

FIELD-CRAFT AND WOOD-CRAFT

Some years ago a man was lost in the woods in Northern Ontario. He was gone for several days before a search party found him as he sat on a log, completely exhausted. He said the wild partridges were teasing him by sitting on the low branches of the nearby trees. "I could have knocked them down with a stick," he said, "they were so tame, but I simply could not eat them raw." He had no matches with which to light a fire, and knew no other way of producing fire without matches. Had he been trained to look after himself in the open he would probably never have been lost.

Every year, between fall and winter, many people while hunting become lost in the woods. Had they a knowledge of the various methods of making fire, they could have at least kept warm and, perhaps, might send up smoke signals to guide searching parties.

There are many good books dealing with these subjects which you should read, and acknowledgment is made to the respective authors and publishers. The Boy Scouts Association have published many good text books written by experts the world over in connection with the subject of woodcraft. Information contained in the 1940 Edition of *Training in Fieldcraft and Elementary Tactics* put out by the War Office also will be found very valuable.

1. MEANS OF FINDING AND KEEPING DIRECTION:

Keeping direction while detouring under cover: It often happens when you are hiking alone through unknown country you become careless in noticing what

direction you are moving. You might frequently change your direction in order to get around a fallen tree, some rocks, or some other obstacle, and having done this, you fail to take up again the same direction in which you were previously hiking, and unless you are constantly watching your compass and your map, or the sun, and the landmarks, you are very apt to find yourself travelling the wrong way.

If you are to make a return journey it is well to look back at certain intervals, and make either pencil or mental notes of various landmarks. Direction marks may be left by you. There are many ways in which you can retrace your steps and be sure about it. Scouts use stones carefully placed at intervals showing the direction in which they have travelled. Bent twigs might also be used. Long grasses bent and knotted are used to point the way. Trees can be used with your own signs, but try and avoid destroying the trees if at all possible.

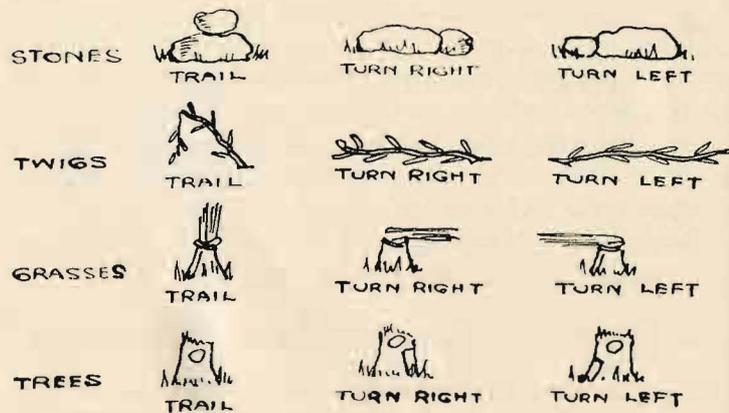


Fig. 1.

The following are some of the means used in keeping direction:

By compass and map you should be able to start out on your journey in safety. Notice at the very beginning which compass direction you are to travel, and it is a good thing to notice which direction the wind is blowing, as this information might help greatly in keeping your course, especially if you should have the misfortune to lose your compass on the journey, or if the day is dull and you cannot see the sun.

Reading a map means more than simply pointing out certain signs. You should be able to tell just what kind of country you are to travel, the direction in which the river runs, the kind of roads, paths, etc.

One of the first things you should note, in order to understand a sketch map, is the "scale" to which the map is drawn. By this is meant the relation which the distances on

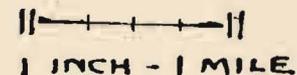


Fig. 2.

the map bear to the actual distances of country shown on the map. Thus, the scale may be "one inch to a mile", which would be indicated by a rule divided into ten sections, and the key, "one inch—1 mile". In this case a road one inch on the map would be in reality a mile long, and villages five inches apart on the map would be five miles distance actually.

After acquainting yourself with the scale, you should then set about locating the North side of the map. Note the variations between the "True North" and the "Magnetic North"; that is, the difference between the Geographical North, the actual centre of the "Top of

the world", and the North towards which the compass needle points—which is not the "True North".

The reason the compass needle does not point to the True North is that the earth is a great magnet, and like any magnet has a magnetic North Pole and magnetic South Pole, and these Poles are not located anywhere near the geographic Poles. It is known that these Poles are constantly shifting. So always keep in mind the compass "variations".

Orienting Prominent Objects: In order to use a map out of doors, as for finding your way on a hike through unfamiliar country, you must know how to "orient" it. This is a most important function, and no time should be lost in locating your position. Hold the map so that the road you are following is exactly in line with the road as shown on the map; barns, fields and streams shown should be seen by you in their true direction from the very point on the map at which you are standing.

Perhaps the best and easiest thing for you to do is to lay the map flat on the ground. Find the place where you are on it, and put a pin through at that spot right into the ground. Then choose a landmark which you know and can see—say a windmill—find it on the map, and putting the point of another pin into the map there, turn the map round slowly until a line through the two pins points straight at the windmill. Then the map is "set" and a line from the first pin to any other landmark shown on the map will point straight to that place.

You can "set" the map in another way. The sides of ordnance maps, and there are none better than ordnance maps to read, are always true North and South. If you lay a long stout stick on the ground pointing true North and lay the map beside it with the top of the map towards

the North, it is set. From the North direction, plus the sun, you are able to figure out the time.

Now supposing you have the map and don't know your position on it, but can recognize another object—draw a line in the direction of that object, through its position on the map and you will find the line will pass through your own position. If you can draw two such lines, preferably nearly at right angles, the point where they cross will be your position.

Another good method of helping to keep your direction is to memorize the route from the map. Points such as distances, contours and the direction of streams will all help.

Ways of Finding North without Compass: If you have not a compass, the sun will tell you by day and the moon and stars by night which direction is north.

At six o'clock in the morning (Greenwich time) the sun is east, at nine it is south-east, at noon it is north, three o'clock in the afternoon it is south-west, and at six o'clock it is west. In winter it will have set long before six o'clock, but it will not have reached west when it is set. These apply roughly to the latitude of England.

You can also find the north by shadows. This is a very slow method but a good one, and an excellent way of locating True North.

On a level piece of ground stand an eight foot, fairly straight stick (a b) in an upright position. At about ten in the morning tie a piece of string loosely around the bottom of the stick (a) and hold the other end of the string at the end of the stick's shadow (c). Now, imagining that the bottom of the stick is the centre of a circle and the shadow (a c) the radius, draw a half-circle on the ground. In a few minutes you will notice that the

move around. There is also the "Little Bear" near the "Great Bear" and the last star in his tail is the North or Pole Star.

Getting lost: Moving up and down in the deep ravines and gullies, you are liable to lose sight of the landmarks which usually guide you, so that you have to watch your direction by the sun and by your compass, and keep on estimating in what direction your proper line of travel lies.

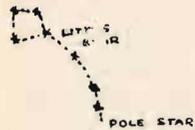


Fig. 5.

Then again, you might be caught in fogs and mists, which are at times upsetting to the calculations even of men who know every inch of the country they are travelling. Start when you are young to get an "eye for the country".

If you are ever lost in the forest or bush, don't lose your head and get excited, and begin to run. The right thing to do is to force yourself to keep cool and give yourself something useful to do—that is, to track your own spoor back again; and if you fail start early getting together firewood for making signal fires to direct those who are looking for you. You should be able to find your way equally as well by night as by day, but unless you practise frequently, you are apt to lose yourself by night. Distances seem greater, and landmarks are very hard to see in the dark.

Points of compass: It is well to know the points of the compass, for you will want to use them and refer to them when hiking and reading your map. The four cardinal points of the compass are—North, South, East and West. The next divisions are mid-way between the cardinal points; these points are North-East (N.E.), South-East

(S.E), South-West (S.W.), and North-West (N.W.). These are called the half cardinal points.

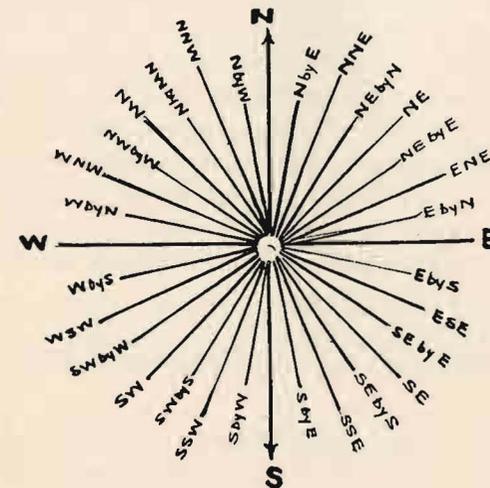


Fig. 6.

The next division is between the cardinal and half cardinal points; these points are called the intermediate or three letter points, and there are eight of them altogether. Starting from North towards East, the first of these points is half way between North and North-East and is called North North-East, (N.N.E) The next is between North East and East and is called East North-East (E.N.E.), then South South-East (S.S.E.), South South-West (S.S.W.), West South-West (W.S.W.), West North-West (W.N.W.), and North North-West (N.N.W.). This completes the 16 principal points in the compass.

Recognition—common trees and shrubs: It is well to recognize the various common trees and shrubs. You

might be called upon to give a description of the country you have travelled in. To say it is "well wooded" is not good enough, you should indicate what kind of trees the surrounding country contains.

For instance, if the wood were of fir or larch trees it would mean you could get poles for building bridges; if it were palm trees, you know you could get coco-nuts or dates if they were date palms, and you would be able to get palm juice for drinking purposes. If there are willow trees it means that there is water close by, or if you could report pine woods or sugar bush or gum trees it would mean lots of good fuel.

The common trees in Canada you should know by sight are:—

Oak, Elm, Plane Cedar, Willow, Poplar, Pine, Sycamore, Larch Lime, Maple, Horse Chestnut, Ash, Beech, Birch Walnut and Fir.

You should also know what kinds of plants are useful to you in providing you with food. Suppose you were lost and in unknown country, and you knew nothing about plants, you would probably die of starvation, or of poisoning from not knowing which fruit or roots were dangerous to eat.

There are numbers of berries, nuts, roots, barks and leaves that are good, also crops of various kinds of corn and seed, vegetable roots and even some grasses. Seaweed is much eaten in some parts of the world, and certain mosses are used as food.

Some of the wild fruits include the Cloudberry, really a dwarf raspberry which grows in the mountains of Great Britain, and in the Arctic and sub-Arctic regions, and in some localities in Canada. Then there is the Crab-

apple, which everyone seems to know. The Acorn, fruit of the Oak. In some periods of civilization acorns have been used for food, and indeed are still used in some countries. The Hazelnut will reward our search and our appetites around the month of August, as soon as the sun has hardened the shell and ripened the kernel. Then there are the Wild Raspberry, Wild Cherry and many other fruits that are eatable. It is suggested that you seek out further information about these.

2. SEEING, HEARING AND MOVING BY NIGHT:

Dont be afraid of the dark, darkness gives you a certain amount of protection. It is suggested you practise night stalking in the daytime using the blindfold method of practice.

Sight is largely replaced by hearing; avoidance of noise is therefore of greatest importance. Be careful of high ground, choose low lying ground to stalk in. Watch for ditches, they assist you. Very often you will find them overgrown with small bushes. You are better down in the dark for anyone who comes near to you will be quickly visible, outlined on higher ground against the stars. Keep hidden as much as possible while moving, especially at night. Walk quickly, the slightest thump of an ordinary man's heel on the ground can be heard a long way off. It is better on soft ground to place the feet on the ground heel first, if it is hard ground you are travelling, toe first; when walking in grass, raise the feet above the grass; always take advantage of other sounds to move forward quickly. This kind of thing could be practiced in the daytime as well as at night, indoors as well as outdoors, let it become a habit with you if you want to be a good stalker.

Then don't let the wind fool you, always keep down wind of your enemy, even if the wind be slight, work up against it. A good way to find out which way the wind is blowing, wet your thumb, then hold it up and see which side of the thumb feels coldest, or another way to find out is gently throw some fine dust or grass or leaves in the air and see which way they drift.

Take a lesson from the Red Indians, when they wanted to spy out an enemy camp they used to tie an animal skin on their backs, walk on all fours, howl like wolves and prowl around the camps at night.

Keep your ears open! If you are watching for your enemy at night, you have to trust much more to your ears than to your eyes, and also to your nose. Very often you can smell your enemy a good distance away, especially if he is partaking of a smoke. Practise out smelling things. Training to sharpen your senses of hearing and smelling can be done in the daytime, and if you suffer with hardening wax in the ears, take care to have it removed as quickly as possible before you start out on your journey. Some things that might be the means of your being caught include, the ticking of your watch, remember sounds are magnified to your brain when you cannot see anything to distract your brain from the sounds, other things to be careful about are crackly leaves, the breaking of twigs, long grasses.

Preliminary daylight reconnoissance is essential if you are going to be successful. Try to get a glimpse during the daytime of the country you are to travel in the dark. Make notes of outstanding objects, streams, rivers, etc. Remember you must try to get nearer your objective, whether person, bird or animal, without being seen, heard or smelt. To do this you must train yourself to

creep or crawl, and to stalk while you are moving or standing upright, is where the ability to balance yourself on your toes becomes helpful to you. On occasions, covering of noises could be provided by pre-arranged noise from neighbouring positions. Messages should be passed in a whisper.

Practice successfully to stalk the animal and bird. There is a possibility that if this is done well you will be able to observe them at close range, notice their form, colour, movements, food and feeding habits and behaviour. Try and get a photo of them. Train yourself to walk through the woods, grass, or along roads silently with your muscles under full control so that you can "freeze" instantly if the creature you are stalking fears someone is around.

You can learn a lot if you will watch and copy a cat when it is stalking a bird. She moves one foot at a time, setting each down carefully, and "freezes" instantly at the first movement of the object she is after. The best way to walk silently is to walk with knees slightly bent, and loose, and your toes pointing straight forward. Then when you are drawing near your objective, use the crawl on hands and knees, imitating the cat as nearly as you can.

It is most important you keep in touch with your party if you are attached to one. Some stalk in pairs and even more. If you are with a party don't move too close together but always be in touch with each other. White distinguishing patches on the back will often help in keeping in touch. The members of a small patrol crawling in close proximity on a dark night can keep in touch and signal to each other if the rear men keep a hand on the ankle of the man in front. Arrange secret signals.

Spread out as much as possible so that if you are cut off or ambushed by your enemy, they will not all get caught with you, but some will get away to give information. Baden-Powell in one of his books suggested that it is better for a party of about six working in open country to move forward in the shape of a kite with the leader of the party in the front or centre, the man on the flank keeping close to the hedges or walls. If you are in open country where you might be seen by your enemies get over it as quickly as possible, by walking, running, crouching and crawling as needs be. If the leader should get out of sight of the others, he should, in passing thick bushes, reeds, grasses, etc., make ground signs to show which path he has taken so that those coming after him will easily follow. Should he have to retrace his footsteps he can find his way back quickly and easily. Make signs according to the country you are working in; sand can be used if in sandy soil; stones, grasses, etc., can also be used to advantage.

3. BIVOUACS:

You need not trouble about taking any shelter or tent on your hike because you can find what you want in the woods to build a temporary house.

It is suggested that you take a waterproof ground sheet with you, and perhaps one which can be put up in the form of a shelter. If trees are plentiful hang up a makeshift hammock with a roof to it. Sling it between two trees. This form of tent bed will keep you dry in wet weather or on swampy ground; you never have to lie on the ground, you can't get snakes and other nice visitors crawling on your bed.

The Norwegian woodmen pile their small timber in the

woods to dry. Pile them as shown in the picture, all with their butts or thick ends together windward and thin ends splayed outward. When you have got this frame together you can cover it with a waterproof sheet, straw or brushwood to keep out the weather, and of course light your fire opposite the opening.

Then there is the "Tramp Tent", one of the most simple and cheapest tents you can erect. You want six hazel sticks about 3 ft. 6 inches long, just sufficiently pliant to bend over near the top, but not so thin as to be wobbly.

Each should be sharpened at the butt and marked with a nick ten inches from the point to show how far to drive into the ground. The points should be slightly charred in the fire to harden them. Then, you want a sheet of light canvas to form your tent, about six feet square. Plant your sticks firmly in the ground, in two rows, two feet apart from each other. Bend the tops inwards to form an archway. Over these arches spread your canvas or if you have no canvas build a framework that will hold thick spruce branches, straw or grass for your roof.

A bivouac shelter is a good form of hut, and is easily made in an hour. Two upright stakes are driven into the ground, with a ridge pole placed in position along the tops. Against this a number of poles should be made to lean from the windward side, with cross bars to support the branches, reeds, brushwood or whatever you decide to use for roofing material. This type of shelter can be built to accommodate several men lying alongside each other, feet to the fire of course.

When there are no poles or sticks available in the district you are moving through, pile up a lot of brushwood into a small wall in a semi-circle to keep out the wind and cold damp air, and make your fire in the open part.

Before building your Bivouac you will notice which direction the wind generally blows from and put the back of your shelter that way, with your fire in front of it. You can always tell in exposed districts the direction of the prevailing wind as the trees tend to grow from the direction of the wind, and moss may grow on the leeward side of the trees. Such aids may prove valuable to you in setting your shelter for the night.

Cooking: If you are going to cook in the open then you must know what kind of fire you are going to build.

Large fires are not necessary. It is the quality of the fuel which counts rather than the size of the fire. Know what the best fire starting materials are for different seasons of the year. For example, in some parts of Canada in the winter, pieces of Golden Rod will be found sticking up through the snow. These make splendid fire tinder in dry frosty weather. A good rule for kindling is "Go to the living to get the dead", old dead wood has not the heat in it that new dead, dry wood has.

You should know how to make a fire by friction. The woods found to give certain results all over Canada are elm, ash and cedar. They may be used for both platform and the drill you use. Basswood, willow, root and other woods will make fire, though elm, ash and cedar are the better.

Put a slat of dry wood on the ground and bore a hole through it with a stick of dry wood, twirling the stick by means of a bow string.

The friction of the two woods cause the kind of sawdust which comes from the hole to get red-hot, and then if a little dry punk is then placed on it and blown into, it brings a flame.

Tinders mostly used are: shredded cedar bark, rotten

maple or birch, thoroughly-dried hemlock, pine or swamp elm slivered very fine.

Kephart says that, "If a camper wants to be comfortable in the woods, he must learn how to produce at will either (1) a quick, hot little fire that will boil water in a jiffy and will soon burn down to embers that are not too ardent for frying; or (2) a solid bed of long lived coals which will keep a steady, glowing, smokeless heat for baking, roasting or slow-boiling; or (3) a big log fire that will throw its heat forward on the ground, and into a tent or lean to, and will last several hours without replenishing".

TYPES OF FIREPLACES

Trench Method—Made by digging a shallow trench in the ground. Has the advantage of retaining heat and saving fuel. The disadvantages are that the sides soon crumble unless they are lined with stones or bricks or green logs, that it is difficult for proper draught to reach the fire, that water will collect in the trench in wet weather, that the trench soon fills with ashes which are difficult to remove.

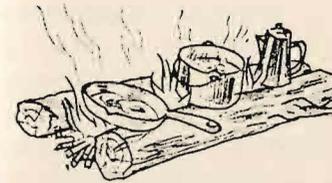


Fig. 7.

Hunter's Fire — This is made by placing two green logs or a number of bricks with the wider end facing the wind. If using logs, they should be squared so that they will not roll and so that the pots and pans can be stood on them more safely. As the pots and pans set nearer the narrow end will receive more heat, it might be necessary to change them over,

during the course of the cooking. If the wind is strong, the smaller end can be blocked to keep in the heat.

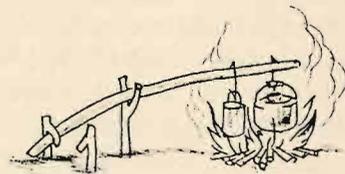


Fig. 8.

which extends over the fire. On this cross are placed the pots for cooking—using pot hooks for this purpose. It is necessary that the sticks used for this be strong and green, otherwise this method will be worse than useless.

Reflector Method—This is an excellent method for roasting and baking. Various forms are used, as an open end biscuit tin set into the ground, at close end of which is set the meat to be cooked, the fire being at the open end.

Another method is—first, a log backstop to throw the heat is made with green logs, and some distance away is set a metal oven—size about 12" x 12" x 18". To test the proper distance this should be from the fire, place your hand in line with the top of the oven and count to eight slowly. If you cannot stand the heat then the oven is too close; if you go over the count of ten then it is too far away. In this form of oven, delicious meats, cookies and bread can be baked.

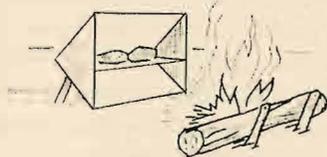


Fig. 9.

Feeding and Cooking—Some very important points.

A mixed diet essential. Meals should include:

1. Animal foods such as meat, fish, eggs, cheese, etc.
2. Vegetable foods such as leafy green vegetables, carrots, peas, spinach, green beans, cabbage, etc.
3. Fruits such as apples, bananas, berries, etc.
4. At least one half pint of milk daily.

Bedding—There are many ways of making a comfortable bed in camp, but always have a rubber waterproof sheet on the ground between your body and the earth. Cut grass or straw is a very good thing to lay down thickly where you are going to lie, but if you cannot get any of these do not forget before lying down to cut a small hole about the size of a teacup in the ground in which your hip joint will rest when you are lying on your side. Remember the secret of keeping warm is to have as many blankets underneath you as you have above you. If your blankets do not keep you warm interline them with straw or newspapers. It is also a good thing if you are cold to put a newspaper under your coat or waistcoat up your back and around your body, it will be as good as a great-coat in giving you extra warmth.

Drainage: Serious thought should be given to where you will hold your camp. The best place to hold your camp is close to a wood where you will have lots of firewood, and be allowed to build huts if you are not going to use tents. Inside the wood is apt to be damp and you will suffer from drip in wet weather. If you build good rain-proof huts you need not use tents. Don't forget that along with the firewood you will want good water. In choosing the site always think what it would be if the weather came on very rainy and windy, get the driest and most sheltered

place you can and not too far from your water supply, and see that the drainage is good, turning the opening of your tents to windward. If heavy rains do come dig a small trench about three inches deep all around it to prevent getting wet. This trench should lead the water away downhill.

Water Supply: If there is a spring or stream, the best part of it must be strictly kept clean for drinking water. Always boil your water before you drink it.

Sanitation: Keep your camp clean. Do not leave scraps lying around, burn them. Dig wet and dry pits—these can be 18 inches square and about a foot deep. The top of the wet one is covered with a thin layer of grass or straw and all wet refuse and greasy water is poured through it. This grass or straw filter should be removed and burned frequently. Into the dry pit is put everything that will not burn. Tins should be burnt first and then hammered out before putting into this pit. Burn everything you can or your pit will very soon be full. Dig a small trench to serve as a latrine. The trench should be one foot deep, one foot wide and three feet long. Neglect of this always makes a place unhealthy.

The daily round of life causes many impurities to be deposited on the surface of the body, and these impurities must be removed if one is going to keep clean and healthy. The skin requires frequent cleansing not only to remove the dirt, but also the salt, grease and dried sweat poured out from the glands of the skin. A hot bath should be taken at least once a week. Cleanliness of the hands, finger nails, hair, teeth are all important and should not be neglected.

Flies and insects are most dangerous for they carry

seeds of disease on their feet, and if they settle on your food they will often leave a poison there for you to eat—and then you get ill. Flies generally live best where dirt is and where scraps of food are left lying about. For this reason you should be careful to keep your camp clean so that flies won't come there. For the same reason it is dangerous to drink out of streams, and especially out of ponds, when you feel thirsty, for you may suck down any amount of poison in doing so. If a pond is your only water-supply, it is best to dig a small well, three feet deep, about ten feet away from the pond, and the water will ooze through into it, and will be much more healthy to drink, but even then boil it before drinking.

4. WINTER SHELTERS:

Soldiers during the Great War occupied and slept in Bell Tents for many months during the Winter Season, and kept warm and comfortable. Along with six other soldiers they sleep with their feet to the pole, except for a portion of ground set apart to plant a small kerosene oil lamp, which when lighted kept them warm and this is recommended as a good Winter shelter.

There are other types of shelters which can be used when hiking and which have proved just as satisfactory as the one previously mentioned. It depends as to what kind of country you are in as to what type of shelter you will use. The best all-round kind of camp-house is, of course, a tent. A "Cabul" tent is suggested—a small square erection, seven feet long by seven feet wide, which can be opened or closed at either end, and has a double roof. You can live in this through snow and blizzard in the greatest comfort. At one end you can quickly build a brick or stone fireplace and chimney; and build a two

foot wall around the outside, this will keep out all draughts and will prevent snow from melting into the tent. You can live in this kind of shelter as cosily and comfortably as a house. In the same kind of tent you can live in the blazing heat of the plains of India. Instead of the fireplace at the end to keep it hot, erect a great mat of fibre stretched on a frame and keep always wet. The hot wind blowing through this at once keeps the tent delightfully cold and fresh inside, and the double roof prevents the sun from baking it. A swinging fan slung from the ridge pole helps in the cooling process too. This kind of tent has proved to be an all climate and weather shelter, and it was this kind of house that was used by Baden-Powell himself during one of his many travels.

Another suggestion is that you plant in the ground a circle of long whippy sticks standing upright, then gather the tops all together and tie them with cord, or damp roots. You then weave thin sticks round in and out of the uprights horizontally until a wall has been formed on the top, tie with straw woven into sticks make a cover sufficiently strong enough to keep out the wind and the bad weather. If you are going to light a small fire inside it would be best to leave a small opening at the top of the shelter so that the smoke from the fire can get away.

The Red Indians make their "teepee" in much the same manner, only they use canvas instead of straw as a covering.