle. If once pierced or split the smooth surface of the pine needle is ruined, and the needles so injured must either be removed or completely hidden. The sewing needle must

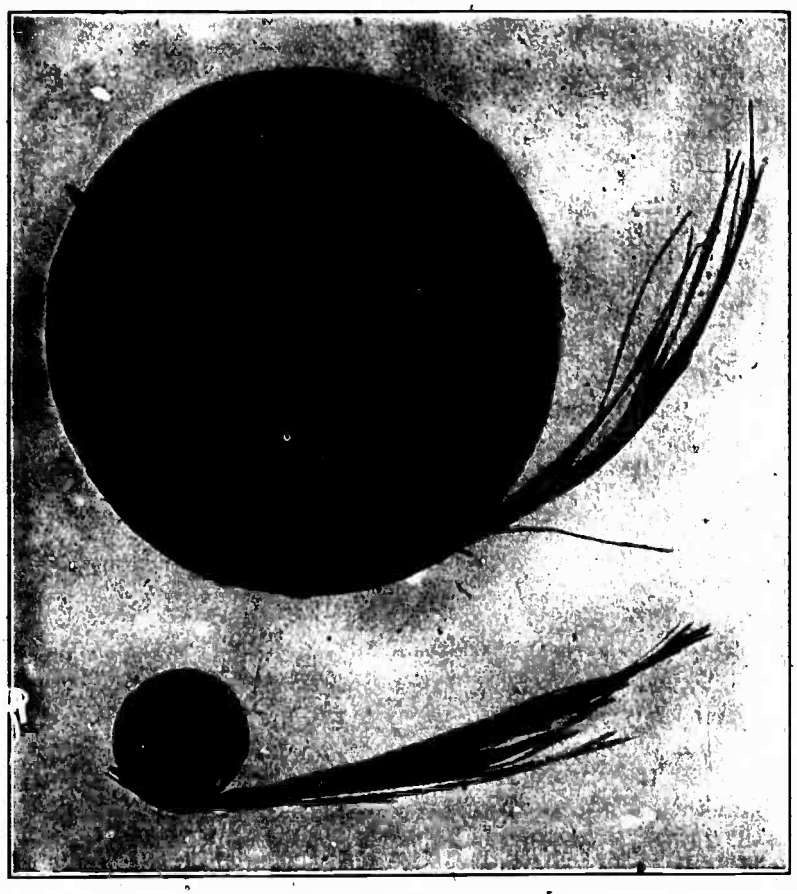

FIG. 5.—SURFACING WITH PINE NEEDLES.

always be put through the space between the rows, except in the very beginning of the basket, when the pine is entirely covered with raffia.

Adding new needles to the bundle.—As the work progresses and the bundle of needles becomes smaller, new needles must be added in order to keep the bundle of uniform thickness. Select two or three needles and, opening the loose end of the bundle just enough to admit the new needles, slip them into the bundle near the outside, sheath

end first and smooth surface out. Push them back into the bundle until they are securely held by the last completed stitch. As each row of stitches is completed, cut off close to the work all loose ends of raffia and needle, using very sharp pointed scissors.

Adding new raffia.—When the new strand of raffia is added, it is not fastened in any way to the last piece of raffia which has been

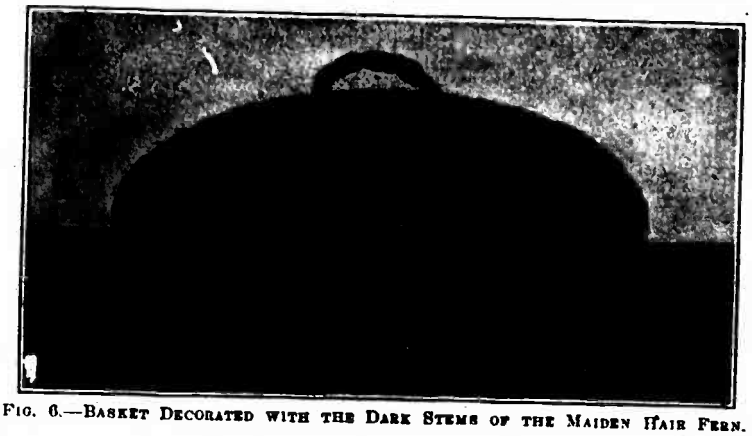

FIG. 6.—BASKET DECORATED WITH THE DARK STEMS OF THE MAIDEN HAIR FERN.

pulled through the bundle. This new strand is pulled through from the back of the bundle, leaving an end about 2 inches long after a stitch or two is cut off.

As the basket grows larger in diameter and the rows of stitches radiate from the center, the space between the stitches may become

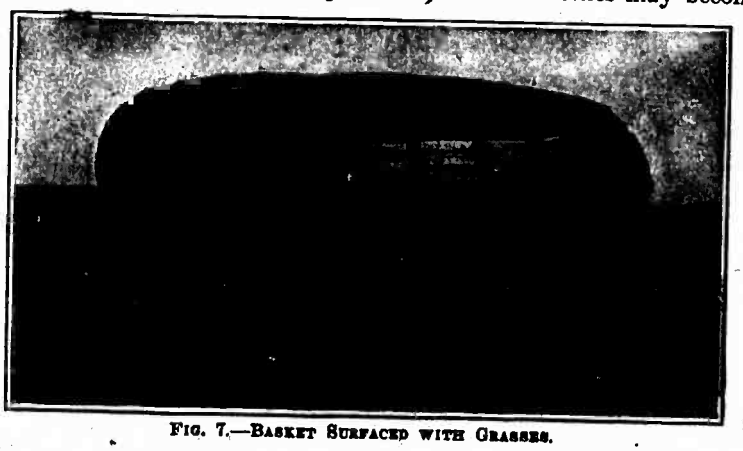

FIG. 7.—BASKET SURFACED WITH GRASSES.

too great. If the space is too large the basket will not be firm, which means that the finished article will not have its greatest value. Experience has taught that for pine-needle basketry the space between the stitches at the greatest diameter of the basket ought to be

no more than 1 inch, and on the average considerably less than that. Three-quarters of an inch spl[illegible] the largest part of the work is a safe rule for baskets of medium size.

Adding the extra stitches.—In the spaces between the rows of pine-basket stitch, make an extra stitch after the method described under foundation stitch, excepting that the stitch is made around the coil and not through it as before. Complete the row of alternate pine-basket stitch and foundation stitch, the succeeding rows being all pine-basket stitch. The worker must take great care not to let these extra stitches slip out of place, for at this point there is danger of uneven spacing. If possible add all extra stitches on the bottom of the basket. The extra stitches should be added uniformly—that is, one in each space, thereby doubling the number of stitches in the row. If the basket is started with 10 stitches, and extra stitches added twice, the 40 stitches obtained will be enough for a medium-sized basket, using a medium-sized coil. The number may be varied to suit the needs of the individual worker and the design of the basket in process.

Finishing off the basket.—In finishing off a basket, thin down the bundle as the last 10 or 12 stitches are taken by cutting out a few needles from the inside of the bundle each time. It is possible almost entirely to hide the ending of the bundle in this way.

Surfacing with pine needles.—It often happens, especially when a large bundle of needles is used or the needles are somewhat twisted, that the rough side of the needles will show on the surface. A good way to overcome the difficulty is to select two or three of the best needles and to lay these new needles on the surface of the bundle over the defective needles when beginning the new stitch. Let the sheath end of these surfacing needles extend about three-quarters of an inch to the right of the new stitch. These ends may be cut off very close after two or three stitches and should be completely covered when the next row of stitches is added.

A second method is as follows: When the stitch has been completed, select one or two of the best needles and slip them under the stitch from right to left, pointed end first, and pull the needles through until only the light sheath end shows at the right of the stitch. Proceed with two or three stitches or until the new needles are securely fastened before cutting off the sheath ends.

Surfacing for decoration.—Charming effects may be gained through the introduction of another material in a pattern. Stems, grasses, or needles of another color may be used. They may be put in as a band or border, as a broken band or as a straight-line pattern.

It is very essential that the pattern be planned beforehand, as the possibilities of a pattern are determined by the number of spaces in the row of stitches. The spaces to be covered with grasses, etc., are

treated as described under surfacing with pine needles (first method), except that it is usually necessary at the beginning and the end of the

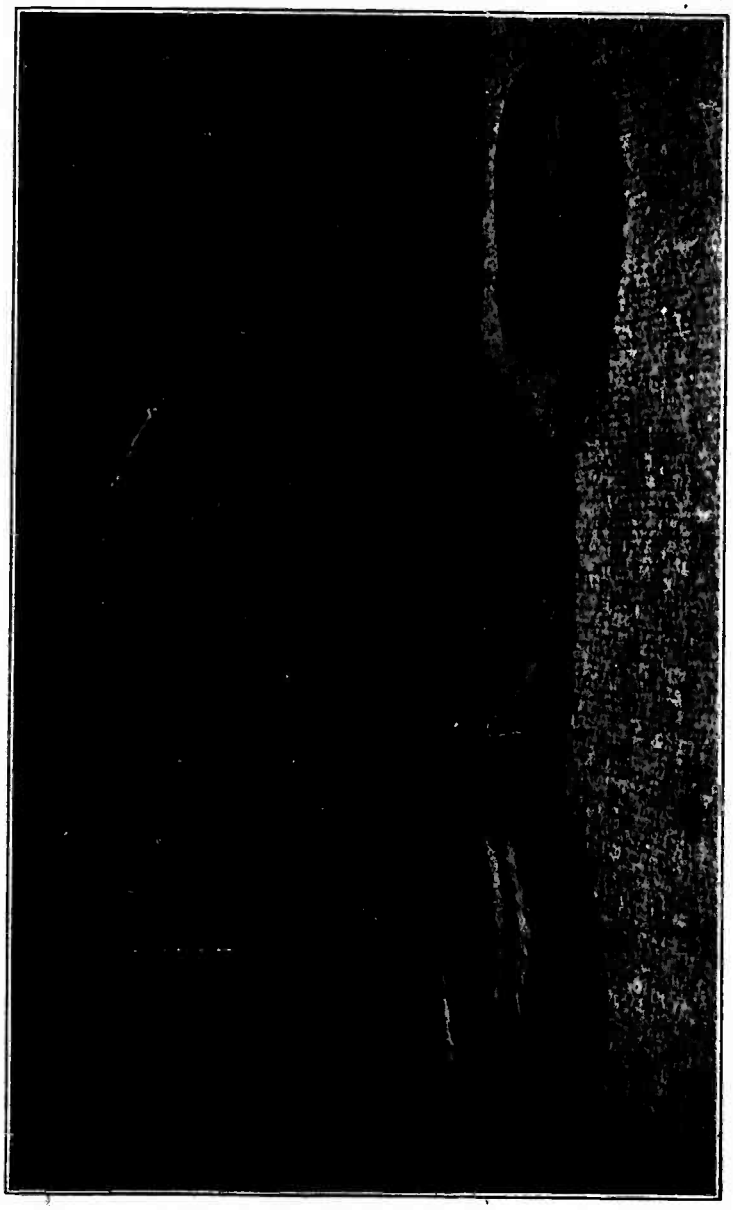

FIG. 8.—THE FINISHED PRODUCT.

pattern space to give the bundle one or two extra wrappings and to pull the raffia especially tight. The strand of raffia should be kept

small and well twisted for this work, so that the raffia may not seem larger in these places than elsewhere.

Conclusion.—In considering the finished product—the basket—see first that the shape is adapted to the use. If it is to be a workbasket, the bottom should be large enough to prevent its toppling over easily, and the opening sufficiently large to remove the sewing articles. If it is a tray, it should be strong enough to hold the weight of the heaviest of the kind of article it was intended to hold. If it is to be a lamp shade, it should not be heavy in design or exclude too much light.

To meet the practical and artistic requirements, the article made of pine needles must serve the purpose for which it was designed and made, must be firm and closely woven, the spaces and stitches regular, the bundles of well-graded or uniform size, the surface smooth, the shape and proportion good, the design suitable and well placed, and the coloring harmonious.