

# The SCOUT'S BOOK of GADGETS and DODGES

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Camp Gadgets  
Clubroom Gadgets  
Ideas for Decorating  
Dens  
Hints for  
Scout  
Pioneers  
Observation  
Helps  
Dodges for  
Hikers and  
Cyclist  
Scouts





*Good to Drink  
Easy to Make*

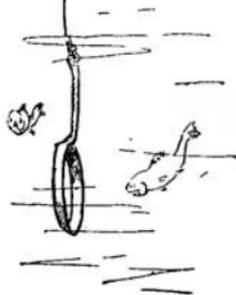


**FOR CUP AND COOKING**

# The SCOUT'S BOOK of GADGETS and DODGES



Edited by  
F. HAYDN DIMMOCK



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Editor's Note:

The reader is reminded that these texts have been written a long time ago.

Consequently, they may use some terms or use expressions which were current at the time, regardless of what we may think of them at the beginning of the 21<sup>st</sup> century. For reasons of historical accuracy they have been preserved in their original form.

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*Reprinted .....March, 1945*

*Reprinted .....March, 1946*

## FOREWORD

*THIS little book has won deserved popularity.*

*It is a treasure house of ideas and suggestions which the active outdoor Scout will find a real help.*

*There are gadgets for camp and the Troop Room as well as much sound information on campcraft and general Scouting.*

*I hope that all who use the book will feel encouraged to try their skill and craftsmanship in making and inventing new gadgets.*

F. HAYDN DIMMOCK,  
Editor of **THE SCOUT.**

# BRUSH UP YOUR ROPEWORK

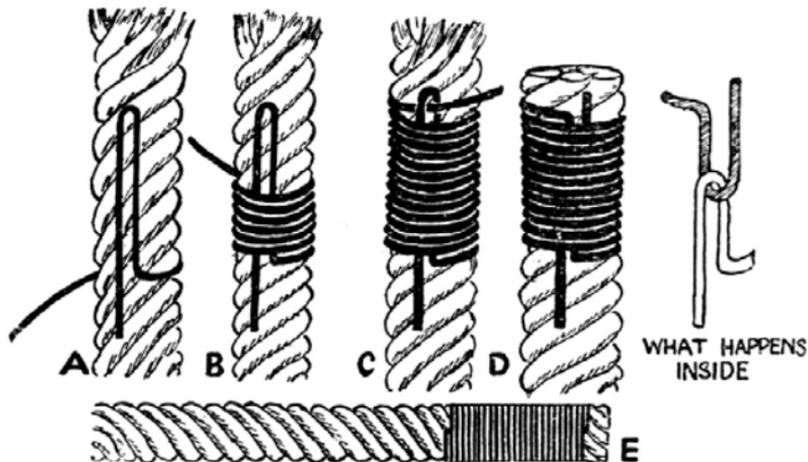


Ropework. - Knotting, Lashing, Splicing and Whipping - is the foundation of most gadgets, and every Scout should try to become a "top-hand" with rope or cord. You must practise constantly until you can handle them as deftly and surely as a skilled craftsman uses his tools. Always, if you possibly can, use rope or stranded cord - not ordinary string.

## WHIPPING.

Whipping. I mention this first, as the appearance of so many cleverly-constructed gadgets is spoiled by the untidy frayed ends of the ropes or cords used in the making. And yet every Scout is supposed to know how to whip a rope before he is invested. Remember that whipping should be used to prevent fraying and not to cure it. So whip every rope or cord. It will lengthen its life and save you a load of trouble.

The diagram shows you clearly how it is done. Begin the whipping about two inches from the end of the rope. Pull each turn tight and take the last one through the loop. Finish by cutting short the loose ends.





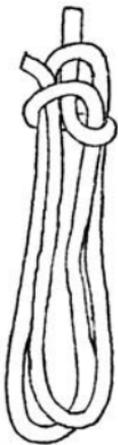
*Mousing a Hook*

First cousins to whipping are "Mousing" and "Seizing." A hook is moused to prevent a rope or link of chain from slipping out. The method is quite easy. Finish off with a reef knot. A seizing is used to stop the end of a rope working loose and so causing the knot behind to slacken, or to secure it to another rope. For temporary purposes a few turns of a piece of twine finished off with a reef knot will do. For a more permanent job use a whipping.

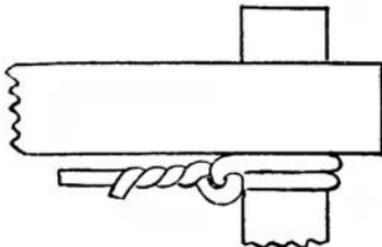
### LASHINGS.

Lashings are lengths of rope used for tying spars together. length is about fifteen feet. To roll up a lashing not in use, loop it into a hank, take a half hitch with the when free end round one end of the hank and pass it back through the loops.

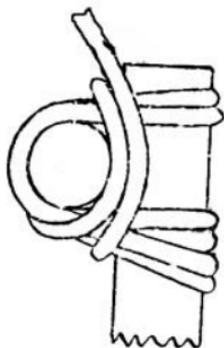
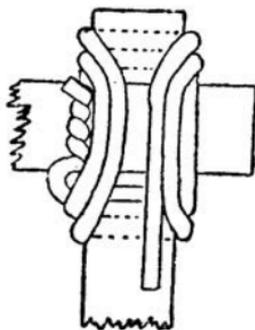
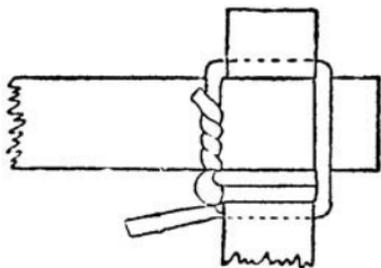
**Square Lashing** - used for spars crossing at right angles or early so. Start with a clove hitch just below where the spars cross. Take a few turns round the standing part. Now take one turn of the lashing round the spars as shown. Repeat complete horizontal spar and outside on the vertical. Then pass his three or four times, making each new turn inside the previous turns. On times completely round between the spars and over the first returns. This is known as frapping. One Scout should pull hard on the end of the lashing while another pounds in the returns at each corner with a frapping mallet. Finish off with a clove hitch round the horizontal spar.



*A Lashing*



*Starting a Square Lashing*

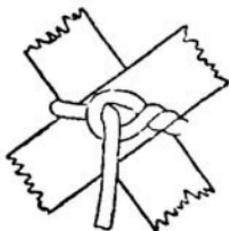


**STAGES  
IN TYING  
A SQUARE  
LASHING**

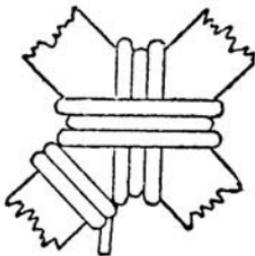


*Frapping  
Mallet*

**Diagonal Lashing** - for use with spars likely to spring apart. Begin with a timber hitch round both spars. Take three or four turns round each fork, frap and finish with a clove hitch.

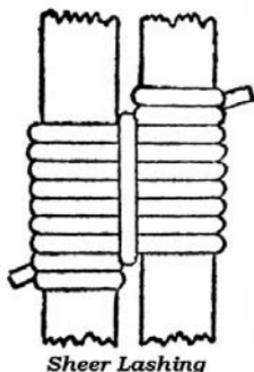


**DIAGONAL  
LASHING**

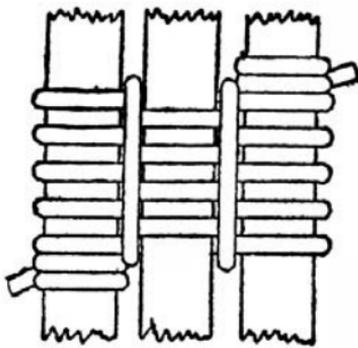


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**Shear or Round Lashing** - for lashing two parallel spars or two spars to be opened to form shear legs. Start with a clove hitch round one spar and twist running end round the standing end. Take several turns round both spars, then two frapping turns and finish off with a clove hitch round one spar. You will probably have to insert a small piece of wood between the spars to give you room for the frapping turns.



*Shear Lashing*



*Figure-of-eight Lashing*

**Figure-of-Eight Lashing** - for lashing three poles to make a tripod. Start with a clove hitch round one of the outside spars, twisting the running round the standing end. Take several turns round all three spars, alternately under and over. Frap between each pair of spars and finish with the usual clove hitch.

### **NO MORE SWITCHBACK HATS.**

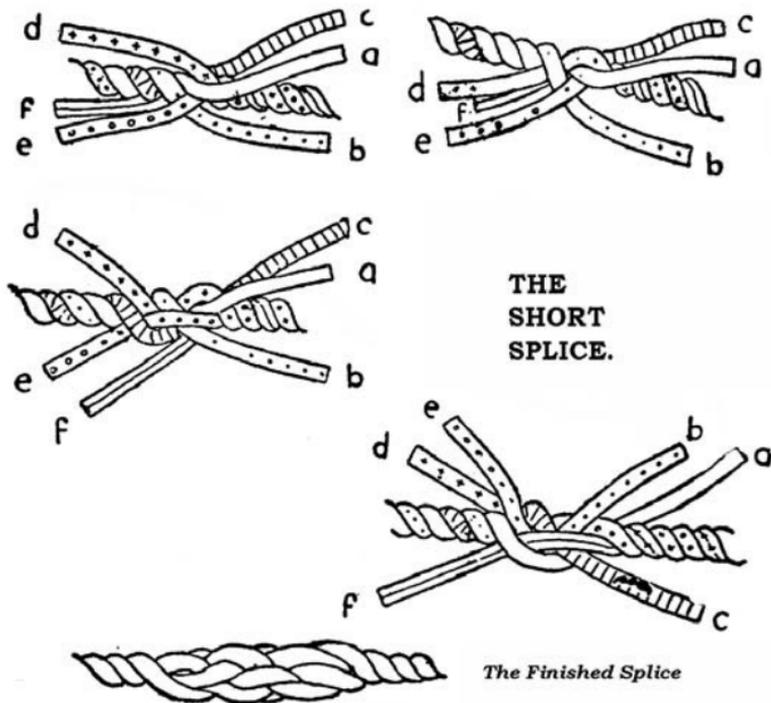
Here are some methods of avoiding a switchback brim to your hat. The first is to iron the brim over a damp cloth. The second is to soak the brim thoroughly in a solution of sugar and water and leave to dry on a flat surface.

A more lasting effect will be gained by mixing two ounces of flake shellac with half a pint of methylated spirit in a glass jar. Let this stand for twenty-four hours until the shellac has quite dissolved. Brush the hat thoroughly with a stiff brush and then work the mixture thoroughly into the underside with a paintbrush. Don't apply it so freely that it will come through the felt. Then stand the hat on a flat piece of wood or cardboard, and when quite dry brush well again.

This method darkens the hat slightly but, as it is on the underside, this will not matter. The quantity given will do about nine hats.

**SPLICING.**

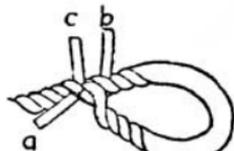
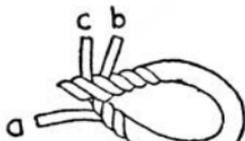
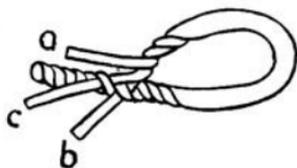
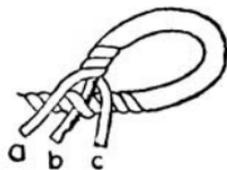
**The Short Splice** - To join permanently the ends of two ropes of equal thickness (when the joined rope has not to pass through the sheaves of a block). Unstrand the ends of both ropes for a length of about twice the circumference and lay them together, end to end, with the strands alternately interlaced. This is known as "marrying" them. Pass the middle strand of one rope *d* over the strand of the other on which it rests *a* and tuck it under the next on the left *b* working against the lay of the rope. In the same way pass *a* over *b* and under *c*, and *f* over *c* and under *a*, turning the work as you go. Now deal with the strands of the other rope in the same way, passing each over one strand and under the next, always working against the lay. Repeat the process at each end, cut the ends off and roll the work between your foot and the floor or a hard piece of ground.



**THE  
SHORT  
SPLICE.**

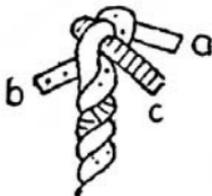
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To make an **Eye Splice**, begin by unstranding a few inches of the rope. Lay the unstranded part back along the rope sufficiently to form an eye of the size needed, bending the rope so that the loose strands will lie across the lay. Tuck the middle strand **b** under the one it lies on, against the lay. Take the next strand **c** on the right, cross it over **b** and the strand under which **b** lies and tuck it under the next on the left, against the lay.



Turn the work over and tuck the last strand **a** under the one which has not yet been used, *from right to left*. Now carry on and finish off as in the short splice.

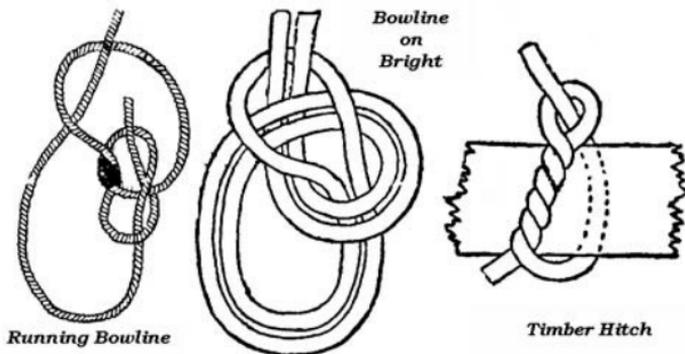
**The Back Splice** - used to "point" a rope. Unstrand an end and pass each strand over and under the next loop as shown. This by the way, gives you a Crown Knot. Then take each strand in turn, against the lay, over one strand and under one. (This means that each strand will pass under itself.) Repeat this and finish as in the **Short Splice**.



**SOME USEFUL KNOTS AND HITCHES.**

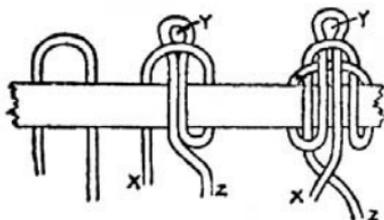
To make a noose, use the **Running Bowline**. Make a loop with the running end under the standing part. Bring back the running end over the standing part and tie your bowline as shown.

For a sling to lower a person, use the **Bowline on a Bight**. Make a long bight (or loop) and tie a bowline with the bight itself. Open out the bight, pass the whole knot through and pull taut.



**The Timber Hitch**, already mentioned under lashing, is used for securing the end of a rope to a spar or package. Turn the rope round the spar, make a half hitch round the standing part and twist round several times in the same direction as the half hitch.

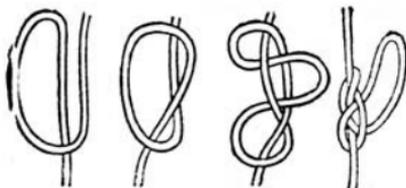
**The Highwayman's Hitch** - for instant release by a pull at the running end, as in unmooring a boat or for freeing a rope down which you have just climbed. (In this last case BE CAREFUL BY WHICH END YOU COME DOWN!)



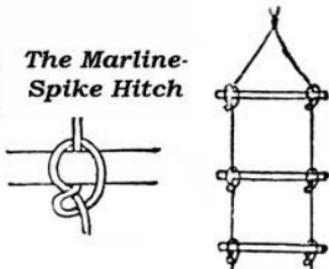
**The Highwayman's Hitch**

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Next time you have a job of towing, use the **Man Harness Hitch** and get the full effect of your weight on the rope. The loop, of course, is slipped over one shoulder.



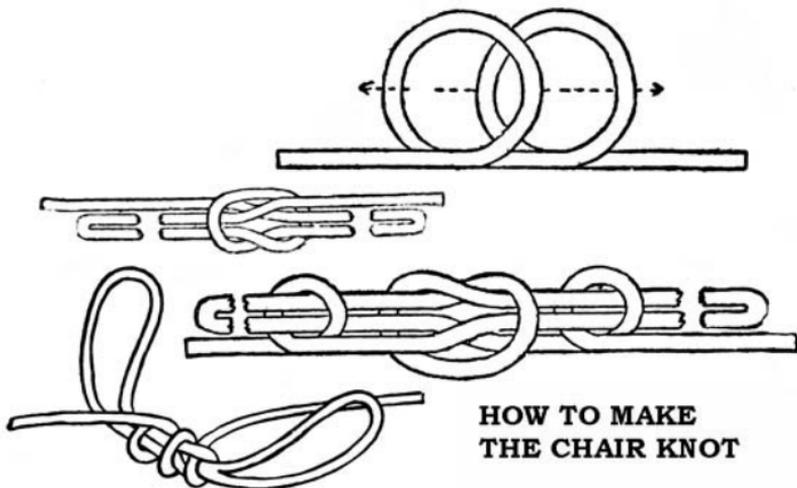
**The Man Harness Hitch**



**The Marline-Spike Hitch**

A rope ladder is most useful and provides loads of fun. To make one you should know the **Marline-spike Hitch**. You can use staves for the rungs.

**The Chair Knot** provides two loops, one to go under the knees and the other under the shoulders of an unconscious person, in order to lower him from a height. Take two half bitches in the middle of the rope and lay them together. Pull the inner sides of the hitches outwards into two loops, one about two and a half feet and the other about three and a half feet long. Take a half hitch over each loop and pull tight.



**HOW TO MAKE  
THE CHAIR KNOT**

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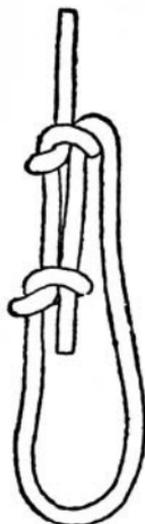
**The Guy Line Hitch** - to replace that missing guy? Just two thumb knots a little way apart and well up the rope. Take the running end back through them towards the loop. The guy can then be slackedened or tightened as required.

### KNOT BOARDS AND FRAMES.

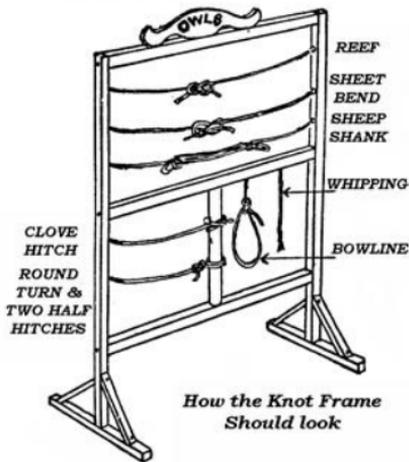
In order to keep the Tenderfoot Knots permanently before the Patrol you will find that the making of either a Knot Board or a Knot Frame, similar to the one shown below, are well worth the effort.

If you are making a Knot Board, you will find it is a help to users of it later on if you show each knot in its stages of tying, and also, particularly in the case of the Reef and Sheet Bend, if ropes of different colours are used.

A test of a patrol's ingenuity that is often set is to give it a length of rope and tell the fellows to tie all the Tenderfoot knots in it. This idea can be worked into a Knotting Board display and all the Tenderfoot Knots shown in actual use on a single length of rope which is securely fastened to the Patrol's Knot Board.



*Guy Line Hitch*



The Knot Frame, shown below, is a more ambitious effort. All the ropes used are whipped at the ends and are secured to the woodwork of the frame by round screw eyes.

But the most elaborate Knot Display I have seen was a "dramatised" one. Small, doll-like figures were dressed up in correct Scout uniform, and were taking part in a little scene which demonstrated the use of dozens of useful knots.



# USES of the SCOUT SCARF

And when you're using your scarf "just for ornament" tie a knot in it to remind you of your Good Turn



When the Good Turn's done, untie the knot.

Lot of Scouts look on their Scarf as something just worn for ornament. It isn't!

It has some important uses. Here are some of them:

For use as a signal flag by attaching it to a stick.

A number of scarves tied together a life-line in an emergency.

It makes a good arm sting in First Aid work.

Can be used as a triangular bandage (but see the scarf never comes into contact with a wound the dye may cause blood-poisoning). Tourniquet.

Smoke mask for fires or gas out breaks.

A number scarves can be used as guide for finding way through fog or smoke. An emergency bag, by holding the corners.

As a belt, in emergencies.

Good Turn Reminder (Knot tied in end).

In a crowded bathing place as a cap to identify Scouts.

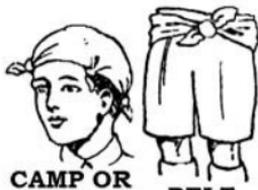
Arm band in Team Games.



**ARM BAND  
FOR TEAM IN  
GAME**



**AS A BAG**



**CAMP OR  
RUN HAT**

**BELT**



**RESCUR LINE  
(ANY NUMBER JOINED TOGETHER)**

## THE CARE OF KNIVES AND AXES



Knives and axes are tools and not playthings. The Scout knife is not made for throwing and trees are not made to be thrown at - while the aimless chucking of a knife into the ground that one too often sees is sheer useless ill-treatment of what should be one of a Scout's best friends. In my own Troop anyone who fools about with a knife or an axe is made to wear the empty sheath for a month.

The above remarks are all the more true because no Scout would carry an axe or knife that wasn't sharp. Sharpening is an art that is worth a deal of trouble to acquire. Bad sharpening is not only less lasting in its effect, but actually damages the precious cutting edge. When possible use a grindstone and finish off on an oilstone. For everyday use in camp, carry a carborundum or a small fine file.

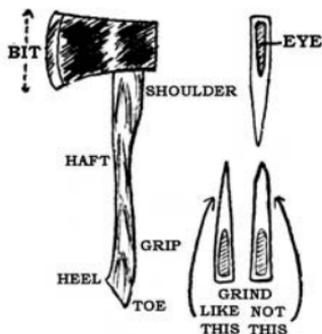
Always remember that a new axe requires grinding before use, unless it is to be damaged beyond hope of repair.

Don't sharpen an axe flat to the edge and don't apply the edge direct to the stone. Make a "bevel" of about a sixteenth of an inch on each side. When using a grindstone, turn the wheel away from you (and, of course, from the edge), keep a very gentle trickle of water flowing over the stone and apply the edge to the stone in a circular movement from point to point - always in the same direction.

In using a carborundum apply it over the edge with a circular motion. To remove a nick in the edge a flat file should be used.

Both head and haft should be oiled from time to time. When an axe is returned to store oil the haft, grease the head and wrap in a piece of canvas or hessian.

To tighten a loose head, temporarily hammer on the *HAFT* to get the head back into position and soak the head in a bucket of water or oil. To do the job permanently the axe must be rewedged.



**The parts of an axe**

Cut the wedge from hard wood and bake it. Then remove the head from the haft, take out the old wedge and replace the old haft so that it completely fills the socket. Soak the tip of the wedge and the end of the haft in oil and hammer the wedge home from the top.

In making gadgets most of the work done is with light wood taken from already felled timber, so that there is no need here to describe the use of a felling-axe.

Remember, however, that a hand-axe is just as dangerous as a felling-axe and requires just as much care in use. The edge should always be masked, either in its case or in a

log, so that the whole of the cuffing edge is covered.

In using see that you have a whole axe-length around you clear of human or other obstructions. Let the weight of the head do the work - in other words, swing from the wrist AND STOP AS SOON AS YOU BEGIN TO FEEL TIRED.

In cuffing a pole into smaller lengths rest the part to be cut on a solid base, to avoid danger from the ends flying into the air. Hold small branches in the left hand and rest the piece to be cut on the far edge of the block, chopping down and away.

In whittling with a knife always work away from yourself.

Keep your knife oiled in the same way as an axe and keep it in its sheath when not in use. DON'T stick it in the ground. If you have a clasp knife (really quite as useful as a sheath knife) with marline-spike attached, remember that the marline-spike's chief use is for splicing, for which a sharp point is essential, so don't use it for opening tins or for anything else which may damage the point.

### **REMOVES THE CANDLE GREASE.**

To remove candle-grease from your uniform, after you have scraped oil what you can with a knife, lay the material on a flat piece of wood and place a piece of brown paper or blotting-paper over the grease-spot. Then gently rub over the place with a hot stone or piece of metal until the grease appears on the paper. Repeat this until the spot has vanished from the material.



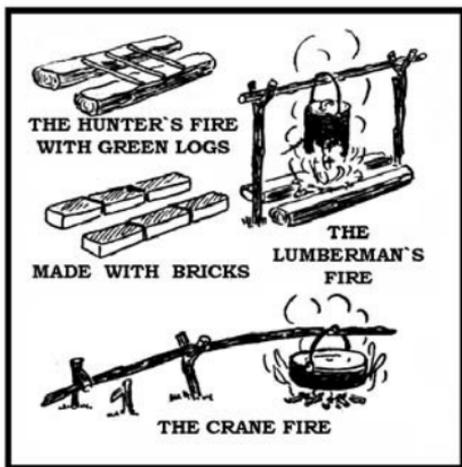
## CAMP GADGETS AND DODGES

Camp, of course, is the gadgeteer's paradise – the place where he can really let himself go! But remember that the essence of

a good gadget is that it should be of real practical use. Avoid "eyewash" gadgets - elaborate dressers and sideboards and whatnot that are not used in case they should be damaged before the Commissioner visits you or because they are too complicated to bother with. Generally speaking, the simpler a gadget, the better. Neat lashings with well-whipped cords will give a good effect to the humblest effort.

### FIREPLACES AND OVENS.

You can, of course, cook in any turfed hole in the ground, but a properly-made fireplace is well worth the effort it takes to make on account of the extra trouble it saves. Simply raising your billies off the fire will speed up your cooking by getting the full benefit of the heat underneath (far more important than heat round the sides), and it will also halve your wood consumption.



TYPES  
OF  
FIRES

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Three simple types of fireplace are shown on the previous page. The best for general use is the Hunter's Fire, which can also be made by digging a trench in the ground. It is better, however, with bricks or green logs, as the sides can be built to make a broad end to face the wind. This fireplace should always be covered at night; the hardest rain should present no terrors if your fireplace is dry.

I am not, personally, very keen on the Lumberman's Fire, unless it is only for a single meal. My own experience is that the flames burn anywhere but under the crosspiece.

The Crane Fire is better, as the pot support is more easily adjusted. It is, of course, of little use for a long camp, as it will only take one pot. Make sure that the wood is strong!



Most of the cooking done in camp is either stewing or frying. Fellows seem scared of roasting. Yet it's quite simple with the right kind of fire. You will see two in the pictures above. The reflector should be built of green wood, facing the wind so that the heat will be "reflected" back. The meat should be hung from a crane in front of the fire. Place a bowl, resting on an inverted billy, below the meat to catch the fat, and baste from time to time.

The bowl fire is easier to make and equally effective, although it bakes the meat instead of roasting it. Burn a fierce fire on a piece of hard ground for about half an hour. Then rake away the embers and place the meat in a tin dish on the hot ground. Place the iron bowl over the meat, making sure that it touches the

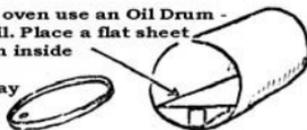
## The Scouts Book Of Gadgets And Dodges

ground all round. Then rake the embers back round the bowl **BUT NOT ON TOP OF IT**. Keep the fire fed and burning well. After half an hour, remove the bowl (first, of course, raking away the fire), turn and baste the meat and carry on as before for about another half-hour. By that time your meat should be done. Vegetables will cook in a dixe on top of the bowl.

The oven shown can be used for roasting a joint or baking a cake. Secure a biscuit-tin and fix a cotton reel to the lid for a handle. Lay the tin across the trench, as shown, resting on a couple of iron bars. At the back of the trench put a chimney made from a piece of rolled tin or piping. Then cover all round (except the door) with clay and mud, using a foundation of old bricks if possible. Light a fire in the trench and pop the cake into the oven.

### **AN OVEN MADE FROM AN OIL DRUM,**

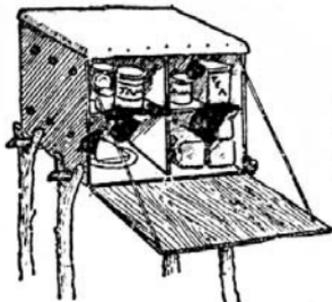
For a large oven use an Oil Drum -  
Burn out oil. Place a flat sheet  
iron bottom inside  
on bricks.  
Cut top away  
& use for  
door.



### **KITCHEN FURNITURE AND UTENSILS.**

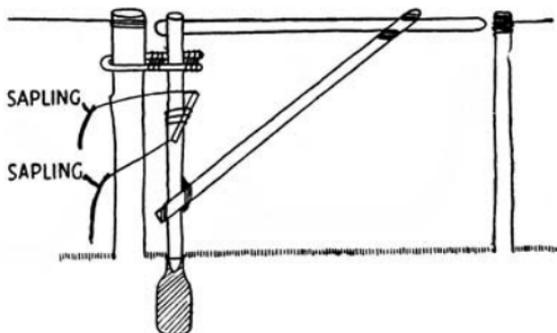
If you do not possess a food tent a portable larder is useful.

It is just an ordinary stout wooden box fitted with movable wooden shelves and partitions, made from three-ply wood, which fit into grooves. The door, when open, is held flat by two lengths of cord or thin chain. Pierce a few holes on each side and cover with butter muslin or wire gauze on the inside. Cover the top with a piece of oilskin. When the shelves are removed for packing, the larder can be used for storing cooking gear, etc.



### **A HANDY CAMP LARDER.**

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Don't allow people to enter your kitchen by stepping over the fence. There's always some silly ass who will trip and bring half of it down and probably flatten your plate-rack. Make a gate and see that it is used.

A simple one is shown above. The upright post of the gate should stand in the neck of a bottle sunk in the ground.



**COOKS WASHSTAND**



**PLATE RACK**



**MUG TREE**

Your cooks, of course, will want to keep their hands clean; so they will need a washstand. A nest for the soap can be made in the fork of the twigs. The plate and knife racks and the mug tree need no explanation. Personally, I like to put knives on a similar rest to the one used for spoons and forks. So many chaps take those thin-handled metal knives which won't "sit" well in the rack.



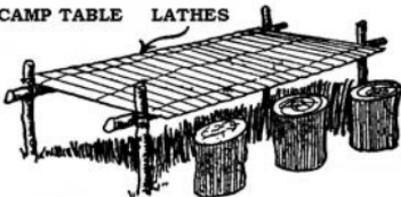
**SPOON & FORK  
REST**

Remember to cover your cutlery at night. You can save yourself a lot of trouble with the grease pit if you place the thatch on a "racket." When you want to burn the thatch take the racket by the handle and shoot the thatch on to the fire. You can use the racket throughout the camp.

## The Scouts Book Of Gadgets And Dodges

A roll-up table is a most useful gadget, not only in the kitchen but also for taking meals. Not only is it much more comfortable to eat sitting upright - it's also far better for your digestion, as your stomach can't possibly do its work properly if its muscles and organs are cramped by its being doubled up while you eat off the ground. If you select seasoned wood this is a gadget that will last for ever.

CAMP TABLE LATHES



A good meat safe is essential. Meat should be hung in a cool and shady spot and, at the same time, kept safe from flies. A large piece of butter muslin tacked on to a wooden ring, as shown, and fastened at the four corners will do the trick.

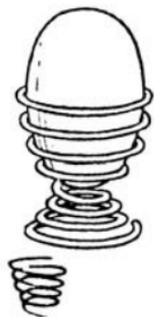
Put a plate to catch the blood, which would attract flies if allowed to foul the muslin. Talking of flies, a wasp trap is a good gadget NOT to make. It attracts all the wasps within miles and only catches about one in a dozen. The best way to keep off insects of any sort is to cover the things that attract them.



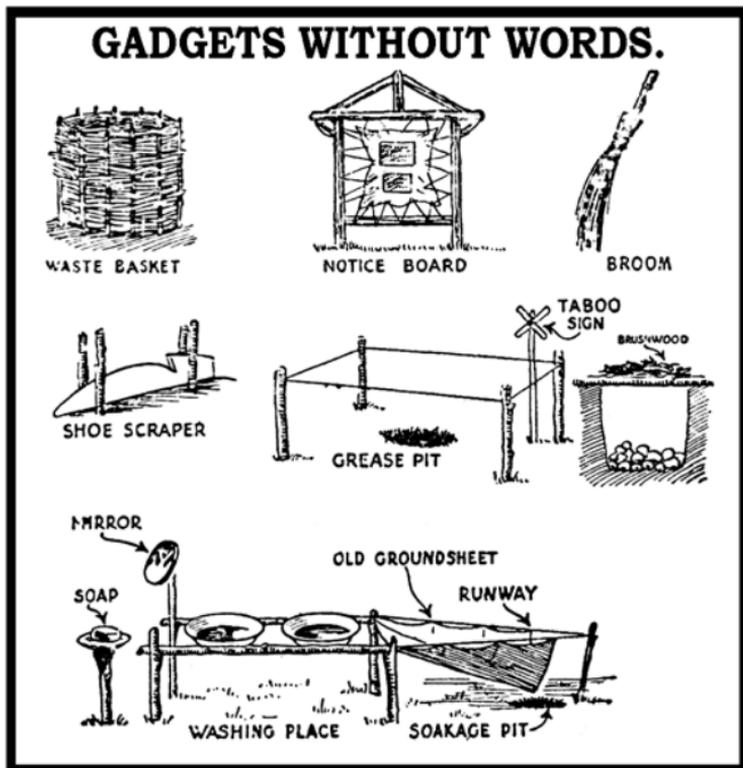
LARDER

A useful egg-cup can be made by removing a hunk from a "door-step" of bread and standing the egg in the hollow. When you've finished the egg, eat the bread. This, however, is more of a "dodge" than a "gadget!" The picture here shows you a really posh affair. With a fret-saw cut out two pieces of wood (a bit thicker than three-ply, for choice) to the shape shown. Measurements - height 2 ½ inches, base 2 ¼ inches. Cut out slots to the width of the ply and sandpaper the rough edges. When taken apart your egg-cup packs in the smallest possible space.





Another idea is to take a piece of wire and bend it into two tapering springs - one for the base and one for the cup. If made of compressed steel or piano wire it will pack almost flat.



## THE KITCHEN—B.-P.'s CAMP IN SCOTLAND.

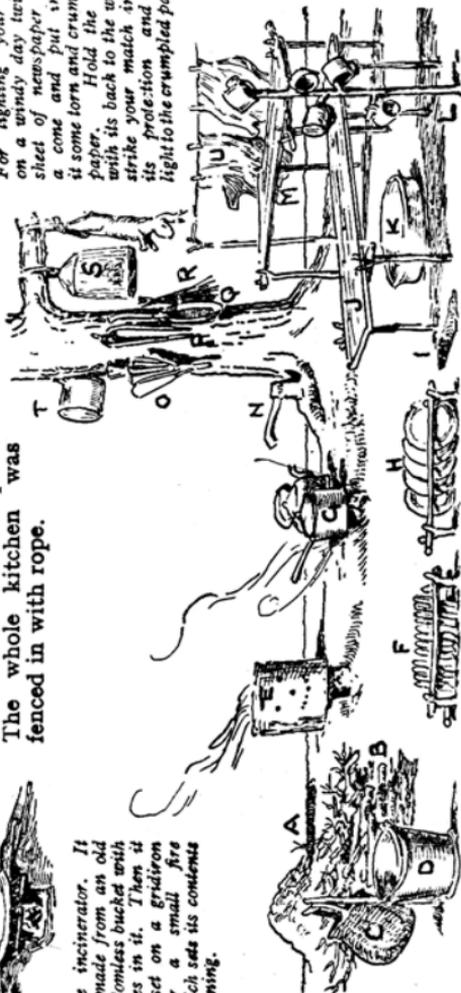
Here's a fine show of Camp Gadgets. It is the kitchen of one of B.-P.'s Camps. B.-P. sketched it for the benefit of Scout Campers. The whole kitchen was fenced in with rope.



For lighting your fire on a windy day twist a sheet of newspaper into a cone and put inside it some torn and crumpled paper. Hold the cone with its back to the wind; strike your match inside its protection and set light to the crumpled paper.



The incinerator. It is made from an old bottomless bucket with holes in it. Then it is set on a fireiron over a small fire which sets its contents burning.



- |                           |                    |                  |
|---------------------------|--------------------|------------------|
| A. Soak Pit.              | K. Plate Rack.     | R. Broom.        |
| B. Firewood.              | L. Cup Rack.       | S. Larder.       |
| C. Egg Basket.            | M. Kitchen Table.  | T. Cooking Pots. |
| D. Water.                 | N. Chopping Block. | U. Cloths.       |
| E. Incinerator.           | O. Bellows.        |                  |
| F. Firewood.              | P. Tongs.          |                  |
| G. Cooking Fire.          | Q. Frypan.         |                  |
| H. Water.                 | R. Broom.          |                  |
| I. Soak Pit.              |                    |                  |
| J. Sloping Washing Board. |                    |                  |

## HOW TO BEAT THE WIND

WIND, LIKE RAIN, IS ONE OF THOSE THINGS WHICH A GOOD CAMPER MUST KNOW HOW TO DEAL WITH & WHEN SELECTING HIS SITE HE DOESN'T FORGET HE MAY POSSIBLY GET A VISIT FROM EITHER OF THESE AND HE CHOOSES A SHELETERED SPOT - WIND CAN PLAY HAVOC WITH YOUR TENT SO BE PREPARED & KNOW WHAT TO DO ~

WHEN THE WIND IS VERY STRONG, A STORM LINE ALONG THE TOP OF YOUR TENT IS A GOOD PRECAUTION

LARGE PEG

WHEN GUY RUNNERS KEEP ON SLIPPING DOWN

THIN METAL GUY RUNNERS SHOULD HAVE A NOTCH FILED ON ONE SIDE.

USE TWO METAL SKEWER PEGS

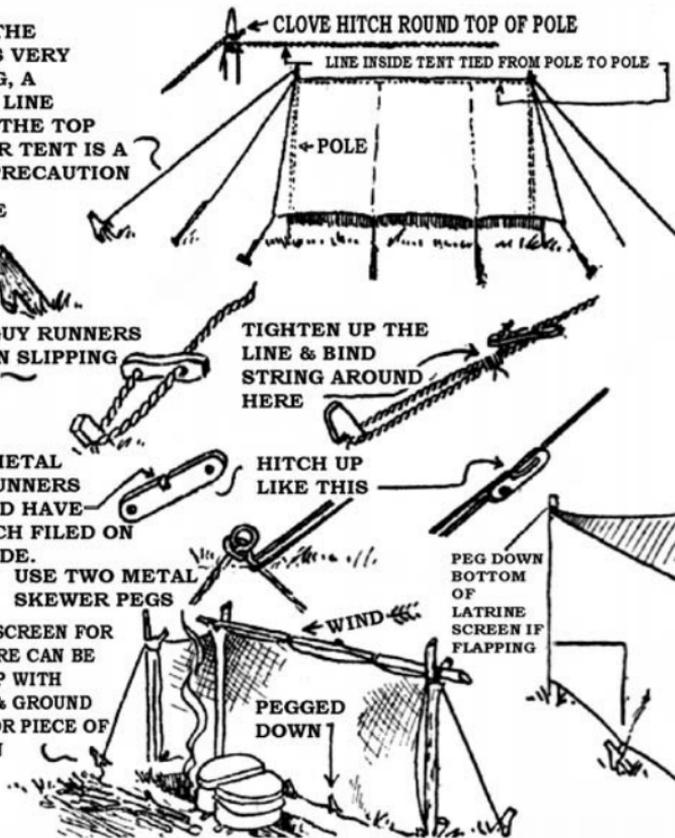
A WIND SCREEN FOR YOUR FIRE CAN BE FIXED UP WITH STICKS & GROUND SHEET OR PIECE OF MESSIAN

TIGHTEN UP THE LINE & BIND STRING AROUND HERE

HITCH UP LIKE THIS

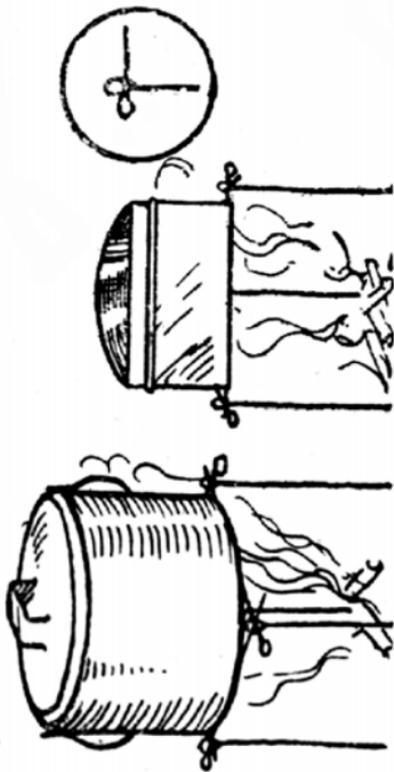
PEG DOWN BOTTOM OF LATRINE SCREEN IF FLAPPING

PEGGED DOWN



## A BILLY-STAND FROM SKEWERS

Lightweight campers can easily rig up a stand over their fire for a billy by utilising eight spare hike-tent skewers as shown in the sketch below. If your billy is of the "D" type, then rig up a triangular stand in the same way.



## The Scouts Book Of Gadgets And Dodges

### **CLEANING THE BURNT DIXIE.**

The best way to clean a burnt dixie is to fill it with a solution of salt and water. Let it stand overnight. In the morning bring the solution to the boil, let it boil for a few minutes and then empty the dixie. The burnt matter will have disappeared.

To clean the outside of your billy before stowing it in your pack, rub with a rag soaked in water and dipped in the ashes of your fire. Then wash the billy in clean water and dry thoroughly. DON'T clean the bottom of your billy.

Wood ash, by the way, particularly when it is used with soft water, is the best soap going for cleaning your hands. It makes the dirt disappear like lightning.

### **FOOD STORING TIPS.**

There are a good many dodges it is as well to be up to in storing food. Don't keep paper bags or cartons on the ground. The damp will rot them and insects get in.

Keep all such packages in a biscuit tin with a tight-fitting lid. Don't keep cheese in close contact with other foodstuffs as it will flavour everything.

I fear the warning is not altogether unnecessary not to store candles, soap and soda with foodstuffs.

Keep bread off the ground and away from the sides of the tent and cover if possible. Always use "yesterday's" loaves in camp. They are more economical.

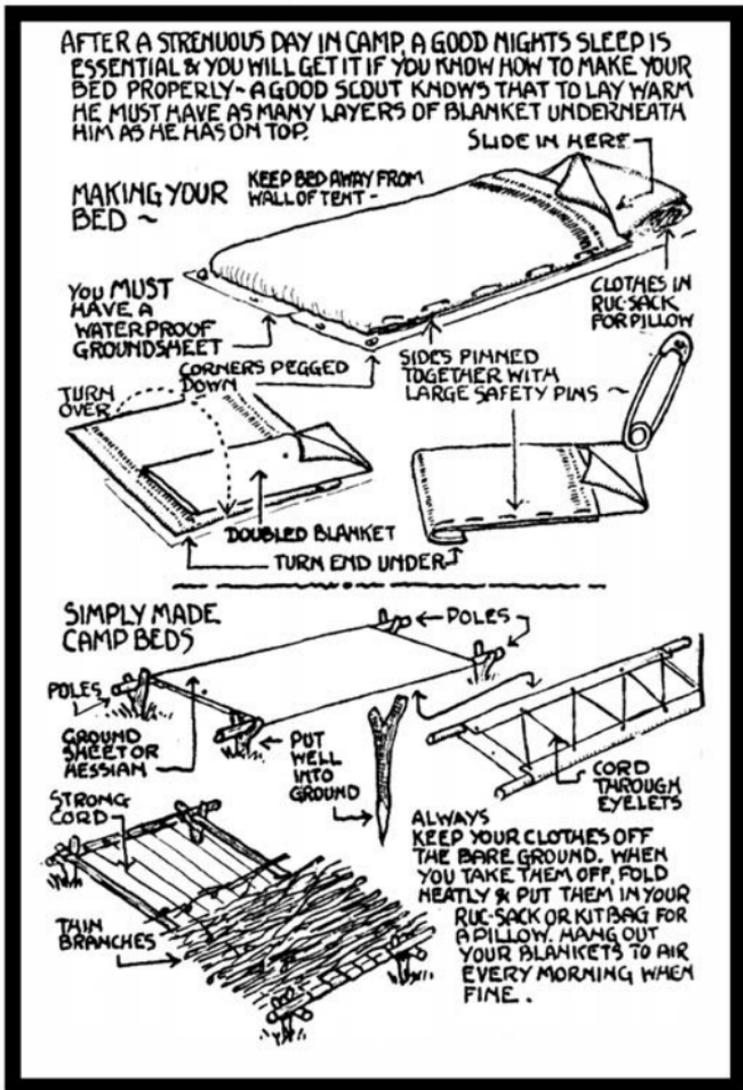
When you open a pot of jam wipe the outside carefully after use and tie two or three thicknesses of stout paper round the mouth - otherwise you will find it, and your grub tent, full of wasps.

If you order potatoes in bulk don't keep them in the sack. Empty the sack, spread it out on the ground under cover and lay the potatoes on it. Meat should be the safe already described, hung in the shade. Ask the grocer to separate the rashers of your bacon before delivery and to notch the rind.

This prevents their curling in the frypan.

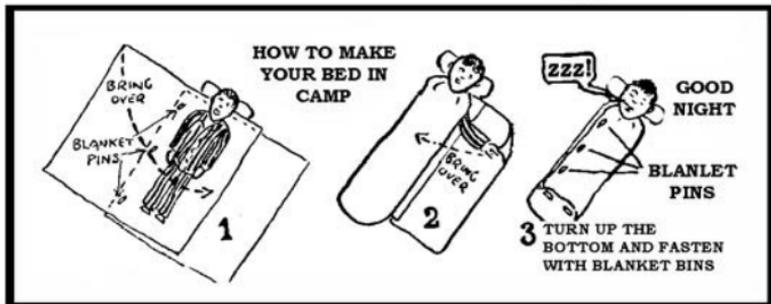
Milk should be stood in a billy of water, with a piece of muslin, weighted with small stones at the corners, over the mouth of the bottle. Butter should be kept either in a billy stood in running water - the top weighted down with a stone - or securely wrapped in its greaseproof paper, in a billy of water. Remember that you can't keep margarine like that. It will break into flakes.

## SEE YOU HAVE A GOOD NIGHT'S REST



### SLEEP WARM THIS WAY

There's any number of ways of making your bed in camp. Some people swear by blanket-pins others won't use 'em! But for those who do use pins this I consider, is the best way of making a bed. These sketches make it clear.



### TYING THAT TARPAULIN.

Many Troops take a piece of tarpaulin to camp, to cover over either the trek-cart, wood dump, or grub" boxes.

This has one drawback. Not many "tarps" have eyelet holes round the edges, and rope or cord tied to the corners never seems to hold. This idea solves the problem:

Get a smooth, round stone and wrap the corner of the tarpaulin round it, then tie the rope to the tarpaulin as shown in the sketch. It will hold securely, and cannot slip.



### RE-PROOFING A GROUND SHEET.

To re-proof a groundsheet give it a good coating with a mixture of one part of mutton suet and two parts of beeswax. Apply with a piece of rag.

Always make sure that your groundsheet is quite dry before putting it away and dust with French chalk. Don't always fold in the same creases as this wears away the proofing. Even better don't fold at all hut roll round a stick. When storing, if possible, hang it over a stick with the smooth surface outwards.

### DO YOU CLEAN YOUR BADGE?

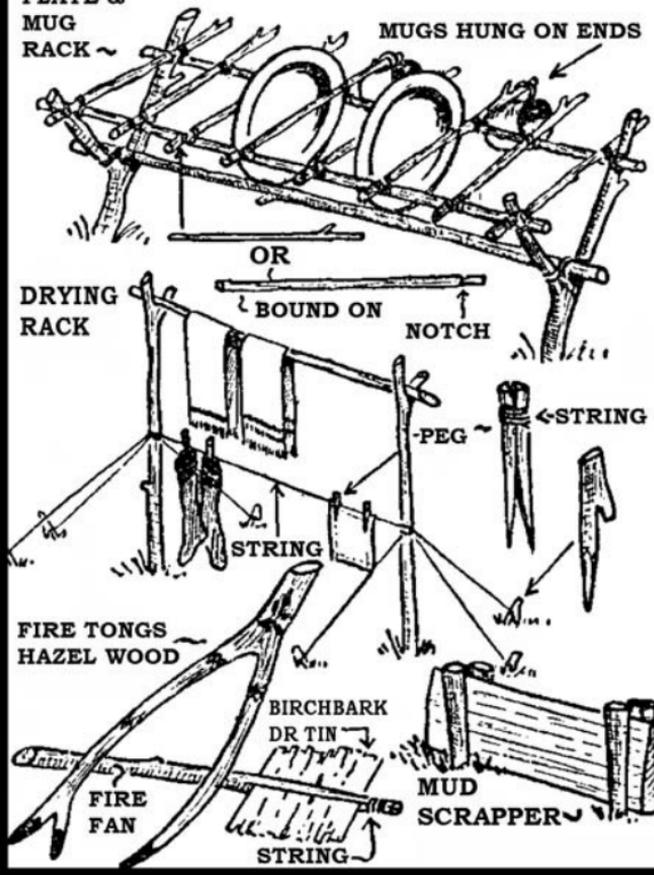
Scouts who clean their buttonhole Tenderfoot find that they stay bright for only a short time. If, however you first rub the badge with ammonia and then clean as usual with metal polish, you will get a brighter and longer-lasting shine.

## GADGETS A PATROL CAN RIG UP

WITH A FEW GREENSTICKS, PIECES OF STRING OR WIRE  
A PATROL CAN GET TOGETHER & GIVE QUITE A GOOD  
DISPLAY OF WOODCRAFT IMGENUITY - HERE ARE EXAMPLES  
OF USEFUL PATROL GADGETS

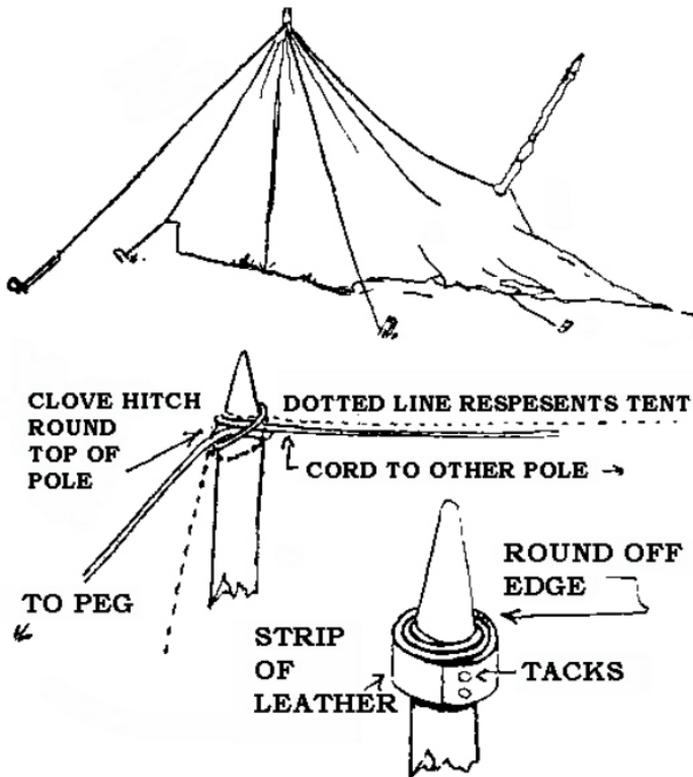
PLATE &  
MUG  
RACK ~

MUGS HUNG ON ENDS



### TEMPORARY REPAIR FOR YOUR TENT

If you are unlucky enough to have a pole go through your tent a temporary repair can be made with a length of rope. Make a clove hitch round the top of the pole and secure one end with a clove hitch, to the top of the other pole. Pass the other end through the hole in the top of the tent and peg down like a guy line. When you get a chance make the hole smaller by sewing it up. Get a strip of thin leather, bind it round the top of the pole and secure the end with one or two small tacks.

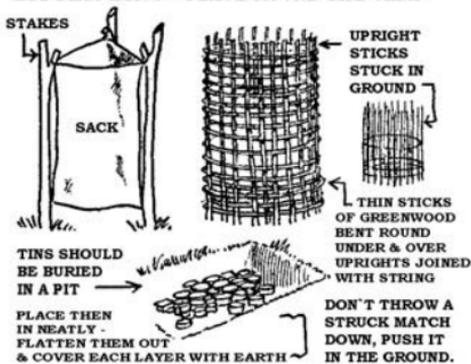


In a standing camp of any size it is as well to have an incinerator for burning your rubbish and so avoid unpleasant smells from your cooking fire. The pictures show you some good models – all simple of construction.

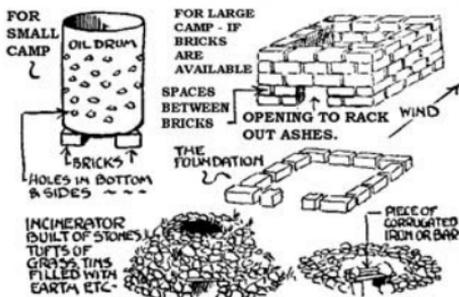
## LITTER BINS AND INCINERATORS FOR SCOUT CAMPS

A SCOUT CAMP MUST ALWAYS BE CLEAN & TIDY & A CLEAN CAMP MEANS A HEALTHY ONE - - - ALL REFUSE WHICH WILL BURN MUST BE PUT ON THE INCINERATOR - TINS & OTHER SUCH EMPTIES SHOULD BE BURIED - - - EVERY CAMPER SHOULD KNOW HOW TO MAKE LITTER BINS, TIN PITS, INCINERATORS & ALL OTHER THINGS FOUND IN AN EFFICIENT CAMP - - -

### LITTER BINS - PLACE ROUND THE CAMP



### INCINERATORS - BUILD ON THE LEEWARD OF THE CAMP.



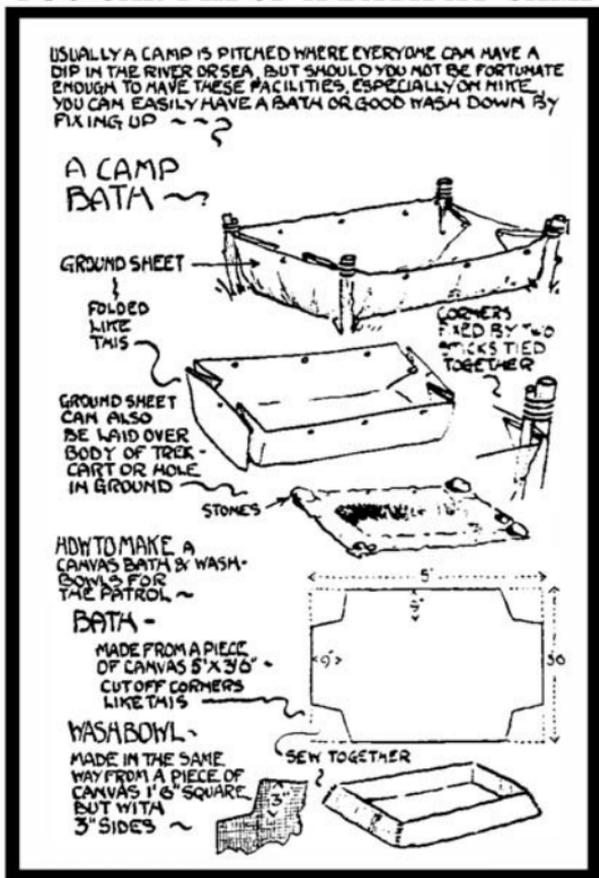
## The Scouts Book Of Gadgets And Dodges

### MAKE TOFFEE IN CAMP.

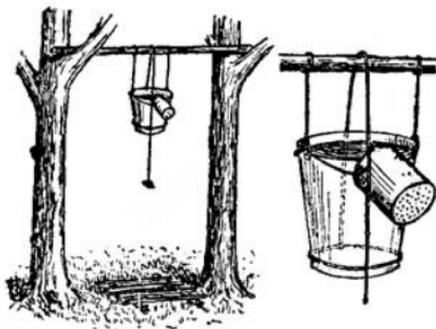
This is the recipe for camp-made toffee, which tastes fine: You need one tin of condensed milk, 2 lbs. of soft sugar, and  $\frac{1}{4}$  lb. of butter. Place the whole lot in a billy and boil, stirring all the time. You may need to boil the mixture as long as half an hour.

Now grease a tin with butter and pour the mixture into it, and when the toffee has almost set, gently score it into slabs with a knife.

## YOU CAN FIX UP A BATH AT CAMP



## HOW YOU CAN RIG UP A SHOWER BATH AT SUMMER CAMP.



*Should you be fortunate enough to have two trees close together on your camp-site, you may be able to rig up a shower on the lines of the one shown above.*

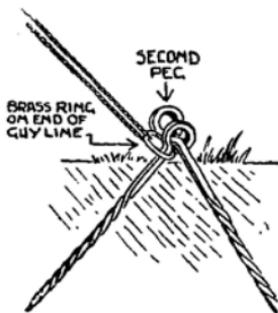
*The sketches make all the workings clear.*



What about a shower bath, fellows? O.K. Take a look at this arrangement. Make a triangle of two long poles and a shorter one, and fix a stout cross-piece near the top. Fasten a pulley to the end of one of the long poles. Then brace the whole structure by a rope to a stump or tent-peg. Secure the bucket to the top cross-piece by two clove hitches. The bucket is tilted by a rope fastened round the bottom and passed over the pulley and secured to one of the uprights. Before you make the holes in the sides fill the tin with earth. Then clean it out and bore two bores at the top, through which two ropes are passed. These are fastened on to the handle brackets of the bucket.

### A WINDY DAY TIP.

Those Scouts who have a light-weight tent and use the metal meat-skewer pegs may have found it difficult to keep the main guy-line pegs firmly in the ground on a very windy day.



Here is a little tip which is worth knowing. For your main guy-lines use two pegs in each, placing the second one through the eye of the first after this has been pushed into the ground in this manner.

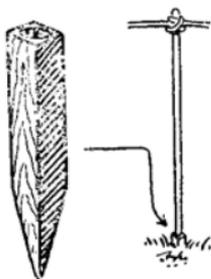
If you put a brass ring on the end of your guy-line for the peg to pass through, you will prevent a considerable amount of friction at the end, and, therefore, lengthen the life of your guy-line.

### STOPS POLES "JAMMING."

Most of you campers must have at one time or another experienced difficulty in loosening the joints of light-weight and other tent poles. They will never jam or become stuck if you previously polish the inside joint with blacklead. Grease, such as vaseline, serves the same purpose, but blacklead is better.

### ROPING-IN THE KITCHEN.

The handyman of the Troop would be doing the Troop a very useful good turn by making a few little gadgets as shown in the illustration.



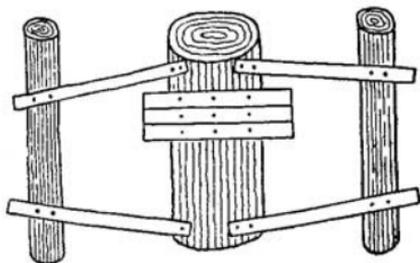
The use of these will enable you to fix your Scout staves securely into the ground when roping off the kitchens without having to knock the staff itself into the earth.

Just cut a few pieces of wood, 1 ½ to 2 ins. square and about a foot long. Drill a hole in one end about 6 ins. deep to take the end of the staff and taper the other end.

All you have to do is to knock these into the ground with a mallet where you require a staff or stake, then insert the staff into the hole. The staff can then be readily removed or replaced in the same position whenever necessary.

Room for these can easily be found in your trek cart, and they are well worth the trouble of taking with you.

## RAFTS THAT ARE EASY TO MAKE



*THE LOGAMARAN*

And now, what about a raft. Let's have some real fun! In raft-building remember that the lighter woods, particularly of the fir type, are best. First the sausage "raft". For these you muse stuff some groundsheets with heather or straw. (Heather is best, because it can be drained, while straw gets sodden.)

Lash these up with string till they are like sausages, with the openings at the top. Lay six of them side by side and lash them to a light framework of staves. About a third of the way across secure a board for a seat. Don't step on the "sausages" and don't pull the raft with a rope, as this will cause the end "sausage" to become waterlogged.

Another kind of raft is the "logamaran." Find a log of about ten feet in length and a foot in diameter. Secure a lighter and thinner one by crosspieces about five feet away on each side. These are your floats and will stop the raft turning over. Nail some footboards to the centre log and make yourself a punt pole. It might be as well to take off your shoes and stockings before casting off!

## HOW THOSE "ROLL-UP" TABLES ARE MADE

A LITTLE TIME SPENT BEFOREHAND IN PREPARATION FOR YOUR WEEK-END & SUMMER CAMPS WILL MAKE ALL THE DIFFERENCE TO YOUR COMFORT. GET TOGETHER & MAKE A FEW PIECES OF CAMP FURNITURE ~ ~ ~

### A "ROLL UP" TABLE

STRING

1 INCH LATHS STRING TOGETHER

BIND AT BOTH ENDS. UNDER & OVER - USE AS MANY LATHS AS REQUIRED ACCORDING TO SIZE OF TABLE ~ ~ ~

PUT ALL LATHS TOGETHER, END ON. & MAKE SMALL GROOVES EACH END

ROLL OUT ON TWO STICKS OR STAVES

ROLLED UP

### A COLLAPSIBLE TABLE

STRIP OF THICK TIN SHEET BENT TO FIT HERE

TABLE FOLDED

STAKES FOR LEGS

PIECES OF ORDINARY BOX.

HOLES TO TAKE NAIL OR PEG IN LEG

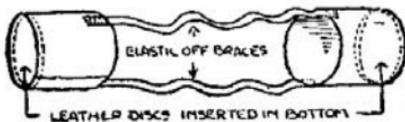
EACH SCOUT CAN CARRY A SECTION.

J. G. CONE.

## The Scouts Book Of Gadgets And Dodges

### STOP TENT DAMAGE!

Damage is often done to a light tent through the sharp ends of the poles piercing the canvas. Here is a good way of packing them. Make two small caps of canvas with a piece of leather sewn into the bottom of each. They are kept in position by two pieces of elastic stitched on as shown.



*How the poles are packed*



### THE CAMP-FIRE BLANKET.

If you have not got a special camp-fire blanket here is the way to fold one of your other blankets so that it makes a good 'ceremonial dress'. Place the whole of the blanket lengthwise behind you so that the centres of the two sides come in front of you. Now the top end of the blanket is carried over your shoulders and the other ends tucked under the front of the blanket and held in place with a pin. The picture makes this clear.

### SAVE THE PEGS.

Here's a useful tip about I should think thousands of perfectly good pegs are smashed every summer in trying to knock them out of hard ground with a mallet. Don't use a mallet at all for extracting pegs. If a peg won't come out with a good straight pull, lever it out with another peg.



### WHAT TO LOOK FOR BEFORE INSPECTION.

Here are a few hints on what to look for before tent inspection to avoid dropping points:

Blankets neatly folded (if fine they should have been put out to air on a fence or hush on rising); towels hung up to dry; never packed in with the kit.

Sponges, toothbrushes, soap and flannels laid out - not packed; plates, mugs, knives, forks, and spoons thoroughly washed and placed on the racks (points are often secured for good gadgets) ; spare shoes cleaned and set out.

## The Scouts Book Of Gadgets And Dodges

Tent walls brailed up neatly (tied with reef knots), pole upright and no slack guys, pegs firmly in; ground in and around the tent spotlessly clean. A tiny piece of paper will lose you a point.

Full uniform, unless "above the knees" has been announced by the SM. (In this case, stockings need not be worn). Sleeves rolled up, belt buckles "in the middle," and scarves straight.

### **LAYING OUT THE SITE.**

Lot of the success of a camp depends on the care with which the site is laid out. Do this job with care.

On arriving at the site, set down your gear on a groundsheet, and then look around and plan your camp. Discover which way the wind is blowing. It will usually be south-west (the prevailing wind in England), and so the order of the camp will be - looking the way the wind is blowing - tents, stores, kitchen, refuse pits, washing-place, latrines. It may not always be possible to keep this order but the wind should always blow from the tents towards the fire and latrine, and not the other way.

Choose a spot that is high and dry, and get all the fellows on putting up the tent, or tents. Get the groundsheets down and the gear on to them.

Now divide into two parts - one to make a fire and get water, or whatever it is, on for the next meal; the other to dig the latrine. This done, and the first meal over, kitchen and gadgets can be made and rucksacks unpacked. Dishes washed, and all available billies and buckets filled with water, our camp will begin to look orderly and ship-shape. Then dig dry and wet rubbish pits and put up the washing place.

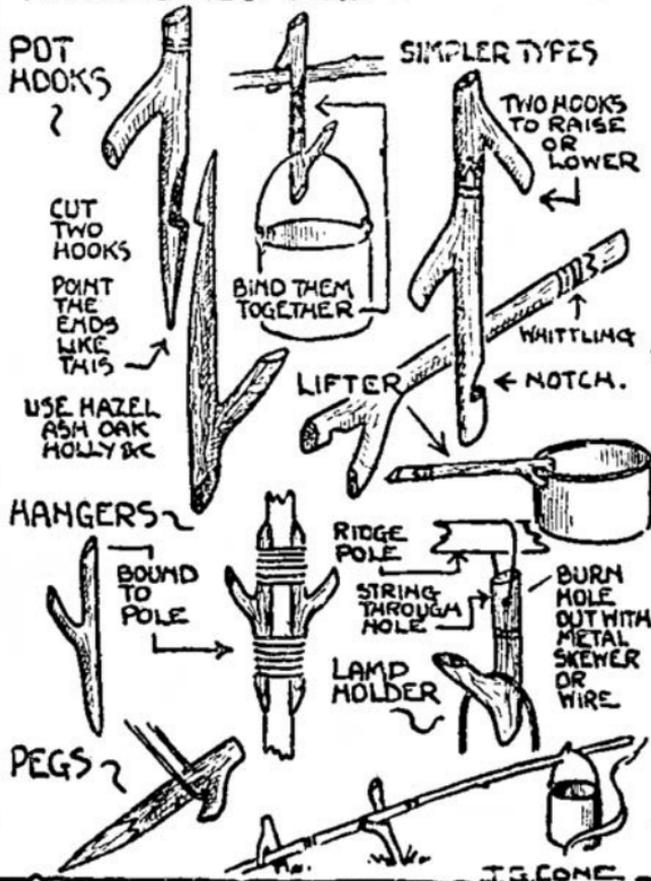
### **STRIKING CAMP.**

First clear the kitchen and leave the fire burning to take all rubbish as you clear up. Then pack your gear and strike the tents (if it is wet leave one standing to take all the gear); fill in rubbish pits and latrine and replace turf.

Finally, when all is clear, go over the whole camp-site and pick up and burn every piece of rubbish, paper or wood chips. Then when all is ship-shape, walk across and thank the owner of the ground.

# WOODCRAFT COMFORT IDEAS

A SCOUT IS NEVER IDLE IN CAMP - THERE IS ALWAYS SOMETHING TO DO - YOU SOON KNOW A WOODCRAFT SCOUT BY THE KNICK-KNACKS & GADGETS HE HAS DEvised ~ POT HOOKS & PEGS, HANGERS & HOLDERS CAN ALL BE MADE FROM GREEN STICKS. DON'T WEAR YOUR KNIFE AS AN ORNAMENT, LEARN HOW TO USE IT. MAKE SOME OF THESE ~ ~ ~



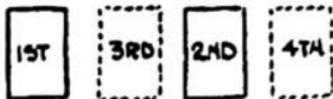
## HOW TO PLAN CAMP LATRINES.

CAMP SANITATION IS THE CONCERN OF EVERY MEMBER OF A CAMP & A SCOUT IS NOT A GOOD CAMPER UNLESS HE KNOWS ALL ABOUT DIGGING & ERECTING

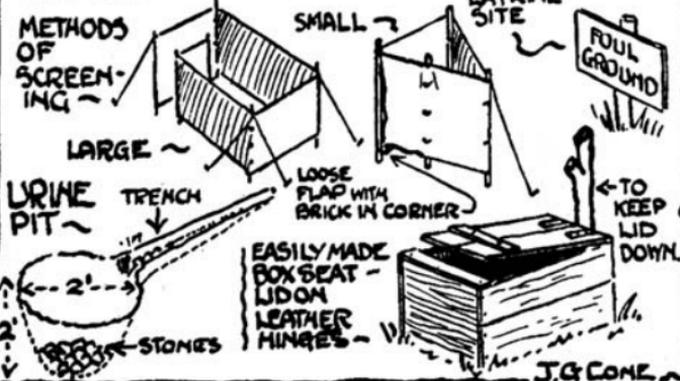


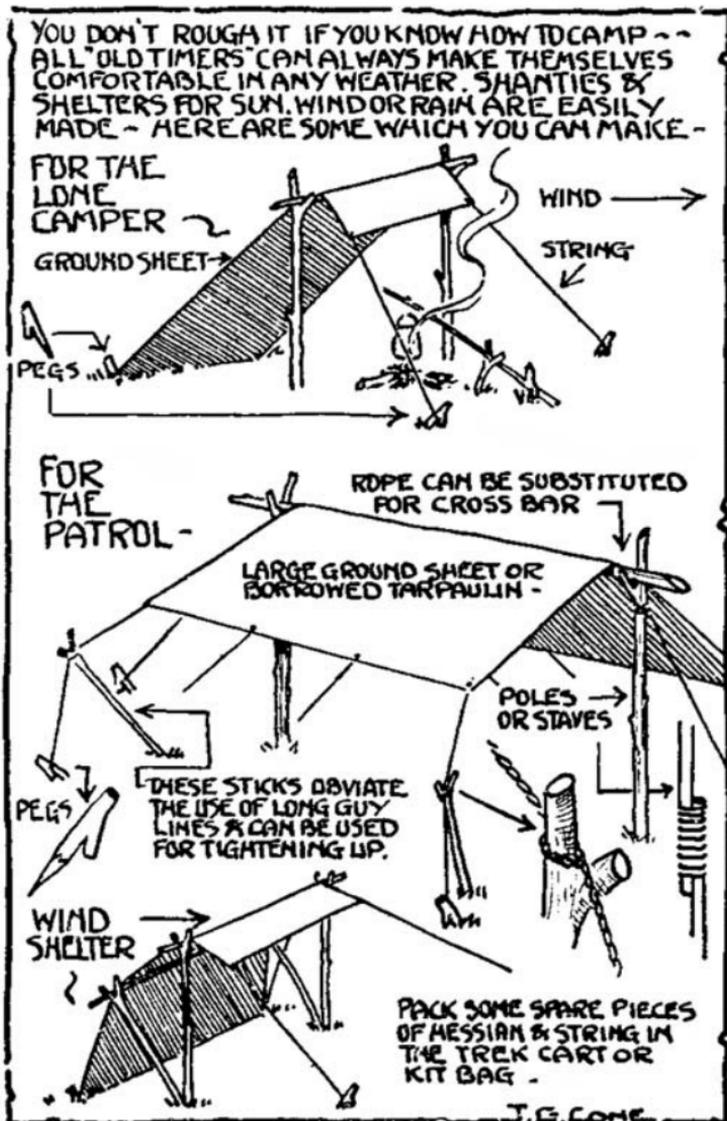
THE NUMBER OF PITS DEPENDS UPON SIZE OF CAMP  
& NUMBER OF DAYS ~

DIG 2 PITS  
AT A TIME ~  
LEAVE SPACE FOR A  
PIT IN BETWEEN EACH  
WHEN FIRST 2 ARE  
USED & COVERED IN ~



METHODS  
OF  
SCREEN-  
ING ~





### A DINING SHELTER IS A GOOD IDEA.

A rain screen will ensure punctual meals in the worst weather. For a long camp an overhead shelter can be erected on four uprights. Below is shown how to make a "Ritz Hotel" dining shelter.

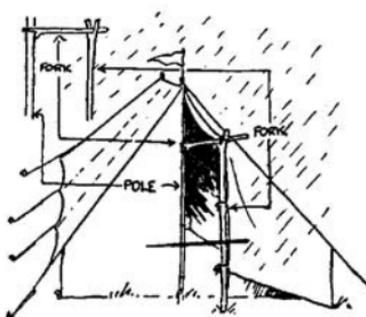
### TAKING THE SOAP ALONG.

How to pack your wet soap when hiking, so as not to damage the rest of your kit, is always a problem. Here's the answer:- Cut a piece, about eight or nine inches long, from an old motorcycle inner tube. Close one end with rubber solution. Cut a flap to fold over three or four inches from the other end. Fasten with a ring of rubber.

### KEEP THE RAIN OUT.

Using two forked sticks as shown in the sketch will be found a very effective method of keeping a tent door open without allowing the rain to come in.

A short one is required to fit with its forked end resting on the tape which fastens one of the doors to the pole. The other end rests in the crutch of the long stick which is stuck in the ground.

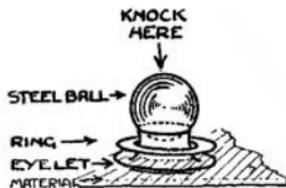


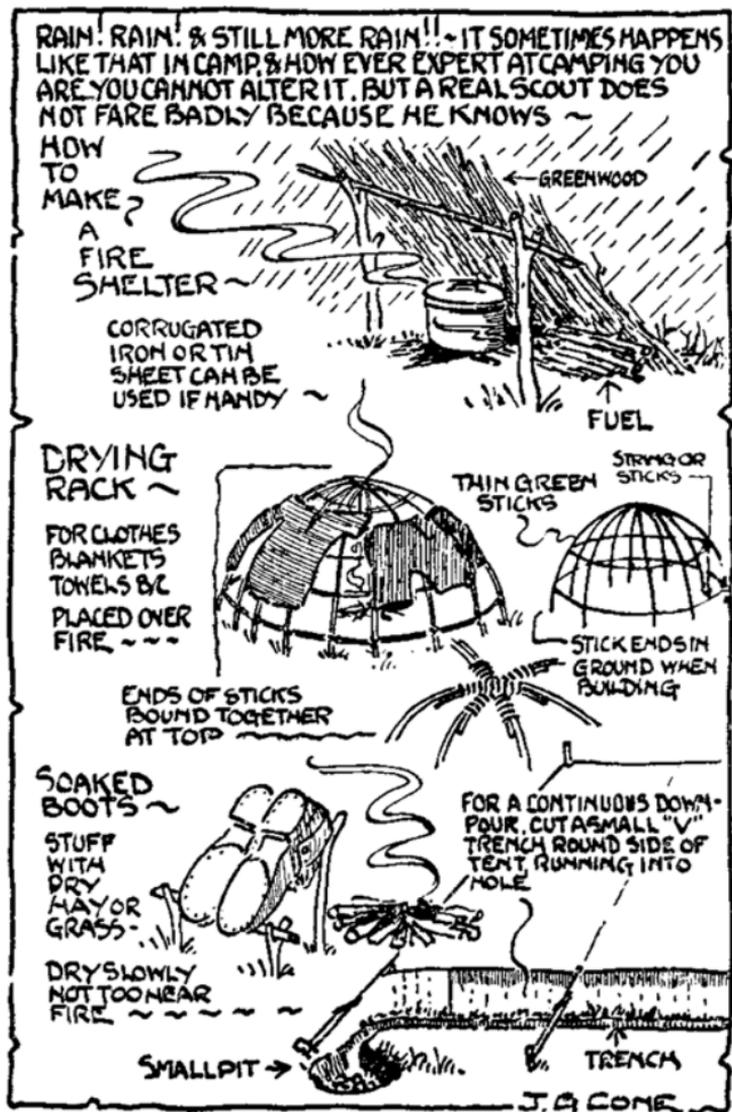
### FIXING EYELETS.

Without a special tool the fixing of brass eyelets is not an easy task, but with the aid of a small steel ball-bearing this difficulty is easily overcome.

A suitable ball-bearing can be obtained from almost any garage. The size of this depends upon the size of the eyelet. The sketch shows the size in proportion to the eye-let.

All you have to do is to cut a small hole in the material, lay flat upon a hard surface (a flat iron held between the knees will do), and insert the eyelet from the underneath. Now place the securing ring in position, lay the steel ball on the top, and hit the ball square on the top with a hammer. This will open the edges of the eyelet evenly all round. Remove the ball and then flatten out the edge by gently tapping with the hammer.





**SCARING THE “SKEETER.”**

Mosquitoes and midges can take all the enjoyment out of camp-life, but if you carry out the following tips they should not worry you over much.

First and foremost, don't leave food-scrap lying about, or patches of dirty water. These will attract the skeeters" quicker than anything, and flies and wasps, too, into the bargain. Burn or bury any refuse, and keep the latrines scrupulously clean, too. If you are still troubled with the pests after these precautions, then here are a few things which will keep the insects away:

Oil of almonds, oil of lavender, oil of eucalyptus, white bark oil, and oil of citronella are all good, and a handkerchief or rag sprayed with one of these preparations and hung in the tent door will keep any mosquito or midge out of the tent.

Always attend to midge or mosquito bites at once.

Liquid ammonia, diluted with three parts of water, will lessen the pain and form a good disinfectant, while a curious yet efficient method of reducing the swelling is to dab it with a common nettle until it tingles, The lump will then cease to grow and will slowly go down.

As in the case of bee or wasp stings, the well-known remedy of applying the moistened blue-hag is very effective.

**YOU CAN MAKE YOUR TENT FIREPROOF.**

you wish to make your tent fireproof you can do so in the following way:- Coat the tent with a solution of either alum or borax and water mixed in the proportion of about half a pound of either ingredient to a gallon of water.

The canvas is soaked three times in the solution, and should be allowed to dry thoroughly between each soaking.

This is sufficient to make the tent almost unburnable.

**BE CLEAN.**

The disposal of washing and greasy water should be the object of some care. The next set of pictures will help you in this matter.



### FOR WATER-CARRIERS.

This clever dodge enables you to carry two buckets of water without their bumping against your legs and wetting your clothes. Obtain a large hoop, about three to four feet in diameter, and when carrying buckets of water step inside the hoop. Now rest the hoop on the lip of the pails so that it pushes against the handles.



This stops the pails from bumping into your legs, and the hoop is held up on the buckets.

### IS THE WATER PURE?

A good way of testing the purity of your water supply is to fill a glass with the water and drop in a lump of sugar.

Stand the glass in a moderately warm place and leave overnight. In the morning the water should be quite clear. If it is milky it is tainted.

A simple filter can be made in the following way: Mount a barrel on bricks or stones and fix a small tap to the bottom. Then cover the bottom with a six-inch layer of fairly large pebbles or well-washed gravel. Cover this with a six-inch layer of gravel about the size of a pea, then a three-inch layer of one part charcoal to two of sand. Top with a last layer of one inch of plain sand. When pouring in the water place a dish over the sand to prevent its being disturbed. The tap is left on with a large dish underneath in which to batch the water. This filter should last for about three months. After this time each layer should be washed out separately and re-made.

### A COOKING KINK.

Rice is one of the most difficult things to cook in camp - you must stir it all the time. Here is a handy idea for getting the right quantity of rice and water. Place your hand into the billy, as shown in the sketch. The rice should just cover the finger-nail; the water should reach as far as the top of the thumb-nail.



## The Scouts Book Of Gadgets And Dodges

### CLUBROOM FURNITURE AND DECORATIONS.

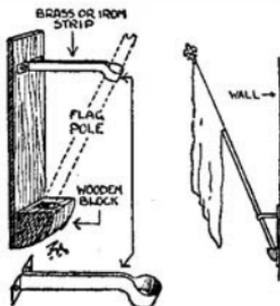


It's not much use having a fine headquarters for your Troop if people can't find it easily, so here's how to fix up a nobby illuminated nameplate. Cut out the letters of the name in thin paper on one side of a sheet of glass. (Large letters cut from old posters is an easy way of doing this.) Let them dry and give the glass a smooth coat of dark paint over them. As soon as the paint has dried wash off the letters, and there you are, except for another sheet of glass to protect the paint from scratches. Frame the whole thing and hang it where a light will shine through from the back.

A good way of keeping your den door closed is to fasten a weight or small sandbag to the end of a stout cord passed through an eyelet screwed to the frame and secured to a projecting piece of wood fastened to the top of the door itself.



Here is a neat little bracket to take your Troop flag. Get a smooth piece of wood, about one foot by three inches by half an inch thick. Screw a wooden block to one end of this. Into the block drill a hole at an angle of forty-five degrees, to take the end of the pole. Bend a thin piece of metal into the shape shown in the sketch and screw to the top of the flat piece of wood. When it is in position bend the ring downwards at the same angle as the hole in the block.



### FLYING THE JACK.

In many Troops the Union Jack is flown or broken by means of a pulley on a beam, owing to the difficulty of finding a solid base for a flagstaff. A butter tub, however, filled with earth and with a layer of whitewashed stones on top, makes a fine base. The outside of the tub can be varnished and the hoops coated with gold paint.

The Scouts Book Of Gadgets And Dodges  
**MAKE THE MOST OF YOUR PATROL CORNER**

**FIXING A TEMPORARY CORNER.**

One would think that lack of imagination was the last thing of which to accuse a Scout, and yet time and again one visits Troops where Patrol Corners are nothing hut rings of chairs.

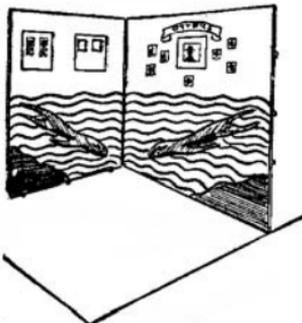
I admit it is difficult at times; for example, when you have temporary use of the Parish Hall, hut difficulties are made to be overcome.

There are two ways of defeating the Parish Hall. If you are allowed to drive nails or hooks into the walls, you can run wires across and curtain the hall up into sections; if not, two-part screens are very cheap and a couple of them make an ideal corner.

Having got the screens, the first job is to paint them. The exterior should be the Patrol colour, not the colour of the shoulder knot, hut if possible the colour of the lair or nest of the particular animal or bird.

At the door of the den fix a clip. This is for the Patrol Leader's staff and is put there to show that the Patrol is "in residence." The password for admission is always the Patrol call.

Before we consider the decoration of the inner walls, let's talk about the furniture. You will need seats and a table; the latter can be made by the Patrol carpenter; or if storage is a problem, you may have to be content with a folding table. Perhaps he is clever enough to make that.



*A temporary corner for an otter  
Patrol*

While we are on the subject of seats, let us consider the problem of getting in and out of the den, because of necessity the space is rather cramped, and without a system there is likely to be chaos when the Troop whistle goes.

Each member should have a definite number, with the Leader as No.1. His seat should be by the door, with his Second next to him and so on. When the whistle goes, the Patrol just files out in parade order. "On return, the Leader gives the about turn," and the last man out goes in first. A simple dodge that makes all the difference to a smart Patrol.

### DECORATIONS FOR THE WALLS.

Now to the walls of the den. To save the top from looking unfinished, try a stencilled frieze with a Scouty design. Don't worry about painting the rest of the walls; you will have more than enough stuff to cover them.

Choose an out-of-the-way spot for clips and hooks for staves and coats, then consider the rest of the space available for decoration.

You will naturally leave the central spot for a copy of the Scout Law, specially done by the Patrol artist, who has also illuminated the Patrol Motto to go over it.



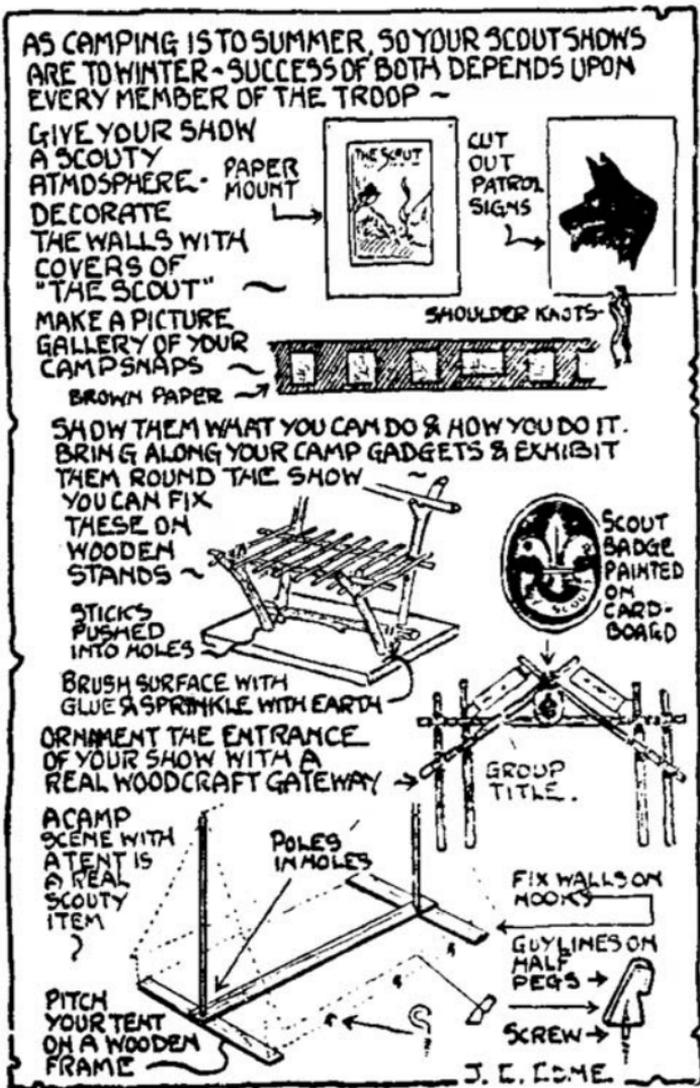
To the right of the Law should be the Wall of Honour, where the doughty deeds of past and present members, together with the Inter-Patrol Shield and any other successes, are recorded. and on the opposite side photographs of all past Patrol Leader. and Seconds should "tell the world" that the Patrol is an old-established firm.

The right-hand wall nearest the Wall of Honour should be devoted to photographs and letters from the foreign Scouts with whom the Patrol corresponds..

Opposite should be photographs, sketches and other detail. that you have collected concerning the Patrol Animal, and underneath should be the Progress Chart of the animal's human brothers.

If there is any space left over, there is plenty to fill it. A map of the district is almost essential, and a knot board is a great help to the tenderfeet as well as the Scout Charts of the various subjects in which the Patrol specialises.

## GIVE YOUR SHOW THE SCOUTY ATMOSPHERE



### **CUTTING GLASS WITH A POKER.**

A Poker can be used quite easily for cutting glass if you do not happen to have a diamond-cutter. First of all make a tiny notch in the glass at the point where the cut is to begin, and then place the glass over a sheet of ruled paper, so that you now have a guiding line to follow.

Then heat the poker and apply it to the notch. You will hear a faint crack, and the poker should be drawn across the glass. When you reach the opposite edge you will find that the glass has been cut quite cleanly.

### **CARVE IN CORK.**

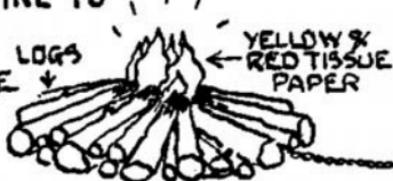
Fellows who have found it difficult to cut cork cleanly they can do so by the following method: before starting to cut, dip the blade of the knife into cold water. By keeping a cup of cold water beside you to dip into when needed, you will find that you can even chip carve in cork !

### **WINTER CAMP-FIRES.**

Camp-Fires, and enjoyable ones at that, can be held indoors during the winter months. You can recapture some of the atmosphere of the backwoods if you follow the little pictures on the next page.

THE FINISH OF CAMPING DOES NOT MEAN THE END OF THE SING-SONGS - MANY HAPPY MEMORIES ARE RECALLED ROUND AN ARTIFICIAL CAMPFIRE - YOU MUST HAVE THE FIRE TO CREATE THE CAMP ATMOSPHERE -

GET TOGETHER, MAKE AN ELECTRIC FIRE -



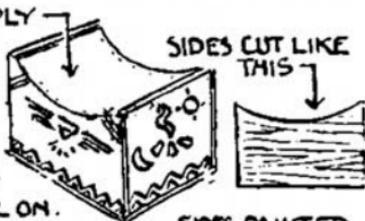
IF ELECTRIC LIGHT IS NOT AVAILABLE AN ELECTRIC TORCH CAN BE USED -

WOODEN BASE WITH LOGS BOUND WITH WIRE -

FOR YOUR INDOOR SING SONGS, MAKE YOURSELF A CAMPFIRE SEAT -

ORDINARY WOODEN BOX

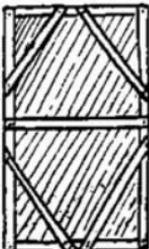
BEND 3PLY TO TOP & NAIL ON.



THREE OR FOUR SUITABLY PAINTED PAPER SCREENS SET AROUND TO HIDE A BARE WALL WILL GIVE A REAL EFFECT -

ROUGH WOODEN FRAME -

COVER WITH MESSIAN OR THICK BROWN PAPER.



IF MADE LARGE ENOUGH THESE CAN BE USED FOR YOUR SCOUT SHOW.

COLOUR WITH POSTER COLOURS OR CHALK TO REPRESENT WOODS IN THE MOONLIGHT - USE ONLY BLUE, BLACK & WHITE

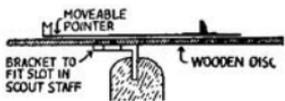
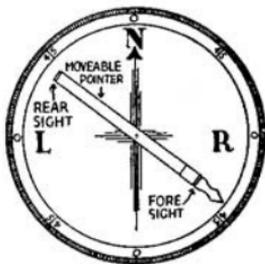
J. E. COLE

## The Scouts Book Of Gadgets And Dodges

### HINTS FOR SCOUT SURVEYORS

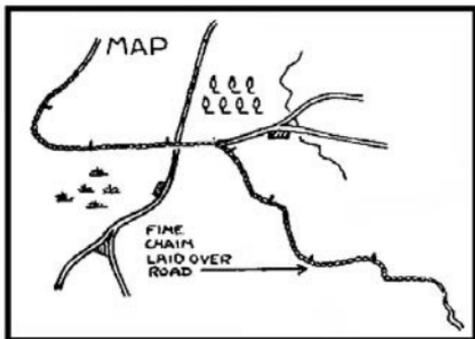
A Survey Disc is a useful little gadget to help you in mapping a district. Divide into halves a disc of cardboard, six inches in diameter. Then, with the help of a protractor, divide each half into 180 equal divisions or degrees.

Number every five degrees clockwise and anti-clockwise, starting from North (0 degrees) and ending at South (180 degrees). A movable pointer of tin is fixed to the centre of the disc. This pointer is really a pointer and two sights combined, so that the tip of the pointer - the fore sight - and the rear sight must be in exact alignment.



When you want to take the bearings of an object first turn the disc so that 0 degrees is pointing to the North. Keeping the disc in this position turn the pointer in the direction of the object. Look over the sights (keeping the left eye closed) so that the object and the tip of the foresight are in alignment with the "V" of the rear-sight. Then read off how many degrees right or left of North your object is and mark the position on your map, according to where you are standing. A handy little map measurer can be made which is simply a length of thin chain, bound at every inch with a piece of very fine wire. To measure the distance you simply lay the chain over the road, as shown in the sketch, straighten it out and compare the distance covered with the scale.

*How you use  
the chain  
measure*



### FINDING THE NORTH.

Do know how the North without a compass? One way is to hold your watch so that the hour hand points to the sun. An imaginary line drawn between the hour hand and the figure twelve will point due North and South, South being towards the sun. Go *forward* to 12 in the morning and *back* in the afternoon.



Don't forget to allow an hour for the difference in summer time.

Churches are usually built to point East and West, with the altar at the East end.

On the stump of a recently-felled tree the rings on the centre are thickest on the South side. Notice which way trees are leaning. The slant is caused by the prevailing wind. If this is South-West the slant will be North-East.

From a full moon the North can be found by the sun-and-watch method. If the moon is not full allow fifty minutes more for every day after full, and the same time less for every day before full.

### FINDING THE NORTH BY THE MOON.

When there is a full moon, it is quite easy to find the true North with a watch, following the method used for finding north by the sun.

Regarding the times when the moon is in its other phases, it is possible to find various points of the compass at certain times only. The following "fixed standards" may help you:

At 6 p.m. (Full Moon) and 12 p.m. (3rd Quarter), the moon is in the EAST.

At 12 p.m. (Full Moon), 6 p.m. (1st Quarter) and 6 p.m. (3rd Quarter), the moon is in the SOUTH.

At 6 p.m. (Full Moon) and 12 p.m. (1st Quarter), the moon is in the WEST. Having obtained these points of the compass, you can, of course, easily discover the North.

## The Scouts Book Of Gadgets And Dodges

### **ESTIMATORS SHOULD NOTE THAT:-**

The distance of objects is usually over-estimated in the following cases:

When one is kneeling or lying - When the object is in the shade - When looking over a valley or undulating ground - In avenues or long streets - When the background and the object are of the same colour - In a mist or poor light, or when heat is rising from the ground - When the object is only partly visible.

Under estimation is usually the fault in these conditions:

When the sun is behind the observer - In clear atmosphere (for instance, a sunny day after a heavy shower) - Overlooking level ground, or when ground is snow-covered - When looking upwards or downwards - When, as in the case of an isolated monument or church, the object is large compared with its surroundings - When the background and object are of different colours - When looking over water or a deep chasm.

### **Keep in Mind that:-**

At 50 yards a person's mouth and eyes can be clearly seen.

At 100 yards a person's eyes appear like dots.

At 200 yards all parts of the body, badges, etc., can be seen.

At 300 yards the face is indistinct.

At 400 yards the movements of the legs can be made out.

At 500 yards the head and hat can be seen and colours distinguished.

At 600 yards the head is like a dot.

At 700 yards it is difficult to distinguish the head.

### **MAKES ESTIMATING SIMPLER.**

A simple aid to height and distance judging can be made from an ordinary piece of broom-handle about two feet long.

Get a pal to hold your staff (of course, you know its length) upright, with one end on the ground, ten yards away. Close one eye and see how much of the stick it takes to cover the staff. (The old "squint and pencil" drawing-class stunt!) Mark off this distance with a band of paint. Repeat this at various other distances. Then, with your measurer, a pal and your staff, you can approximately judge any distance. To measure heights see how many times the portion representing a given distance "goes into" the tree or whatever it is whose height you want to find.

### MEASURING YOUR PACE.

To measure your walking pace really accurately get a piece of string about 250 feet long and tie one end to a post. 44 feet from the post tie a piece of tape to the string. Repeat this each subsequent 44 feet.

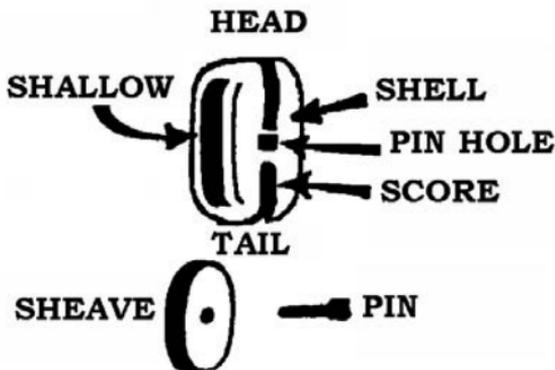
Then get a watch with a second hand. Starting from the post walk in a straight line, letting the string slip through your hand. The number of tapes that pass through your hand in half a minute is the same as the number of miles per hour you are walking. This is because 44 feet is 1-120 of a mile and thirty seconds is 1-120 of an hour. Therefore, if, for instance, you walk 38 feet in half a minute, you will walk one hundred and twenty times 38 feet in an hour. That is two miles per hour.

### FINDING A RIGHT ANGLE.

measure a right angle with your staff first drill a hole through the top and then another exactly at right angles to the first. To measure the right angle stick the staff firmly in the ground and "sight" another fellow through one of the holes, so that he is in a direct line with your eye. Then get another fellow to stand in a direct line with your eye through the second hole. There's your right angle.

### THE PARTS OF A PULLEY BLOCK.

The outer part of a block or pulley is called the shell. The upper part is the head and the lower part the tail. The pulley-wheel is called the sheave, and it is secured by the pin in wooden blocks there is a groove cut in the shell to take the surrounding rope which holds the block, this rope being called the strop. The groove in the wood is called the score. The score is cut right across the block at the tail but not at the head Hence you can easily see which way up the block should go.



Some people oil the frictional parts of blocks. But a better and more lasting method is to blacklead the pin and the sides of the sheave. Then the block will work sweetly and without squeaking for a very long time.

### HOW TO DRAW AN ELLIPSE.

When cutting mounts, mounting photographs or cutting-out oval picture-frames, no doubt many have found it difficult to draw an ellipse. Here is a very simple method which will enable anyone to do this.

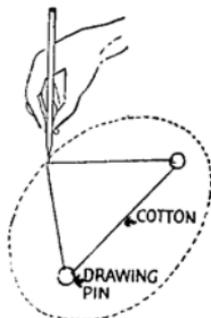
All you require is a piece of cotton, two drawing pins and, of course, a sharp pencil.

Place the two pins an equal distance apart from the centre of the picture, tie the two ends of the cotton together to form a loop, which is placed over the two pins.

Draw the cotton tight with the point of your pencil, which is held upright, the point touching the surface of the photo.

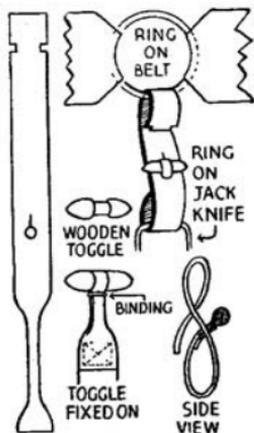
Now move the pencil round in a circular motion, keeping the cotton taut all the time. The wider the pins are apart, the narrower the ellipse.

Try this on a piece of rough paper first until you have obtained the required shape of ellipse.



### A SUBSTITUTE FOR SWIVELS

It is possible to fix up a neat substitute for the dangerous steel swivels found on many Scout belts. Cut a strip of thin leather about six inches long by half an inch wide. On each side, half an inch from one end, cut two slots an eighth of an inch long and the thickness of the leather in width. About an inch and a quarter from these cut a slot, in the centre, a quarter of an inch long and again the thickness of the leather in width. For a length of one inch the other end is cut down to a width of three sixteenths of an inch, with a small piece of the original width at the end for sewing down. A wooden toggle is now stitched into this part, the thin end of which is sewn down as shown. A quarter inch hole with a small slit at the top is made to take the toggle. The sketch shows quite clearly how the toggle is used.



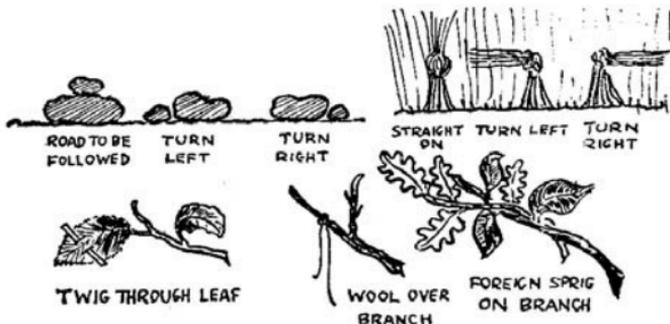
### ADVERTISE!

An idea for advertising your next show, which cannot fail to attract attention, consists of a number of sheets of paper, fixed vertically and at right angles to a background poster, which give the effect of three different announcements on the one poster. Take three sheets of paper, preferably of different colours. Two are pasted on each side of one sheet of cardboard, the third on another.



This gives you one single and one double-sided card. First take the single-sided card and paint or ink-in your poster. Then take the double-sided card and print the second announcement on one side. Turn over and print the third announcement on the other side. The second side is printed the same way up as the first side *BUT THE WORDING MUST READ BACKWARDS*. When this has been done, cut the double-sided card into equal-sized strips from top to bottom. These are glued to the edge of the single-sized card at equal distances apart, in their correct order. Pins pushed through the back poster and the strips will strengthen the joints. Now place the poster in a position where people are bound to walk past so that, seen from the left, the first announcement will be read and, as the reader passes, the poster will appear to change.

Don't always keep to the old tracking signs, work out new ones which will not be obvious to every stranger who may come on them. The pictures here give you some ideas.



### **TENT CARE.**

Tour tents should be the object of constant care and attention. When you buy a new tent notice carefully how it is packed, as it should always be folded in the same way. Note that the guy-lines are all rolled up and that the pegs are packed separately. (Always scrape the earth from the pegs when repacking.) Never pitch a tent absolutely taut, particularly when new, as shrinkage of canvas and of ropes must be allowed for. With a bell tent it is a good idea to make a small hole by the base of the pole into which it can be shifted in the event of a sudden shower, so immediately slackening all the ropes.

If you have to pack a tent while wet, unpack as soon as possible and hang it up. Hanging is, at all times, better than folding, as it keeps the tent aired and so prevents rot.

### **Erecting a Bell Tent.**

In erecting a bell tent first peg out the 4th, 9th, 14th, and 19th guys, counting to the left from the central door guy. It is a good idea to paint the runners on these guys red, if this has not already been done by the makers.

### **Cleaning a Tent.**

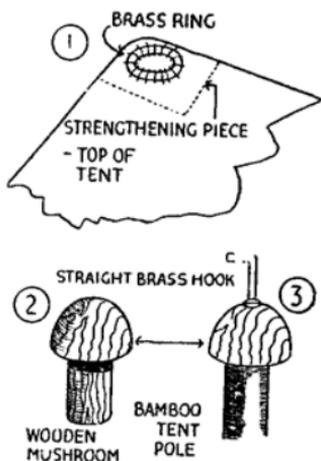
Generally speaking it is a risky business to attempt to clean a tent that has become soiled by hard wear, as the fabric may easily be damaged. It is usually safest to treat the grime as an honourable scar.

If, however, you are prepared to face the risk, wash with a solution of a teaspoonful of alum to half a pint of lukewarm water. Scrub gently in doing this. The tent will have to be waterproofed afterwards.

### **Waterproofing.**

Here is a good recipe for waterproofing: Completely dissolve, by boiling in a pint of soft water, an ounce of isinglass and strain through a piece of clean linen. Dissolve a quarter of an ounce of white castile soap in a pint of water, strain and add to the first solution. Then dissolve an ounce of alum in two pints of water and again strain and add. Stir and heat the combined solution over a slow fire until it simmers. The solution is then applied hot to the outside of the tent with a small flat brush and worked well into the seams. It is best, of course, to erect the tent for this to be done. The quantity given is enough for about eighty square feet. *Be careful not to over-proof. it is worse then not proofing enough.*

### FIXING LIGHT-WEIGHT TENT POLES.



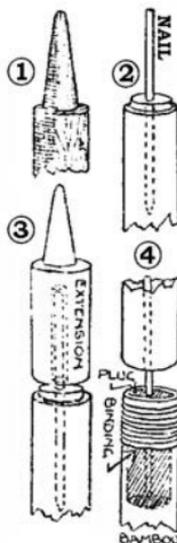
When making your own lightweight tent particular attention should be paid to the method of fixing the tent pole to the top of the tent, when pitched. Take a solid brass ring, about  $\frac{3}{8}$  of an inch in diameter and sew into the material as shown. A small square of material sewn at the top of the tent before doing this will give added strength. If your pole is bamboo, make a wooden mushroom and fit this into the top. Into this screw a bran dresser-hook, afterwards filing off the angle piece.

### WHAT TO DO WHEN FITTING A FLYSHEET.

Scouts often want to fit a flysheet to a light-weight tent. This means that the existing poles have to be specially dealt with. If the tent poles are of wood and tapered at the top, cut off the tapered portion to about half an inch from the shoulder. Then a small hole is drilled down the centre of the pole to take half of a five-inch wire nail. (First file off the head.)

Then take another piece of wood, about the same thickness as the tent pole and four or five inches in length. Drill a hole down the centre of this to take the projecting portion of the nail. It should fit tightly enough to prevent it from wobbling.

The top is then shaped to take the flysheet. If your poles are of bamboo, plug the top tightly with a piece of wood, the outside being either "ferruled" or hound with stout twine. Then carry on as with an ordinary wooden pole.



## The Scouts Book Of Gadgets And Dodges

### FORK CAP REMOVER.

If an opener is not handy you will always have trouble in opening a bottle with a metal cap. Here is a way out of this difficulty.



Take a fork and hook it in the cap as shown, and, using a knife or the handle of a spoon as a lever, prise it off.

If you are miles from anywhere and without a bottle-opener, and you're just dying for a swig of lemonade, you can always use your Scout belt as shown in the picture.

### DO THIS TO AVOID "HIKER'S FEET."

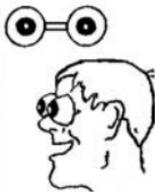
(1) Wear thick woollen stockings without darns. (2) Don't wear nailed boots. Better still, don't wear boots at all - wear shoes. (3) Thin-soled shoes are light, but you will feel every stone in the road if you wear them when hiking. (4) Keep your feet clean and wash them in warm water at the end of each day's march. (Don't soap the inside of your stockings. It's messy and serves no useful purpose.)

If you have the bad luck to get a blister, wash round it and then prick it with a needle that has been sterilised by holding over the flame of a match. Press out the fluid, dab with iodine and cover with a piece of boracic lint held on with plaster.

### SPOOKS!

Here is a little stunt for the camp-fire. The next time you have eggs for breakfast in camp; save two halves of the empty shells for each of your Patrol. Got each pair as nearly as possible the same size.

Draw a black circle round the ends with a pencil and pierce a small hole in the centre of each. Now join each pair together with a small piece of sticking plaster. Every member of the Patrol wears a pair of these over his eyes, holding them in as he would a monocle. You will be able to see through the small holes.



If every fellow wears a blanket over his head you will be surprised at the gruesome effect which will be obtained.

### DON'T LOSE YOUR BADGE.

Here is a way of preventing your Scout badge being lost. Wrap a small piece of thin wire round the back of the badge and carry it down to a safety pin on the back of the lapel.



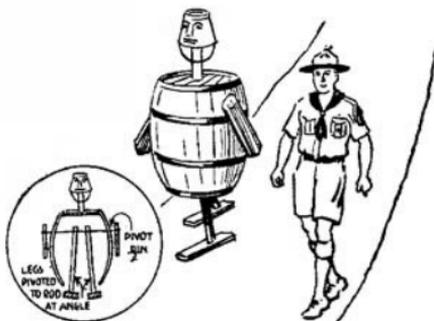
The picture makes this clear.

### THE BARREL ROBOT.

Most fellows have seen the waddling toys which will walk down slopes of their own accord. It is easy to make a barrel robot on this and it will "walk" principle, downhill.

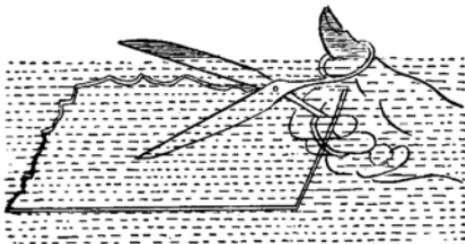
Any Troop which made a robot like this would find it an excellent means of advertising a concert or display.

A single metal rod, running through the barrel, carries both the arms and the legs. Our picture makes this part quite clear. The legs are pivoted to the rod at an angle so that as the robot stands on one foot the other is free to swing downwards.



### CUTTING GLASS WITH SCISSORS.

If you do not possess a good glass cutter and have a piece of glass with jagged edges to trim, or want to cut a square-shaped piece into an oval to fit into a frame, try cutting it with scissors.



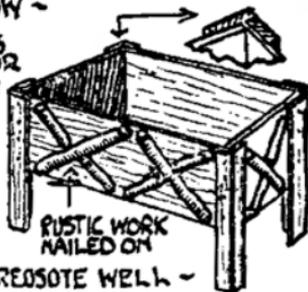
Just hold your piece of glass under water and bit by bit you will be able to remove all the large pieces protruding from the edges.

A GOOD SCOUT DOES NOT BEG ~ HE WORKS TO RAISE FUNDS FOR HIS TROOP ~ A PATROL CAN GET TOGETHER & DO MANY THINGS ~ ~ IF YOU ARE KEEN YOU WILL NEVER BE AT A LOSS TO KNOW ~

WHAT YOU CAN MAKE TO SELL

FOR A FEW COPPERS YOU CAN BUY ONE OR TWO GOOD STRONG BOXES - FROM THESE YOU CAN EASILY MAKE

ORNAMENTAL FLOWER BOXES ~



CREOSOTE WELL ~

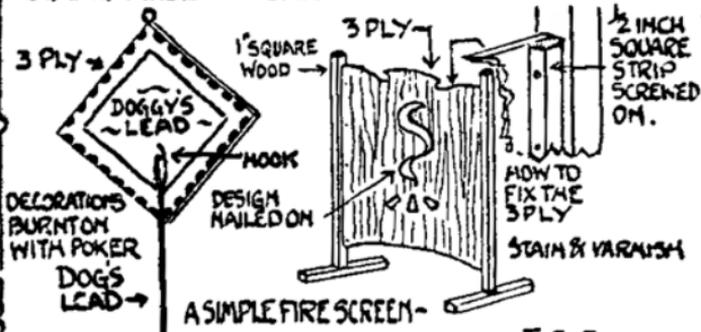
CHEAP EARTHENWARE VASES & BOWLS CAN BE MADE VERY ARTISTIC & FIND A READY SALE



COAT THE ARTICLE WITH PUTTY THEN COVER WITH SMALL PIECES OF BROKEN COLOURED CHINA. THEN VARNISH ~



BOOT BRUSH BOXES, KNIFE BOXES, JIG-SAW PUZZLES MADE FROM SCOUT COVERS STUCK ON 3 PLY, WOODEN TOYS, CUT-OUT CALENDARS, BOOKSHELF ENDS & MANY OTHER SIMPLY MADE ARTICLES ARE ALL PROFITABLE. ~



J. E. COLE

### TOW BOATS THIS WAY.

If you find it necessary to tow a boat from the bank because the current is too strong for rowing, or you want a rest from the oars, you will discover it an awkward job, even if someone is steering, if you tow from the nose or extreme forward end.



Fix your rope to some point on the boat a few feet in from the forward end. Then, when you pull on the tow-rope, the boat will sheer outwards away from the bank.

By regulating the strength of your pull - that is, by easing up occasionally - the boat can be kept going, even if there is no one in her steering, at a comfortable distance from the bank.

But when you are being towed by some other host, of course, you must have the tow-rope secured right at the nose of the boat. Otherwise the boat will sheer dangerously and overturn if the craft which is towing you is travelling at a fair speed.

When you are being towed by another boat and the tow-rope begins to take its first strain, make sure that you have some slack in the boat to ease it off gently till your boat has gathered maximum way. Then you can let the rope pull at the point where it is fixed. A slip, knot is advisable here. Or, if not that, then be sure to have a knife handy ready to slash yourself free in an instant in the event of any danger of sheering and capsizing.

### DON'T HAVE BLISTERS ON YOUR HANDS.

One good method of preventing blistered hands is to soak the hands in a solution of warm water and salt before starting. This should harden them and stop the painful blistering. Remember that spitting on the hands, though it may seem helpful at the time, helps to cause blisters on the hands of anyone who is not used to rough work.

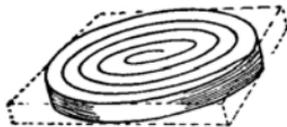
### STOPS WOOD SPLITTING.

Anyone who has had to drive nails into wood will know that certain kinds of wood are almost sure to split as soon as the hammering begins. If you rub a little oil on the nail before you begin you will find the chances of this happening are lessened.

## The Scouts Book Of Gadgets And Dodges

### MAKE YOUR OWN LEATHER THONGS.

Leather thongs for stove slings, firebows, spare laces and so on can easily be cut from a piece of square leather. First round off the corners, as shown in the illustration, then cut a spiral with the aid of a sharp penknife. Keep the knife horizontal and turn the leather round as you cut.



When a thong has been cut, rub it with either linseed oil or inflow to make it pliable.

### TACKLING THE TIGHT LID.

Difficulty is often experienced in opening small round blacking and ointment tins where a special opener is not provided.

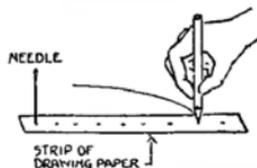


The opening is easily accomplished by placing the tin edge upwards upon the floor, putting your foot on the top, and with slight pressure rolling the tin forwards. The lid will then roll off.

### A USEFUL COMPASS.

If you do not possess a drawing compass and want to draw circles, you can easily do it quite accurately with a strip of drawing paper or celluloid.

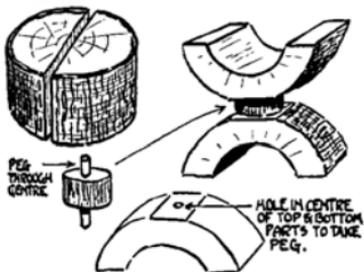
Just take the strip of paper and draw a line down the centre. Make a number of small pinholes along the line at various distances apart, say 1 in., 3 in., and so on, according to the size of circle required. These distances represent the radii of the circles. The strip is now used as shown in the sketch.



### A NOVEL WOODCRAFT SEAT.

For a few coppers you can purchase a fairly good-sized log. A few hours spent chipping with your axe and you can make a fine camp-fire or garden seat.

Split the log in halves down the centre and then hollow out each half. Chop a "Flat" on the side of each, then drill a hole in the centre, of this, as shown in the sketch.



The two halves can be fixed together by a

## The Scouts Book Of Gadgets And Dodges

stout wooden peg. You can raise the height of the seat by inserting a small log in between.

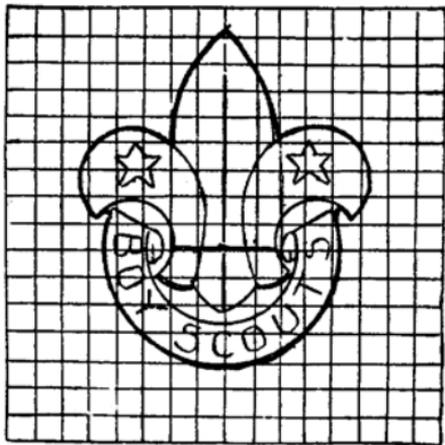
The peg in this case should run right through the centre log, the ends being knocked through the holes in the top and bottom parts.

Given a coat of creosote, the seat will make a fine piece of rustic work.

### TO REPRODUCE A SCOUT BADGE.

Sometimes a large wooden, cardboard or paper Scout Badge is required for display purposes at your show or camp gateway.

Get a print of a Scout Badge (the one on the front cover of "THE SCOUT" will do). Draw a square round the outside of the badge, then divide the square up into small squares as shown in the sketch. For the Badge on THE SCOUT, an inch and a half square divided into one-eighth squares should be made.



Now take your wood or other material and draw a square on this.

The size of the square will depend upon the size of the badge required. If you require a badge ten times the size of the print, the square should be 15 ins, and the smaller squares  $1\frac{1}{4}$  ins. When you have drawn the square and divided it up on the wood, draw in the badge, copying from the small print, noting where the parallel and horizontal cut the outline.

There is only need to draw one half of the badge. Lay a piece of thin tracing paper over this, trace round the outline with a pencil, turn the paper over to the other half of the wood, pencil aide downwards, and mark out the other side with a pencil. Press hard and you will find that the pencil line will transfer to the wood quite successfully.

You will notice that the scroll on the badge is circular. This can be drawn with a compass.

Now cut out the large-size badge with a fretsaw.

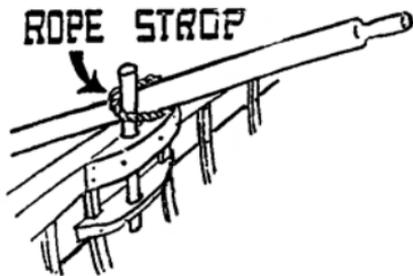
### TACKLING HICCOUGH.

If ever you have an attack of hiccough, try this suggested remedy Drop a little vinegar on a lump of sugar and then eat it.

The hiccough should then immediately disappear.

### A MAKESHIFT ROWLOCK.

If you lose one of your metal rowlock crutches and have no spares aboard, you can still get a boat along by *fitting* a thole pin into the rowlock bole in the gunwale and rowing the boat with the oar against this. A strop of rope - a loop of the painter will do - can be arranged to hold the oar in the backstroke.



The wood you use for the pin must be very tough and strong, for some rowlock holes are not very big. Oak is the best wood to use, but maybe you will not be able to pick and choose. Use the toughest and strongest bit of wood you can get. however, for the pressure when rowing is pretty heavy.

Don't forget that you are bearing the oar against a thin bit of wood. People don't realise how much strain really comes on oars and rowlocks when rowing. It is a very strong oar that cannot be broken by over-violent rowing. That's why there's a Rule that Sea Scouts must always have one spare oar in any boat they use.

### IF YOU'RE "POSHING" UP YOUR BIKE.

Many cyclists who tackle the enamelling of their machines find the scraping off of the old enamel a difficult job.

This part of the operation is made easier if a pennyworth of potash is dissolved in water and applied to the old enamel, which will scrape off more easily.

### A TIP FOR CYCLISTS.

Try placing the enamel fin into a basin of hot water before you commence to re-enamel your cycle. This causes the enamel to flow more freely, gives a bright, smooth finish, and also does away with those streaks which so often spoil the finished job.

### REMOVES RUST.

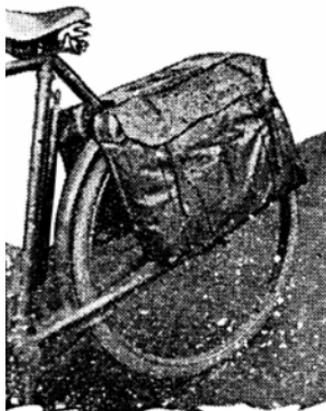
If your cycle or billy is rusty, you can clean it by mixing a small quantity of powdered bath-brick and paraffin oil. Mix the powder and oil into a paste and apply to the rusty parts with a rag. After cleaning the article wash it in warm water.

## PANNIER BAGS

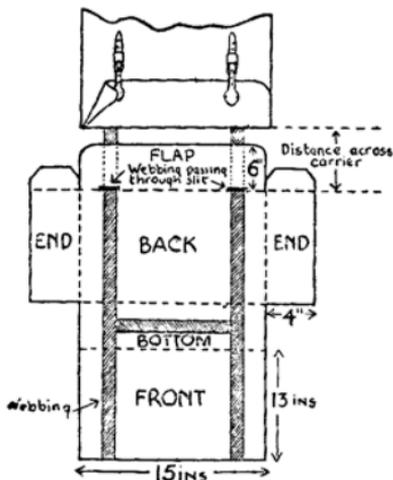
WILL CARRY THE  
CYCLIST'S GEAR.

Here's How to Make  
Them.

Cyclist campers will find pannier bags slung across the back carrier the most convenient means of carrying their gear.



Those illustrated here are large enough to hold all the kit, and a mackintosh or cape, which may be wanted in a hurry, is strapped to the top of the carrier.

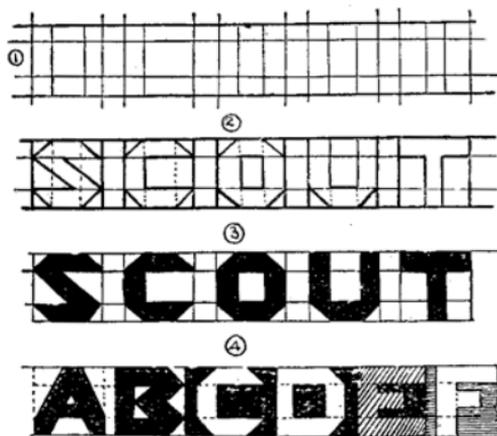


The bags are made of American cloth or waterproof canvas, strengthened by hands of upholsterers webbing. The material should be cut to shape and the webbing stitched into position as shown.

You will get best results by using a sewing machine set to a fairly wide stitch.

Sew the material up into bag-shape, and stitch a hand of webbing round inside the top of each bag to make it quite strong.

Attach straps and buckles for fastening the flaps, and your bags are ready.



## POSTERS for the SHOW

### DRAWING IN THE LETTERS FOR YOUR SCOUT-SHOW POSTERS.

If your Troop cannot afford to have posters printed to advertise your show, here is a way in which you can help by making the posters yourself.

Having decided upon the height of the large lettering required, draw two parallel lines this distance apart. Now draw two more lines inside these to represent the thickness as in Figure 1. Let us suppose you are going to write the word "Scout"; divide the lines up into five squares, leaving a small space between each square for the space between the letters. For the curved letters, such as "S" and "C," cut off the corners of the squares as shown in Figure 2. You will soon see how easy it is to form quite neat letters.

All the letters in the alphabet, and also figures, can be made in the same way with the exception of "l" and "1." These do not require squares but just two vertical lines to represent the width. Your word will of course be spaced out accordingly. The letters can either be filled in inside or outside the lines as shown in Figures 3 and 4, and when painted in bright colours look very effective. Try this for your next show.

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