A PRACTICAL LESSON IN MAKING TRAYS OF BIRCH BARK, REED AND RAFFIA: BY C. B. WHITEHOUSE

Among the gifts that Nature so generously holds in store for us, there are few more intrinsically beautiful than white birch bark, tightly curled rolls of which may be found on almost any woodpile where trees of this species are plentiful. From primitive times, when the Indians first discovered the adaptability of birch bark for making their graceful canoes, it has served in many ways the needs of man. Its possibilities have not been exhausted, however, and many interesting suggestions for its use are constantly being evolved by people who wish to preserve for indoor enjoyment the beauty of Nature's craftsmanship. One attractive combination of natural materials is shown in the making of trays of birch bark, raffia and reed. The work is not difficult, requiring only a little practice, and the trays, besides effectively framing some pattern of Nature's weaving, render practical service in the home.

Although these birch-bark trays are well enough finished to harmonize with even the more formal city houses, they are perhaps happiest when used in summer homes in the mountains and woods. The furnishings of a bungalow or cabin always seem more appropriate if they capture some glimpse of the outdoor world and hold a suggestion of the growing things in the woods and meadows about the house.

Before starting to work with the bark,
it should be immersed in water for several hours to make it flexible, so that it may be straightened out and the outside bark parted successfully from the inner layers. When this has been done the inside bark may be separated, if some care is used, into several different sheets daintily flecked with brown; many of the layers contain knot markings which add greatly to their beauty. The outer bark is lovely at any time, but particularly at its peeling season.

A most interesting tray can be made from a large oval of the outside bark, covered with glass and framed with natural-colored raffia and reed. The varying shades of cream and silvery gray of the bark, with its dark markings, make a most harmonious combination with the uncolored raffia.

Sprays of primroses and maidenhair fern, carefully pressed and laid upon a mat of white birch, are effective on a tray, the frame of which is made of alternate rows of green and uncolored raffia; the green being the shade of the fern and the natural color of the raffia blending with the bark. All of the ferns, the brown and more highly colored grasses, autumn leaves and seeds, such as the fluffy ones of the milkweed, may be beautifully mounted and enjoyed all the year through.

Many lovely reminders of summer vacations and days of travel may be preserved in this way, and there is always plenty of material at hand for the use of the observing worker. One tray, herein illustrated, contains the wings of two of the beautifully marked brown cecropia moths, the largest of the silkworm family. The frame is a warm shade of brown raffia. The "lily of the field" so common and so beloved in Palestine, was carefully pressed and transferred to the mat of a small round tray. Scarlet raffia almost the color of the flower made an effective frame.

One side of the inner layers of birch bark is a pinkish tan in color, with softer brown flakes, just as pretty in its way as the more delicately colored side of the bark. This can be fashioned into an attractive tray, framed in soft green raffia and ornamented with a feathery fern or the leaves of the cut-leaf birch carefully pressed.

These trays are not restricted to the use of birch bark for backgrounds, however, and one illustration shows an unusual bit of decoration for a raffia-framed tray. A delicate lace doily, which was desired to preserve carefully because of its association, was mounted upon a circle of cardboard that had been smoothly covered with golden-brown pongee. This was backed with another piece of cardboard, covered with glass and framed with golden-brown and uncolored raffia. The result is a serviceable little tray that protects the keepsake and at the same time holds it in view.

The reed and raffia frames are easily made and are inexpensive, the glass being by far the most costly part of the work. In making small frames a very fine reed should be used, and it should be soaked in water for several hours to render it pliable. Raffia of the desired color, long-eyed needles and a little time and patience are the only additional requisites.

In beginning the work, taper the end of the reed and bend it into a circle about half an inch smaller than the glass to be used. Cover this first row with the raffia, winding
THE "LILY OF THE FIELD" FROM PALESTINE, THE FRAMES IS OF A SHADE OF SCARLET RAFFIA TO BLEND. WINGS OF THE CECROPIA MOTH, BEAUTIFULLY MARKED WITH BUFF, RED AND BROWN.

it smoothly around the reed. For the second row wind the raffia four times around the second reed and then carry it over the first row, thus binding the two reeds firmly together. Repeat this process all the way around the second row. In making other rows of the frame it is necessary to use a needle to carry the long stitch over the preceding row, and care should be taken each time to place it close to the long stitch on the row before. This is known to basket-workers as the "lazy-squaw" stitch, and the long stitches appearing at regular intervals make decorative radiating lines.

If the second row makes the frame as large as the circle of glass, the third will extend beyond the edge of the glass, so the fourth and fifth rows must be of the same size as the third and directly beneath it, to form the edge of the frame. When the last row is finished cut off the left-over reed on a long slant and bind the tapering end and the reed close by firmly to the reed below, finishing the work directly above the place where it began. This will make a plain round or oval frame.

Two methods of fastening the trays together are shown here. If the mat is pressed down into the frame and strands of raffia are fastened over the reed just at the edge of the mat, then carried directly across the tray and fastened in a similar manner to the frame on the other side, the strands crossing each other in the center of the tray will hold the glass and mat firmly in place. This is the best plan for rather large trays. The other method shown, that of sewing a long strand of raffia in loops around the back of the tray and then gathering them toward the center with a draw string of raffia, has a distinct advantage in one respect. By cutting the draw string the mat may easily be removed at any time, and it is only necessary to run in a new draw string to put the tray together again.

Handles for the trays may be made of raffia during the construction of the frame, or they may be made separately and fastened to the finished frame. If the handles are to be a part of the frame, the reed for the first row should be measured and wound with raffia as described. In starting the second row wind the raffia four times around the reed, then take the first
long stitch over the first row and fasten it securely. The reed may then be curved out to form the handle and wound with raffia its entire length until it is bent back and fastened firmly to the first row of the frame. The second strand forming the handle is best made of a separate piece of the reed. This should be well sharpened at both ends, and the points inserted under the windings of raffia which hold the first and second reeds together at each end of the handle. This addition to the handle should then be covered with raffia, every fifth winding to go over the first reed that comprises the handle.

Another short piece of reed, sharpened at both ends, should be inserted below the handle to take the place of the second strand of the reed which has been bent out for the first row of the handle. When this has been wound with raffia and fastened by means of the overstitch to the first strand of the frame, the second strand may be continued along the side of the tray in the same manner until the space which is to be occupied by the other handle is reached, a little care being taken to make sure that the tray measures exactly the same along each side between the handles. The third and following rows may be added without any piecing, to complete the frame.

A tray measuring 10½ inches wide and 14½ inches long is a practical size. The handles should be composed of 10 inches of the second strand, bent out, and a 10-inch separate piece, sharpened at both ends. The extra piece of reed inserted in the frame to take the place of the reed bent out to form the handle should be 9 inches long. The sides of the frame, between the ends of the handles, should measure 11 inches.

Small round or oval handles may be easily made by winding the reed twice in a circle of the size desired, the ends of the reed being well tapered and overlapping an inch or more, so that they may be securely held in position when wound with the raffia. Pressed into an oval in the hand and held firmly against the edge of the tray, they can be easily sewed to one of the lower reeds of the frame.

Work in birch bark, however, should only be encouraged when the material can be taken from the woodpile. To prevent people going into the northern woods and stripping the trees of their bark is the desire of all those interested in forestry.

ATTACKING FOREST INSECTS

By a prompt campaign against a flourishing colony of bark beetles on the Ochoco national forest in central Oregon, the Government is eliminating a danger which threatened to destroy millions of feet of timber. Some authorities claim that the amount of timber killed each year by insects is equalled only by the annual loss from forest fires. Among the most destructive of these insect enemies are the bark beetles, one of which, the mountain pine beetle, is responsible for most of the damage on the Ochoco forest. This deadly little beetle is less than a quarter of an inch in length, but bears the ponderous scientific name of Dendroctonus monticolus Hopk., which, being interpreted, signifies killer of the mountain pine tree, discovered by Hopkins.

Its methods of operation are interesting. The mature beetle bores through the bark of the tree and excavates a gallery in the inner living bark and in the outer surface of the wood, in which it lays its eggs. When hatched each young larva, or beetle grub, channels into this growing portion of the trunk, feeding upon the inner bark. When full grown the larva, after passing through a dormant, or pupal stage, becomes a beetle. This beetle then drills out through the bark in July, and, emerging into the world, seeks a fresh tree and starts a new generation. With this "chain letter" method, it soon infests a large area. The galleries or channels of the larvae girdle the tree and kill it, and the beetle's presence is usually discovered, as it was in the Ochoco forest, by a patch of red-brown dead pine trees in the midst of a mountainside of green.

In fighting this forest scourge, the method recommended by the Bureau of Entomology is followed. The simple removal of the bark of infested trees between October and July, while the larvae are still in the tree, is sufficient to kill them. The lumber may then be sold while it is yet sound. On the Ochoco forest, however, there was no market, and the forest officers found that the cheaper and more effective method of control was to cut the trees and burn them before the new broods of beetles could emerge. In 1912 the infestation was given a decided check by the cutting of 3,500 trees. This summer the attack on the insects was resumed.