

How to make a Tipi Tipsheet 50p



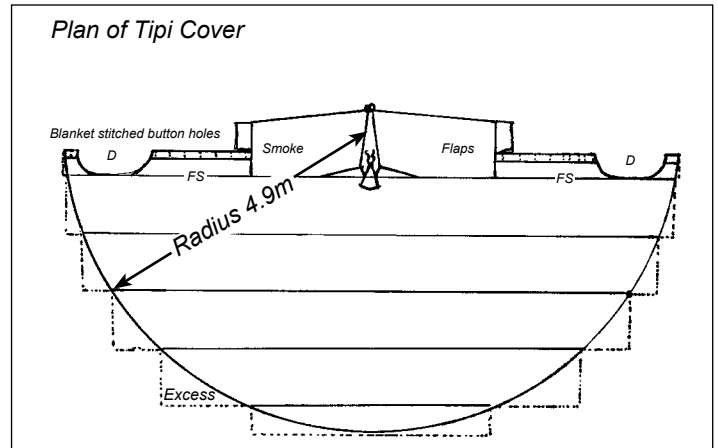
Centre for
Alternative
Technology
Publications

Here is a straightforward design guide to constructing a tipi – whether for the children in the garden, camping or festivals.

Machynlleth, Powys SY20 9AZ / Tel. 01654 705950 / Fax. 01654 702782 / email. info@cat.org.uk / website. www.cat.org.uk



Tipis originate from the plains of North America, where the native tribes wrapped the hides of large mammals such as buffalo around timber frame structures made from lodge pole pine. Our tipsheet explains how to make the same tipi structure using modern canvas fabric and wooden poles carefully selected from sustainable sources.



Method of Construction

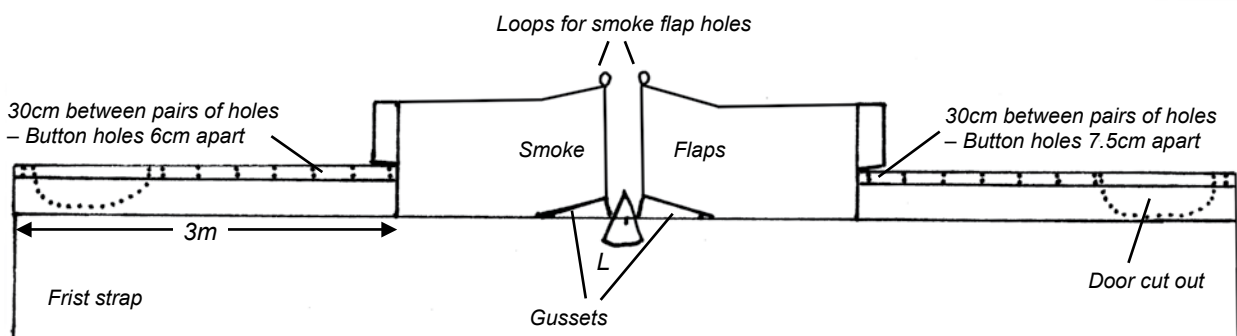
Step 1: Cut fresh poles from the woods. Green poles are easier to work and last longer than poles that are already seasoned. The straighter the poles are, the better they will be. So, carefully select your trees before you cut them. Cut all the branches off with your billhook as close to the trunk as possible. Remove the bark and pith without damaging the wood. Now leave the poles to season for three weeks.

Step 2: White cotton canvas is the best cover material for creating a well lit interior, and 12oz is reasonably hardwearing but not too heavy to handle. Semi-synthetic canvas is also available if you prefer. To make the cover, first cut out the smoke flaps and gussets and sew together. Hem the top edge and sew canvas loops or pockets to the corners to hold the smoke flap poles. The lifting triangle is made of two layers of canvas with the first strip sandwiched between them and sewn several times to reinforce it (Fig. 1).

Step 3: Next, cut the front strip by splitting a 3m strip of canvas lengthways down the centre. Use one half for each side. Fold the raw edge back 12cm, hem and sew down. Cut out the door and bind with a strip of canvas.

Step 4: Join the smoke flaps to the front strip with a French seam, sewing the join several times or reinforcing with a small piece of canvas. Add small flaps of canvas to the bottom of each smoke flap (Fig. 1).

Fig 1.



Step 5: Punch holes for the lacing pins and sew around them with a blanket stitch. Take care to line up the holes on each side. Measuring down from the base of each smoke flap, make the first holes 5cm down, then leave 25cm between each pair. The last pair should be just above the door hole.

Step 6: Sandwich the lifting triangle into the first strip in the middle and sew. Next, sew the gussets, smoke flaps and front strip onto the first strip on each side using two lines of stitching (Fig. 1). To do this, sew on the remaining strips, each overlapping the next in the same way as the smoke flaps and the front strip overlapped the first strip. When the tipi is pitched, the rain will be shed over each seam in the same way as slates shed rain.

Fig. 2

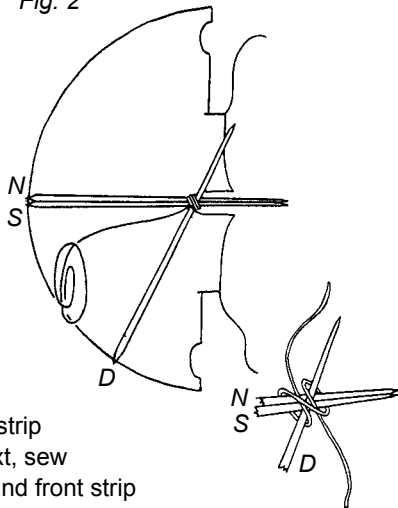
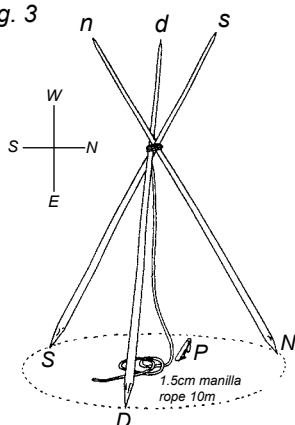


Fig. 3



Step 7: Lay the whole thing out flat and cut it into a semi-circle with a radius of 4.9m. To do this, make a compass with a sharpened stick, a piece of string 4.9m long, and a pencil. Push the stick into the ground near the outside edge between the smoke flaps and mark out a semi-circle as large as possible with the canvas available. Cut out and hem.

Step 8: Once the green poles are seasoned and dry, they need to be smoothed off. Use a billhook to remove any branch

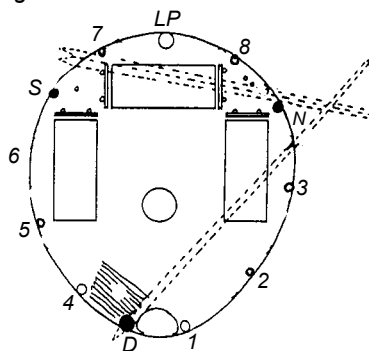
stubs, then use an electric planer or a surform to get the poles as smooth as possible before sanding. The smoother the poles, the better the rain will run down them. Any notches or scratches will cause drips and wear at the canvas.

Step 9: Erect the tipi by placing three poles on the cover laid flat on the ground as illustrated in Fig. 2. The poles are tied where they cross at the lifting triangle with 10cm of stout rope, using a clove hitch followed by a reef-knot.

Now lift the poles so they splay into a tripod. The tripod shape is crucial and should be as near to Fig. 3 as possible, viewed from where the door is going to be. (The door usually faces east with pole D on the left of the door.)

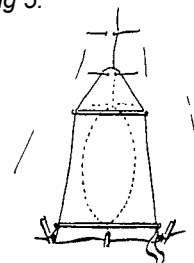
Once the tripod is up, add the rest of the poles into the circle (Fig. 4). Place pole 1 on the other side of the door, followed by poles 2 and 3. Then place poles 4, 5 and 6 on the other side of the circle as shown in Fig. 4. These poles all lie on the front of the crown where the smoke hole will be, allowing the cover to wrap tightly round the back of the circle, leaving a gap for the lifting pole (LP).

Fig. 4.



Wind the rope tightly around all the poles four times (for the four directions and four seasons), and anchor it to pegs in the ground. Next, lay the lifting pole down the centre of the cover, so the butt of the pole protrudes 10cm past the bottom edge. Tie the lifting triangle (Figure 1, 'L') securely to the lifting pole where they meet.

Fig 5.



Now fold the cover around the lift pole and heave it into place, wrap it around the poles, and lace up the front with lacing pins (cut from 1cm straight hazel or willow). Adjust the spacing of the poles at this point for a nice tight cover.

Push the smoke flap poles through the loops at the top of the smoke flaps on the outside of the tipi – they adjust the direction of the smoke hole depending on the wind.

Attach cords to the bottom of the cover at each pole using a clove hitch and peg them to the ground. (Add more poles into the frame for bigger tipis.) Attach the door over the doorway either with a lacing pin or by tying it around the door poles (Fig. 5).

Step 10: Cut more cord into twelve lengths of 50cm and use the lengths to tie pebbles into the canvas using a clove hitch at the bottom of each pole. These will be used to tie the cover to the pegs. Similarly, using two 2.5m lengths of cord, tie one pebble at the bottom corner of each smoke flap. Finally, find a forked stick 1.3m long and push it into the ground 1.5m in front of the door. Tie the smoke flap lines to this so that the bottoms of the smoke flaps are pulled taut. Now you're ready to move in!

A tipi is basically a chimney for the fire in the middle, drawing air in around the bottom and sending the smoke out of the top. You may wish to hang a lining for insulating and draught excluding around the inside from a cord wrapped around the poles. There are many furnishings, fittings, rituals and layouts which go with a tipi to make it complete.

For further information see *The Indian Tipi* by Reginald and Gladys Lanbin, or contact the authors:

Bob and Lesley Hajoh, 'Shelters Unlimited', Rhiw'r Gwreiddyn, Ceinws, Machynlleth, Powys, SY20 9EX; phone: 07736 540 376; email: info@tipis.co.uk

Materials:

- 14 pine poles 6m long and roughly 5cm in diameter from the butt end
- 48 metres of white 12oz water-resistant canvas 1m wide
- 15 metres of strong nylon cord
- One large bobbin of strong nylon
- 10m of manilla rope
- 12 x 45cm lengths of green hazel 5cm in diameter to make tent pegs
- 12 x 25cm lengths of green hazel 1cm in diameter to make lacing pins
- A handful of small pebbles to hold the strings around the bottom of the lodge
- Poles are widely available from thinnings of most Forestry Commission Fir and Spruce plantations.

Canvas is available from 'Shelters Unlimited' @ £3.50 per metre incl. VAT

The total cost of materials will be approximately £238.

Tools:

- Bowsaw
- Billhook or hand axe
- Draw knife
- Planer or surform
- Sharp knife
- Tape measure

To make cover:

- Sewing machine – treadle, hand or industrial
- Scissors
- Tape measure
- Hole punch
- Sewing needle
- Flat area for measuring canvas and cutting out cover.