Porcupine
Headdress
of the
Plains



Abe Conklin, Osage-Ponca, wearing turkey beard roach made by Dennis Hawkins.

by Vern Beilman

No headgear, with the exception of the Sioux war bonnet, so personifies the North American Indian as does the hair roach. Historically, its distribution and use covered virtually all tribes of the Plains, Plateau and Eastern Woodland cultural areas. Watercolors by Bodmer and Catlin in the 1830's reflect the use of the roach at that early date, and contemporary use of the hair roach may be seen in the costumes of the grass dance, straight dance, Oklahoma fancy dance and old time.

It is the intention of this article to describe as thoroughly as possible the construction of the roach for the serious student of Indian material culture. Raw materials used and described conform as closely as possible to those actually used by the Indians. I have substituted certain materials (e.g., carpet thread in lieu os sinew, etc.) where it seemed more practical to do so.

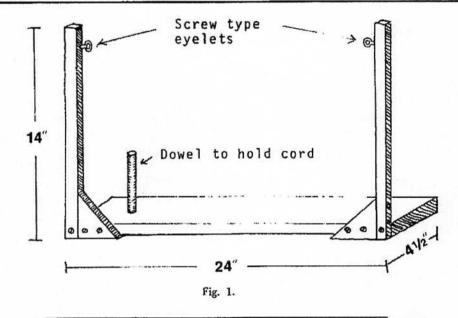
Following are the materials that must be secured in order to complete the construction of the hair roach:

- 1. Tying board
- One spool of Coats and Clarks Button and Carpet Thread. Obtain in the same color that the deer hair is dyed
- 3. Package wrapping cord approximately 1/16 in. dia.
- 4. Aluminum tumbler for joggling porcupine hair
- Two deer tail for non-hair base or five deer tail for a hair base

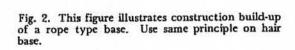
- Porcupine hair from the Western Yellow Hair Porcupine - order a quantity sufficient to tie 2-1/2 rows, in graduated lengths
- 7. One cake beeswax
- One small bottle of pure glycerin for dipping the bottoms of the purcupine hair
- 9. Rit or some other commercial dye for the deer hair. Start your project by first ordering the porcupine and deer hair. When ordering porcupine hair, the main consideration should not necessarily be length (although you must obtain graduated lengths from 4 in. to 7-1/2 8 in.), but the uniformity of color. The deer hair ordered should be from the White Tail Deer only. If you acquire porcupine hides the best method I have found to remove the hair from the hide is to soak it for approximately 24 hours. It is best to remove all the quills after removing the hair for your quill projects, or you will have to repeat the soaking process. It will take approximately two to three hides to yield enough hair for a roach.

After getting your order for the hair and/or hides on the way, start constructing the "tie board". Any scrap lumber may be used, although 1 in. clear pine would be preferable. Consult Fig. 1 for construction details.

The deer tails should (continued on next page 4)



31/2" — 33/4" — 13/4" —



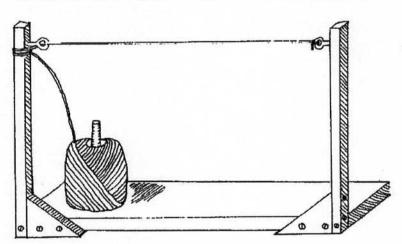
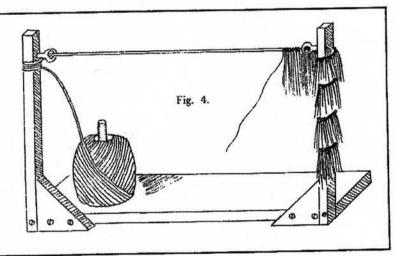
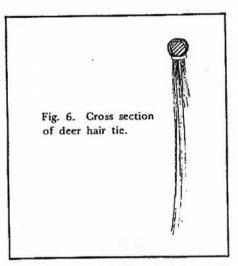


Fig. 3. Wrapping cord (1/16 in. dia.) mounted on tying board — keep well waxed.





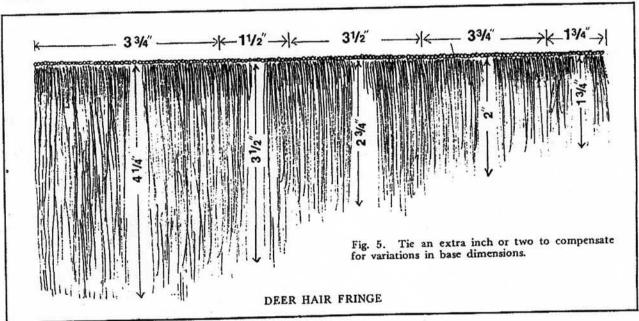
(continued from page 2) be dyed as follows: Make sure that the hair is clean. This can be accomplished by soaking the tails in a solution of mild soap and lukewarm water. After it has soaked for about fifteen minutes, rinse thoroughly and allow to dry. All tails that will be used in tying the fringe should be dyed at the same time as it is difficult to match colors if done at different times. Use a good commercial dye following the directions on the package. After the tails have been soaked a sufficient time rinse in cool water, spread the tails on a newspaper and allow to dry. Note: Do not cut the deer hair from its base prior to dyeing.

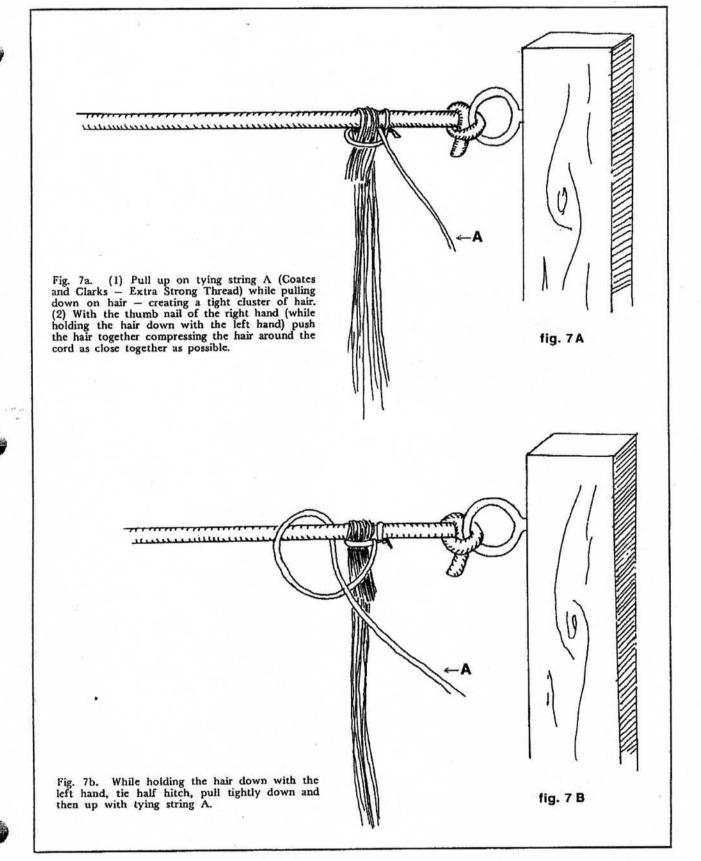
The outline and dimensions of the roach base should be as described in Fig. 2 whether it is made of hair, clothesline rope or woven. The width of a fringe of deer hair will depend on the diameter of the wrapping cord, but will be approximately 1/8 in. to 3/16 in. In order to create the base described you will have to tie

approximately 18 feet of deer hair for a hair base. If clothesline rope is used nine feet will be required.

If you do decide to go for a hair base you should use the shorter and the darker deer hair as this hair will not be used on the inner or outer fringes of the roach. When the deer tail is dyed, the brown and tan hair in the middle of the tail will yield a darker hue than the outer fringes of hair on the tail that had been white. Use the same method of tying your hair base fringes as used on the finished fringes, with the exception that an equal amount of hair will be looped over the wrapping cord on both sides (since this hair will all be cut down to 3/8 in. anyway).

String the tying board with wrapping cord, putting the cord through the eyelet on the left and running it to the right eyelet. Knot the cord on the right eyelet. Wrap the cord around the left vertical board several times (continued on page 6)





and make sure that the cord is taut. Consult Fig. 3 to make sure you have it strung correctly. Do not cut the cord because as you progress tying from right to left and fill the whole area, the right hand side can be loosened and the right vertical board can then be wrapped with the tied hair. Loop the cord several times over the left vertical board and resume tying. See Fig. 4 to clarify this point. The whole object here is to have one continuous length of fringe instead of several sections. Note: Keep the line taut and well waxed.

It is best to start tying the deer fringe first for several reasons. Among the most important is gaining proficiency before you start tying the porcupine hair. This requires some skill. Keep in mind when tying hair, not to have an over-abundance for each tie. Too much makes the hair, when tied, look bulky and out of place in a fringe of hair which has lesser amounts. Remember: Better too little than too much.

After you have gained some experience you will be able to judge rather rapidly the amount of hair to use in each tie. I have found that for deer hair, about 45-55 strands of hair worked real well.

Start tying the deer hair from right to left. You will start with the smallest length first. Fig. 5 depicts the graduations and length for the inner and outer rows of deer hair fringe that will be required for the roach.

Deer hair for each individual tie is cut from the tail as needed. Remember to use only the outer edges of deer hair from the tail. Do not use the darker hair as this will result in a multi-hued fringe.

As the deer hair gets closer to the base of the skin its diameter increases so it is not desirable to have equal lengths of deer hair on each side of the cord. (This is the reverse of the concept when tying deer hair for a hair base.) Consult Fig. 6 for a cross-section view of how the deer hair should look for the outer and inner fringes. Figs. 7a, 7b, 7c illustrate the technique of tying both deer hair and procupine hair to the wrapping cord.

At this point you should have completed tying the deer hair fringes for the outer and inner rows (and the fringe for the hair base if you had decided on one), and are now ready to proceed tying the porcupine fringes.

In order to assure that all porcupine hair is of the same relative length, take a small bunch and put it in an aluminum drinking glass (tumbler). Tap the bottom of the tumbler for several minutes, after which time all hair should have its base at the bottom. It will now be easy to pull from the bunch the longest hairs down to the smallest and group them accordingly. Repeat this process until all the hair has been grouped.

There should be no more than 15-18 porcupine hairs in an individual tie. Prior to tying, the bottom of the hairs should be dipped in glycerin (which may be purchased in any drugstore). If you do not use glycerin or some other heavy oil substance to wet the bottoms

(continued on page 14)

A CANADIAN "CROW BELT"

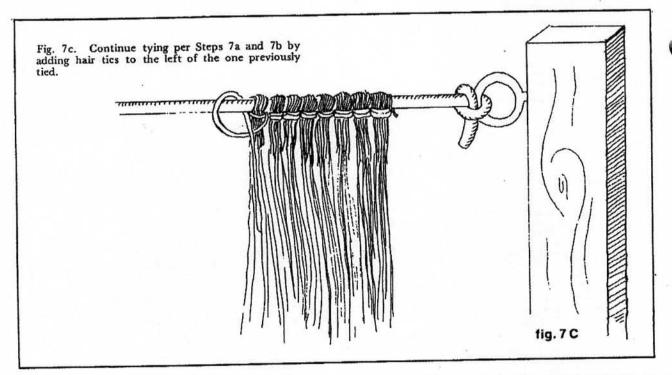
by Michael Johnson

The sketch shows a type of crow belt still seen on the Canadian Plains which strongly resembles the original Prairie crow belt of the 19th century. It lacks the wheel of feathers associated with later bustles farther south, and hence may be an influence from the Woodland people who also adopted the grass dance complex* in the later 19th century rather than an import from the Plains tribes proper, but this is speculation. The influence of the Santee, who largely removed to Ganada, has probably been understated.

The specimen has two conventional trailers decorated with four rows of medium size eagle feathers attached with buckskin thongs through tin cones. The pillow is stiff hide covered with red cloth, with eagle feathers attached; to each side is stitched the cloth belt which is about the waist. The outstanding primary feathers or spikes are attached to a wooden dowel covered with red cloth by flattening the quills around the dowel and binding with sinew and also stitching to the red cloth. There is a strong thong tie between the center of the dowel and the head of the pillow which is tightened to give the required angle at which the spikes will stand out. This can give an upright or downward position of the spikes, or any intermediate position to suit the owner. The tie must be strong, however, to take the required tension.

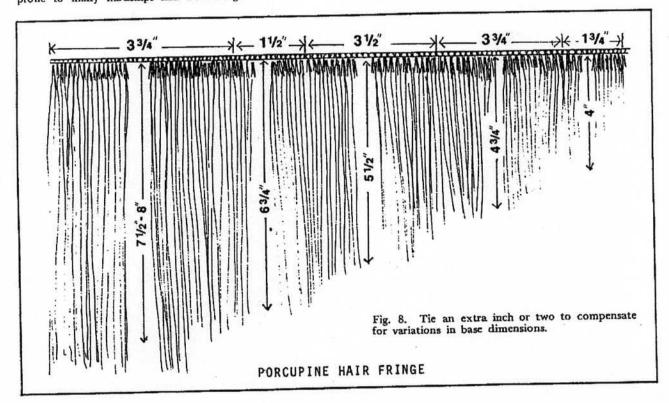
*The Woodland and Chippewa, Menonomie, Potawatomi and Santee formalized the complex into the Dream religion.

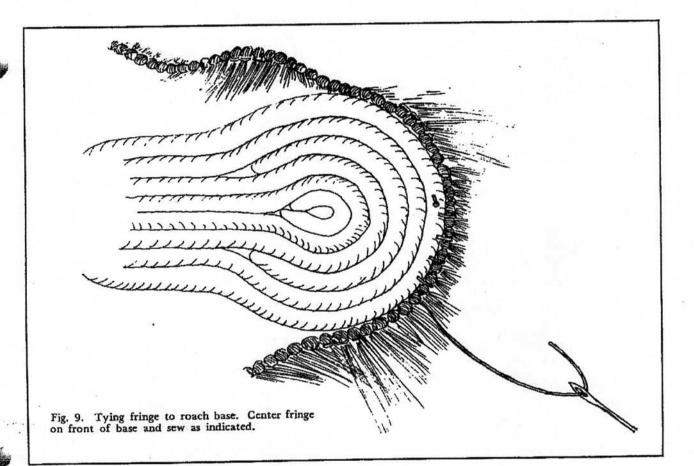




(continued from page 6)
it will be extremely difficult to tie the hair, and in addition it will break or crack if worked dry. The glycerin tends to make the hair flexible, resilient and easy to work. Remember - working the porcupine hair dry is prone to many hardships and weakening of the hairs.

Fig. 8 illustrates the length and graduations of one side of tied porcupine hair. Two complete rows should be tied plus a half row for the front, the reason being that more rows of smaller tied bunches tend to make a better looking roach. After all the hair has been tied you are now ready to stitch it to the base.

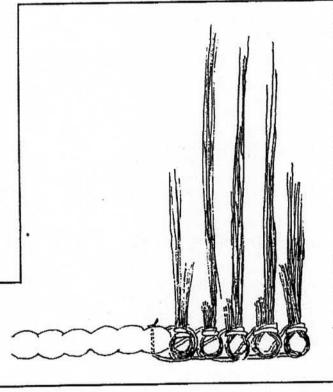




If you had elected to tie enough deer hair to make a base you should now stitch it together following the pattern in Fig. 2. Realize that Fig. 2 illustrates the construction of a rope base, so just double the amount shown and it will come out about the same. After stitching the base together lay it on a flat surface and cut all the hair down to 3/8 in. thickness.

It is best to center a fringe of hair in the middle of the front part of the base and work toward the rear. This will assure an even distribution of hair length on either side of the base. Use Coats and Clarks thread (same as thread used in tying hair). Fig. 9 illustrates this point. Be sure to start with the inside deer hair fringe, then add the 2-1/2 rows of porcupine hair in the same manner and finish up with the outer row of deer hair. See Fig. 10.

Fig. 10. Cross-section of deer and porcupine hair fringes indicating method of stitching one row to the other.





Oklahoma Style

w/ Dowel

Centered

ORKY ROACH

CARE and STORAGE

Form I-0000

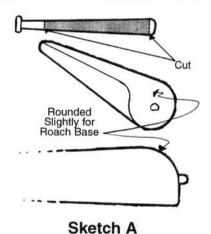
Congratulations!! You have just purchased one of Crazy Crow's top-quality porcupine hair roaches. The following information will help you keep it in good shape and add years to its life.

STEP 1: The very best material for wrapping your new roach is an "Ace Bandage" that is 2 or 3" wide. We suggest purchasing one of these at your local drug store or medical supply if you do not already have one. In order to make wrapping easier, always roll the bandage up before beginning.

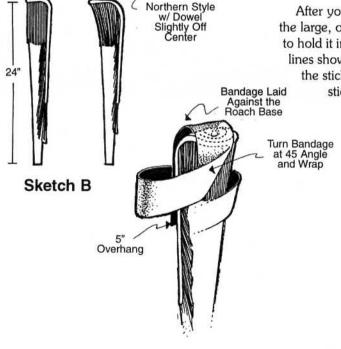
STEP 2: An item that will contribute to a nicer looking roach is a tapered wooden stick on which to wrap it. A quick way to make one of these is to use a small baseball bat that has been cut as shown in **Sketch A**. Another method would be to carve a piece of wood to this same shape. Either one should also have a flat area down one side that conforms to the shape of the base and causes it to lay flat when it is wrapped on the stick. If your roach base is fairly narrow (approximately 2 to 21/4" wide at the front) you can use one of the wooden dowels that are sold in lumber yards for clothes rods and handrails. Very little shaping is required with this dowel and it does not need to be tapered. The length of the stick should be approximately 4" longer than

your roach base length so as to insure proper protec-

tion for all of the porky hair.



After you have achieved the correct shape, insert a wooden peg or drive a nail into the large, or top end of the stick. This goes through the hole in the roach base in order to hold it in the proper position when stored. When positioning this peg, use the guidelines shown in Sketch B. The front edge of the base should be even with the edge of the stick for an Oklahoma style roach, while the base should extend slightly past the stick for a Northern style.



Sketch C

ening the base and all of the hair as perfectly as possible. This is very important as it will determine how straight the porky hair stands the next time you use the roach. Start to wrap by laying about 5" of the bandage along the base of the roach at its top end and over past the front edge of the base. Next, fold the bandage at a 90° angle (as shown in Sketch C) and begin wrapping 1/2" of the bandage to stick up above the top edge of the base. It is the nature of the elastic bandage to fold over this edge, thus protecting the edges of the tied hair. The next few wraps should begin to angle down, each overlapping the last by approximately 1/2" until you reach the bottom end of the roach. If you have some extra bandage left, you may reverse the direction of the wrap and start back toward the top until you run out. This will give a bit more protection than a single wrap, but is not absolutely necessary. Secure the end of the bandage with the small metal hooks supplied with it.

STEP 3: Begin by placing your roach over the peg and straight-

STEP 4: If the porky hair in your roach should lose its shape due to poor wrapping, rough handling in transport, or accidental incorrect wrapping on a previous occasion, it can always be corrected by dampening the hair and care-

fully straightening it while you wrap it. It is a good idea to wet the bandage and squeeze out as much water as possible before wrapping it. Be certain the hair is straight when you do this because if you wrap it with a bend in it, it will set up this way and you will have to repeat the process. To dry the roach, place it in the sun or in a warm place with some air circulation, such as in front of a heater vent in the house. One word of caution is needed here, however. As deer hair is difficult to dye and is not completely colorfast, you should use extreme caution if you dampen the hair of a roach that has colored deer hair. This is especially important if it is red, since this color will bleed onto white hair if it gets very wet.

Follow these instructions carefully and you should be quite pleased with the results!!



THE PORQUPINE HEADDRESS

BY PAUL SHEPPARC

For the past couple of decades the porcupine hair roach has been the "universal" dance headdress of the male North American Indian that dances at powwows held throughout the land.

Though the main thrust of this article will be to explain the construction of a porcupine hair roach, certain aspects of the origin and distribution of this headdress need to be mentioned so that this article can be used as a basic resource. Dr. James Howard in a classic article for the American Indian Hobbyist (June 1960) discusses its tribal distribution and several roach types. Several of his findings and comments concerning the origin and diffusion of the roach are quoted here at length.

"This headgear is apparently called 'roach' in English because of its resemblance to the roaching or clipping of a horse's mane which was considered stylish in the nineteenth century. The roach head-dress of animal hair almost certainly originated in the custom, formerly observed by some Indian men, of cutting all of the hair from the head except for a narrow strip running from the crown to the base of the neck."

the neck."

Concerning the early evidence of the roach, Dr. Howard states that discriptions from early travelers and archaeological evidence of bone spreaders account for its presence early in the sixteenth century. He references several recorded accounts of roaches noted during the following century among tribes of the Eastern woodlands such as the Penobscot, Micmac, Powhatan and others. Then Howard discusses the diffusion of the roach.

"Numerous eighteenth century references indicate a rather general distribution throughout eastern

North America in the Colonial and Revolutionary periods, although information is scarce for some of the tribes of the Southeast.

...In the early nineteenth century the roach was very popular among the so-called 'Prairie' tribes, such as the Winnebago, Omaha, Iowa, Osage, Sauk and Fox. In these tribes it was often worn together with an otterskin or fingerwoven sash turban. The artist Catlin often pictured this combination of the roach headdress and turban. (See photo 2)

Though Catlin shows the roach in use among the Grand Pawnee, this headdress did not, apparently, become well known to other Plains tribes until shortly after the middle of the nineteenth century. At this time, however, the use of the roach spread to many tribes on the plains as one of the most prominent insignia of the Omaha or Grass dance society. The roach headdress was apparently connected with the Grass dance from that ceremony's inception. During the latter part of the nineteenth century this headdress was adopted, along with the Grass dance ritual, by many far flung tribes who had previously been unacquainted with it.

In the Northern Plains it was received by the Teton, Yankton and Yanktonai Dakota, the Crow, Blackfeet, Atsina, Northern Cheyenne, Northern Arapaho, Shoshone, Mandan, Hidatsa, Arikara, Addiniboin, Plains-Ojibwa, and Plains-Cree, while in the south it came to the Comanche, Kiowa, Southern Cheyenne, Arapaho, and Kiowa-Apache.

...The Ojibwa were using the headdress in early historic times and apparently traded a few roaches to the Eastern Dakota as early as the 1830's. It







was uncommon enough among the Middle (Yankton and Yanktonai bands) and Western (Teton) Dakota, however, to be used by them as a pictographic symbol for two enemy tribes, the Omaha and Ponca, on many Dakota winter counts. About 1860, however, both the Middle and Western Dakota adopted the Grass dance and the headdress, and after this time the pictographic representation of the roach was used on winter counts merely to designate a 'dancer'."

As the non-Plains tribes and individuals embraced to modern powwow which grew out of the Grass dance, it is quite natural that they adopt this common headdress. Thus, you will see dancers from the Southwest, Northwest Coast and California wearing not only the roach but other Plains clothes.

In attempting to present a method of construction one finds that there is more than one to choose from. This was to be expected Howard says, "As is to be expected with any cultural item which has diffused over a large area in this manner, many regional differences have crept into the construction, style and manner of wearing the roach." Also, methods will vary from one maker to another. Materials also vary, though these details concern roaches made of the long guard hair on the back of the porcupine, moose hair, horse hair, and turkey beards are sometimes used.

Present day style differences, from a simplistic point of view, occur between those made on the Northern Plains compared to those manufactured on the Southern Plains. Those from the south stand more erect in front (photo 1 & 4) while those from the north tend to lie flat. (photo 3) However, any dancer may travel up north and purchase a roach and then wear it at the next dance in his home town.

The length of the headdress also varies along the same lines. The dancers in the south especially the Feather dancers with their neck bustle will have shorter roaches than those in the North especially those wearing modern Grass dance clothes some of which may extend to the wearer's waist. The abundance of materials available up North and not in the south may account for this variance in length. Also the Northern dancers tend to wear the headdress farther back on the head.

CONSTRUCTION

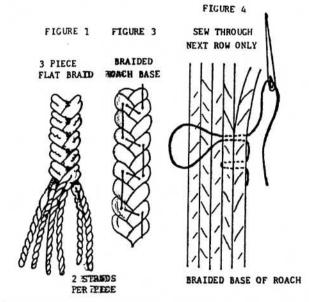
With these differences in mind, the construction details presented here are based on a very fine roach owned by late Jonas Steele. Interestingly enough, the roach bought on the Crow reservation seems to have little or no construction difference other than the center portion of the base which allows it to be flatter.

The proper materials must first be obtained in order to make a quality, roach. They include: porcupine guard hair (see below), from three to six deer tails, Nymo thread size D, bees-wax, and one small skein of 3-ply rug yarn in a standard color, red, black, blue, etc.

The yarn base should be made first, for its size is significant to how much hair will be tied. Other base materials include clothesline cord, braided calico strips, or the traditional clipped natural deer hair base.

Braid the yarn using a 3 piece braid, with each piece having two strands of yarn for proper thickness (see fig. 1). It is important that the braid be done flat, not rounded or spiraled. Sew the completed braided strip flat-wise to itself by starting with a circle at least two times around, to then form the completed

.



OUNCES OF PORKY THE	LENGTH OF FINISHED ROACH
3/4 - 1	10 - 12"
1 - 11	14 - 16"
15	18 - 20**



FIGURE 6
FOR THO ROWS AND ONE PARTIAL ROW OF PORKY HAIR

spreader ties or scalp lock pass

through center hole

Raoch ties, 53" from center hole

HEAVY OR TRIPLED THREAD

pattern in Fig 2. The first length should really be about 's' shorter than the desired overall length, for as the braided strips are sewn around into place, the base will expand to the right size. When sewing, do two stitches along the edges, not just one stitch down the center of the winth (see fig. 3). It will take five or more braided strips to finish the base. If one strip runs out, simply start a new one at the same place. As the base becomes wider, DO NOT sew all the way through it; just sew the last row to the one row immediately to the inside (Fig. 4).

TYING THE HAIR

The distance around the outside edge of the base will be the length of the first row of hair. Make a loom, simply one long piece of wood and two nails, that is at least 10 inches longer than the first row (Fig. 5). The string across the two nails can either be imitation sinew, or nymo thread size D that has been waxed and then tripled for extra strength. With a pencil, mark on the loom line the middle point and the two end points.

Before any guard hair is tied to the loom, it must be separated into bunches according to length. This can be done by setting the hair into a drinking glass, tapping it so that the bottoms come even, and then pull out the longest. If the hairs are dirty and sticky, they can be cleaned safely with dish soap and water. When done correctly, the separating process will take a lot of time and yield from 10 - 20 piles of different lengths. Place the piles in order from shortest to longest, and then separate EACH pile into two piles of equal amount. Most roaches have two rows of guard hair & a partial row OR at least one row & a partial row. To provide for these, halve again only the longer piles, and if a full second row is desired, halve again all of the piles, (see Fig. 6). This has the effect of

making the roach thicker instead of skimpy.

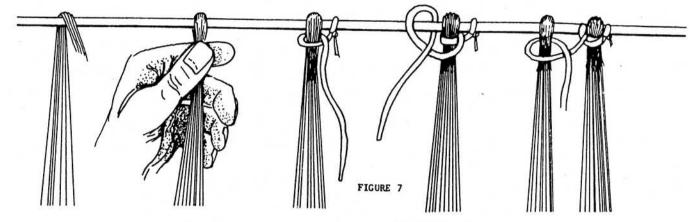
FIGURE 2

FIGURE 5

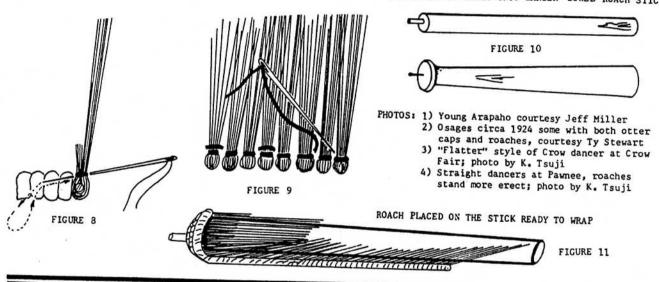
If the bases of the hairs are dry, and therefore split or crack when bent, then they will have to be softened before tying. DO NOT USE WATER. An emollient softener called Glycerin can be used, (Beilman) and can be purchased at any drugstore. The actual tying process uses only 6 - 10 individual hairs at a time which ever is chosen, use that amount consistantly. Some craftsman may use twice this amount, 12 - 18 hairs in each bunch, and tie only a single row. It is easiest to start with the longest hairs in the middle and tie outward using shorter and shorter hairs until the end point is reached. Using the nymo thread size D, tie the first knot at the center of the loom line. A small hand shuttle, found at yardage shops, which can hold all of the thread needed to tie from the middle to the end point conveniently in the hand. This shuttle makes the tying process easier, and also makes it necessary to have only two knots, at the center and the end, instead of several knots throughout. The actual tying process has two steps: wrap around the hair beneath the loom line, and finish it off with a simple half-hitch (see Fig. 7). Notice the hair will be bent over the loom line, and held in place with the thumb and fore-finger while tying. The bent over short end should be consistently no more than to long.

ROWS OF DEER TAIL HATR

A row of white or dyed deer tail hair from the White Tail Deer is always tied on a string and sewn to the outside base of the headdress. Many roaches have an inner row of deer hair also. The inner row hair color need not match the outer. Red deer hair would always be used with roaches of turkey beards.



SMALL DOWEL GLUED INTO LARGER DOWEL ROACH STICK



If a color other than white is desired pre-dyed tails can be purchased or they can be dyed with a good commercial dye. On occasion, outer rows of deer hair are tied in two colors - i.e. 3/4" white 3/4" black.

Tie the deer hair on the same loom. The length of the tied outer row of deer hair needs to be longer (½") than the row of porky hair because the base diameter increases as the rows of hair are sewn on.

The hair must be cut off the tail in small, uniformsized bunches one bunch at a time. The length of the deer hair is also a factor. Use the longer hair on the end tail, on the front of the roach.

Use the same tying method as with the porky hair. If desired a color of waxed thread could match the color of deer hair but this is not necessary; therefore, use nymo size D. Also, the white deer hair could be dyed after tying.

SEWING THE ROWS TO THE BASE

With all of the hair tied, the rows may now be sewn onto the base. This is done one row at a time, starting with the inner deer hair. This first row must be sewn with the short ends of the hair facing out, while the other rows have the short ends facing in. Again it is easiest to start by sewing the middle of the row to the very front of the base, and then work outward. If the deer hair rows have been dyed a certain color, it would be best to sew them to the base using thread of the same color, but use strong thread and wax it before sewing. Use the stitch shown in Fig. 7 & 8. The outside row of deer hair does not need to be sewn to the base but to the other rows of hair.

WRAP UP WITH CARE

With all of the rows sewn to the base, the roach probably looks like a mess of hair going in all directions. It can be easily shapped by wetting with water, placing on a "roach stick" and wrapping it up with an ace bandage or cloth strip. A baseball bat (handle end) or 1½" diameter dowel stick with a nail hammered in one end makes a good roach stick, (Fig. 10). Concerning roach sticks, Howard states,

"Sometimes the sticks on which the roaches are stored are beautifully carved and constitute family heirlooms in themselves. I have occasionally seen them carried, like clubs, by Winnebago Grass dancers."

After a day or two of being wrapped up, the roach should begin to take shape. Re-wet and wrap again if shape is not taking place. Add tie string to the base as in Fig. 11. Be sure to keep WRAPPED UP WHEN NOT IN USE and the headdress will always look good.

REFERENCES

Beilman, Vern; "Porcupine Headdress of the Plains Indian,"

American Indian Crafts and Culture, March 1973,
vol. 7 No. 3.

Howard, James; "The Roach Headdress," American Indian Hobbyist, March, April, 1960, vol. VI No. 7 & 8.

Treaty Oak Indian Store; The instructions for making a porky roach from their Roach Craft Kit.





Roach: Tie Placement Jerry Smith

After a visit to a couple of powwows or to a war dance on the Southern Plains, it is apparent to most observers how fastidious straight dancers are about their clothes. Everything neatly pressed and polished. Each item is worn just so. Proud and caring wives and mothers often make the final adjustments so their man will look "just right" in the dance arena.

In this vain, the way a headdress is worn in very important. If the dancer is wearing a porcupine hair roach, the placement of the back or secondary ties is, in the author's mind, critical. Whether the roach utilizes a pair of front ties or a braided lock of hair and roach stick, the back ties should be attached

to the base of the roach at a position which allows the headdress to hang from the back curve of the head to the dancer's back as in photo 1. If the back ties are attached too far down the base of the roach, the headdress is pulled into the neck as in photo 2. Not only is this atypical, but it should bother the dancer as he moves his head and it shortens up the appearance of an ordinarily long flowing roach.

Attach the secondary ties (usually a shoe lace) at a point where the top of the handkerchief headband would hit the roach base to avoid this "dipping in" of the roach at the neck.