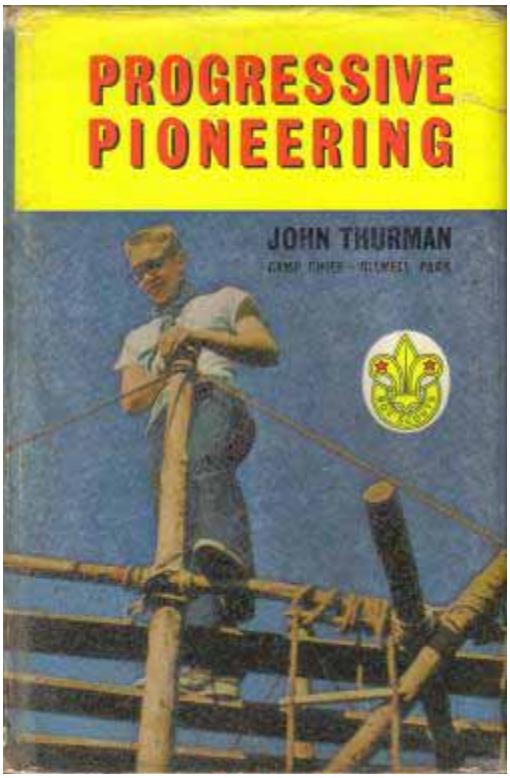

PROGRESSIVE PIONEERING

By

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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 express sentiments which were current at the time, regardless of what we may think of them at the beginning of the 21st century. For reasons of historical accuracy they have been preserved in their original form.

If you find them offensive, we ask you to please delete this file from your system.

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DEDICATION

TO ANN FRANCES AND VERITY JANE
MY DAUGHTERS WHO HAVE LAUGHED WITH
KINDNESS AT MANY PIONEERING EXPLOITS

Printed by
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Preface

SOMETIMES cynical people say "Why do pioneering, anyway?", "What is its practical application in the modern world?" Well, if ever pioneering was justified the true story that follows surely proves the point. From the very start of Scouting one of the overall ideas was 'being prepared' and I still find that this makes sense, in any country, in any situation, in any age.

Every day it rained; positively, irrevocably, solidly, and brooking of no argument as to whether it was raining or was merely a shower. The only uncertain factor was whether it would start raining at one o'clock, two o'clock, of three o'clock, with the certainty that at whatever hour it began it would remain fairly constant for the ensuing twelve hours. It was no surprise, therefore, that after nine consecutive days of this sort of thing it should start to rain again at two o'clock in the afternoon of Sunday, 23rd September.

We, that is myself and the members of the Training Teams of fifteen countries of the Americas – North, South, Central, and Caribbean – had the previous night, at midnight exactly, come to the end of a strenuous, exacting, but very satisfying "Training the Team" Course. The course had been held in the National Training Centre of Mexico, a place called Meztitla. The site was literally hacked out of the jungle, on the lower slopes of a considerable mountain range. I had done what I went to Mexico to do and on this Sunday I was relieved of all responsibility and content to be part of whatever final celebrations the Mexican Scout people planned. The morning was glorious, with brilliant sunshine and a fresh and pleasant breeze. The camp looked lovely although it was a little wet under foot. The flags of the fifteen nations flew proudly and unitedly in the centre of the camp. Visitors, many of considerable importance, began to gather; the Mexican Minister of Education, the First Secretary of the British Embassy, the Governor of the State, the Mayor and his supporters, and wives and families, relatives and grandparents of many of those who had taken part in the course.

Speeches were made and presentations were carried through with dignity and success. I unveiled a replica of the B.P. footprint taken direct from the one at Gilwell. (I am not sure that unveiling is right for a footprint: perhaps it should be unsock or unshod.) Everyone made a speech who was expected to make a speech and there were one or two speeches from people who had not been expected to speak. Eventually, no more than an hour behind schedule, the formalities were over and the fun could begin. The barbecue proved to be colourful and exciting, with an apparently infinite variety of what to me were strangely cooked dishes, most of them hotter than they appeared at first glance, all served with grace and enthusiasm by brilliantly dressed Mexican men and women. All this was accompanied by what I assume was a typical Mexican band which played effectively without any apparent reference to each other.

The fun was at its height and the food was vanishing fast when the rain began to fall. The camp was well equipped, however; and so barbecue, guests, and members of the training course were moved into the large open-fronted shelter which had been the dining room for the course. With a minimum of interruption the party went on. The band played louder and faster: It had to play louder in order to rise above the noise of the rain and the storm. Lightning flashed, thunder rolled, violins shrieked, and the dancers laughed. It was quite a party!

For a European such rain is difficult to envisage and impossible to describe. There were times when it was as near to being solid as makes no difference. You could be soaked to the skin in less than two seconds, and many were. Rivers appeared where paths had been. Those who knew the area well bravely set out to go to the ford which provided the only access to the camp across a mountain stream. They returned with the news that it was already almost impassable. A three-inch deep trickle was already a river about two feet deep. A few of us went out to survey the scene and to assess the situation. It steadily worsened; the mountain stream was now a raging torrent, bringing down boulders, tree trunks, and great lumps of what had been the bank. The ford had

vanished completely and in front of us was a chasm or ravine about twelve feet deep with a rushing torrent tumbling along its new course.

There was no other way out of the camp. We could have stayed and we could have managed, but it would have been hard on the women and children who were our guests. We could have thrown a foot bridge across the ravine but then they would have been faced with abandoning vehicles and a very long and tiring walk to the nearest habitation.

Unanimously it was decided that we should build a bridge; not a foot bridge, not a monkey bridge, not an aerial runway, but a road bridge which would carry the vehicles, the equipment, and the people.

And so began the Saga of the Bridge of Fifteen Nations, for the men of fifteen nations contributed to its building. Mercifully equipment was available and there was a large supply of timber. The hands were willing, experienced, and capable. The men knew their knots and lashings and their basic pioneering.

Three hours later, as darkness began to cover the area, the first car – a little Renault – gingerly felt its way across the bridge. As it accelerated up the bank on the far side of the ravine the cheers from the men of fifteen nations were united, vociferous, and heartwarming. We were wet and tired; some of us were bruised and battered, and some had minor cuts, but spirits were never higher. Within the next half hour every vehicle and every person made their way across the bridge and so onward to Mexico City; perhaps a little later than expected but Mexico is one of the countries of ‘manana’, so why be concerned about slight errors of punctuality?

It was truly a memorable day. It was Scouting in action and Scouting in practice. It was good to know that we could build a bridge when a bridge was the only answer. It was even better to know that the men of fifteen nations could work unitedly and effectively to build the bridge.

Introduction

Progressive Pioneering

WHAT do I mean by progressive pioneering? It is a phrase that could mean different things to different people and, in truth, means many things to me. This is how I think about it:

From the simple to the complicated,
from the easy to the difficult,
from the obvious to the obscure,
from the straightforward to the intricate,
from the secure to the hazardous,
from the mundane to the imaginative,
from the imitative to the original.

I hope this has started you thinking, and thinking in several different directions.

I am all for starting with the simple, the easy, the obvious, and the straightforward and, in fact, I regard it as essential in the early stages of pioneering to start by absorbing the principles and the established practices. But, as I said before, the very word “Pioneering” to me means striking out and seeking to find something new, of trying to find the answer to apparently insoluble problems; trying to adapt known principles in different ways, and trying to discover new principles. True adventure and therefore true pioneering should always grow out of experienced, sound preparation. I would remind the Senior Scout Leader in particular that you will never produce the men of tomorrow by killing them off in adolescence, much as on occasion you may feel that might be desirable!

No explorer or pioneer worthy of the name allows himself – and still less those he is responsible for – to be put in peril through encountering hazards and dangers which can, by training and through experience, be eliminated. The men who conquer mountains succeed because of their preparation and their absorption of the experience gleaned from the past. The research scientist advances on the basis of accumulated knowledge. The Scoutmaster who conceives an imaginative pioneering project and carries it through succeeds because he knows his stuff, because he has learned to do simple things properly, and because he knows the points of weakness and the points of potential danger; because he is trained, experienced, and thorough.

All this amounts to saying to you very firmly that you cannot start to be progressive in pioneering from the top downwards or outwards from the middle. Pioneering, like a well established tree, grows out of the roots and a firm basis lies in the ability to make the right knot in the right place and to apply the appropriate lashing effectively; to have trust not only in your skill but in your material, to know that when you adventure you have a reasonable chance of success, and that the dice are not heavily loaded against you.

In Scouting there is this additional thing to say: Constantly, and by our very nature we have to keep going back to the beginning because new boys are always joining us. I believe that one of the great tests of our leadership is whether we continue to take the trouble to give as good an experience to the boys of today as no doubt we gave to those of yesterday. Actually we should be able to give the boys of today a better experience simply because we have more experience to give.

I can offer you one additional tip. As a leader in Scouting you must remember constantly to be interested in the human being you are training far more than you should be interested in the subject matter. I first took a session on Knotting on a training course thirty-five years ago and I have given the same kind of session the world over year by year ever since. At a very conservative estimate, I have given a session on knotting five hundred times. If I had not learned to be more interested in the people I am teaching than I am in the subject I am teaching I would have found the whole thing boring and burdensome in the extreme. It can become the same with you. Many Scouters, I am sure, drift away from Scouting because it is the content of Scouting that they find wearisome through constant repetition and they have forgotten, even if they ever knew, that the boy is what matters and the skill is used to give us a chance to get to know the boy.

Well, that is one side of it but, being human, it obviously helps to keep us fresh if we can absorb new skills and refresh our own knowledge and ideas. I hope this book is going to be a small contribution towards doing that for you.

Chapter I

ESSENTIAL KNOTS AND NEW LASHINGS

THERE are some wonderful books on knotting, ranging from small and relatively inexpensive ones to the mammoth compilations such as *The Ashley Book of Knots* which contains the almost astronomical number of more than 4,000 knots and the *Encyclopedia of Knots* which contains 3,668. These great works include every conceivable rope form known to man but perhaps the danger of them is that they give the impression that knotting is a very complex thing which almost requires a university course in order to understand it.

I have always loved knotting and although I cannot claim to be able to tie 3,668 knots I could probably manage the odd 68.

The fact of the matter is that in pioneering very few knots are required. Looking over all the projects I have offered to you in all the books on pioneering which I have written I can honestly say that all the knots you need to know are the Clove Hitch, the Sheet Bend, the Double Sheet Bend, the Reef Knot, and the Bowline, but in this chapter I have added for good measure two or three other knots that will be familiar to most of you.

I well remember that when I first started running training courses for potential Scouters who had no previous Scout experience I said to the members of one course that provided they were willing to learn one knot I would guarantee that by the end of the course they would be able to build a bridge that they could all cross. The knot I chose on that occasion was the clove hitch, and the moment came when we bridged the Bomb Hole at Gilwell using no other knot of any kind. Obviously there is no need to be so economical in one's knotting knowledge, but this did prove that there is no need to have a vast acquaintanceship with the fascinating subject of knots, or bends, or hitches before you do some worthwhile practical pioneering.

I would like to put it for you this way: It is far better to know a little extremely well than to know a little about a lot. It is not enough to be able to tie a clove hitch when sitting quietly on a chair in a Troop Hut; you have to be able to tie it in conditions of difficulty or awkwardness; when you can only get one hand to the position where you need to tie it, when the spars are wet and slippery and your foothold is not secure, when the material you are using is not as perfect as you would like, and perhaps when the wind and the rain are beating on your face or darkness has descended and caught you with your bridge unbuilt. It is always right to begin to learn something in easy conditions but it is wrong to think that you are competent to use that skill unless you have practised it in conditions of difficulty. Therefore, although I am commending to you less than a dozen knots I am asking you to train yourself and your Scouts to be thoroughly competent to make those knots in almost any conceivable circumstance.

Now for a few general points:

Always try to have plenty of running end. It is much easier to make a clove hitch properly if you have rope to spare and the danger of it becoming undone is lessened enormously if you put the final end well through. I am not thinking in terms of half inches. If I am lashing together two 3-inch spars I want my final running end to be at least 6 inches beyond the final point of exit. The running end of a Bowline should protrude at least a third of the way into the loop, and the running end of a Sheet Bend should protrude between three and six inches. I know there are occasions when you have to make do with what you have but very often I find that Scouts make knotting difficult by failing to take advantage of the material they have available, so my advice on knotting is "Be generous with your running ends".

The Clove Hitch

USE: For securing a rope to a spar or pole.

The Clove Hitch completed:

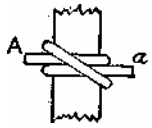
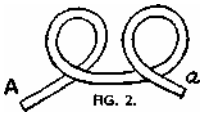
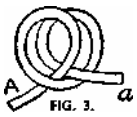


Fig. 1.

It consists of two similar Half Hitches, the second one place behind the first:





and it is made in this way when it can be slipped on to the end of the spar.

When the end of the spar is not available – take a half hitch round the spar, and note whether the running end is on top or below:

Fig. 4.

Fig. 5.

Hold this hitch out of the way with one hand, while another similar hitch is made, quite separately, in the first case below the other, in the second above.

Similarly with a horizontal spar, if the running end of the first hitch comes off on the right, the second must be made on the left, and vice versa.

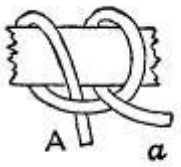


FIG. 6.

or

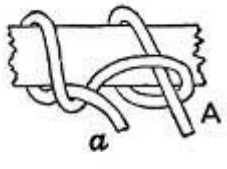


FIG. 7.

The Bowline

A Bowline is a loop that cannot slip; made at the end of a rope:

FIG. 8.

Two methods of tying it – first, the simplest – Figure 9 explains itself:

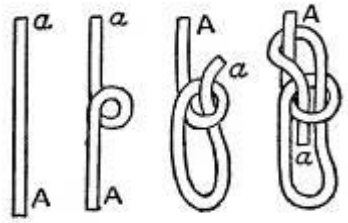


FIG. 9.

Second, the quickest:

Take the rope in both hands, as shown in Figure 10, thumbs on top, the length of rope between the hands being the size of loop required.

Place running end on standing part, and hold both in right hand, thumb down, finger on top.

Twist inwards towards the body, with the right hand, making a loop with the standing part, and bringing the running end up inside it; steady it with the left hand. Both thumbs now on top.

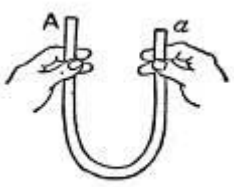


FIG. 10.

FIG. 11.

Hold the loop with the left hand. Take the end of the running part with the right hand, and pass it over the loop, under and behind the standing part, and down through the loop.

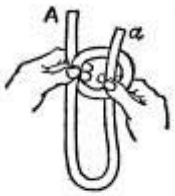


FIG. 12.

FIG. 13.

The Sheet Bend

If the ropes are very unequal in thickness, or wet, a Double Sheet Bend should be used. Begin as for the Single Sheet Bend; after passing the thinner rope round the back of the loop, take a second turn round the back and under itself, before running it downwards under itself. More turns will give added strength:

FIG. 14.

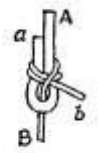


FIG. 15.

Note that if the Sheet Bend is broken by straightening out the loop the Hitch becomes a Slip Knot:

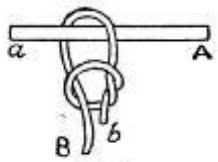


FIG. 16.

A form of the Sheet Bend, known as the Weaver's Knot, is used very largely in certain trades. It has the advantage of being very quickly tied, and of bringing the ends together so that they can be cut off with one snip, but it is not so suitable for use with a rope as the form already given, where the ends come off on different sides.

Cross the ends:

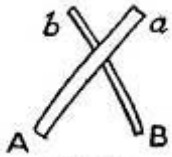


FIG. 17.

Take a bight of B below the cross and place it over A and under its own end:

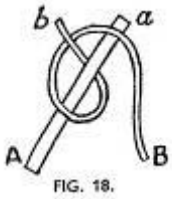


FIG. 18.

Pass the end of A over two turns of B and under one.

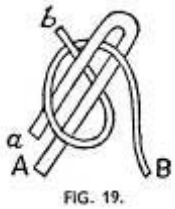


FIG. 19.

Tighten up knot by pulling on "standing part" of B.

Rolling Hitch

Somewhat similar to a Clove Hitch, but less likely to slip under a sideways pull. Useful for attaching a rope to another rope which has a strain on it.

Start with a Half Hitch, as in Figure 20. Then take a round turn, round standing part and larger rope, as in Figure 21.

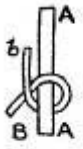


FIG. 20.


FIG. 21.

Then a Half Hitch on top similar to the first one, as in Figure 22. To make doubly sure, twist the running end round the fixed rope, in the opposite direction to that in which the hitches have been made, and stop it down. See Figure 23.

FIG. 22.


FIG. 23.

It is important that the direction of strain is against the double strand. In the illustration the strain is taken downwards. The knot can just as easily be tied to work the other way.

The Bo'suns Chair Knot or Scaffold Hitch

When it is necessary for a person to be suspended (not by the neck – there is a hangman's knot for that purpose!) over the side of a building or boat or on a mast for painting or repairs, or to be transported over an aerial runway, a boatswain's – or more commonly bo'sun's – chair is used. Different hitches are used for this purpose and are suitable for the suspension of all kinds of planks where a hanging staging is required.

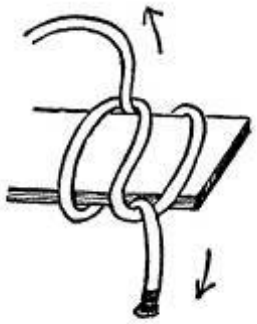


FIG. 24.

A marline-spike hitch can be used, the end of the plank taking the position occupied by the marline-spike. More frequently a clove hitch is employed; make a clove hitch of ample size, so that when placed over the end of the plank it will hang loosely below it; upset the clove hitch by drawing the right-hand rope to the left and the left-hand to the right (Figure 24); turn the plank over, draw the ends up over and attach the short end to the longer with a bowline. Attach a second rope to the other end of the plank in the same way, and the chair is ready.

Probably the best method, however, is to make use of the scaffold hitch. Lay the short end of the rope over the plank, leaving enough hanging down to tie to the long rope finally. Wrap the long end loosely twice round the plank (Figure 25). Carry rope 1 over rope 2 and place it between 2 and 3(b). Carry rope 2 over ropes 1 and 3 and over the end of the plank. Take up the slack by drawing on the two ends of the rope, and join the short end at a convenient distance above the plank to the longer with a bowline (c). This hitch can also be used for fastening a bundle of sticks or poles together.

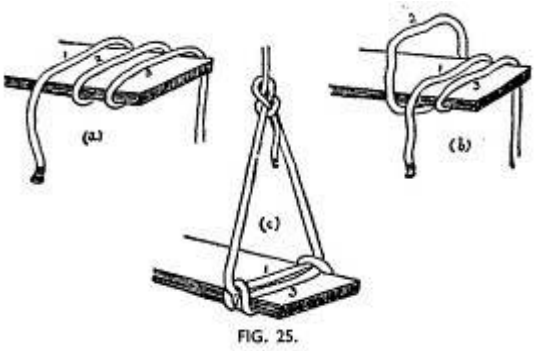


FIG. 25.

Knots and Lashings

In *Pioneering Principles* I was able to introduce you to a number of new lashings that I had discovered on my travels abroad: the Japanese Lashing, the Filipino Lashing, the Sailmaker's Lashing, and a number of others. Now, further research and experiment enables me to add more to the list, and I offer you these with the help of illustrations:

Japanese Lashing Mark II

Mark I, I would remind you, is formed by carrying a double rope around the two spars you wish to hold together, following the same method as used in the Square Lashing. The only slight disadvantage is that it is clumsy in appearance but, as I indicated earlier, it is firm and efficient particularly for light spars and bamboo. Experience led us on to Mark II and, briefly, the difference is this:

You still begin by halving the rope and putting the bight so formed over one spar, but then instead of carrying the two ropes side by side to form the lashing ties you carry each rope separately but at the same time round the other spar and you continue working both ropes simultaneously until finally (and this is where it is easier to operate than Mark I) still working the separate ropes in opposite directions, you put on frapping turns and finish with a reef knot.

This is quick, effective, and it holds very firmly indeed.

Japanese Lashing Mark III

I cannot find any particular advantage in this but it was sent to me by a reader of the previous book and I commend his ingenuity.

Here we begin with a clove hitch but instead of making the clove hitch with the end of the lashing rope we make it in the middle of the rope. Technically, I cannot prove or disprove that this is preferable to starting with a simple bight but it does make it a little easier to keep the two separate ropes the same length throughout the lashing. Anyway, it is a variation and I am all for variety.

Chapter II

HALF KNOT OR WEST COUNTRY SHEER LASHING

PURSUING the general idea of trying to apply a known skill to another purpose we have recently put into action at Gilwell – or, perhaps more accurately, rediscovered – a form of sheer lashing which seems to us to be admirable, particularly where the requirement is to join two spars together to make a longer spar. This lashing is not recommended for making sheer legs, for reasons which I hope will be obvious.

As will be seen from the illustrations (see end of book), the whole process is carried out by a series of half knots, i.e., the first half of the reef knot. (I have not discovered how to do the second half first!)

Note that all the ties are made round both spars together. As with the orthodox sheer lashing, the different turns must lie closely alongside each other and never overlap. You finish off with a complete reef knot with the running ends tucked in so as to make the whole thing tidy.

This is a strong lashing and less liable to slip than the orthodox one. There is no clove hitch to work loose. It is very easy to untie and it is particularly adaptable when the spars are not smooth and contain knots or bumps.

This lashing is more than a change; in many respects it is a definite improvement. (The Guides have been using it for years in preference to the sheer lashing – I think they are right!)

Why not try to adapt other whippings or for that matter plaits for use as lashings. Perhaps too, some of the ornamental stopper knots like the Turks Head or Matthew Walker have something to contribute to pioneering.

I believe there is a big field for Senior Scouts to explore. If you try anything along these lines that works – let me know.

Chapter III

PIONEERING PROJECTS

THERE is very little I can add to what I have already written in the book *Pioneering Projects* and its sequel *Fun with Ropes and Spars* but perhaps a few thoughts on what to choose and why to choose it will not come amiss. I have said this before but it bears repeating: If the Troop or Patrol constantly builds the same bridge they will undoubtedly become extremely good at it but it ceases to be pioneering in the sense that it is no longer an adventure and no fresh experience is gained. Consequently a Scouter needs to give help and encouragement in regard to tackling a project that has not been attempted previously, but before he can do this he needs to be certain of one or two obvious but often overlooked points.

1. He must be confident that the project is suitable to the age and the experience of the boys.

2. He must be sure that the necessary equipment is available. Improvisation beyond a certain point becomes ludicrous and can become hazardous.

3. He must check that the terrain with its natural or unnatural features is suitable for the particular project to be attempted. To take extreme cases it is useless to build a raft unless there is water on which to float it and it is futile to make a land yacht if you are working in a

forest or jungle. The Scouter should consider carefully the advantages and disadvantages of the area where the pioneering is to be carried out and he can then present the Troop or the Patrols with a selection of projects suitable to the situation, leaving the final choice to them whenever it is possible to do so.

4. The project must be capable of being completed in a reasonable length of time by the number of Scouts available to build it. I would put two hours as the maximum. The only exception to this rule that I would countenance is where an ambitious project is going to be built as part of a Summer Camp, in which case it might well extend over several days, but even here the Scouter needs to be certain that enthusiasm for the project will sustain the effort until completion and that no unnecessary strain from lifting heavy timbers is to be imposed upon anyone.

I mentioned earlier that the ultimate decision of what is to be built should be left to the Patrol Leaders. I think this is important. It is much better to let boys build what they want to build rather than to make them build what the Scoutmaster would like them to build. In a Troop where the Court of Honour works properly the two views will very often coincide, and when you arrive at that point with your P.L.s it is a clear indication that mutual understanding is deep-rooted.

I have tried over many years to inject into Scouting a host of new pioneering ideas and I have been very encouraged, both at home and abroad, to see a vast number of pioneering enterprises carried into action on the lines I have suggested. I have been even happier, though, when original thinking has led to adaptation, improvisation, and pure invention because I have never wanted the Movement merely to do the things I have been able to pass on. I want my pioneering books to act as a spur to imagination so that thousands of boys all over the world can get the sense of achievement that I know original pioneering can bring about. One way in which the Scoutmaster can stimulate this approach is on occasion to assemble a good mass of equipment and to hand it over to a Patrol with the instruction “Build something that has never been built before and don’t worry if it doesn’t work”. Or he may pose a problem without offering a solution, and here is one you might like to tackle. I confess that I do not know the answer although we have attempted it several times and used a lot of energy and remarkable quantities of material. We had a lot of fun and achieved no positive answer, and yet I feel there must be one.

Try to construct a three dimensional runway which will go up and down (which is easy enough] and, having come down and/or gone up will then branch off onto a circuitous route without the passenger having to transfer from one chair to another.

It would be foolish to offer a project of this kind to an inexperienced Patrol which can hardly make a trestle but for an enthusiastic, trained, Senior Scout Patrol this might provide a worth-while challenge. Anyway, I shall be delighted if someone can provide the answer.

Chapter IV

THE OBSTACLE JOURNEY

THE Obstacle Journey, which is now a very well-known part of Scout training, was originally put into practice on a Scout Wood Badge Course at Gilwell Park over twenty-five years ago, and it was on the basis of the experience at Gilwell that many years later, actually in 1946, it was included in the British Venturer Badge Course for Senior Scouts, and immensely popular it has proved to be. It so happens that I was a member of a Training Course at Gilwell when the Obstacle Journey was first introduced and I must say that as a young Scoutmaster it made a profound impression upon me and I hastened to put it into action with my own Troop with a minimum of delay. Over the years, naturally enough, the idea has been tidied up and some of the inevitable errors of the original conception have been ironed out and eradicated. It is only fair to say that the whole idea had, and still has, its critics and the main criticism, which is an interesting one, is simply that artificial adventure is at best a substitute for the real thing. My reply to the critic is that half a loaf is always better than no bread and, much as we might like a situation in which all Scouts have regular and repeated opportunities for real adventure, in the mountains and in the hard country, the plain fact is that a large proportion of our Scouts live and must do most of their Scouting in or near the great cities of the world. It is true that the keen Scoutmaster can produce opportunities for getting his Scouts right up against nature occasionally, but very few Scoutmasters can hope to do it often.

There is also this to say: the training we can give through artificial Obstacle Journeys is quite definitely sound and purposeful training for the real thing when we have the opportunity to come face to face with reality. Surely it is far better to train for action rather than merely to talk about it or to ignore it altogether.

What are the ingredients of a successful Obstacle Journey? I list them as follows:

Variety

A lot of efforts I have seen have fallen down in this connection. It is ridiculous to have in the same Journey two incidents which are carried out in the dark or using blindfolds, to have more than one tree-climbing incident, or more than one water-born pursuit.

The Patrol in Action

There are few better ways in my estimation of seeing the quality of leadership and the quality of followership which goes to make up the Patrol.

A Genuine Test of Applied Training in Scouting

This is where we can take the Troop Room knotting and the classroom signalling away from the drawing board and put them into action.

Incidents which take Approximately the Same Time to Complete

The incidents must be possible of attainment. There is nothing more frustrating than to be faced with a problem which has no solution. It is all very well to tell us to take the "IM" out of impossible, but there are situations which cannot be coped with and there is no point whatever in presenting these to Scouts because nothing happens except a waste of everyone's time and the building up of frustrating disappointment amongst boys who have set out on a trail full of enthusiasm, only to find that they cannot achieve anything at all. Perhaps an example will not come amiss: Some years ago I witnessed, in a country which had better remain nameless, an incident arranged for a Wood Badge Course. The problem was to cross a stream approximately fifty feet wide, ten feet deep, and flowing swiftly. At the approach side there was a beach and on the far side was a rugged cliff fifty or sixty feet high. *No equipment was provided.* The Patrol was given fifteen minutes in which to cross the stream and the instructions included an embargo on swimming. I saw four good Patrols of Scouters arrive at the stream in high hopes, and receive their instructions. One or two Patrols did go through the motions of tying Scout staves together and one or two people even ventured on to the so-called raft, inevitably to get wet through. Nobody achieved anything, nobody gained any experience, and not a few of them became very cross about the whole affair. When it was over I asked the man in charge how he thought the object could be achieved, to which he made the classic reply: "I haven't the faintest idea".

This sort of thing is not leadership and it is not training; it is a combination of laziness and stupidity. I remain convinced that however difficult a project is it must be capable of being done with the material available and within the time allowed.

The Instructions must be Watertight

In some ways this is the hardest part of all. By watertight I mean that the Patrol must be left in no doubt as to what they are expected to do, what they are to use to do it with, how long it should take, and what they are expected to do when it is all over. Over the years I have made up may hundreds of sets of instructions used for this type of event and I have made them, as I believe, incapable of misinterpretation. Year by year someone on a course tries to find a way round them or through them, which is a regrettable tendency but undoubtedly a natural one.

Now for a few pitfalls:

1. When the Obstacle Journey was first devised at Gilwell the Patrols set out on a time schedule, all starting at the first obstacle and going round numerically. This was found to be extremely unfair because the last Patrol had to cope with the accumulated devastation created by its predecessors, which could be considerable. I shall never forget that in the Patrol in front of mine there was a twenty-two stone Hungarian who nearly wrecked every piece of equipment, and whilst we enjoyed ourselves and learned a great deal by patching up the wreckage, that was not the purpose of the exercise and

we would have enjoyed being able to tackle some of the incidents in the way that those in charge of the course had intended. For this reason I strongly advocate the use of a closed circuit, that it, *to have the same number of obstacles as there are Patrols* or more obstacles than Patrols if the number of Patrols is small, each Patrol starting at the same time at a different incident. In this way each Patrol is ensured a fair basis of handling the journey. All Patrols will have some newly erected incident to deal with and all will have some that are part worn and probably only one that is comparatively worn out.

2. Trying to link the incidents together with a trail is a delightful idea and I have tried it several times but have always had to abandon it. Inevitably one Patrol became lost because they were not very good at following a trail; it is true that they lost a lot of points, but, more important is that they missed one or two incidents and did not get the experience offered. There is a general lesson in this; *we must always try to avoid being diverted from the main purpose we have in mind.* No one is keener on tracking than I am but if it means that the main purpose of the Obstacle Journey is going by the board then leave tracking until another time.

The second reason why I gave up the idea took me by surprise and proved to be a very good lesson to me. I had worked into the instructions all sorts of notes about being followed by Red Indians, Pygmies, and other murdering tribes, the purpose being to encourage the Patrol concerned to get a move on. One Patrol took the instructions very literally and the whole Obstacle Journey had to be abandoned because nobody else took part. The Patrol, having read the instructions about being followed, had carefully destroyed every sign of the trail as they passed it, so it was hardly surprising that the rest of the Patrols were wandering all round the countryside, having a pleasant afternoon but achieving nothing at all.

3. This is a warning for those who run Training Courses. *Do not use the sort of equipment that the reasonably well-found Troop would be likely to have available.* Avoid expensive gadgets. For the Obstacle Journeys at Gilwell we never use more than a few spars, ropes, sisal, a few old oil drums, a pulley block and a couple of old motor car tyres, etc. It is easy for those who have the resources available to work out some quite fantastic project which is incapable of reproduction in reasonably normal circumstances, and to do that is bad training because we are asking people to do the near impossible or the completely unreasonable.

4. *Always survey the terrain over which the Obstacle Journey is to be held.* It is quite wrong to take an idea from one place and without thought, preparation, and observation, to try to translate it in terms of another place. If I am arranging an Obstacle Journey on a site that is unfamiliar to me I want to know what equipment is available and what natural features of the site offer themselves. I have yet to find a site that has not given me a new idea or a new twist on an old idea: there may be a peculiarly shaped tree, a hollow log, a building resting on brick piers,

a strangely situated rock, a disused culvert, but whatever it is I know it can be used if only I can think of the way to use it.

5. *Do not make the Course too long and too difficult physically.* Those who plan such courses, whether for Scouters or for Scouts, have to be sure that they are not taking a sadistic delight in overtaxing the energies of the customers or, indeed, taking as their prime object an unholy delight in the probable discomfiture of those taking part. The purpose of the Obstacle Journey, as I have already said, must be testing and training, and any incidental amusement the staff gain will normally come without our going out of our way to achieve it.

What, then, would constitute an ideal incident in an Obstacle Journey?

1. *It should be possible of achievement in the time allowed.*

2. It should occupy the whole of the time allowed and *all the members of the Patrol should be able to take part.* It is wrong to have incidents capable of being dealt with by the Patrol Leader and one other whilst the rest of the Patrol waste time. Everyone must take part and must do something worth while, and everyone should have a sense of achievement at the end.

3. The incident should call *for planning by the Patrol as a whole and leadership by the Patrol Leader.*

4. Most incidents should definitely make those taking part *apply previously learned Scout skills,* e.g. to have to use a particular knot, to identify a particular tree, or have to signal a message in order to achieve the desired result.

Specimen Instructions as Issued to Staff at Gilwell:

OBSTACLE EXPEDITION

Obstacle	*Venue*	*Scouter in Charge*
1. Stilts	Front Lawn	.....
2. Ravine	Farm	.....
3. Raft	Bomb Hole	.....
4. Desert Island	Quick	.....
5. Blindfold Trail	Shrubbery	.....
6. Hornets	N.W. Paddock	.....

	1.	2.	3.
2.00 p.m.	Owls	Peckers	Pigeons
2.25 p.m.	Wolves	Owls	Peckers
2.50 p.m.	Ravens	Wolves	Owls
3.15 p.m.	Cuckoos	Ravens	Wolves
3.40 p.m.	Pigeons	Cuckoos	Ravens
4.05 p.m.	Peckers	Pigeons	Cuckoos

	4.	5.	6.
2.00 p.m.	Cuckoos	Ravens	Wolves
2.25 p.m.	Pigeons	Cuckoos	Ravens
2.50 p.m.	Peckers	Pigeons	Cuckoos
3.15 p.m.	Owls	Peckers	Pigeons
3.40 p.m.	Wolves	Owls	Peckers
4.05 p.m.	Ravens	Wolves	Owls

Times are starting times. Patrols must be away from their immediate objective in time to arrive at next obstacle at time stated.

Each Obstacle will be demolished by the last Patrol attempting it and gear returned to the Training Store.

The whole Course will complete the journey by 4.30 p.m. and will return to ..... immediately after demolishing the obstacles.

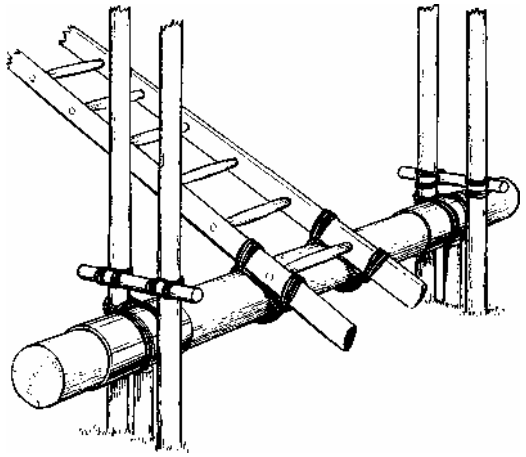
Scoring: Maximum marks 20 at each incident, divided as follows:

5 for leadership.
5 for team work.
5 for achievement.
5 at umpire's discretion.

Chapter V

A MOVABLE BEARING

THERE are many forms of pioneering where some sort of movable bearing is desirable. The worst thing is to have a loose lashing and it is much more satisfactory to have something on the lines shown in the artist's drawing. This is very easily made. On a small scale a couple of baked beans tins are adequate but where you have to use a heavy spar, as shown here, then an oil drum with the two ends beaten out will prove satisfactory.



Note that the tin or the drum is lashed securely in position and is supported underneath so that it is the spar that is free to move inside the casing and not the casing itself.

Some people have found that the insertion of a few round pebbles to act as ball-bearings is helpful and if the bearing is to carry any great weight something of this kind is necessary.

ALWAYS CHECK YOUR GEAR BEFORE

YOU START

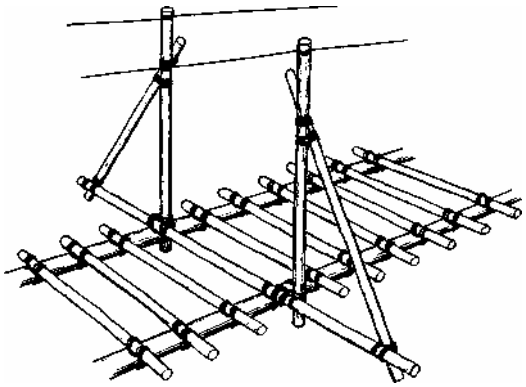
Preferably against a written list – then you can check it again after the project has been dismantled.

Chapter VI

BRIDGE HANDRAILS

MANY types of bridge incorporate some form of ladder roadway. This can be either a length of actual commercially-made ladder or, more often – and I suggest very appropriately – a ladder made up on the spot by lashing short lengths of spar at right angles across two long supporting spars. Perhaps I ought to remind you first that the short spars should always be lashed on top of the supporting spars so that the lashings are used merely to keep in place the short spars which are going to bear the weight. I am sure you would not make the elementary but often seen mistake of walking on a roadway that is only as strong as the rope lashings. If the roadway is of any appreciable length (and by that I mean ten feet and over) handrails are desirable and if the bridge is built fairly high above ground or water then they are essential. It is very difficult to lash an upright spar into the intersection of the short spar and the long spar in such a way as to make it rigid. You may well have experienced bridges of this type where the handrails give no real support and where they tend to move at the lightest touch. What I am suggesting here is a means of overcoming this difficulty:

The drawing, I think, is quite clear. All that is required is that at about every six feet you insert into the roadway a much longer cross spar than is necessary just for walking on. This spar will jut out from the side of the roadway for about two-thirds of the height of the desired handrail. Put in simple terms, a handrail that is lower than three feet is not much use so the spar must jut out for at least two feet each side. The upright spar for the handrail is then lashed into the crutch of the two crossing spars in the usual way, and personally I would use diagonal lashing for this purpose. The upright spar is then supported with a further spar lashed from the top of the upright spar to the point of the projecting spar, thus completing a triangle which is the most stable form of structure one can use in pioneering. Indeed, whatever pioneering you are doing it is better to think in terms of triangles rather than in terms of squares and to make sure that wherever the strain is greatest triangles are built into the structure in support.



If you follow this suggestion it then becomes possible to construct a really long roadway, (and I have seen them as long as sixty yards) and to incorporate a genuinely secure handrail that will provide great support.

If you are not sure of your equipment then I suggest that you use two or three staves lashed together. This has the same effect as laminating and is relatively much stronger than a single spar of the same thickness.

Chapter VII

PROJECT NO. I:
RAFT WITH DECK

GEAR REQUIRED

Spars
Four, 15-foot, light or bamboo
Fourteen, 8-foot, light
Fourteen, 6-foot, light
Five, 4-foot, light
One 8-foot or 10-foot bamboo
One 8-foot bamboo

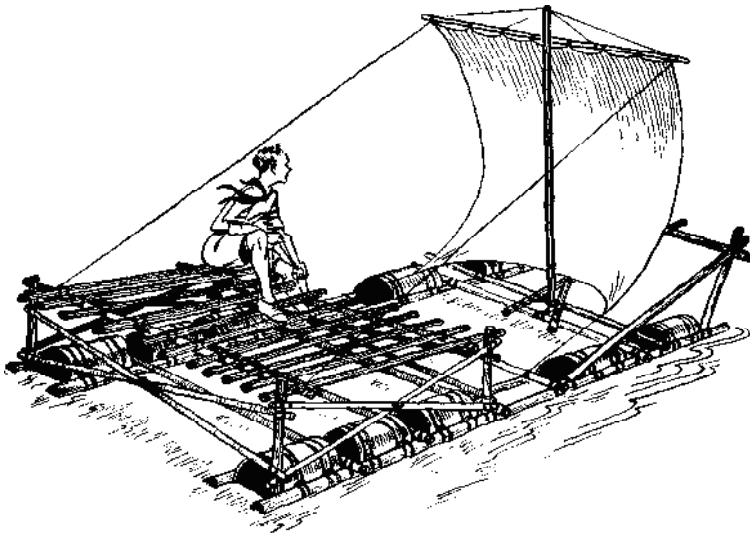
Ropes
Two, 30-foot, 1-inch (guys)

Lashings
Sisal

Oddments
Sail
Twelve 5-gallon or ten 10-gallon

A RAFT with a raised deck is certainly a more ambitious form of construction than one where the deck is lashed straight on to the oil drums or other supports but it does ensure a drier ride, it is certainly a more practical proposition if gear is to be carried, and if the water on which the raft is going to be used is choppy or if it is a stream with a current then a deck has a great many advantages.

The artist has produced the simple form of this raft that I asked him to draw but it would be easy to add a rudder, to make the sharp end of the raft sharp, to fit a pulley to the sail so that it can be raised or lowered and, indeed, to adapt the whole structure to the size of timber you have available. If you happen to have builders' planks available they would make a more comfortable deck than round spars.



A word of warning: Don't let the deck be built too high above the drums. In any form of structure, the lower you can keep the centre of gravity the better, and if you have a very high

deck then the chances of the whole thing capsizing are increased. It may be that for fun you would like to have it that way, but for utilitarian purposes and a raft you are going to use I would suggest a maximum of 2 feet above the water level and even 18 inches would be adequate.

Perhaps the hardest part of fitting a sail to a raft is to provide a suitable mast. I am not at all sure that I have found the best answer to this problem. You can use guys but they tend to get in the way of the sail if you raise or lower it. You might try doubling-up on the cross spars so that instead of lashing upright to one single spar you have more width of spar and consequently can put on two lashings instead of one, but I think there is a big field here for experiment and if you have any success I shall be happy to hear from you.

Finally, bamboo is a very suitable material to use for rafts, particularly as it tends to throw off water and not to absorb it so that even after long use the structure does not absorb additional weight.

Chapter VIII

PROJECT NO. 2: LONG-RANGE SHOWER

GEAR REQUIRED

Spars
Four, 12-foot
Two, 6-foot
One, 4-foot
Five, 2-foot

Ropes
One, 50-foot, 2-inch
One, 50-foot, 1-inch

Lashings
Six, 15-foot
Six, 12-foot

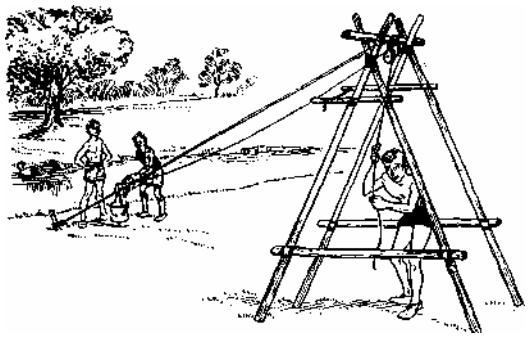
Blocks
Two, 4-inch single

Pickets
One

Oddments
One canvas bucket
One bucket
Maul

ONE of these years we shall have a really hot summer again and that will be the ideal time to introduce a shower bath into your camp. The one shown here is a simple exercise in elementary pioneering with a good fun content.

This is a project which I would offer to a relatively inexperienced Patrol to see if they can apply their lashing knowledge in practice, to see if they have any idea about proportions and, if you have the gear available and several Patrols, it would be quite easy to work out a Patrol Competition based on speed. If you had a dustbin or similar container placed in the centre of the structure then the test would be to see how much water could be brought up from the river and put into the container in a given time.



Anyway, there it is. The method of building I think is obvious from the drawing and if the two Scouts who are providing the water appear to be enjoying themselves slightly more than the fearful looking chap at the business end then that is the artist's impression and not mine.

Chapter IX

PROJECT NO. 3: OUTRIGGER RAFT

GEAR REQUIRED

Spars
Six, 10-foot
Two, 12-foot

Lashings
Twelve, 20-foot
Sisal for drums

Oddments
Six, 5-gallon drums
Two, 40-gallon drums

Spus *Sail*
(Not required if outboard is used)

Spars
One, 12-foot
One, 10-foot, light
Gour, 20-foot

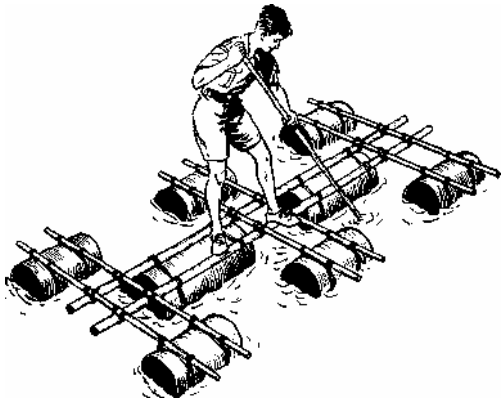
Lashings
Sisal

Blocks
Two single

Oddments
One sail
Rudder

JUST another design of raft. Bamboo is probably the best material for this particular project. The actual design can be varied almost at will according to the material available. As drawn it will not hold many bodies as there is not a lot of room but it is very practical and a very good method of deciding the exact buoyancy capacity of whatever oil drums you have available. It can be very manoeuvrable because you can paddle or pole, as shown, in the centre of the raft and not only from the outside edges, which is often difficult and rarely satisfactory.

I suggest that you build it and try it out and then elaborate it, perhaps with a deck and possibly with a sail, and you can also try fixing a rudder. You can vary the design and you can, of course, start with a five-drum affair, building just one end.



If you are lucky enough or sufficiently ingenious to borrow a boat impellor or any kind of outboard motor you can get your exercise by starting the thing instead of poling.

Chapter X

PROJECT NO. 4: GILWELL DRAWBRIDGE

GEAR REQUIRED

Spars
Three, 15-foot
Two, 8-foot
Four, 3-foot

Ropes
One, 100-foot, 1½-inch

Lashings
Ten, 25-foot
Thirteen, 15-foot

Blocks
One 5-inch single
One 5-inch double

Pickets
Twelve (eight long)

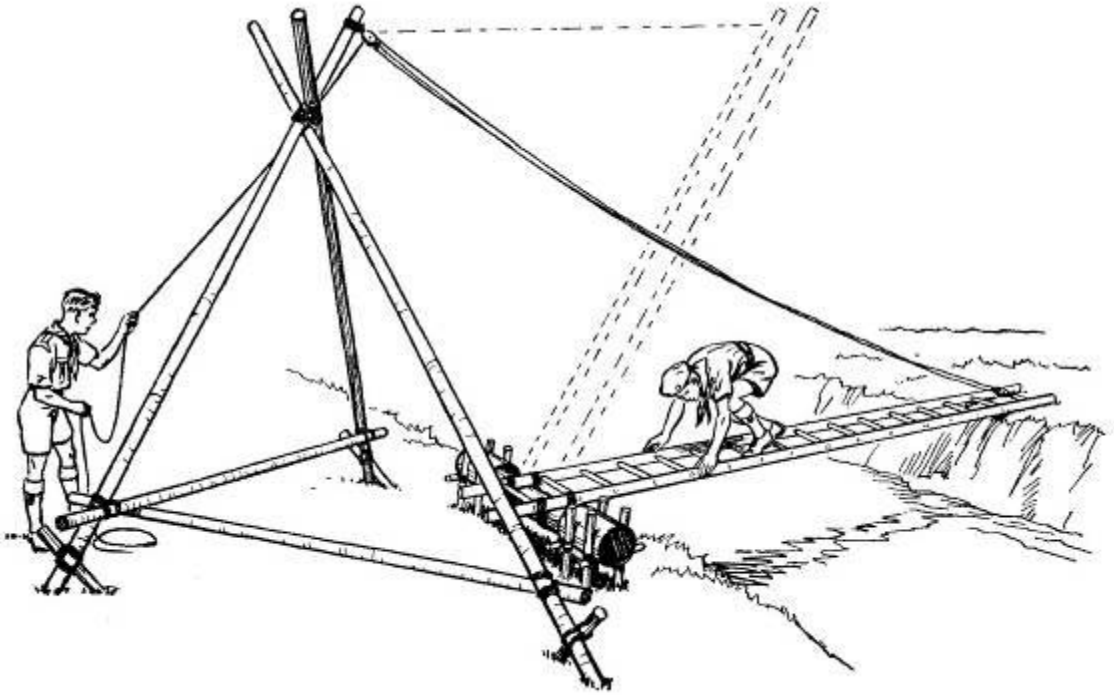
Oddments
Maul
Heavy ladder
One log about 12-inch diameter, 6-foot long
Two drums open one end

THE hoisting Ladder Bridge is one where you can move the roadway into position when you want it and get it out of the way and leave the stream free for boats almost at the touch of a hand. There are no complications in the structure.

I prefer a tripod to sheer legs in a case like this as it is more rigid and therefore less liable to wave about.

Please note that the leading spars of the tripod are lashed to angled pickets which themselves are driven well into the ground. This is very necessary because when you raise the ladder there is a lot of strain and far more than the average guy rope would be able to sustain. Note also that the log to which the roadway is lashed is using the oil drum bearing already explained, a

very good example of this piece of pioneering in action. If you have no ladder then you can make one or use a plank or anything else long enough to reach to the other side.



With a little ingenuity you can easily convert this apparatus into something that can be self-operated, but that I must leave to you.

Finally, here is a good case for using the Tourniquet Lashing described in *Pioneering Principles.*

WITH ANY PROJECT MAKE SURE THAT EVERYONE KNOWS JUST WHAT EACH PIECE OF EQUIPMENT IS TO BE USED FOR. OTHERWISE YOU FIND YOUR-SELF WITH AN IMPOSSIBLE PROBLEM HALFWAY THROUGH CONSTRUCTION

Chapter XI

PROJECT NO. 5: SENIOR BRIDGE

GEAR REQUIRED

Spars
Sixteen, 8-foot
Thirty-two, 10-foot
Sixteen, 6-foot
Sixteen batons and strops
Fourteen, 15-foot
Two 12-foot Sticks for road

Ropes
One, 3-inch hawser, 80-foot
Two, 1-inch, 160-foot
One, 2-inch, 30-foot

Lashings
Ninety-six, 15-foot
Sisal
Ten, 20-foot

Blocks
One, 8-inch single
One, 7-inch double
One, 7-inch single
Three, 4-inch single
One, 4-inch double

Pickets
Six

Oddments
One anchor log
Maul

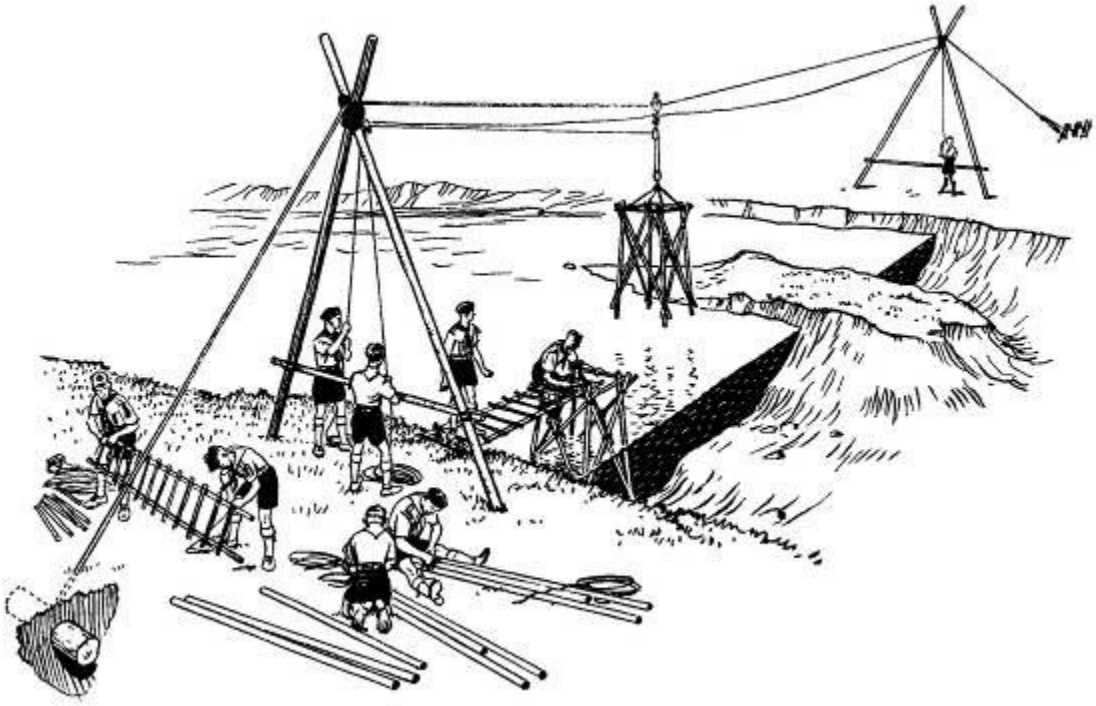
THIS is a project specially designed for District Senior Scout events. It requires a minimum of twenty Senior Scouts for success and, according to the width of the stream, it can use as many as forty Seniors.

What is suggested is the combination of two separate pioneering principles; the building of a trestle bridge across as wide a stream as possible, and the use of a simple runway to get the various parts of the bridge into place.

You need a minimum of four working parties or Patrols, one operating on each side of the stream and concerned solely with the erection of the runway, one making up the ladder sections, and the fourth making the trestles which will ultimately be the base of the bridge. Obviously, with these last two, you could have two Patrols working on each and working faster.

It is essential before you get very far to survey the site and to take accurate depth soundings so that the trestles are made in such a way that when they are in place on the bed of the stream the tops are level and will provide a level footway. This calls for soundings taken from a raft or using the sounding apparatus that I showed you in *Pioneering Principles.* It also calls for a variety of lengths of spar and at some stage the testing of the bed of the stream for stability. Above all, the whole operation calls for co-ordinated leadership, to make sure that the runway passes centrally over the line of the roadway, that it is capable of being operated from either end, that the sections of the roadway are exactly the right length, and finally that they are moved into place as required.

I have seen this type of bridge built with great success and now I look forward to the day when perhaps two District Senior Troops will have a speed test and competition against each other: it could be quite a party!



Chapter XII

PROJECT NO. 6: SEINE BRIDGE

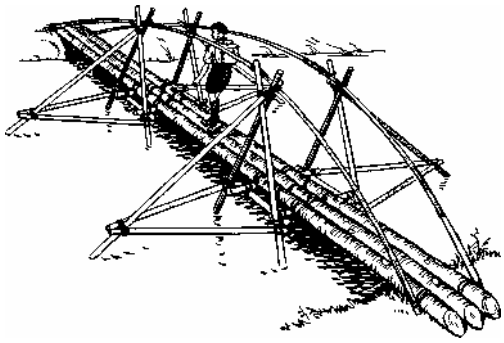
GEAR REQUIRED

Spars	**Lashings**
Eight, 6-foot	Forty, 15-foot
Four, 8-foot	
Twelve, 4-foot	
Eight, 3-foot	
Nine, 10-foot heavy	
Six, 10-foot bamboo	

HERE is an almost permanent road bridge, the kind I would build if I was lucky enough to be camping on an island or on one side of a stream where there was no objection to blocking access up or down the stream, but make sure of this latter point and don't put up a permanent bridge only to find that you have annoyed the entire boating and angling fraternity.

I think this is a very graceful structure. It is not particularly easy to build. You need heavy logs and it is unlikely that you will have them as part of your equipment but you can sometimes find them if you are camping in an area that produces this sort of material.

The supporting structure is intriguing: four tripods, or more if the width to be traversed is great, and these tripods in themselves provide all the support necessary for the footway. Do note that a great deal of the strain is absorbed by the butt ends of the logs on the banks, and I think you will find that with a structure of this kind this is a necessity.



The curved braces you could possibly manage without, but how they add to the appearance of the finished shape. If you can get permission to cut ash or sycamore saplings – and quite often you can – then they present no problem. It should be obvious, though, that this particular part of the bridge needs to be made of green wood as seasoned timber would fracture.

As with all bridges where part of the support is on the bed of the stream, let me remind you again that you must take soundings for depth and the tripods must be built according to these soundings. This may mean that the dimensions of each tripod will be different and almost certainly it will mean that those of each pair will be dissimilar. This quality of accuracy ought to appeal to Senior Scouts as they should never be content to have something that looks vaguely right but should have a pride in their pioneering which ensures that the finished job is absolutely right and really does work. The test here is “Is the footway level not only when the bridge is first built but after it has been in use for some time?”.

You could easily embellish this a little more with an ornamental or triumphal arch at one end or the other, or you could incorporate a portcullis.

I hope this project will set you thinking about making bridges that are different and which have a finished and designed appearance.

From visiting abroad and from seeing Scouts from the Continent in action I think we fall a long way behind in our approach to design. Very often the French in particular show great originality in the presentation of their pioneering or for that matter of their camp gateways and gadgets.

Chapter XIII

PROJECT NO. 7: MONOPOLE TOWER

GEAR REQUIRED

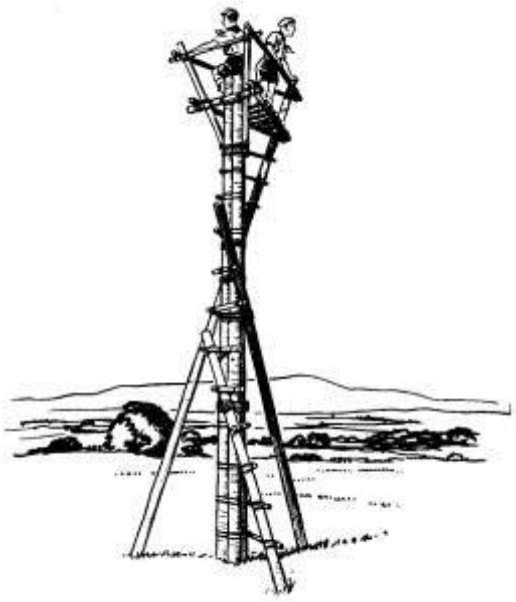
Spars	***Lashings***
Three, 20-foot heavy	Eighteen, 15-foot
One, 25-foot	Two, 20-foot
One, 10-foot	Sisal
One, 8-foot	
Two, 6-foot	
Four, 5-foot	
Two, 4-foot	
Ten, 2-foot for platform	
Twelve, 1-foot for steps	

THIS, I can assure you, is capable of being built without any guys at all.

It needs very little explanation.

The centre spars must be very solid and they must be let into the ground so that there is no chance of side slip. You need to build this on the ground and then erect it after completion. The hard part (and this is just a matter of care and correct measurement) is to make sure that when you put it up the platform is parallel to the ground.

I believe this tower was first built by some French Scouts. It is attractive, easy to build, and enjoyable to use.



Chapter XIV

PROJECT NO. 8: TRAPEZE

I AM not providing you with a detailed gear list for this project because in the first place I think the artist has made it very obvious as to what is suggested and in the second place you may be able to do a certain amount of improvisation using, for example, a stout branch for the take-off point or, with the friendly co-operation of the farmer, you may be able to make the landing point of bales of hay instead of the net.

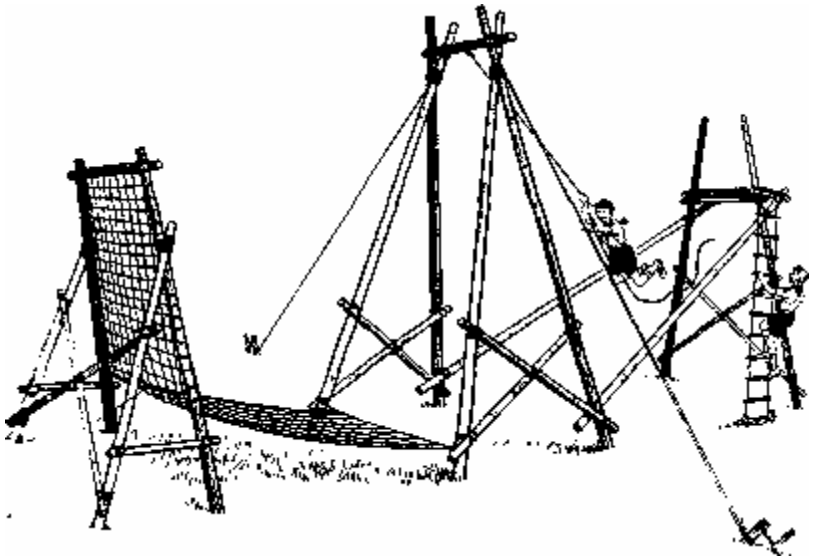
I have put this project into the book largely because I think a little semi-organised gymnastics, particularly in camp, is a worth-while ingredient in the programme. I look back to the days when a great many Troops put on some good gymnastic work which the Scouts obviously enjoyed and which, incidentally, was a very popular part of displays at parents' evenings, District events, and rallies, etc. Unless I am mistaken, fewer Troops do this sort of thing today although, strangely enough, the facilities have improved.

Perhaps, therefore, camp is the place to introduce this activity and as I am a great advocate of combining two purposes in one operation I would point out that here you can do some good pioneering and then some elementary but, I trust, rapidly improving gymnastic work.

Obviously, lashings must be above suspicion, the quality of the main swinging rope or ropes must be first-rate and should be checked each day, and the method of fastening to a spar or bough needs to be given special attention.

I do hope some Troops will try this and, indeed, adapt it and improve upon it, and perhaps even remember to let me know how they get on.

n.b. Perhaps this is the occasion to remind you to check your insurance cover.



Chapter XV

PROJECT NO. 9: TIGHT ROPE

GEAR REQUIRED

Spars
Two, 6-foot
One, 4-foot
Two, 3-foot
Three, 5-foot
Long stave for balancing

Ropes
One, 2-Inch, 60-foot
One, 2-inch, 30-foot
One, 2-inch, 20-foot

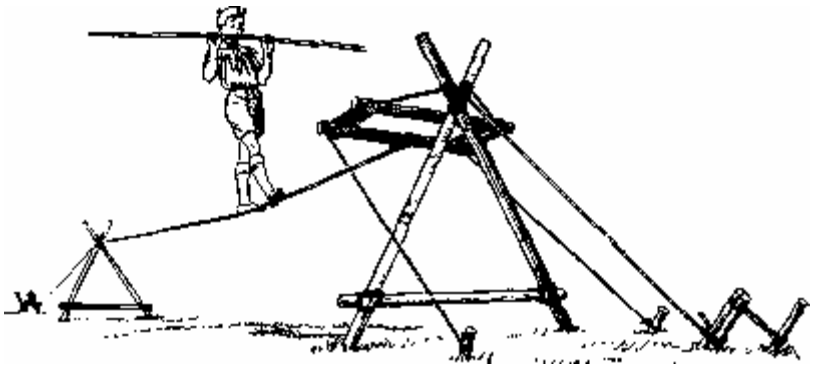
Lashings
Eight, 15-foot

Pickets
Eight

Oddments
Maul

I FIRST saw a French Troop build and use an apparatus of this kind and their Scoutmaster told me that they thoroughly enjoyed trying to be tight-rope walkers (although, truth to tell, success is easier on a slightly slack rope). He also told me that they began operations at a very much lower level than the artist has shown, and this I strongly recommend.

In the training stages I suggest the use of a light handrail, not for use, for that would change the whole character of the operation, but for encouragement. Sometimes the presence of a support is all that is necessary to give stability to the operator.



The balancing pole should be long; at least 8 feet, and it should be light and supple. Bamboo is ideal.

Lashings need to be impeccable.

Although I asked the artist to draw the project as I had seen it in France I personally would put a few cross spars on the landing platform. It would be distressing to make a successful crossing and then to step through the hole in the platform!

Finally, I am prepared to give a signed copy of this book to the first Scout I hear of, duly authenticated by the Scoutmaster and Patrol Leader, who makes a successful crossing on a gadget like this over a stream not less than 10 feet wide.

ChapterXVI

PROJECT NO. 10: AERIAL TRANSPORTER

GEAR REQUIRED

Spars
Six, 10-foot
One, 4-foot

Ropes
One, 2-inch (longer than width of river)
One, 1-inch (longer than twice width of river)

Lashings
Ten, 20-foot
Six, 15-foot
Four, 15-foot (for guys)

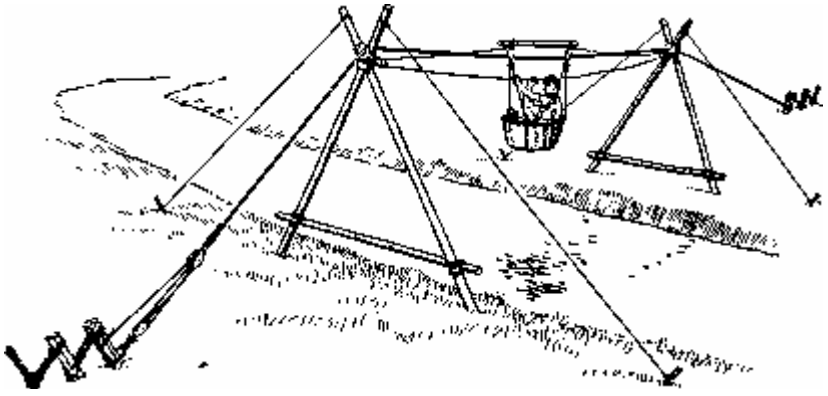
Blocks
Six single

Pickets
Sixteen (four light)

Oddments
Sacking
Maul
Basket

I FIRST saw something like this operating on the outskirts of a small Canadian town and it was in actual use for getting the inhabitants across a quite narrow but very deep gorge. I was able to stop and make a sketch of the apparatus and we have tried it at Gilwell several times since then.

It has several advantages: In the first place it is a runway that operates in both directions, unlike the one-way-only top to bottom type of runway. Secondly, it can either be operated by the occupant or, with a very simple adjustment, can be worked from either side.



Thirdly, and this may not have occurred to you, it can be a very good introduction to runways generally for a nervous Scout who is not too keen about risking life and limb on the more familiar type of aerial runway with a bosun's chair. Scouters particularly note that with

supervision a handicapped boy can be given the thrill of taking an active part in pioneering. In this connection I suggest that any of you who work with handicapped boys (obviously using sense in regard to individual cases) might give them a chance of a few crossings with a runway of this kind.

There are no problems in construction. Lashings need to be tight and secure and the anchorages also must be secure. Hooks must be properly moused and, above all, the carrier – be it bath, basket, or box – must be securely fastened to the runway, and it is far better to sling it (as shown in the drawing) where tilting is almost impossible than to attempt to mount it on top where tilting is inevitable. For the technically minded; the lower you put the centre of gravity in relation to the supporting spar the safer it will be.

This, like one or two other suggestions in the book, can well be incorporated into a display and particularly into a ffite where you are going to invite the public to try the apparatus. You may need a larger container for the Mayor, but you should be able to arrange that without difficulty.

Try this one between two trees or using one tree and one set of sheer legs.

If you arrange things in such a way that the container ends up over the bank you can then arrange the holding ropes so that you can lower yourself in the container to the ground. You can do it into the water if you prefer.

Chapter XVII

PROJECT NO. 11: CAMBRIDGE MERRY-GO-ROUND

GEAR REQUIRED

Spars
One, 6-foot
One, 20-foot
Four, 10-foot or 8-foot
Eight, 2-foot

Ropes
Four, 40-foot

Lashings
Ten, 20-foot
Twenty, 15-foot

Pickets
Four

Oddments
Four Bosun's chairs
One iron cup
One maul
One spade
Grease

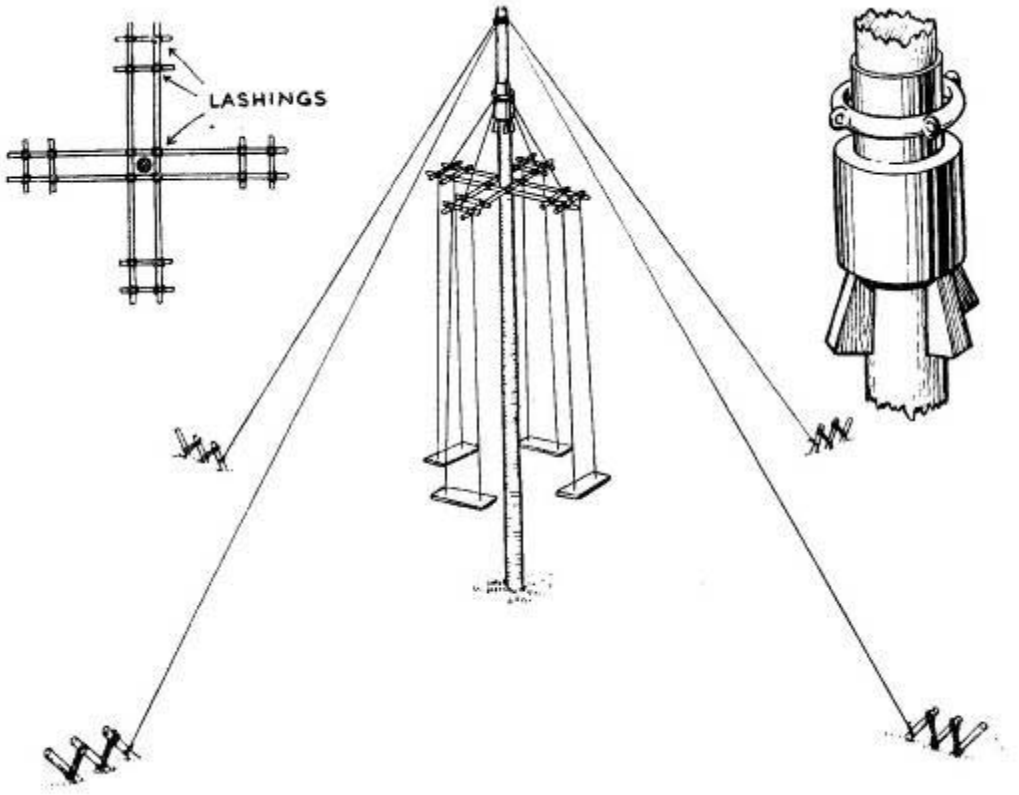
WHY "Cambridge" ? Well it was The Varsity Rover Crew who first tried this out for me, so let them have the credit.

Let me say at the outset that you must prefabricate some kind of metal bearing, otherwise I cannot offer you much hope of success. In the experimental period we tried at Gil well all sorts of other things and we had limited success with old enamel mugs but the casualty rate of mugs

was so great that we ran out of supplies and decided that it was cheaper and more satisfactory to make something in metal.

The drawing shows what is required and anyone with a simple knowledge of metal work can make the bearing without much difficulty.

The top half of the metal appliance can be made free to move around inside the collar, which I think is the best way. In any event, the ring part which will carry the lines that lead to the seats must be capable of easy movement.



Now a few points about the equipment needed:

It is a good general point in pioneering that any equipment that is going to have much movement must be of very good quality material. You can on occasion manage with slightly dubious spars incorporated into a fixed bridge or tower although I am not advocating this, but the hazard is very great if you try to use poor material in any apparatus that has deliberate movement. This apparatus has a great deal of movement and there is a very great strain on the main upright pole. Here I would strongly recommend a good, stout, well-tested spar which you know you can trust, probably with a minimum diameter of 6 inches at the base and 3 inches at the top.

Obviously, the metal appliance must be made to fit the spar at the point where you wish to secure it. You will see from the drawing that some latitude can be allowed because it is a good thing to make the final fixing with wooden wedges, and do please remember to use hardwood for wedges – oak if you can obtain it, but certainly not soft wood. I know that metal wedges are harder than wooden ones but they are also much heavier and as the wedges have to be fitted to the apparatus in such a way that if they become loose they would fall downwards it should be obvious that metal wedges are too risky to use.

The other point that calls for comment is the quality of the short spars which will carry the swing seats.

There is no problem in construction. The artist has been a little mean in his drawing of the ropes and I suggest that all the ropes be of 1-inch circumference, and I also prefer to use the scaffold hitch for fixing the seats rather than to drill holes through the seats and knot the rope underneath. The danger of a hole drilled through the seat is that it weakens the wood and the seat can snap in two.

Remember to put the upright spar well into the ground: 6 inches is an absolute minimum and 12 inches to 18 inches is desirable.

Quite apart from this being an interesting exercise in pioneering, it is enormous fun to use and many Troops have found it a profitable enterprise when worked into a Summer Fete or Display, in fact, at least one Scoutmaster has told me that his Troop earned enough money at one fete to add very considerably to their pioneering gear.

One final point on safety precautions: Make sure that there are no loose objects lying on the ground. If someone is unlucky enough to fall off a seat the ground will be hard enough without having a large maul intervening.

Chapter XVIII

PROJECT NO. 12: DAVITS

GEAR REQUIRED

Spars
Six, 6-foot
One, 10-foot
Two, 1-foot
Two, 1½-foot

Ropes
Two, 2-inch, 8-foot
Four, 1-inch, 25-foot

Lashings
Sixteen, 15 foot

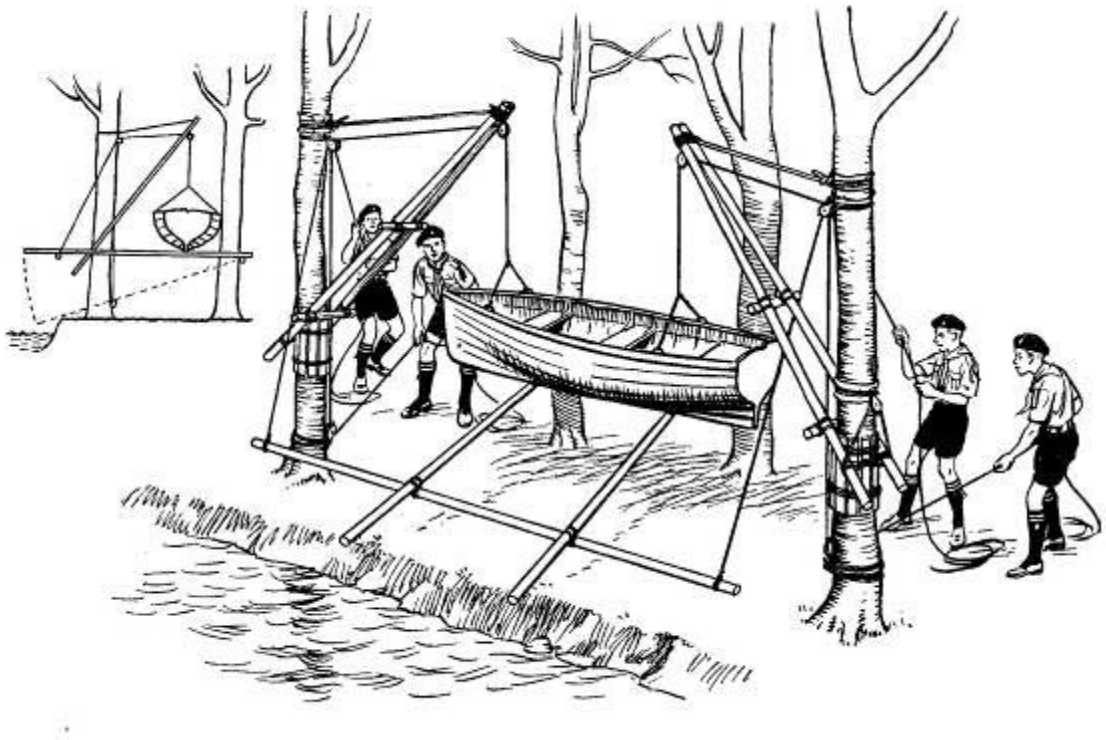
Blocks
Two double
Six single

Oddments
Sticks for protecting tree
Suitable trees

THIS was invented and put into action for the first time in Kenya during a special training course I was running in that country. I think it was inspired by the feet that at the time the camp site was flooded and our thoughts were focused on water. Subsequently we have built it several times at Gilwell and have found it very satisfactory. It may be that some Sea Scout purists will find fault with it but as a piece of practical pioneering h really does work very well.

In Kenya we had no boat because we were some miles inland, but we experimented with a heavy tent rolled up to about the length of a dinghy. We have tried it with canoes but it is better with a heavier type of boat simply because the principle is that as the platform is

lowered the weight of the boat should put the two jibs into action and force them out over the water. A canvas canoe, unless there is very fine adjustment to the pulleys, has not enough weight but for experimental purposes you could load a canoe with bags of sand or something of that kind.



The apparatus requires several blocks but these can be quite small, and I hope that by now you have added small blocks to your pioneering gear. I don't think we use them sufficiently in Scouting, tending to go rather too much for the heavy blocks, which are essential for some projects but many more projects are satisfactory with quite light weight material, and this is a good example.

There are no particular problems in construction, but good leadership is vital. The two jibs must be identical in size and pattern and distances need to be worked out very carefully. The platform when lowered must bring the boat to a point where it can reasonably slip into the water. In operation, as two independent sides have to work in conjunction with each other, someone has to give the orders to make sure that this happens.

You may well think that trees are not always so conveniently placed as the artist has shown, and that would be a fair criticism, but you can replace the trees by stout upright spars appropriately guyed. We have done this and it works just as well.

GALVANISED MALLEABLE IRON PULLEY HOOKS (Prices April 1964)

Swivel Hook Type

	Block size	3″	4″	5″	6″	7″	8″	9″	10″
	Hemp Rope Circ.	1½″	2″	2¼″	2½″/3″	3¼″	3½″	3¾″	4″
No. 18	Shingle Sheave	16/6	20/–	28/–	42/–	50/6	64/6	77/9	110/–
No. 23	Double Sheave	18/3	27/3	38/6	60/–	70/9	85/9	119/9	161/–
No. 28	Treble Sheave	33/9	38/6	50/–	68/9	112/–	117/–	145/6	191/–
No. 44	Snatch Block	—	33/–	43/–	65/3	76/9	94/9	134/9	159/9

Swivel Oval Eye Type

No. 17	Single Sheave	16/6	20/–	28/–	42/–	50/6	64/6	77/9	110/–
No. 22	Double Sheave	18/3	27/3	38/6	60/–	70/9	85/9	119/9	161/–
No. 27	Treble Sheave	33/9	38/6	50/–	68/9	112/–	117/–	145/6	191/–
No. 43	Snatch Block	—	33/–	43/–	65/3	76/9	94/9	134/9	159/9

These prices and suggestions relate in the main to the traditional type of block but nowadays there are plastic blocks which are being used extensively in yachting and boating circles. They are expensive but once they become established they should become cheaper.

One great advantage of the plastic block is that it is lighter than the metal or wooden block, or the metal and wood blocks and consequently is suitable for younger boys to use.

I suggest that you keep your eyes open, your ears to the ground, and all other good Scout qualities alert, to seize any opportunity to purchase or to be given blocks of this kind.

Chapter XIX

PROJECT NO. 13: EXTENDING TOWER

GEAR REQUIRED

Spars
Eight, 10-foot Uprights on both frames
Eight, 8-foot Top and bottom rails on outer frame
Four, 10-foot Braces
Eight, 6-foot Top and bottom rails on inner frame
Four, 8-foot Braces
Planks for deck

Ropes and Lashings
Four, 20-foot for corner pulleys
40 Collier lashings

Blocks
Four, 4-inch single

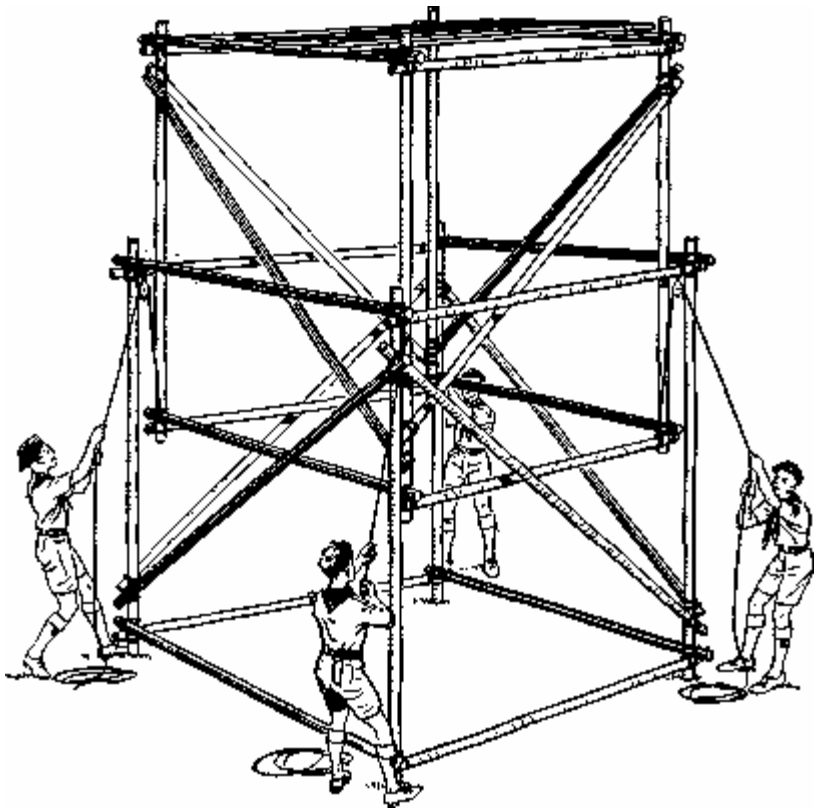
Oddments
Adhesive tape
Four pickets

THIS is not easy; there is quite a lot of work involved, very careful measurement, great attention to getting angles right and, when it is finally built, co-ordination of effort needed so that the inner tower is lifted steadily and evenly to its new position.

The idea for this I got from looking at a set of children's bricks. I think it is probably feasible – although we have not tried it – to add a third tower that goes up from inside the

second one, and perhaps even a fourth and fifth, and I hope some Troop is going to be really ambitious and at some future date I look forward to seeing a really spectacular tower designed on these lines.

The tower should not need guying although if you are building a very tall one then obviously guys will be needed on the lower part of the structure.



The Scouts who do the elevating must have a picket near by so that they can make fast when the inner tower has been raised to position.

Lashing, as always, needs to be secure. For speed you can use at several points the Tourniquet lashing shown in *Pioneering Principles.*

You might need to have additional cross pieces here and there but they should not really be necessary.

I would prefer to build a structure of this kind in bamboo as if I want to get it very high bamboo would reduce the weight and enable ambition to be fulfilled.

Once again small pulleys are the order of the day.

Why not try “dinner at the top”?

> *Try to work this one out in practise:*
> *Using two pairs of sheer legs as Scout Transporters and in no other way get a Patrol across a stream that is at least three times as wide as the combined heights of the Transporters.*

Chapter XX

PROJECT NO. 14: SWING BOAT

GEAR REQUIRED

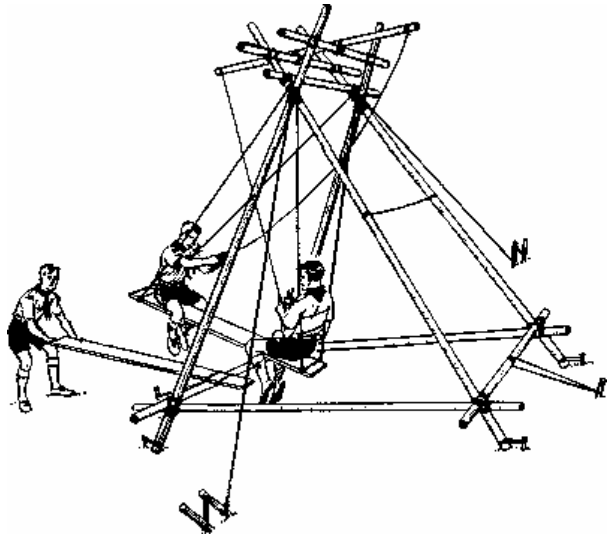
Spars
Six, 15-foot (main stays and bottom side supports)
Three, 8-foot (cross members – top)
Three, 10-foot stout (pulling bar at top)

Ropes
Two, 25-foot, 2-inch (main guys)
Two, 30-foot, 2-inch (for supporting the seat)
Two, 15-foot, 1½-inch (pulling ropes)

Lashings
Twenty, 15-foot (includes anchoring ropes and second plank lashing)

Oddments
One, 8-foot stout plank
Four pickets
Four large tent pegs
One maul
One spade

THIS fairground Swing Boat is a splendid companion to the Roundabout and, as with that, it can prove very popular and profitable if incorporated into a summer fete where the public are charged to have a go. There is considerable strain on this apparatus when it is in action so the spars need to be of very sound quality; in particular, the spar that runs parallel to the swing seat, i.e. the one on which the user will be pulling, is under considerable and variable strain. As suggested previously, if you are not certain of the quality of the spar then it is much safer to use a bundle of thinner spars firmly lashed together.



The braking device is not essential except that if you are using the apparatus as a money-making proposition you must have some method of stopping it otherwise an obstreperous customer can have a lot more than his money's worth. For use in a Scout camp the braking device can easily be dispensed with.

When the seat is at rest it ought to be situated at such a height that the legs of the average Scout are just clear of the ground. The only risk with this apparatus is when the seat is too near the ground, which can result in a damaged leg.

A Patrol of six ought to be able to erect the Swingboat in under an hour.

You will notice that the artist has shown a simple device for keeping the main spars in position but in addition to this I would advocate taking off the top spit of ground so that there is no possibility of side slip.

These 'fairground' projects of which several are included in this book give enormous pleasure to Cubs and provide for them an exciting introduction to Troop Scouting. I don't for a moment suggest that Cubs should help to build them, but do give them a chance to 'have a go'.

Chapter XXI

PROJECT NO. 15: WINCHED RUNWAY

GEAR REQUIRED

Spars
Four, 6-foot
Two, 5-foot
Eight, 4-foot
Thirty-six staves
4-inch diameter, 4-foot shaped log
Two, 1-inch, 2-foot sticks for shaped log

Lashings
Ten, 15-foot

Blocks
Four single

Oddments
Sacking
Rope ladder

AT first sight this appears to be a rather elaborate and advanced piece of pioneering and it probably is more suitable for Senior Scouts, but it is a very practical proposition and if properly constructed is very safe to use. As with the previous project, the centre of gravity is low and this in itself is a great safeguard.

It can be built either with wire hawsers or rope but in any event you will have to work some kind of tightening device into the main ropes: they must at all times be kept in even tension otherwise the travelling basket is going to tip.

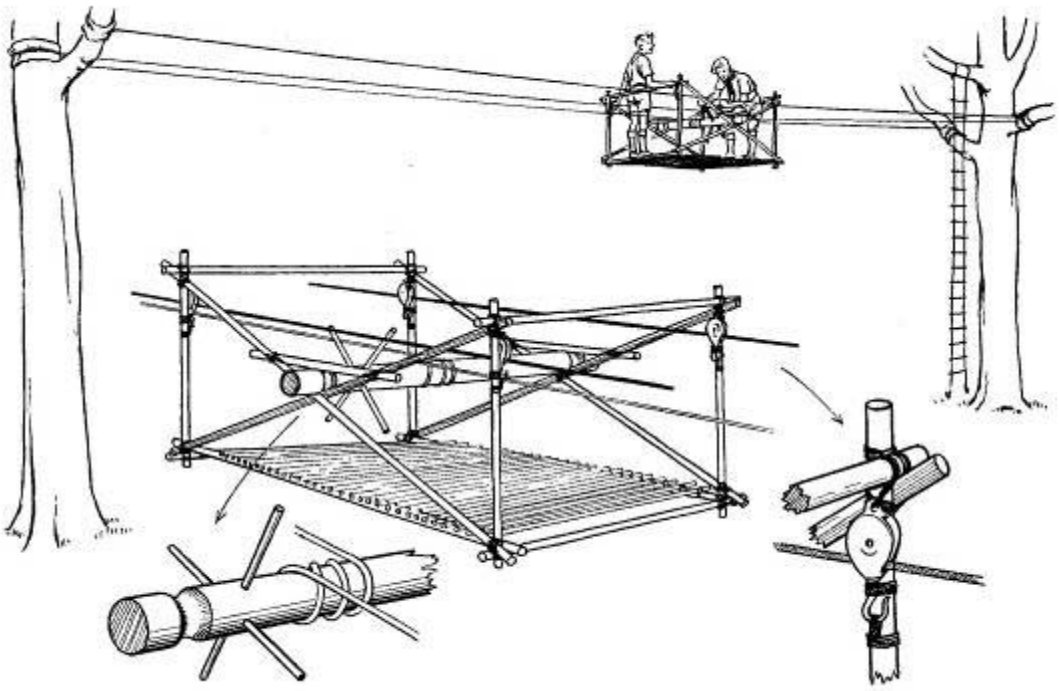
You can use quite small blocks, which is an advantage as they are cheaper and easier to handle.

The slightly strange apparatus which is really a sort of winch needs notching at each end as shown otherwise it will slide about and be difficult to control. The turning handles should be

one piece that goes right through. You might get away with them just let into the timber but it is not nearly so secure that way.

The platform can either be as shown in staves or short spars or if you have light planks available that is probably the safer way.

Really well constructed this is another type of project that can be used by handicapped Scouts. I am most anxious to give as many of these boys as possible the chance to take part in really active Scouting and pioneering needn't be an activity from which they have to be excluded.

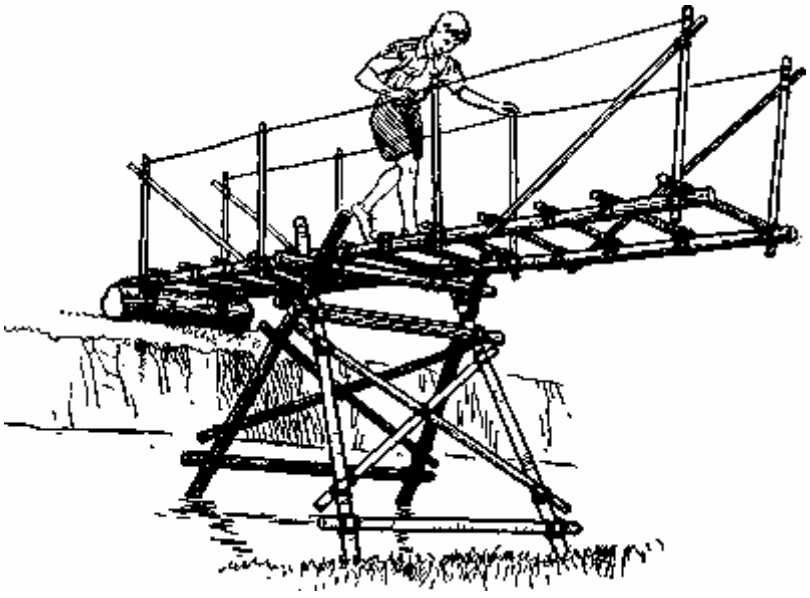


Chapter XXII

PROJECT NO. 16:
THE SEESAW BRIDGE

THE theoretical purpose of the Seesaw Bridge is to provide a fairly high level roadway which will allow the passage of craft underneath it, but I would be hard put to it to justify that as a reason for advocating the project: I prefer to claim that this is a good pioneering exercise in itself and it is tremendous fun to use, being one of those delightful things that gives the often referred to "middle aged Commissioner" the thrill of feeling that he is doing something much more daring than in fact he is doing. Of course, if the middle aged Commissioner is much over normal weight then the hazard is more real because as he passes the centre of the bridge and his weight works the seesaw it is liable to move very rapidly. There is nothing difficult in the structure. You must have good, sound material for the trestles and these must be exactly designed in accordance with the depth of the stream. The top bearing – which can as suggested in other places be a double or triple pole – must be above suspicion, and this is clearly a case where the extended cross bars for the ladder (as advocated in Chapter (VI) can be used with very great advantage.

You must have some kind of weight on one end or the other, otherwise the bridge will tend to stay permanently in the elevated position; experience shows how much weight is required.



You will notice that no guys are shown, and if the bridge is properly built guys are not necessary and, indeed, it is a good test of your pioneering skill to be able to make this bridge without recourse to guy ropes.

This bridge has been built many times at Gilwell and it has given a great deal of pleasure to those who use it, and so it is strongly recommended as entirely suitable.

It can be made in bamboo but if you do use this material then check the Commissioner's weight even more closely!

Chapter XXIII

PROJECT NO. 17: TREADMILL

GEAR REQUIRED

Spars
Two, 12-foot
Four, 5-foot
Four, 6-foot
Twelve, 3-foot
Twelve, 2-foot

Ropes
One, 1½-inch, 60-foot

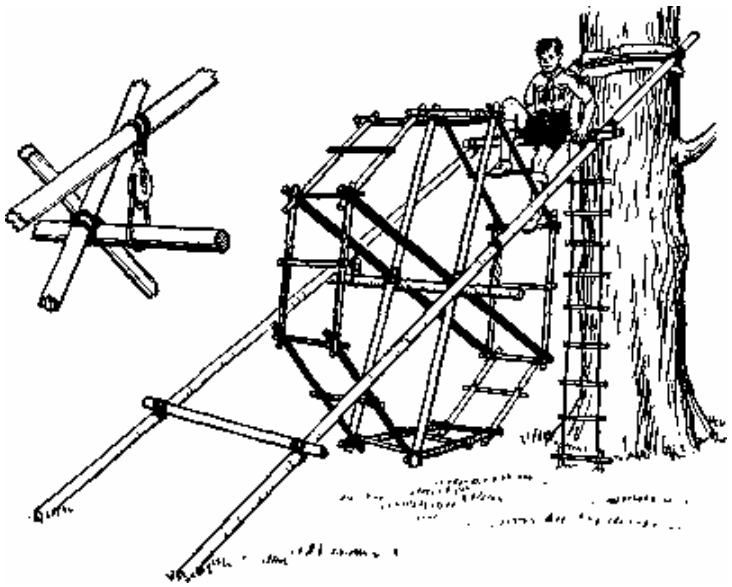
Lashings
Sixteen, 15-foot
Twenty-four, 15-foot light

Blocks
Two single

Oddments
Rope ladder
Sacking

I CANNOT pretend that this strange apparatus is any great practical use but it is a good exercise in pioneering and a year or two ago a party of Rovers put this into action and managed to generate enough energy to light a four watt lamp. The operator was heard to remark that he personally could have been used as an immersion heater!

The idea came to me from seeing the picture of an old tread mill. The artist has shown the apparatus working from outside the wheel but, in fact, with very little alteration you could tread from inside the wheel, climbing, as it were, a never-ending ladder.



Another use you could put this to would be to add it to a lift and use this apparatus to raise and lower the lift.

Anyway, I have put it into the book because I think it is a good piece of pioneering practice, is a little out of the ordinary, and is capable of quite a lot of development.

Chapter XXIV

PROJECT NO. 18:
THE ELEVATED TENT

GEAR REQUIRED

Spars
Two, 10-foot
Ten, 7-foot

Ropes
Two, Distances between Trees
Five, 30-foot, 1½-inch
Six, 20-foot approx. (two for Rope Ladder)
Sixteen, 15-foot Lashings

Oddments
Three Planks approx. 6-foot 6-inches
Rungs for ladder
Sacking
One Tent
Six Pegs
One Mallet

QUITE apart from the pioneering content of this project, it is a very practical proposition for a couple of Senior Scouts if the ground is swampy or very over grown. In many of the countries I visit it would be a good protection against snakes or wild animals.

This project is not recommended for sleep walkers!

The height at which you rig the platform will be determined by your own spirit of adventure, by the height of the trees available, or by the length of the ropes.

In essence, this is a strongly constructed platform large enough to take a hike tent.

Obviously, you will build the structure on the ground and then elevate it to the desired position.

Don’t forget the rope ladder.

This general idea can lead to all manner of interesting variation. Why not a similar high level platform for the kitchen? Lifting sleeping quarters and kitchen by a commando type bridge.

Chapter XXV

PROJECT NO. 19:
THE THAI FISHING NET

GEAR REQUIRED

Spars
Four, 10-foot or 12-foot
Two, 3-foot
Two, 2-foot 6-inch
Two, 1-foot 6-inch
Two, 10-foot light bamboo poles

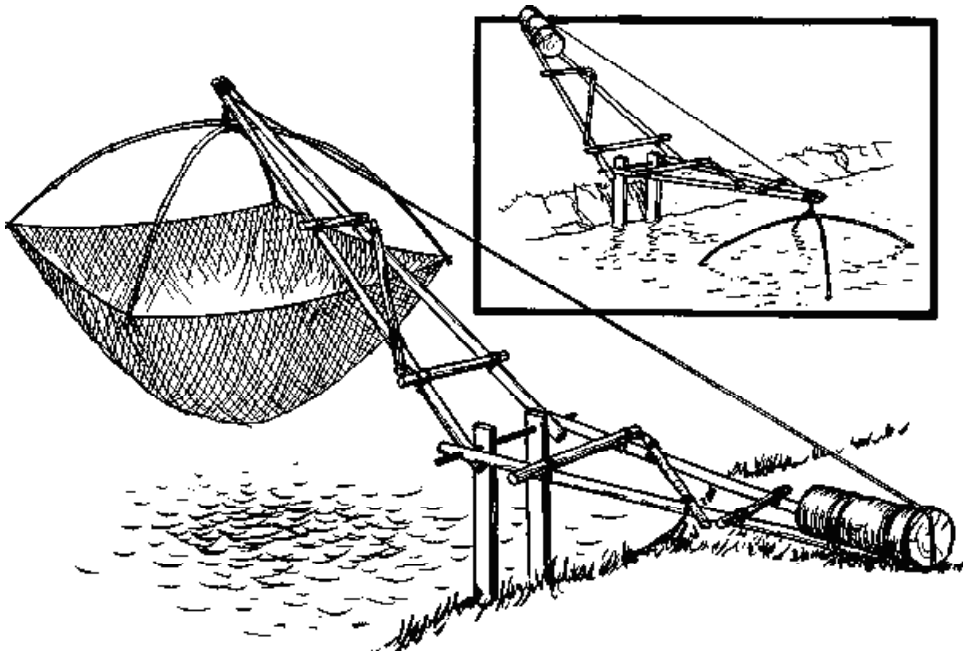
Oddments
One Net, 6-10-foot square
Two pieces 6-inch by 2-inch 4-foot
One Metal Pipe, 3 to 4-foot
One maul
One log (counterweight)

Ropes
Fourteen, 15-foot lashing
Two, 30-foot lashing
One, 40-foot, 2-inch

BEFORE I commend this apparatus to you may I implore you to check the legality of using it if you want to try it out seriously.

I first saw these in great quantity when I visited Thailand but I believe they are also used in parts of Italy and probably in other countries also. I found them fascinating and very effective.

What you are trying to do is to have a simple means of lowering a net into a stream or lake and then a means of lifting the net out of the stream quite quickly when you think you have left it there long enough to catch your supper.



What I want you to realise about this is that many riverside dwellers in Thailand – and there are millions of them – in a very large measure depend upon this ingenious apparatus as a means of sustaining life. In Thailand this is a family project; the father and the older sons build it whilst the mother and younger children operate it, which is a very fair division of labour.

I don't think there is anything difficult in building the apparatus. Experience will show you how to get the net and the net supports in balance with the lifting mechanism. This is partly a matter of length and partly a matter of the weight of the timber. You ought to be able to balance it so that a very young Scout can lower and raise it. If it requires brute force then you have failed to get it right. The crossed saplings that hold the net should preferably be of green timber.

I hope you will try this and I hope you will let me know what success you enjoy. If you are passing through Gilwell I shall be very happy to show you a whole set of coloured pictures showing this primitive and yet modern contraption in action in Thailand.

I doubt if using this will help to qualify you for the angler's badge!

Chapter XXVI

PROJECT NO. 20: THE LUXEMBOURGER

GEAR REQUIRED

Spars
Six, 10-foot
Two, 12-foot stout
Six, 6-foot
Two, 3-foot Bolted to centre of 12-foot
Two, 5-foot
Two, 4-foot
Two, 3-foot

Ropes
Twenty-six, 15-foot Lashings
Twelve, 30-foot Lashings
Four, 30-foot, 1½-inch
Four, 20-foot, 1½-inch for tackle
Four straps
Sisal for mousing

Oddments
Two Top plates for bearings
Four, 2-foot 6-inch metal tubes
One, 6-foot Metal tube fairly heavy for main bearing
Eight Bolts to attach top bearing to upright Spars
Two Planks for Bosun chairs
Twenty-four Pickets
One Maul
Four single blocks, 4-inch
Four double blocks, 4-inch

THIS project belongs to the fairground group, as do the Roundabout and the Swingboat. In a way this is a more ambitious project and I want to begin by saying that the quality of equipment used must be first-rate and it would be very wrong to use doubtful spars, a worn lashing, or a suspect guy rope. There is quite a lot of strain when this project is in use but if the equipment is good there is no particular problem in regard to construction. It is a very attractive thing to use and

with more substantial seats quite young boys and even Wolf Cubs can thoroughly enjoy the experience.

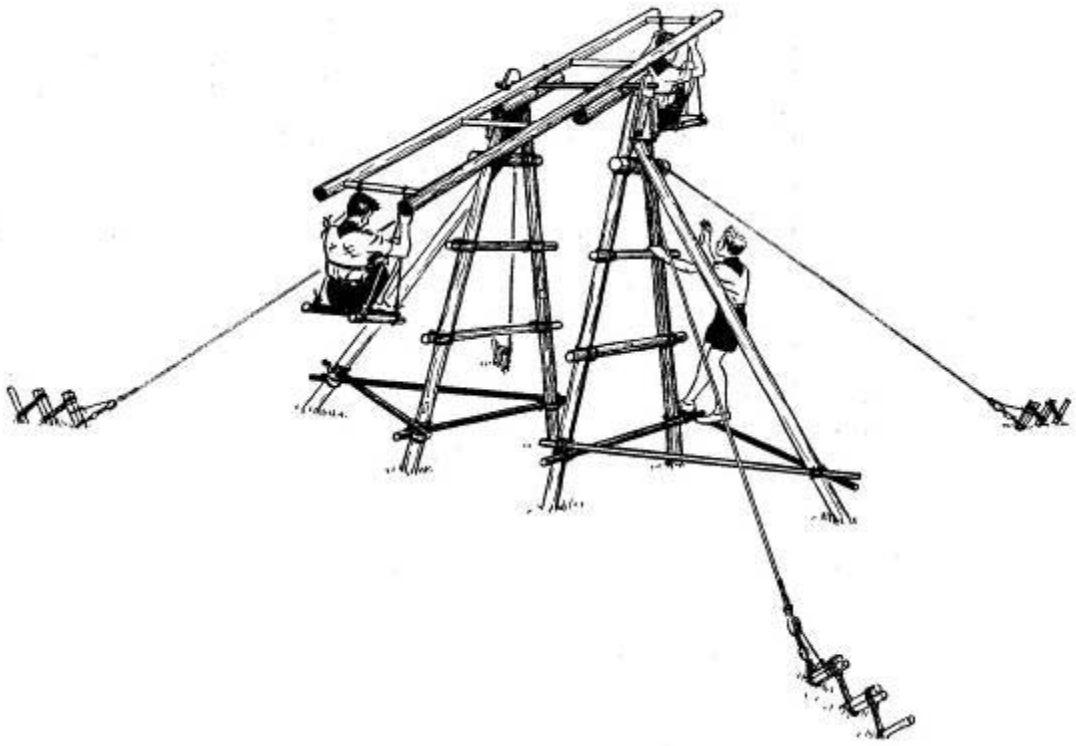
Many books ago I suggested that a fair test for a pioneering project was whether a reasonably agile middle-aged Commissioner could safely use it: I still think that for most projects this is a fair test and I hope you will bear this in mind when you build the Luxembourger. Nowadays I could qualify for my own definition!

This is a job that could be spread over three Patrols, two Patrols each making one of the side supports. They would have to work in complete harmony in regard to exact measurements but that in itself is a good experience. The third Patrol would make the arm and the seats to go on it.

I think you will find that the bearing round which the arm rotates will need to be a stout metal rod, but that should not be difficult to obtain and, indeed, if you can produce a number of metal rods then I strongly recommend you to use them for all the cross members of the arm.

The anchorages for the side supports must be very firmly guyed and this is a case where the pickets needed to be very strongly embedded. (See *Pioneering Principles* for what is recommended.)

The name – the Scouts of Luxembourg were the first to show this creation to me.



Chapter XXVII

PROJECT NO. 21: THE WATER CHUTE

GEAR REQUIRED

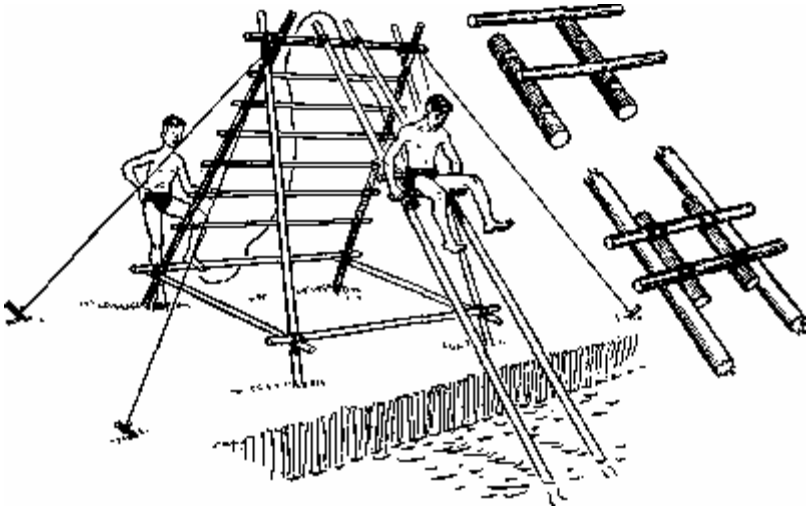
Spars
Four 12-or 10-foot
Two, 20-foot
Five, 6-foot Four, 1-foot 6-inch

Oddments
Four pickets
One maul

Lashings
Twenty-six, 15-foot
Four light either Sisal or Cod-line
Four, 27-foot or 30-foot
Sisal

HERE we have a very simple piece of equipment, easily made and not requiring much gear. This was born on a training course in Sweden and as we had no water available we built it on land. I can thoroughly commend it as an exciting thing to use on land but it could be dangerous unless there is control and supervision.

The tricky part is in the slide that the user sits on: It really does need to fit tightly between the runners, but there must be no danger of it falling through. Used into water it can be left to run free at the end of the chute and to go into the water along with the passenger, but on land this could easily result in a broken leg and therefore we found it desirable to have a string attached to the top end of the slide so that it stopped sufficiently short of the bottom to make quite sure that no one's legs hit the ground.



There is nothing technical in erecting an affair of this kind but I would remind you that the strain on the spars is considerable and they should therefore be of good quality, and the guys at the side need to be strong and very firmly anchored.

Having presented it, I look forward to being invited to a good Summer Show where I shall see in action with both Scouts and parents the Roundabout, the Swing-boat, the Luxembourger, and the Water Chute; a real plethora of pioneering projects.

Chapter XXVIII

PROJECT NO. 22: SUSPENDED FLAG POLE

GEAR REQUIRED

Ropes
Two, 2-inch to reach between trees
Four, 40-foot approx. Guy's
Two ropes for rope ladder
Two Halyards
Ten, 15-foot lashings
Sisal

Spars
One 20-foot light
Ten, 5-foot light
Twelve staves
Ladder rungs

Oddments
Sacking
Four pickets
One maul

IT is a little difficult to justify this project because I cannot think of any reason for encouraging you to build it except that it is a very interesting project to tackle and when you have built it successfully you will be proud of it and will have the feeling that you have done something unusual and overcome one or two difficulties in the process.

I hope it is obvious that the whole idea of the project is that it is built and erected without anybody at any stage getting into or on to the water. It would be too easy just to wade out into the pond and hold the spars and ropes in place. It would not be quite so easy to use a raft, but the whole exercise is designed to see if you can get the flag pole into the central position over the water, working entirely from the banks of the pond. Incidentally, if you have no pond mark out an area with sisal: it will not be quite so entertaining but it can be effective.

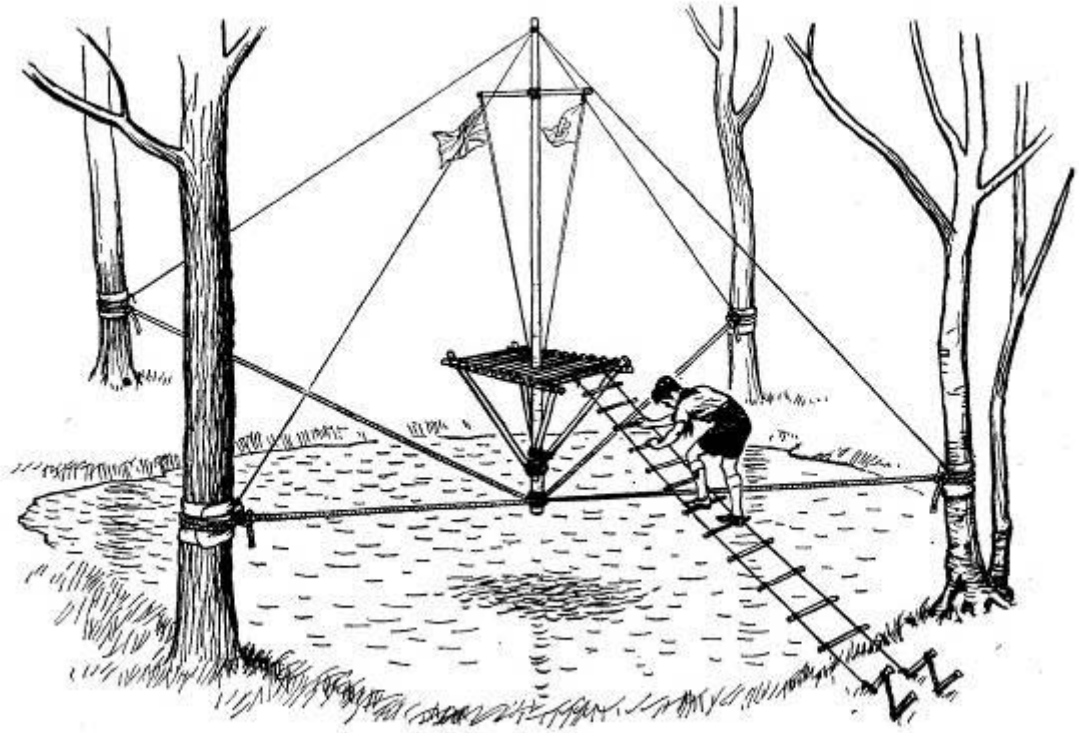
The platform should be adequate to support a member of the Patrol so that he can raise and lower the flags as required. If you cannot find four conveniently placed trees then sheer legs or upright spars guyed back will serve although this will enhance the difficulties.

There is not a great deal of gear required, and very few spars.

You could, of course, omit the platform and perhaps for a first attempt this might be wise. It would be easy enough to arrange for the flag to be raised and lowered from the bank.

The tricky part is in making sure that the base of the main mast is effectively secured and that when a Scout is on the platform – if you build it – the whole structure will still remain well above the water-line.

I hope you will try this, not because of its practical use which is very slight, but because it is a good exercise of its kind.



Chapter XXIX

PROJECT NO. 23: THE LOG WINCH

GEAR REQUIRED

Spars
Two, 20-foot
Three, 3-foot
Two, 4-foot

Ropes
Four, 40-foot, 1^-inch guys
One, 80-foot, 2-inch
Fourteen, 15-foot lashings

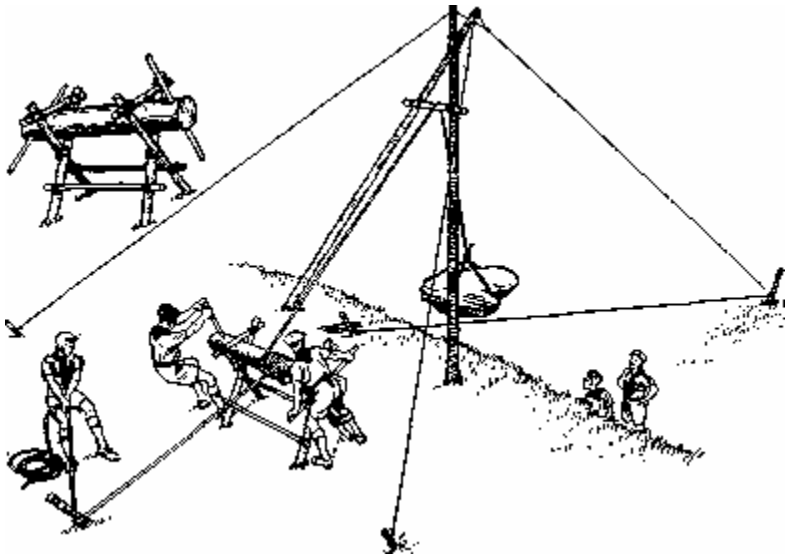
Oddments
Five, 3-foot pickets
Four, 5-foot pickets for winch legs
One log approx. 4-foot 6-inch drilled to take handles
Two handles
One maul

I INTRODUCED you to the winch in an earlier book and I hope you have tried it out.

Just to remind you: For safety the turning handles should pass right through the log; in other words, you have two handles and not four.

The purpose of this apparatus is to lift a heavy weight without recourse to a block and tackle and to see what can be achieved through ingenuity and manpower.

This could well be a two-Patrol job, one Patrol building the winch and the other building the sheer legs.



The artist has shown just one cross-tie to the sheer legs but I would recommend two and possibly three alongside each other, making a kind of laminated spar which will add enormously to the strength of the apparatus and consequently to its lifting capacity.

A variation would be to have a fixed length from the crutch of the sheer legs to the object to be lifted and the winching arrangement would operate on the sheer legs.

You can try this with quite young Scouts with light weights and reserve the lifting of a very heavy log for Senior Scouts.

Finally, a note of caution: The base of the sheer legs must be let well into the ground and if the sheer legs are going to be used as the movable part then I strongly recommend large rounded stones to act as ball bearings underneath the butts.

Chapter XXX

PROJECT NO. 24: COUNTERWEIGHT BRIDGE, MARK II

GEAR REQUIRED

Spars
Four, 20-foot
Two, 10-foot
One, 6-foot
Two, 5-foot
One heavy log for pivot
Two logs for weights
Fifteen staves
Four, 46-inch larch

Ropes
One, 30-foot, 1½-Inch

Lashings
Thirty, 15-foot
Twelve, 30-foot

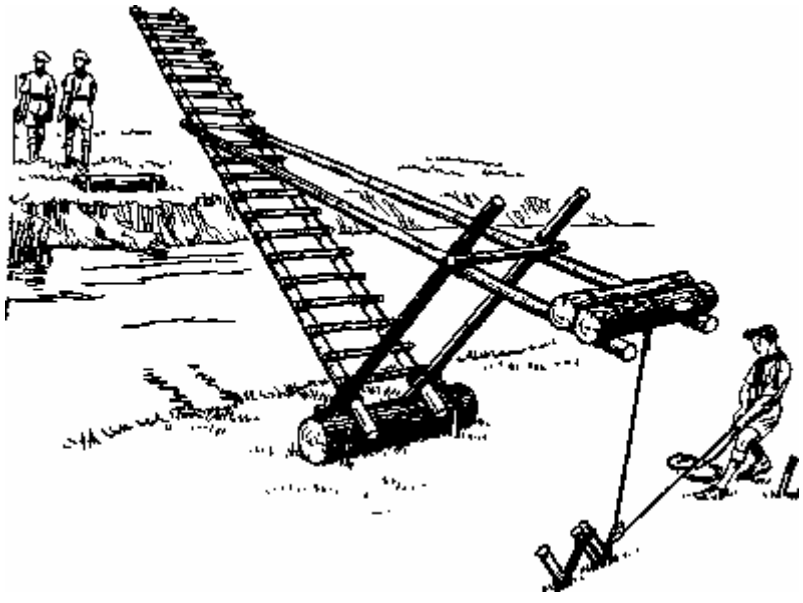
Blocks
One, 4-inch, single

Pickets
Eight

Oddments
Maul

IN *Pioneering Projects* I introduced you to the first form of counterweight bridge that I devised, which you may remember had a single suspending spar to the butt end of which was attached a fixed weight in the shape of a log and a variable weight in the shape of a bag of sand. Mark II is based on a different principle and is a much more secure job.

As you will see from the drawing, there are two suspending spars lashed firmly to two uprights – and I would put them on the top of the short bracing spar rather than underneath as shown by the artist. The counterweight in this case can consist, as shown, either of two logs or as for Mark I, i.e. a fixed weight and a variable weight.



One great advantage of this present project is that at no point is access across the roadway impeded, and you could elaborate the structure and make it more serviceable by adding handrails. If the bridge is more than 10 feet long I would advocate this but for a short length it would be quite sufficient to use the main suspending spars as handrails and possibly just to extend a little beyond them. If you do decide to put handrails all the way then I commend to you the suggestion in this book (page 20) and you might also find this a suitable occasion to try out page 19, the movable bearing.

This project can be built in bamboo just as effectively as in other materials.

Quite a lot of lashing is involved and it needs to be good lashing, and don't forget the pickets holding the bearing logs in place. These need to be let well into the ground. Keep the log as far back from the bank as your materials allow, otherwise the pickets may drive the edge of the bank into the stream and afford no support at all.

The raising and lowering apparatus is neat and effective. You could manage without it and just use manpower, but if you have a block available then I suggest you use it. Note that the block is fixed at the bottom of the holding pickets, which will give the maximum strength.

Generally speaking, this is a very good type of bridge. It is very suitable in a Summer Camp if you are lucky enough, as I once was, to have a site where the camp fire circle could be built on a small island, and this is certainly one way I would like to approach the camp fire circle.

Chapter XXXI

VENTURER JOURNEY PROJECTS

IN this section of the book I am offering you a number of projects which can well form incidents in a Venturer Journey. The difference between this type of project and the straightforward pioneering project is that if you build any kind of bridge or tower the problem and the work involved is in the construction. Having built it, there is little or no problem in using it, that is, assuming that you have built it properly. With the incident type of project, however, the probabilities are that one group of Scouts has built it and a different group of Scouts will be using it but, further than that, projects of this type may require skill and ingenuity in their use. They may require additional pioneering to be done before they can be put into action and they should certainly require before use decision and leadership in regard to the way to set about whatever the problem may be that is being set.

I am often asked how I am able to think of so many different projects. Well, there's no secret about it and it may help you to know the kind of methods I use.

The first part of the method is undoubtedly a frame of mind. I am constantly on the look-out for new ideas. This seems to operate in two distinct ways. I often see on a camp site or in some other country a physical situation that seems to me to lend itself to being exploited for a project: it may be an unusual shape of tree, a peculiar rock formation, a stream in an unexpected place, or it may be a piece of junk equipment or part of an old building that has been abandoned.

The second way in which the method works is that I quite often see Scouts trying to achieve something and not always succeeding and then I recognise that what they are trying

to do is basically the germ of an idea, and perhaps because I think a lot about pioneering I can suggest how to make the idea blossom and flourish.

Another approach I use is to look with interest at any unusual engineering feat, particularly in terms of bridges of which there is a remarkable variety throughout the world, and then to think how a replica of a particular bridge could be built in the materials that it is reasonable to expect Scouts to have and to use. In one of my pioneering books, for example, there is a bridge called "Tassie". This is an affectionate name for the State of Tasmania and across Hobart harbour there is a pontoon bridge following a very graceful curve and because it is a very deep water harbour and they want big ships to go in and out, at the end of the pontoon section there is a road bridge, supported on two massive towers, which can be lifted bodily a considerable height above the water level. I do not pretend that the actual bridge I included in *Pioneering Projects* looks very much like the Hobart bridge but I can assure you that going across the actual bridge gave me the idea for the Scout version.

Last time I was in Tasmania I saw the beginnings of a magnificent new high level bridge which presumably will replace the old one for which I shall always have a great affection.

Admittedly there are many feats of engineering I see that are quite beyond my ingenuity to convert into Scout terms and, indeed, I must go further and say that some adaptations we have tried at Gilwell just have not worked and, I suppose like any other author, I publish the successes and not the failures, for there would not be any point in asking you to build something that I know from experience has no chance of success.

Yet another way in which I get new ideas, and many of these have stemmed from the Training the Team Courses I run all over the world, is to give a Patrol one or two drawings of projects that have not been done before and ask them to use the drawings I give them as an inspiration and incentive to produce something that embodies similar principles but which is definitely original. Here again, sometimes there is great success and many of these successes are included in this book but sometimes it just seemed to be a good idea and did not work in practice.

This method of drawing ideas out of ideas is one I thoroughly recommend to you. Almost any project can be adapted, improved, or at any rate experimented with and the slavish copying of someone else's idea, except in the elementary stages of training, has never been my idea of pioneering. In fact, if you build actual things in real conditions then adaptation becomes vital for success. Trees don't grow exactly the same shape as the artist draws them; rivers and gorges can take on an infinite variety of shapes, etc., and in these situations, if the basic training and experience is there, then adaptation successfully carried out is natural and effective.

Now let us consider the ingredients of a good pioneering incident in a Venturer Journey.

First and foremost it must be possible. All this stuff about the impossible taking a little longer is nonsense. I am not suggesting that the test should be "Can the perpetrator do it?" because age and infirmity can limit participation even though a creative mind can still produce worth-while ideas, but the perpetrator must know how it should be done and that it can be done by Scouts and Scouters of the age who will be asked to tackle it.

It must be capable of being done in the time allocated, and this is one of the continuing problems of planning Venturer Journeys: You really need all the incidents to occupy the same amount of time, and only experience or trial and error will lead you to get the time factor right. A Patrol may have to work quite hard to achieve success in the time allowed, but if you set a problem that is quite beyond solving then the whole enterprise is disheartening and very often, because they realise that it cannot be done, they do not make a serious attempt to do it.

Another point to remember is that every member of the Patrol should be actively engaged throughout the operation. An incident which requires every member of a Patrol to get from one side to another is on the whole better than one that requires the Patrol to get one of its members across the river or whatever it is.

At the risk of stating the obvious I would stress that any equipment necessary for the satisfactory completion of the project must be available. This is particularly true if the time factor is present. When it is just a straightforward pioneering project it does not matter if they have to go back to the store or to another part of the camp, or if they have to rummage about to find what they want, but if the Patrol has twenty or twenty-five minutes to complete one incident in a Venturer Journey then it is unreasonable to suggest that they should "Go home to fetch the football before the game can start".

Now a word of advice about the instructions to be given to a Patrol. The principles are these:

a) The instructions must convey quite definitely what has to be attempted.

b) The instructions must not be capable of more than one interpretation.

Alongside these principles there are two distinct methods of approach. The first is to wrap up the intention in a romantic background story, and there are several illustrations of this method in the projects which follow. The alternative is to state factually what is required to be done.

The difficulty in deciding which type of instruction to use is that some boys respond to the colourful background idea whereas others find it distracting and, indeed, objectionable and like to be given a straightforward instruction. From my point of view this presents a real difficulty but it should not do so from the point of view of the Scoutmaster or the Senior Scout Leader who knows his Scouts.

Because one or other type of instruction appeals to you it does not follow that the same type will appeal to your Scouts, so you must put aside your own likes and dislikes and try to tune into theirs.

Perhaps it will help if I give you a comparison between instructions for the same project, with imaginative instructions and factual instructions. We will take the "Secret Weapon" project. The romantic instructions read:

"Before you lies a very secret weapon which is ready for testing. It is highly dangerous. You must move it with the utmost care and, as sound vibrations affect it, it is essential that you make no noise. Move the weapon to the testing field along the line indicated by the trail. The weapon must not be tampered with or altered." The factual instructions could read:

"As a Patrol, pick up this object, move it carefully along the string trail: Make no sound. Do not alter the object in any way or lose any of its attachments or contents."

To take a more extreme case, "The De-esteeayliser", where in addition to the instructions being romanticised they quite intentionally require unravelling, the romantic instructions read:

"On arrival on Mars, your Space Ship was damaged, with the result that your Space suits have become heavily charged with Esteeaylites. A crude de-esteeayliser has been fashioned, and it is necessary for each member of the Patrol to pass through the coil of the machine, holding the Nuion all the time. The Nuion must pass outside the coil. Until a member can make contact with an 'Im' platform at either end of the coil, he must not let go of the Nuion nor make any other contact outside the coils. Should he do either of these things he will dematerialise and those behind him will have to go back out of the coil until the disturbance settles. If the Nuion makes

contact with Mars other than from inside the coil, its effect is neutralised and a fresh start must be made." The factual instructions could read:

"Each member of the Patrol, one at a time, must pass either head or feet first through the tyres. He must carry a piece of wood which is attached to a line outside the tyres whilst he proceeds through the tyres." Generally speaking, the simpler the instructions the less capable they are of being misinterpreted. Written instructions are always more fair and more accurate than instructions given by word of mouth, added to which the umpire on a Venturer Journey is an umpire and not an instructor. All he should need to do is to hand the written instructions to the Patrol Leader on arrival, to tell him when the time is up, and see that they move on to the next incident. Remembering to get the instructions back ready for the next Patrol. Other than that, he is there to assess their work, for this is a test of training, and not training in itself.

Umpires should be instructed to stamp out any suggestion of cheating, to intervene if something dangerous is being attempted but other than that to stand back and watch.

It is only experience that teaches you how to frame instructions that are incapable of being misinterpreted: it is quite an art in itself but an important art for a Scouter to learn.

Chapter XXXII

PROJECT NO. 25: THE WELL

GEAR REQUIRED

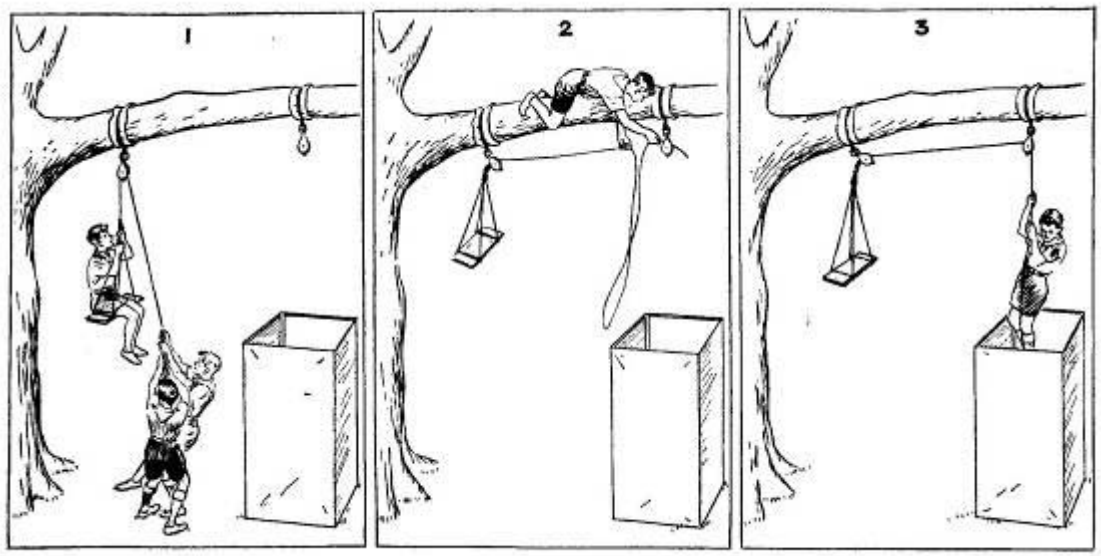
One rope, 80-foot, 2-inch	Four 8-foot light poles
Two single blocks, 7-inch	16-foot canvas to make
Two straps	walls of well

THE instructions that should *be* handed to a Patrol on arrival at this incident are these:

"You must construct a lift to raise the whole Patrol one by one to the marked landing. From there you must lower the Patrol into the well and remain in it until you are all in the well. Time is not on your side. The operation should be carried out in complete silence."

Obviously the instructions can be varied to meet detailed requirements.

If a Patrol has not been given a set time for working on each incident on a Venturer Journey then the amount of time available should be mentioned to them the moment they arrive. You could also vary the last sentence or omit it, but experience shows that it is worth including an occasional incident where the Patrol has to work in silence. This proves to be an extra test of leadership: a real Patrol finds very little difficulty in the situation but a Patrol composed entirely of self-appointed leaders does not fare so well. We often find – and it is always amusing – that at the incident *after* the silent one the Patrol often continues to operate without speaking, I first had the idea for this incident by wondering to what use I could put an old well, oblivious to the fact that at Gilwell we had no well anyway, but probably the incident would have been a little too hazardous with a real well, particularly if it was deep. In any case, it is easy enough to improvise something that you haven't got.



Preparation for the Incident

There is nothing very difficult in this incident either in construction or use. The "well" needs to be the right size to hold all the bodies in a Patrol but only just. You need two blocks although, in fact, you can manage with one by having a fixed rope above the well, but it is more entertaining to use in the way shown.

Note that the bough of the tree has been protected: it is kind to the tree and kind to the rope. Note also that the hooks are moused: This is most important, particularly in a construction of this kind where there is liable to be quite a lot of side movement.

Working the Project

This resolves itself largely into a question of leadership and a willingness to keep out of the way when you are not actively concerned with what is happening. A good Patrol will send a fairly light Scout first; someone who is capable of crawling along the bough and threading the free end of the rope through the second block. They will also, if they are wise, leave a light Scout to be hauled up last. As will be seen, as more and more people get into the well they will have to haul the next man up without being able to see what they are doing.

You could, of course, make the project easier by fixing the first block to a bough at a higher level than the one shown, the point being that it is much easier to get off a bosun's chair when it can be hoisted up to above the place where you want to get off than it is to climb from the bosun's chair to a bough above you, but your wishes and the structure of the tree you select will probably decide this for you.

This is a simple project but it is well worth including.

For very young Scouts keep it at a fairly low level but with senior and more experienced Scouts be more ambitious.

Chapter XXXIII

PROJECT NO. 26: THE GIMMICK

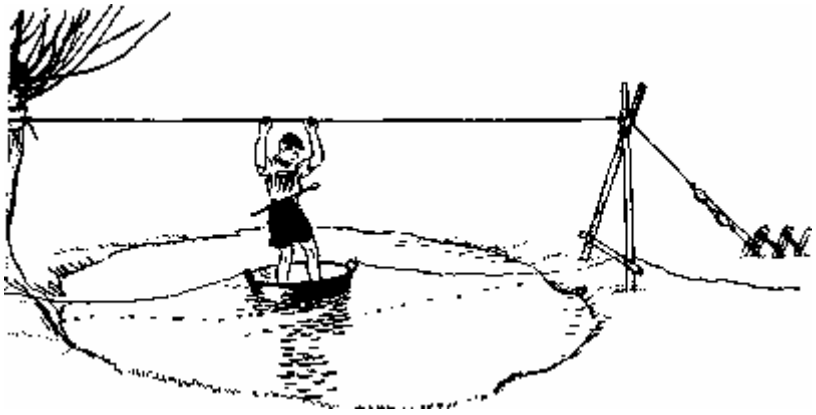
GEAR REQUIRED

One 2-inch rope to span pond	One rope, 40-foot, 1½-inch
Two 8-foot spars	One strap
One 6-foot spar	Six pickets
One piece sacking	One maul
Three, 15-foot lashings	One bath
Two, 30-foot lashings	One length sisal, twice width of water
One double block, 6-inch	One Golden gimmick (old ball valve)
One single block, 6-inch	

The Golden Gimmick must be transported carefully across the Pool by each member of the Patrol. The rope may only be touched by your hands; the boat (?) *by your feet.*

THESE instructions are clear enough and, mean "Get yourself from one side of the pond or stream to the other, keeping your hands on the rope overhead and your feet in some kind of floating object.

Why the "Golden Gimmick"? Well, the passing of a sort of baton back and forth adds to the fun and is just the little extra to be thought about that proves or disproves the Patrol in action. At Gilwell we gave it this name simply because the first object we used was an old ball valve; not, I hasten to add, that Gilwell has ever had golden ball valves but it was a golden colour.



The construction is of the very simplest; in fact, if you are lucky and can find trees on opposite sides of the pond or stream, as you so often can, then sheer legs are not necessary. You can manage with one handrail of the required length, one old bath or similar untensil, and a length of sisal.

Operation: If you think it is easy then try it yourself. I have only known one Scout succeed at this at the first attempt and he came from a small West Indian island, it was in Jamaica that I first tried this. He stood in the bath and worked his way across but, as he said afterwards, he was nearly born in this situation and his sense of balance was as natural to him as it was enthralling to watch. Most of us, however, find that the bath has an unhappy knack of moving from side to side

so that you tend to spend a lot of time at an angle of forty-five degrees, and when the angle becomes less acute water begins to flow into the bath.

This can obviously be tested on a speed basis. Given equal numbers in each Patrol, then the Patrol which gets all its members across quickest should get the highest marks.

Try to devise an incident project incorporating the Water Chute (Chap. XXVII] perhaps using it as a launching platform for a small boat or a surfboard.

Chapter XXXIV

PROJECT NO. 27: THE URANIUM DRUM

GEAR REQUIRED

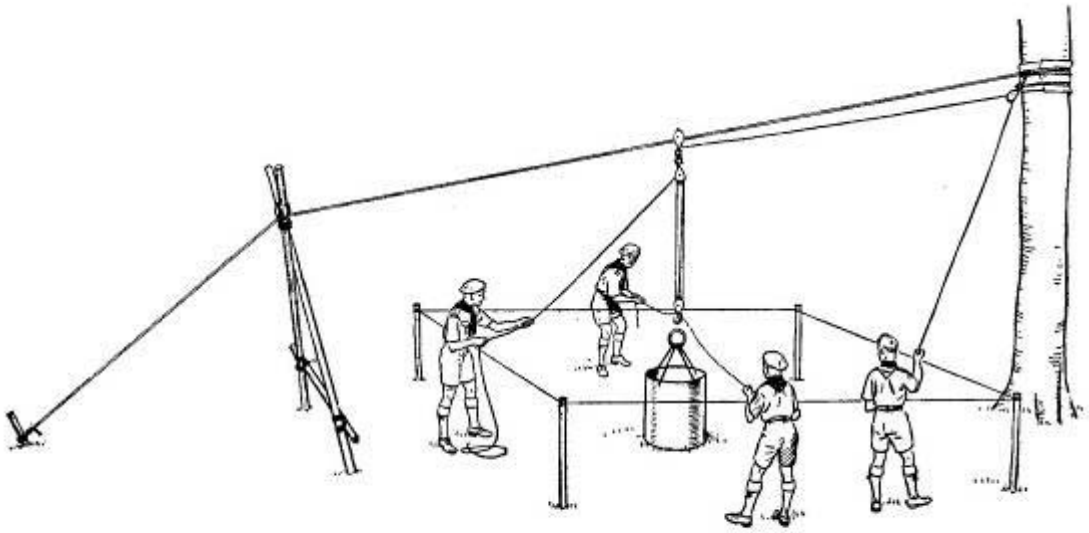
Four stakes, 4-foot 6-inch	One 8-foot spar
Sisal to go round these	Three 15-foot lashings
One 2½-inch rope, over 60-foot	Two, 30-foot lashings
	Three pickets
One, 8-inch single block	One maul
Two, 6-inch single blocks	Sisal fair amount for mousing etc.
One, 6-inch double blocks	
One, 1½-inch rope, 100-foot	One, 40-gallon oil drum with ring on top
One, 1-inch rope, 80-foot	
Sacking, 12-foot spars	Sacking

THIS is one of a number of projects involving a similar principle, where the object of the exercise is to remove an article from one area to another without anybody being allowed to enter the area. Whatever wording you use for the instructions must make it clear that no one can make a direct approach to the object to be lowered, otherwise there is no fun and, indeed, there is no problem and the whole operation would be over far too quickly. The instructions issued at Gilwell are:

This Drum of Uranium has fallen from an aeroplane into the quicksands and already the area within the fence is radioactive. The drum is sinking and must be recovered within twenty minutes. It can only be raised by a vertical lift and must be kept upright throughout the entire process of recovery. It must not be touched by hand but must be brought clear of the fenced area.

Construction: Depending upon the time allowed you can either have the apparatus rigged as shown and ready for use or, something that is far more fun, have the equipment for the apparatus

available but give no indication as to how it is to be used. This often results in people trying to produce a long fishing rod affair, which, admittedly, is one theoretical way of getting the drum out of the area, but if the drum is sufficiently weighty, as I suggest it should be, then the fishing rod technique must fail. I have even know Patrols try to build a kind of Scout Transporter lowering a man over the drum to fix the hook and trying to hoist the drum out in this way, and actually this can be done but it takes rather a long time. The method shown requires a little more preparation but it is quite certain to succeed; indeed, the artist indicates how little physical effort is required by showing the four Scouts in full uniform!



Chapter XXXV

PROJECT NO. 28: THE SECRET WEAPON

GEAR REQUIRED

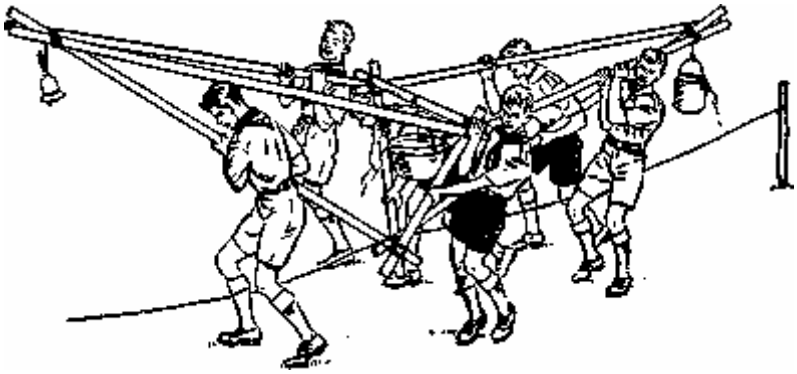
One double atomic pyramid (to own design)	Objects to hang on pyramid i.e. dixies of water, bell, etc.
Sisal for trail	

Before you lies a very secret weapon which is ready for testing. It is highly dangerous. You must move it with the utmost care and, as sound vibrations affect it, it is essential that you make no noise. Move the weapon to the testing field along the line indicated by the trail. The weapon must not be tampered with or altered.

I AM not giving you a list of equipment because you can use any combination of spars, etc. that you have available. The important thing is that the "weapon" should be an awkward shape. If you have bamboo then you can make a very much bigger contraption than if you are using heavy

spars. A couple of cans of water and a bell add to the problem and the trail, which as you will see runs through the apparatus, can be as easy or as rough and awkward as you care to make it.

We have had the best results when there are a few ditches to cross and where there are trees between which the apparatus has to be manoeuvred. On occasion we have made a Patrol lift it over the bough of a tree but not at a high level. In short, we have always made certain that the job is capable of being done but not all that obvious as to how it should be done.



Chapter XXXVI

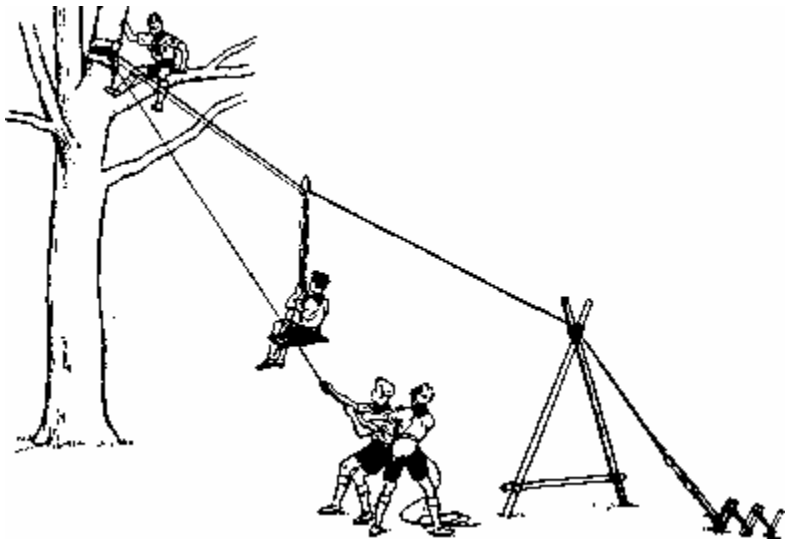
PROJECT NO. 29: THE CABLE CAR

GEAR REQUIRED

One, 2½-inch rope, 100-foot	*A quantity of*
One, 2-inch rope, 50-foot	Sisal
One, 1-inch rope, twice length of run	Tea
	Sugar
One, 1½-inch rope, 80-foot	Milk
Three, 15-footlashings	One metal tray
Four, 30-foot lashings	One mug
Two, 5-inch single blocks	One spoon
Two, 5-inch double blocks	One dixie
One, 4-inch single Block	One bucket of water
One, 8-inch single block	Matches
Two, 12-foot spars	Firewood
One, 6-foot spar	One hand axe
One strap	
Two sacks or sacking	
Three pickets	
One maul	

The mechanism which operates the Cable Car on Table Mountain has broken down and the Car must be operated by hand. This will involve the passenger raising himself in the car to be hauled by the rest of the Patrol and then lowering himself to the lower landing stage which is

clearly marked but so that it can only be seen from above. Great care must be exercised at this stage of the operation. Every member of the Patrol must be transported to the top of the run. At the top landing stage materials will be found for the preparation of a refreshing cup of tea which should be lowered to the car attendant below.



THIS has proved to be great fun in action. The idea came to me when going from Cape Town to the top of Table Mountain where I learned that when there is a strong wind the cable car ceases to operate, returning to whichever end of the run is nearest at the time of the warning being received. Having experienced this and using the process I have already indicated to you, I decided to translate this situation into an incident for a Venturer Journey.

In addition to the gear shown, which is nothing more than is required for an ordinary aerial runway, you need what I describe as a "Non-sadistic Umpire" with a sense of humour. I suggest you brief the umpire and give him a suitable signal to indicate occasionally that a wind has sprung up and that either the lift has passed the point of no return or it has not. The Patrol will then have to do the best it can to get the car to the appropriate end of the run.

As with several other projects I have indicated to you, this is one that becomes increasingly difficult as more Scouts get up the tree and fewer are left to do the hauling from the ground.

I thoroughly recommend this: it is capable of a great deal of variation and is another way of using that pioneering favourite, the aerial runway.

The artist has omitted "the point of no return" – a flag on a pole suffices. For best results the runway needs to be at least 40 feet in length and the ascent angle not too steep.

Chapter XXXVII

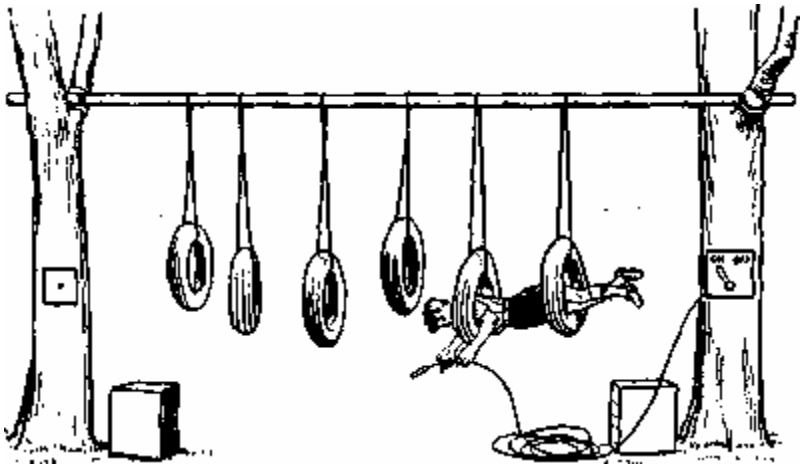
PROJECT NO. 30:
THE DE-ESTEEAYLISER!

GEAR REQUIRED

One heavy spar	One on and off switch
Six tyres	One end board
Eight, 30-foot lashings	One length of sisal
Two strong boxes	One metal wand about 3-foot long

On arrival on Mars, your Space Ship was damaged, with the result that your space suits have become heavily charged with Esteeaylites. A crude de-esteeayliser has been fashioned, and it is necessary for each member of the Patrol to pass through the coil of the machine, holding the Nuion all the time. The Nuion must pass outside the coil. Until a member can make contact with an 'Im' platform at either end of the coil he must not let go of the Nuion nor make any other contact outside the coil. Should he do either of these things he will dematerialise and those behind him will have to go back out of the coil until the disturbance settles. If the Nuion makes contact with Mars other than from inside the coil, its effect is neutralised and afresh start must be made.

YES, I know the instructions are not very clear but every now and then into a Venturer Journey I think it is worth introducing a set of instructions which need unravelling. Translated, all that it means is *Get your Patrol to pass one at a time through the hanging tyres, each member of the Patrol carrying with him a line which must remain outside the tyres, but movement must take place only when the machine is on.*



The construction is obvious. The supporting spar needs to be very solid and if you have any doubts about it, give it a pair of sheer legs as a centre support. The tyres must be hung at various heights, otherwise it becomes possible almost to dive through them, and remember that a tyre is heavy so it needs the support of a good piece of rope. Bicycle tyres will do for young Scouts but for Senior Scouts car tyres are a much better proposition and no more difficult to obtain.

There will inevitably be many arguments as to whether the head or the feet should go first: I have no guidance to offer except to say that I have never known anyone going through feet first to lose his shorts in the process!

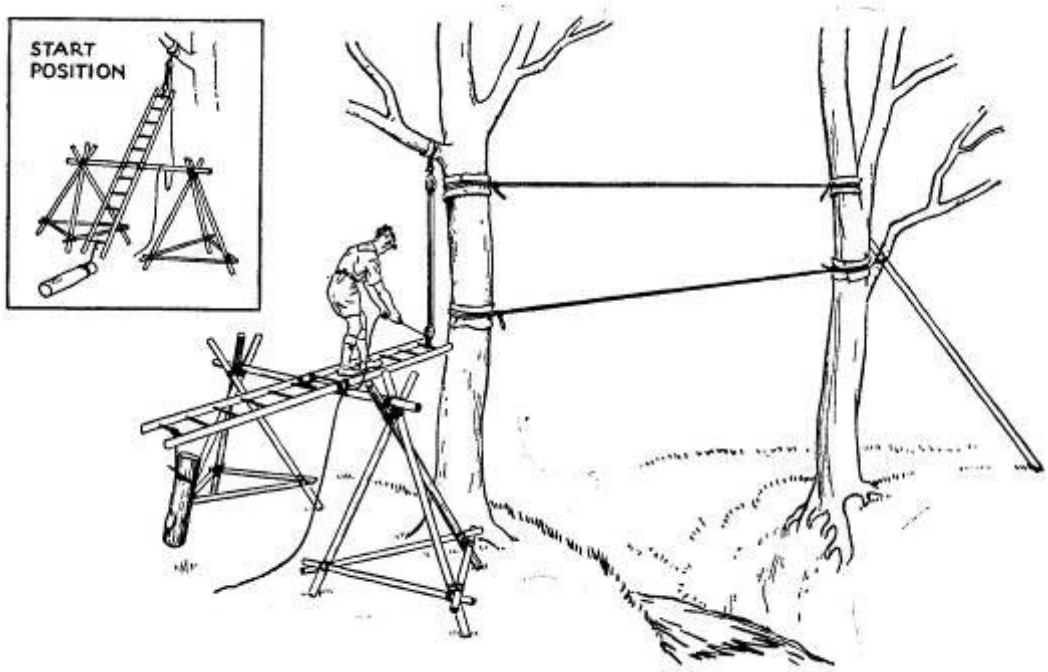
Chapter XXXVIII

PROJECT NO. 31: THE RAVINE

GEAR REQUIRED

Two ropes for commando bridge	One long
One, 20-foot spar	One, 1½-inch rope, 60-foot
Thirteen, 6-foot spars	One, 5-inch single block
Twenty, 15-foot lashings	One, 5-inch double block
One ladder	Sacking

THIS incident was invented by some Danish Scouters on a course I was running a few years ago. It is a good pioneering exercise; simple and yet interesting to make, requiring some skill and a sense of balance. The instructions we use are:



You are trekking and encounter a deep ravine. Fortunately you find on the spot a curious contraption contrived by the local inhabitants for getting across. Take your Patrol across,

using the contraption. You will find an inarticulate old man who has neither the strength nor the courage to cross alone. Help him to cross.

Variations are possible, of course. The introduction, as suggested, of someone who has to be helped across in addition to the Patrol adds to the problem and gives it a touch of extra realism.

We have found it desirable to say that only one person should be on the apparatus at any time except, of course, the inarticulate old man, but it is equally entertaining if the whole Patrol tries to use the bridge simultaneously.

If you are wondering what the pole at the end is for I would assure you that it is not there to support the tree but is for sliding down.

Here's a pioneering problem:
Two aerial runways side by side. Devise a safe method of transferring the passenger from one runway to the other.

Chapter XXXIX

PROJECT NO. 32: THE SWAMP

GEAR REQUIRED

Three large oil drums, 20- or 40-gallon
One plank or ladder
One stave per team member

To continue your journey you must cross the swamp marked out before you. A primitive swamp vehicle is provided. All the Patrol must travel together and at all costs must avoid touching the mud which is highly poisonous. It may be that some of your members will not be able to travel with the party. To provide for them you will find some specially designed stilts which, if used as stilts, will give adequate protection from the tentacles of the poisonous octopuses which infest this area. During the crossing by the swamp vehicle, one member of the Patrol should improvise a weapon to ward off dangerous indigenous mosquitoes which infest the swamp area.

THERE is very little to say about this. The apparatus and the method I think are obvious. We find that a crossing of about fifteen yards is enough.

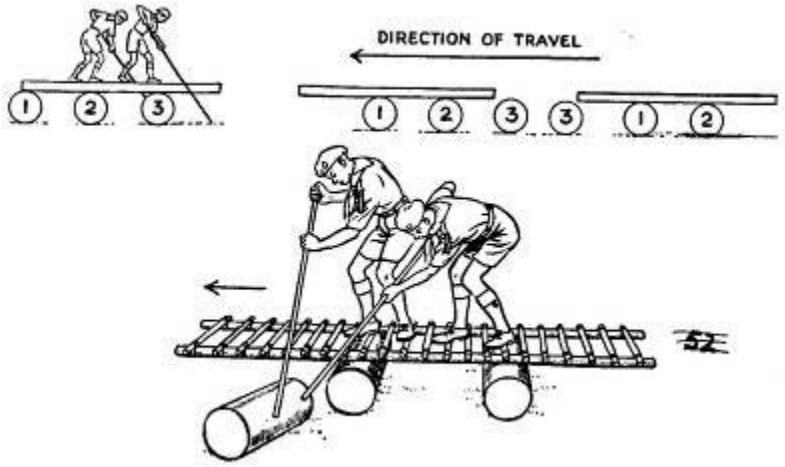
The drums or logs are best if they are fairly heavy although for young Scouts five-gallon oil drums would be suitable. The ladder can be made up or a section from an old shop-bought ladder. Alternatively use fairly solid planks.

This is an incident which brings the Scout stave into its own.

It demands good leadership and it is also surprisingly hard work.

One word of warning: Watch that no one gets their fingers between the moving ladder and the rollers.

At Gilwell we call this the X-L Special – but you please yourself.



Chapter XL

PROJECT NO. 33: THE BUCKET CHAIN

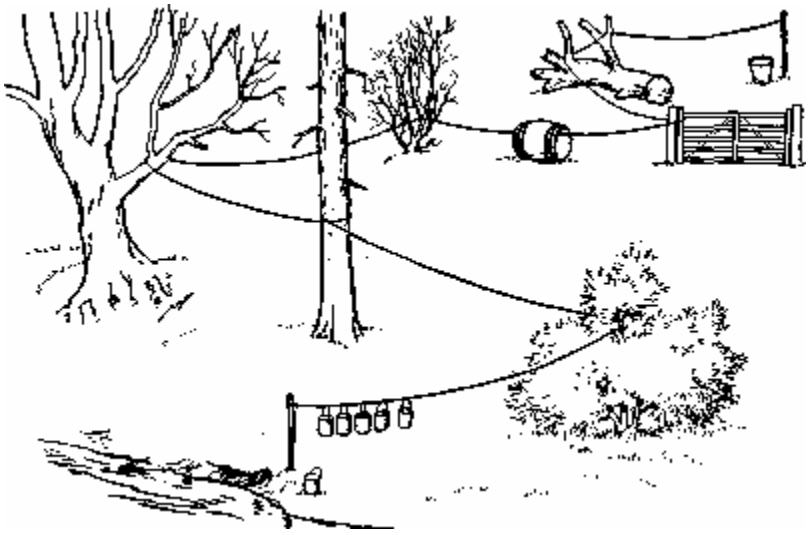
GEAR REQUIRED	
Sisal for trail	Obstructions along trail
Two buckets for water	One container per member of team

The purpose of the operation is to try to transfer the contents of one bucket to another bucket which you will find at the end of the marked trail.

"The only water-carrying apparatus to be used is that attached to the trail. Neither bucket may be moved and no other utensil may be used.

THIS was invented in Norway. Perhaps from the drawing it does not look very exciting but I have had it shown using the kind of terrain that is easy enough to find. In fact, it is much more fun and much more difficult if, as when we originally concocted this idea, you go up and down a steep rock face. In that situation more water went down the neck of the man at the back than ever went into the bucket at the top, but as it was pouring with rain at the time no one minded very much or noticed.

Even when done over easy ground as shown it requires leadership, discipline, and, on occasion, ingenuity.



You will notice that it is not possible for the smaller containers to pass each other, but by good team work you can keep a considerable supply of water moving forward to the final receptacle.

You can judge who has won by measuring the water they have managed to get into the far bucket.

Chapter XLI

PROJECT NO. 34: THE BARANIAN TANK

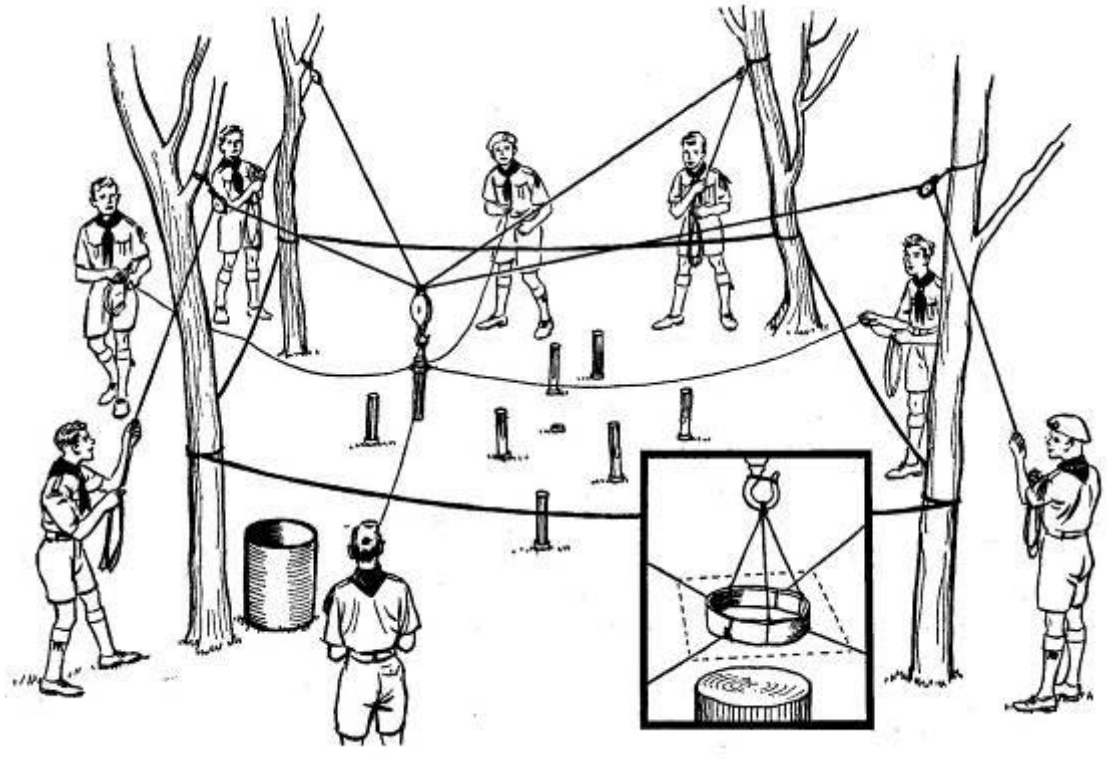
GEAR REQUIRED

Four, 4-inch single blocks
One, 6-inch single block
Four, 1-inch ropes, 50-foot
Four lengths of sisal approx 40-foot
One length of sisal to marking area
Eight, length of spars approx. 3-foot
One dust bin
One rubber ring (section of inner tube)
Sisal to attach ring to 6-inch block
Four, 15-foot lashings

It is necessary to remove, as quickly and as quietly as possible the exposed terminals from the underground Baranian Storage Tank to decontaminate them by immersion in the Security Bin provided, and then to replace them in position. Any physical contact with the terminals will prone disastrous to you personally and to the project. Any intrusion inside the protected area will cause instant and possibly permanent injury.

The terminals must be removed one at a time in any order you choose and they should be deposited in the Security Bin at the edge of the area. Once all the terminals are in the Bin, they can then be replaced one at a time, again in any order.

THIS was invented at Gilwell Park, Gembrook, Australia, by a Patrol being led at the time by the South Australian Commissioner for Training, an ingenious gentleman as I think you will agree. I have called it "Scout Bingo", not that you need to play it that way, but you can add to the fun by giving each spar a different value, the value appearing only on the bottom of the spar so that the Patrol does not know what it is scoring until it has succeeded in getting the spar out.



Construction: Eight or nine holes bored into the ground. It is worth lining them with a flower-pot or old can. We use the metal joining pieces from some surplus marquee poles that we happened to have.

The apparatus should be rigged before the Patrol arrives, and there are two particular features that I want to bring to your notice:

First, the apparatus itself which is going to be raised, lowered, and manoeuvred by the four main ropes. It is easier to work if you have four small pulleys, but it can be worked through eye splices or just through loops in the rope. A block with a hook is not essential but if you have one you might as well use it. What is essential is that there is something of sufficient weight so that when the four main ropes are loosened the apparatus will naturally drop.

The second part of the apparatus consists simply of a stout rubber ring – a section from an old inner tube or, as on that memorable occasion in Australia, the Training Commissioner's garter. To this ring four sisal lines are fixed, and I hope it is obvious that because it is rubber and therefore elastic in some degree it can be opened out so that it slips over the head of the spars and when the strings are released it will tighten and grip.

As I have said before, everything is capable of variation, and we find it entertaining to have some spars much longer than others but not so that it shows. In other words, when the Patrol arrives there is exactly the same amount of spar sticking out of the ground in each case but some spars and consequently some holes are longer and deeper than others. Don't get caught, as I did, with a very deep hole and a very short spar. The Patrol dropped the short spar into the deep hole and so far as I know it is there still.

One final point: Here is something that the unfit as well as the fit can take part in and thoroughly enjoy. We have had men on courses in wheel-chairs who have had a great time with this apparatus. Perhaps you have a handicapped boy in your Troop who cannot cross the bridges and use the aerial runway, but this kind of thing, as with several others in this book, gives him a chance to participate usefully.

Chapter XLII

PROJECT NO. 35: THE KENYA CANISTER

GEAR REQUIRED

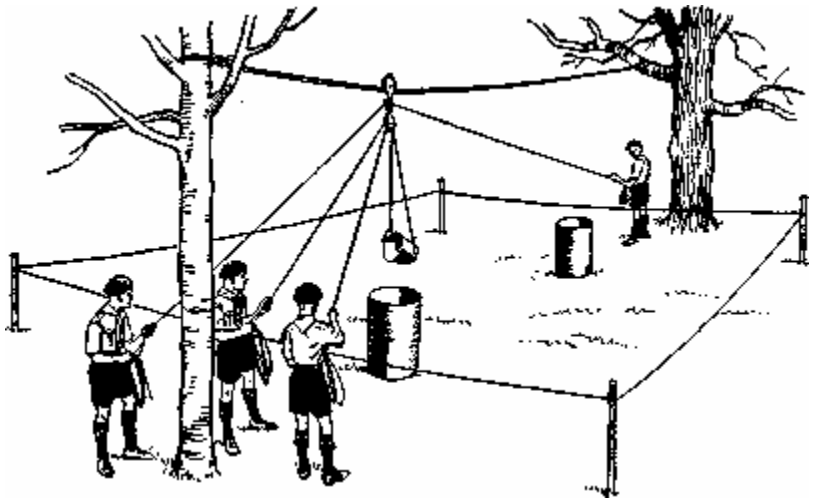
Four, 4-foot pickets	One, 2-inch rope
One maul	One, 7-inch single block
Sisal for marking area	One, 6-inch double block
Two dust bins	Four, 1-inch rope, 50-foot
One bucket	Sacking for trees

YES, this was invented on a training course in Kenya, a course which produced more novel ideas than any other I remember, but it was composed of some of the leading people in Scouting from all over East and South Africa.

You can produce any romantically based instructions you like: a contaminated area, corrosive acid, quicksands, etc, but the factual instructions must convey that without entering the marked area and without touching any part of the apparatus except the controlling ropes, the liquid has to be transferred from one container to the other, transferring as much as possible in fifteen or twenty minutes or whatever time you have set.

In one sense I have simplified this incident. What was actually tried in Kenya was to have a large flower-pot with a plug in the hole of the pot which was capable of being removed by another rope when the pot was over the second container. This worked quite well until the time came to put the plug back again, and that, we found, was a matter of chance rather than of skill. I am therefore offering you this modified version with a bucket which, as you see, can be tilted.

This is a very good team effort. Four members of the team must work in a disciplined way because if it is going to be "every man for himself" all shouting and pulling in opposite directions, the chance of success will be negligible. It is amazing to see the speed that can be worked up with practice. The fun content is tremendous and the equipment needed is very little indeed.



This is thoroughly recommended. If you have no convenient trees available then two upright poles or two pairs of sheer legs will do equally well.

Chapter XLIII

PROJECT NO. 36: THE DARING DANE

GEAR REQUIRED	
Four tyres	One, 8-inch single block
One ladder	One, 4-inch single block
One, 3-inch rope, approx. 60-foot	One, 1-inch rope, twice length of rope way
Seven, 15-foot lashings	Sacking for trees

THIS is an ingenious project calling for leadership, a certain amount of ability, and a great deal of discipline.

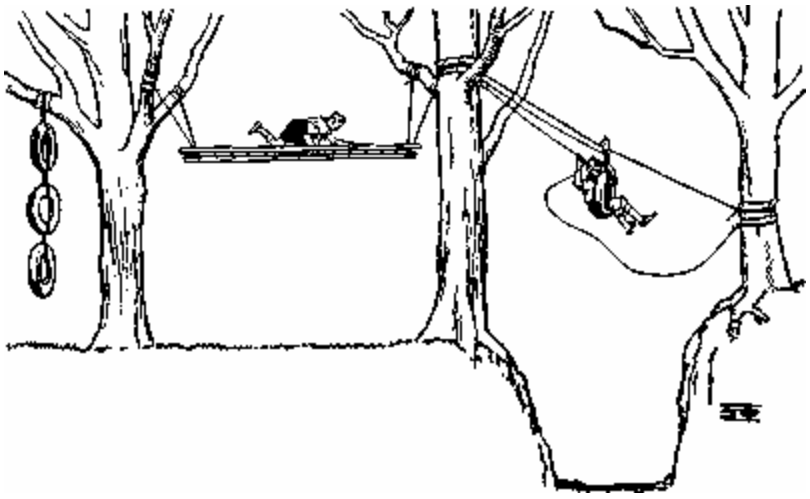
The instructions should read something like this:

"Using the whole of the apparatus provided, which must not be interfered with or altered in any way, and using no other apparatus, get the whole Patrol from one side to the other. Not more than one member of the Patrol may be on any one part of the apparatus at one time. Speed is essential."

Quite apart from assessing the leadership and the organisation of the Patrol, this can well be a time test and the umpire should be so instructed.

As will be seen from the drawing, there are three distinct parts of the incident, all calling for a different type of skill. The "ladder", made of whatever number of tyres is appropriate to the height of the branch above the ground, forms a clever and original form of access. It is easier, of course, if the bottom tyre is fastened to a stout peg in the ground, but it is not so much fun that

way. The second part consists of a suspended ladder, and I would recommend a stronger rope than the artist has indicated. The really difficult thing is to get on to the ladder and to get off it again. The height above ground will be governed in part by the trees but should also be determined by the age and experience of the boys taking part. For very young Scouts 4 or 5 feet above ground would be plenty, whereas Senior Scouts might be encouraged to try it at 10 feet or even 20 feet up.



The third part is a self-controlled runway. Again, you will see, a tyre is used, this time in place of a bosun's chair. The great point about this apparatus is that it is workable from either end and the rider can control his rate of descent, which on a steep run is very important. When he has finished the next man can easily regain control of the seat and use it himself.

This project was conceived and put into operation during a course I was running in Denmark, hence its name. It proved very popular then and whenever I have tried it subsequently it has been greatly enjoyed. It needs very little equipment; it is easily erected, and I think that of its kind it is a very worth-while project.

Chapter XLIV

PROJECT NO. 37: THE NAIROBI NUISANCE

GEAR REQUIRED

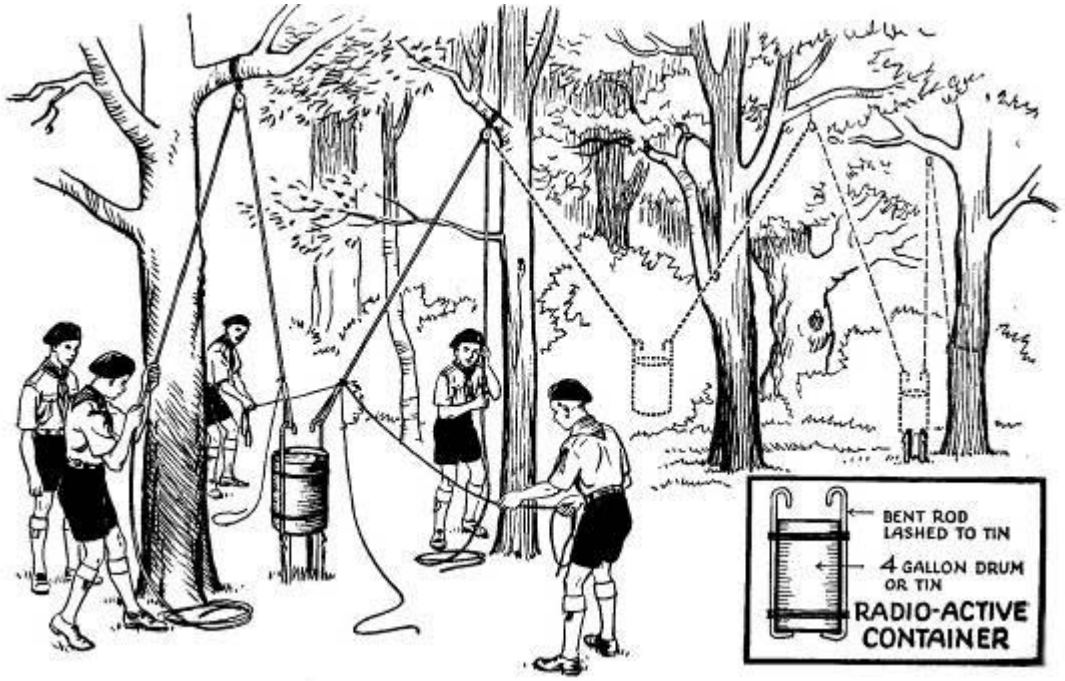
- Four, 5-inch single blocks
- Four, 1½-inch rope, approx 40-foot
- Six, 15-foot lashing
- Eight wooden tent pegs
- One, 4- or 5-gallon drum with two hooks attached
- Sacking for trees
- Sisal for blocks

HERE you have a radio-active container, as the artist has indicated, or a red-hot container, an article that is dangerous to touch, or whatever your ingenuity suggests.

The factual instructions should read:

With the apparatus provided and using nothing else of any kind, transfer the canister from its resting place to the platform provided at the far end of the trail.

The tricky part and the fascinating part in operation is that there is not enough apparatus to make the transfer in one move and therefore you have to move a rope and pulley to a new position, which calls for team work and discipline but does not really present any great difficulty.



Note that the dotted lines and the blacked out pulleys indicate the new position of the rope and pulley. What actually happens is that the canister is lifted from the first platform and is held suspended in the air on the rope fixed to the second tree. By using the thin ropes the first rope is taken off the canister's hook and then the first rope and its pulley is quickly dismantled from the first tree and fixed to the third tree. Then by using the thin controlling ropes again, the eye is fitted over the hook and once more the canister is suspended. The next stage is to keep control of the canister, get the rope and pulley off the second tree, and transfer this to the fourth tree. Obviously you can go on, and on, and on; in fact, if you have the right situation through a wood or thicket and you can provide gear for two or more Patrols you can set up a race to see how many changes can be achieved and the greatest distance that can be covered in a given time.

I liked this very much when I first saw it. 1 tried it myself on a lovely camp site on the outskirts of Nairobi and decided that as I could learn to handle it then there was no reason why everyone should not be able to do so. It is a very good Patrol activity, calling for patience and skill, and if it is done several times it can be done at a very high standard indeed.

Incidentally, this is one of the few incidents of its kind that you could do indoors. If your Troop Room contains cross beams or any kind of fastening from the roof then this could make an entertaining acitivity for a winter evening.

Chapter XLV

PROJECT NO. 38:
THE SWEDISH SURPRISE

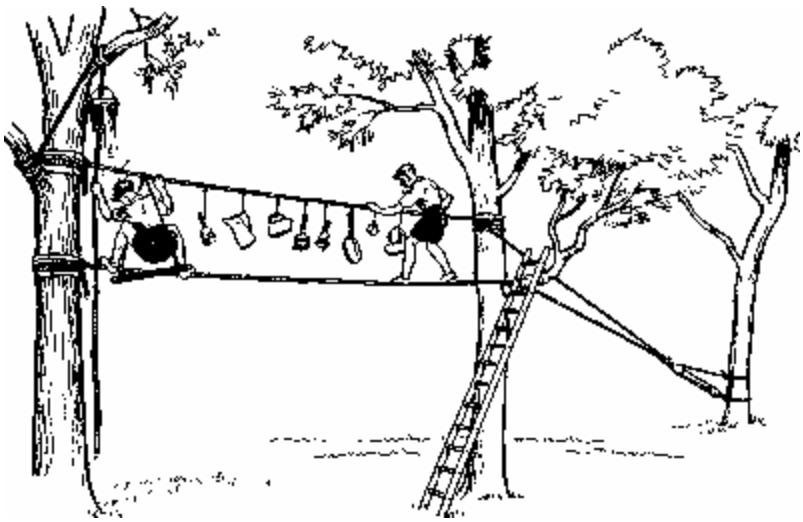
THIS is simply a variation of the Commando Bridge but it makes a novel and entertaining incident in a Venturer Journey.

The height of the footrail above ground should be determined by the age of the boys who will use it, and the handrail should be set at a height above it which should be approximately chest height of the average user.

The fun content arises from fixing a number of annoying obstacles along the line, one or two of which might contain water. A bell is another obvious thing, a stiff bristle broom and, indeed, anything that is liable to make a noise or be inconvenient and a genuine impediment to progress.

When we first built this we had a rope ladder for access at the starting end and then we descended at the far end down a climbing rope, but fixed to the top of this there was yet another bucket of water and I must confess that we did not discover any way of climbing down the rope without getting wet, but it was a fine June afternoon and so no one minded a douche and certainly it speeded up the descent of many members of each Patrol,

I think you will find that there are at least two distinct ways of using this apparatus. One is the exact and careful way of one Scout at a time on the bridge with points taken off for every object touched or upset. The other way, which is probably more fun, is to allow as many of the Patrol as care to be on the apparatus simultaneously and the Patrol which gets across in the shortest time gains the highest marks.



This is as simple as any pioneering project can possibly be in terms of equipment; it takes a minimum of time to put up or to take down.

Chapter XLVI

YOU TOO CAN INVENT

YOU, too, can be inventive. "Who, me?" you reply. "I couldn't think of a new idea if I tried." I wonder if you have tried and, more particularly, if you have tried in the right sort of way.

Many people are afraid to create and they think that creativeness and imagination are gifts bestowed on a few, whereas, in fact, they are gifts that are distributed widely. It just is not true that one is born creative or non-creative and that there is nothing you can do about it. You learn to be creative by trying to be creative: you certainly do not become creative by sitting down and expecting ideas to descend upon you from outer space. Whatever else may descend from there in the future it certainly will not be ideas!

The essential factor in being creative is being prepared to work; there is no substitute for that, and the people who appear to have flashes of inspiration are actually reaping the benefits of a great deal of previous thought. It is true that the ultimate idea, whether it is a success or a failure, tends to come in a flash, but it comes because of what has gone before and does not come merely of itself.

Recent research has shown that one can learn and be trained to think creatively and in this chapter I am going to offer you a few proved ways of doing this.

Suppose we start with a very simple example. If you think about an ordinary house brick or, better still, if you have one by you (for there is no good substitute for the real thing) try to think of as many uses as possible to which you could put this brick. Probably you will at first do well if you think of five or six uses; such obvious things as a door stop, a weight, and a weapon, but once you get into the swing of thinking about it then your mind will roam to all sorts of other possible uses, some preposterous, some impossible, but some practical. If you carry through this process two or three times you ought to average fifteen or twenty ideas, many of which will be original.

Now I want to look at the principles of thinking creatively. The very first essential, and where most of us break down, is *to define the problem precisely.* This is not so easy as it sounds. In terms of pioneering the problem might be: how to get from one side of the stream to the other side without getting wet and using only the rope that is available! This is a very simple example of what I meant by defining the problem. If you are vague about the problem then the whole of your thought processes will be vague also and your mind will ramble.

The second principle is to try to think of *all possible solutions.* Nearly always, certainly in practical matters, the best solution and the right solution stems from a whole series of possible alternatives and you arrive at the alternatives by attacking the problem from every conceivable angle. Scouting is eminently designed to get the best results from this sort of process. If you sit in isolation and try to think your way through a problem you may or may not arrive at the answer; what is certain is that you will not produce as many alternatives as a Patrol will produce, a small group of Scouters will produce, or the Court of Honour will produce. Our organisation lends itself splendidly to this process of brain storming, which I think I can define as the opposite to brain washing, and you will know about that. But we must go back a stage; it is no use having a brain storming session unless the problem is clearly defined and unless the leader of the group makes sure that the group keeps the definition firmly in mind.

The next point – which is harder to achieve than it is to write – is that in a brain storming session or a Court of Honour meeting *criticism must be put off until the very end.* If every suggestion that is produced is immediately howled down the group is liable to dry up and those who are a little shy will be afraid to produce any ideas, whereas what we should be doing is to try

to get all the ideas, the ridiculous and the improbable as well as the possible leading to the ultimate right one.

Perhaps I can illustrate this best by a story: A group of sailors was asked what they suggested should be done when their ship was riding helplessly, its engines out of commission with no time to start them, and a floating mine was being washed closer and closer to the ship. The mine was too close to be exploded by gun fire with any safety and the ship and the mine seemed bound to meet. All kinds of ideas were thrown about and one fellow in near desperation said "Let's line the side of the ship and blow it away". Obviously, this was not a very practical solution, but the solution which was put into effect at a later stage was to line the men along the side of the ship, armed with fire hoses, and to drive the mine away. Here, you see, the right solution came because of the ludicrous suggestion of blowing it away and it may be that the right solution would never have been suggested if the "blowing away" suggestion had been howled down at the outset. Let me repeat then; criticism must remain in suspension.

Now I want to take all this a stage further and suggest lines of thought and discussion for brain storming. Here are some questions, not all of which will be appropriate to every situation but some of which will be:

What other use can we put this thing or piece of equipment to? Phrased another way: Is there a different way to use this thing in its present form?

Can we *borrow* an idea used for one purpose and adapt it for use for another purpose?

Can we give this thing a *new shape*? I believe it is true that a noted carriage maker, by thinking along these lines, produced the tapered roller bearing that Leonardo da Vinci had invented some four hundred years earlier.

Can we use more? Industry has seen this applied in such things as reinforced toes and heels in hosiery. In pioneering we can often achieve the right result by adding an extra rope or an extra spar.

Can we use less or can we eliminate? The tubeless tyre is a good commercial example, and the Japanese Lashing described in *Pioneering Principles* is an excellent example for here we have learned to eliminate the final Clove Hitch that gives so much trouble.

Can we find a substitute? The commercial world is full of substitutes; plastics of various kinds, synthetic rubber, etc. We have learned to substitute on occasion the Tourniquet lashing for an orthodox lashing or a grommet for a pulley.

Then I suggest we think about *combining.* Most ideas today are combinations of several ideas. I think I can claim that I was the first person, certainly in my own country, to think of spring-loaded guy ropes on large tents and this idea which many manufacturers are now using was born out of my efforts to eliminate what seemed to me the unnecessary work involved for members of the Gilwell staff when, with two dozen tents permanently pitched, the task of adjusting guy ropes when there was no course in residence was time-consuming and wasteful, and it seemed to me that there must be an answer. By applying all the processes I have suggested and tossing ideas about with my staff we arrived at what is undoubtedly a very good solution. In essence the solution was applying a known thing – the spring – to an original purpose.

There is little more to say but what remains is important.

Don't think for too long at any one time about any particular problem: Trust your subconscious mind. If you think about something and can find no answer at all then switch your thoughts and think about something else. We tend to work a little like electronic computers: Once we have the message and the mind has received and stored it, it will keep on returning some

sort of answer and very often when we least expect it; sometimes, even, at very inconvenient moments.

Finally, a rather salutary story which I am not recommending as a method but it is a story that constantly makes me think. A plumber was called in by a householder to carry out a repair on a rather complicated piece of machinery. To the householder's surprise he finished the job very quickly indeed and the householder remarked, "You must have read the handbook about this equipment very carefully indeed." "No," was the reply. "I can't read, and if you can't read you have to think."

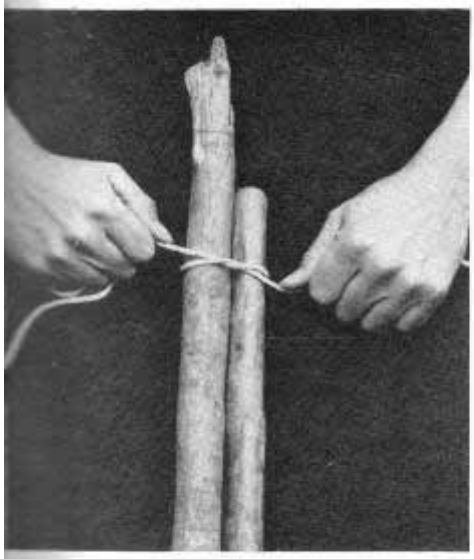
Well, there it is. I don't think reading and thinking are necessarily in opposition to each other but they can be.

Now, I suggest, you have a go at this:

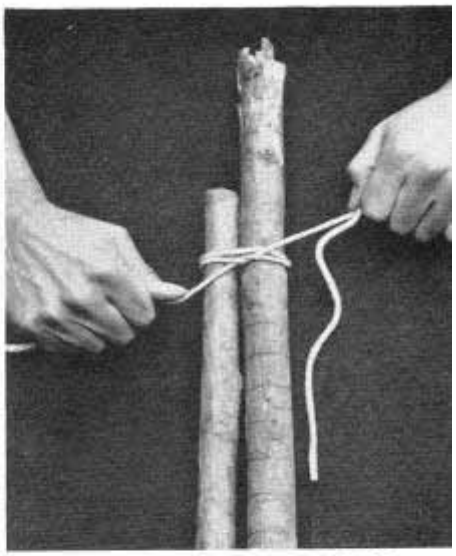
How many uses can you suggest for (a) A sheepshank, (b) a hand axe, (c) a steel framed rucsac? You tell me.

The drawings are by Kenneth Brookes.
The cartoons are by John Sweet.

WEST COUNTRY LASHING



THE FIRST HALF KNOT



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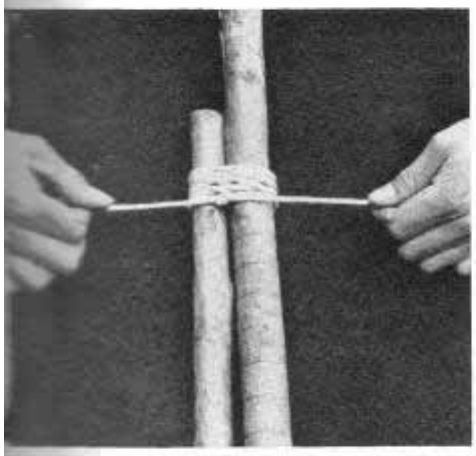
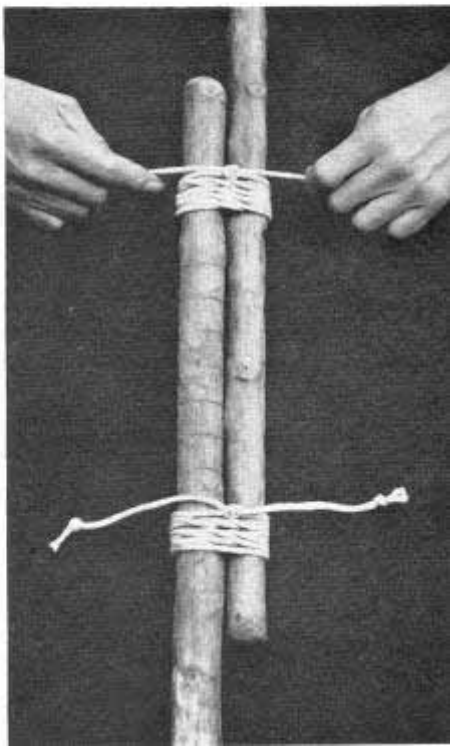
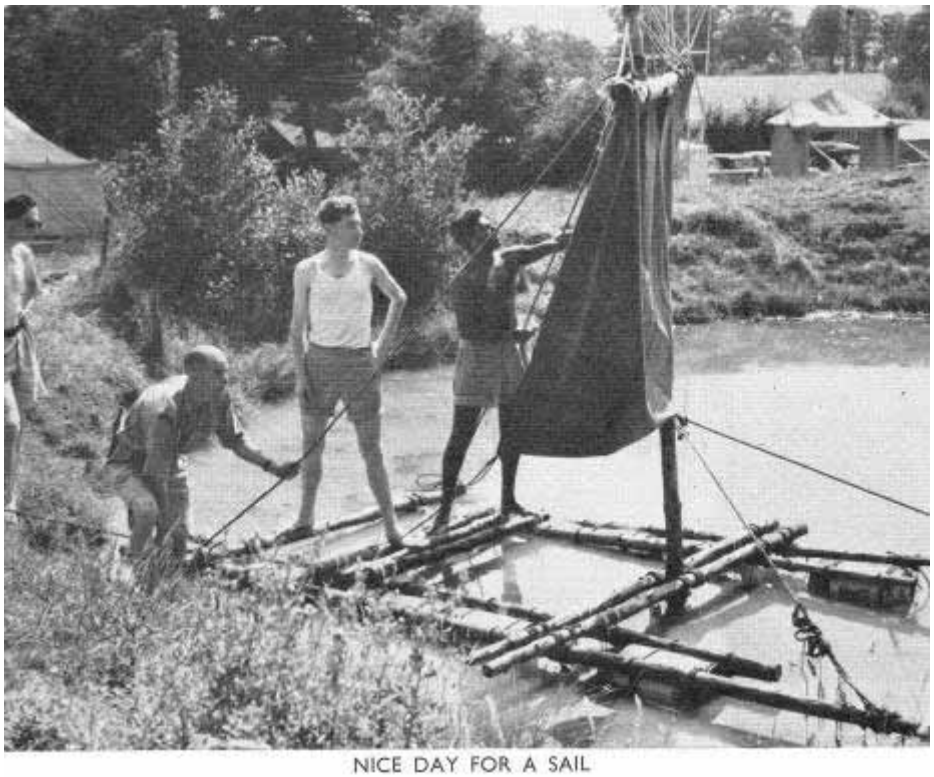


ONE LASHING
COMPLETE

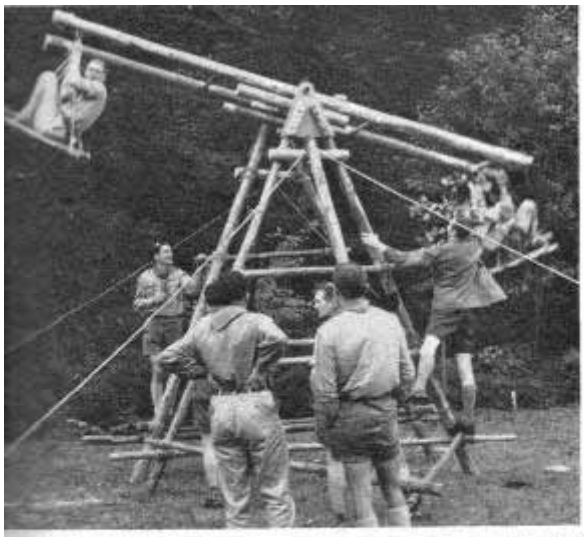
JOB
COMPLETE





NICE DAY FOR A SAIL

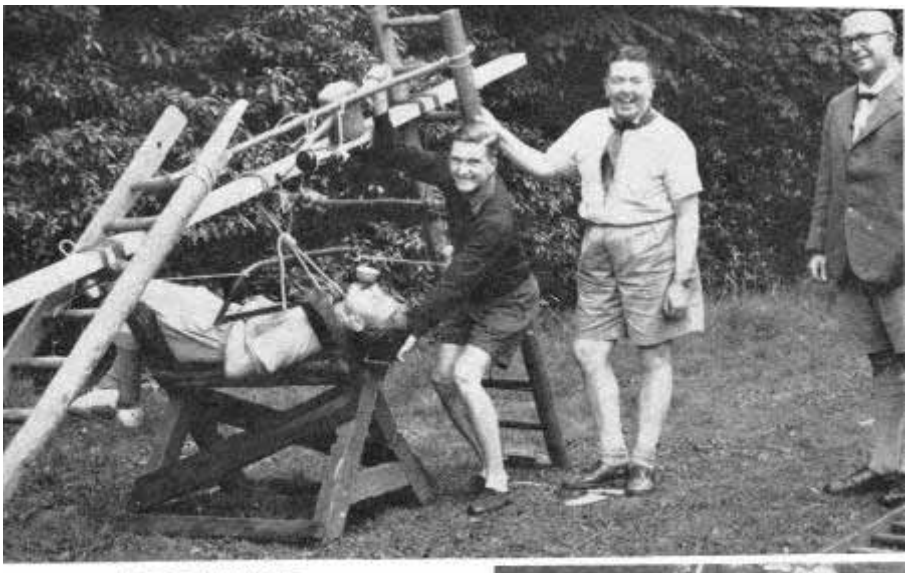
AN OUTRIGGER RAFT WITH OUTBOARD MOTOR



THE
LUXEMBOURGER
IN ACTION

THE AUTHOR
TRIES JAMAICAN
PIONEERING

THE
JOYOUS
JAMAICAN



MORE WAYS OF
"KILLING A CAT"

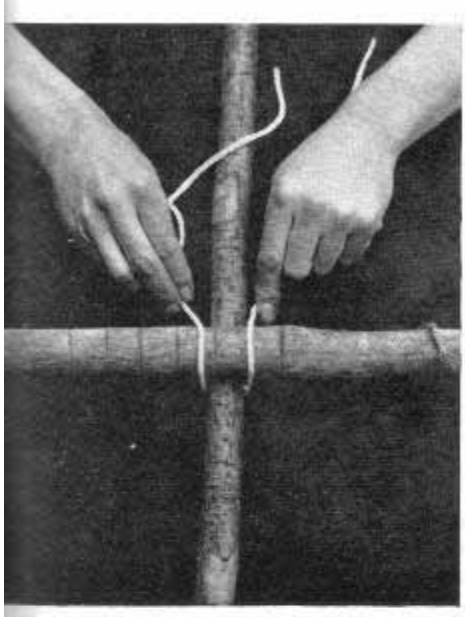
GILWELL

THE AUTHOR TRYING
A TRANSPORTER
IN TRINIDAD

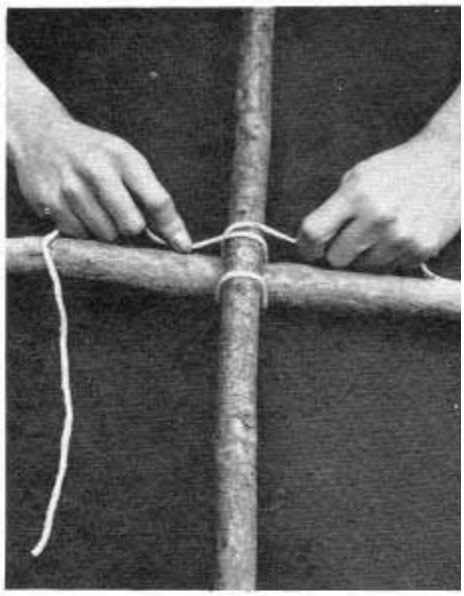
WILL IT FLOAT ?

JAMAICA

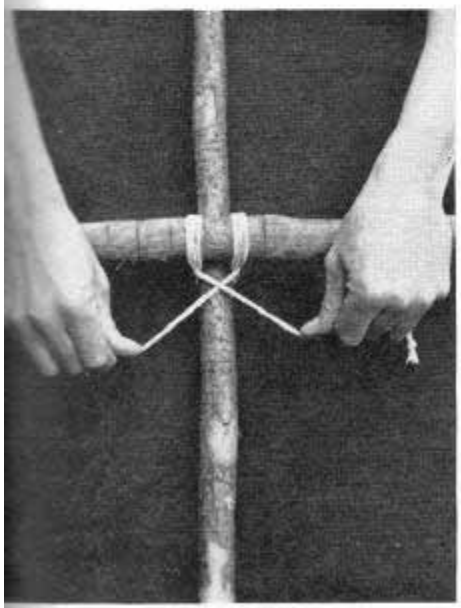
JAPANESE LASHING MARK II



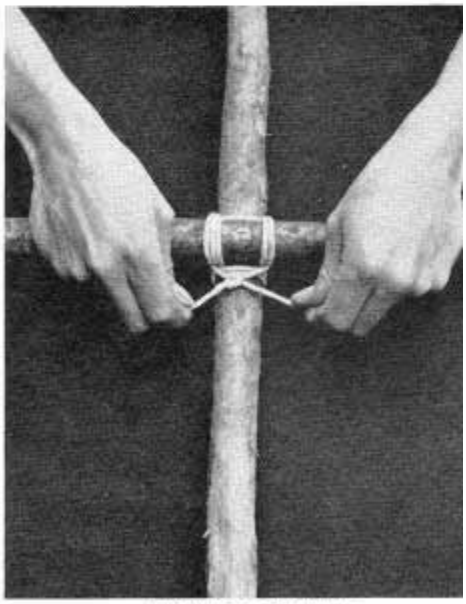
HOW TO BEGIN



THE FIRST TURN



BEFORE FRAPPING



LASHING COMPLETE

THE LUXEMBOURGER

THE ORIGINAL LUXEMBOURGER

PIONEERING
IN THE JUNGLE

AWAY FROM
FLOODS
AND SNAKES

THE
DE-ESTEEYALISER

CHECKING
THE WORK
BEFORE USE

—

PHILIPPINES

"IN VACANT
CONTEMPLATIVE
MOOD"

IT HAPPENS
TO ALL PIONEERS
SOMETIME