

Tenderfoot to Queen's Scout

The Canadian Boy Scout's Handbook of Tests



Based on 1955 Revised Edition

Originally Compiled By F.E.L. Coombs.

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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.

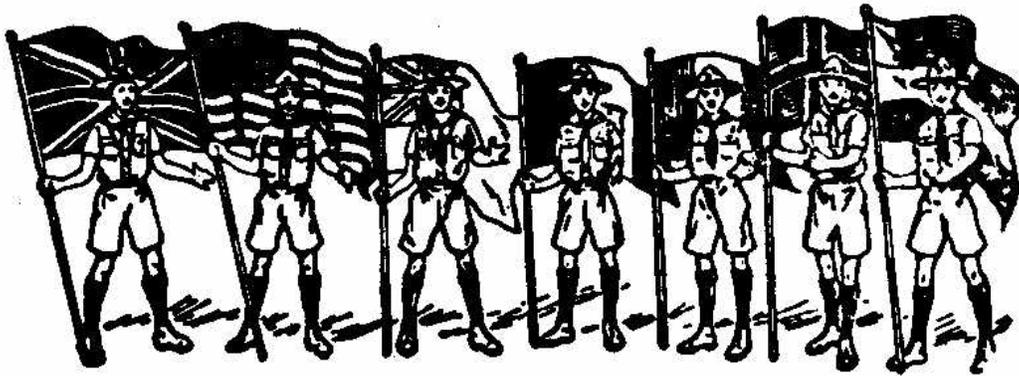
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LORD BADEN-POWELL OF GILWELL

Founder of The Boy Scout and Girl Guide Movements

Born Feb. 22, 1857 - Died Jan. 8, 1941



Chapter I

TO THE NEW SCOUT

To become a Boy Scout you do not merely hold up your hand and say, "I want to be a Scout". You must be 12 years of age (except you are a Wolf Cub between 11 and 12 recommended for admission by the Cubmaster and Scoutmaster). You must learn and understand the Scout Promise and Law and the significance of the Scout motto "Be Prepared," and must master and pass the six other Tenderfoot Tests. This accomplished you "make the Scout Promise" in front of the other boys of your Troop in a solemn investiture. Only then may you be called a Scout and wear the Scout Badge and uniform.

You expect that being a Scout will be lots of fun, - fun at Scout meetings, fun playing outdoor games, fun hiking and camping. You know it will be fun to learn to do a lot of different things with rope - knotting, splicing, lashing timbers; fun to make the right kind of fires and pass camp cooking tests; fun learning to know birds and their calls, and to follow animal tracks. All that!

You know you will be able to wear the smart Scout uniform, and that sometimes you may march in parades - on Remembrance Day, Dominion Day, Victoria Day, or such special occasions as a visit by the Chief Scout for Canada or other distinguished person; or if not marching, helping the police and soldiers line parade routes, or giving first aid to people who faint or are hurt.

Scout Service

Scouts not only have fun. They render valuable public service of many kinds. During the depression years of 1929 to 1936, when so many Canadians were unemployed, Scouts helped the Red Cross and other relief organizations in most useful ways. They collected clothing in great quantities; they sponsored or assisted at "Vegetable Matinees" in movie theatres, and gathered fruit and vegetables in rural districts; they placed "Scout relief barrels" in gro-

cery stores with placards inviting customers to "Buy Something for a Needy Family." During a flood at London, Ont., in 1937 Scouts directed street traffic and aided the police in rescue work. They helped prepare the armouries for housing refugees, assisted in emergency kitchens and entertained homeless children with games.

In the devastating floods, both in Manitoba and British Columbia in 1949 and 1950, Scouts gave yeoman service which earned them high praise from municipal and provincial government officials. At Toronto, when the S.S. Noronic burned at its dock with a loss of hundreds of lives, Scouts of that city put in a total of 4,160 hours in a great variety of useful tasks.

For many years Boy Scout Toyshops across Canada supplied thousands of Christmas gifts to the children of new settlers in the West and needy families elsewhere. At Easter certain Groups have collected quantities of eggs for children in orphanages. In addition to such special projects Scouts have acted as ushers at scores of conventions and public gatherings; have operated First Aid posts, information booths and Lost Children bureaus at fairs and exhibitions. Even more spectacular perhaps, are the hundreds of deeds of heroism and life saving by Boy Scouts recorded at Canadian Headquarters.



Community Good Turn



Good Turn to Brother Scouts

During World War II Scouts performed many kinds of national service for which the government thanked them. They collected vast quantities of needed waste paper, iron, aluminium, etc. In some communities Scouts took complete charge of salvage drives. When there was a serious shortage of medicine bottles for military hospitals they gathered hundreds of thou-

sands of good used bottles. They put up Victory Loan posters, and acted as office boys and messengers at Loan headquarters in hundreds of communities.



They gathered clothing for the war-stricken countries, and acted as messengers, first aiders and junior fire fighters in the Air Raids Precautions organization.

Nor did they forget their Brother Scouts of bombed Britain and invaded Europe. For British Scout Victory gardens they collected and bought large quantities of garden seeds for four successive years. Through the Canadian Scouts' Chins-Up Fund, they made a gift of \$25,000 to the War Distressed Scouts Fund; expended \$17,873.54 on providing 76,000 Scouting books for the Scouts and in the languages of Poland, France, Norway, Czechoslovakia, The Netherlands and Greece; made a gift of \$1,200 to the International Bureau of The Boy Scouts Association and gave \$320 to Displaced Scouts in Europe. In addition to these detailed sums the Scouts of Toronto raised and expended \$22,558.09, to bring the expenditures of this fund to a grand total of \$66,953.14.

All these things were done by Scouts too young to enlist. It was estimated that 100,000 older Scouts and former Scouts served in the Canadian Army, Navy and Air Force. And they made excellent soldiers, sailors and airmen. Their Scouting taught them how to take care of themselves in the open, day or night, and many of them attained high rank in the forces.

Maj.-Gen. D. C. Spry, C.B.E., D.S.O. (Former Chief Executive Commissioner of the Boy Scouts Association in Canada and now Director of the Boy Scouts International Bureau in London) was formerly a Wolf Cub, Boy Scout, Rover Scout and Rover Mate and Scouter. Scores of Scouts won decorations for gallantry including three Victoria Crosses, by Lt.Col. C. C. I. Merritt, Major C. F. Hoey, and Hon. Major John W. Foote. Many laid down their lives that you and your fellow Canadians might have a free democratic country to live in.

That is the kind of an organization you have joined as a Boy Scout. You have a wonderful tradition of service and efficiency behind you, and it will be your solemn duty to see that the good name of Scouting is never sullied by conduct unbecoming a Scout.



Chapter II

SCOUTING-A WORLD BROTHERHOOD

When you become a Scout you become something more than the member of a Patrol and Troop in Canada - you become a member of the world's greatest organization of youth, for there are Scouts in practically every country from tiny landlocked Luxembourg in Europe to such immense countries as India and Pakistan. In fact in nearly every free country the Boy Scout Movement flourishes.

At four year intervals there is held a World Scout Jamboree, when many thousands of Scouts from many different countries are brought together for two weeks of camp fun and demonstrations of one another's camping and hiking methods, and for great march-pasts with flying flags and bands before thousands of spectators.

Canada has sent delegations to several of these World Jamborees, including the 1929 Coming-of-Age Jamboree (Scouting's 21st birthday) at Birkenhead, England; the 1933 Jamboree in Hungary; the 1937 Jamboree in Holland, the 1947 Jamboree in France and the 1951 Jamboree in Austria. In 1955, Canada was host country to the 8th World Jamboree, when 11,139 Scouts from all parts of the world camped at Niagara-on-the-Lake, Ontario.

One of the splendid features of the World Scout Jamborees is their spirit of friendliness, notwithstanding that so many of the boys cannot speak one another's language. They get along by signs and gestures and much joking and laughing; and always manage to understand each other when it comes to swapping crests and buttons and items of Scout kit used in their different countries.

This spirit of friendliness toward brother Scouts you will find should you some day travel in foreign lands. The boys may not be able to speak English or French, or other language you may know, but when they see your Scout badge they will greet you with a smile and the Scout salute and will want to help make your stay pleasant.

During World War II, after the landing of British and American Troops in Europe on "D-Day", former Scouts in the Canadian army related how warmly



they were welcomed by French, Belgian and Dutch Scouts, many of whom had carried on their Scouting underground during enemy occupation. They acted as guides and messengers and gave every assistance to the liberating armies. Many of them had carried on heroically during the occupation years when Scouting was banned and when many Scouts and Scoutmasters had lost their lives through loyally carrying on.

Canadian Scouts exemplified the true spirit of the World Brotherhood when they assisted the bombed out Scouts of Great Britain, and provided help for Scouts in many European countries, even some who had during the bitter war years been our enemies. That spirit of brotherhood is still being carried out in post-war years, the latest evidence being the sending of several thousand Scout staves to the Boy Scouts of Greece, whose ravaged countryside could no longer provide them.

It is a wonderful thing for any Scout to realize that in lonely cottages on the Scottish moors, or beyond the Arctic circle, or beneath tropical skies, there are "Brother Scouts", believing in the same ideals and playing the same game, and all working for the same thing; world peace and the brotherhood of man.

Lord Baden-Powell, our Founder, commenting on the organization of the League of Nations in 1920 wrote:- "There is another league of nations growing up, and that is the Brotherhood of the Boy Scouts." And that is exactly what you have joined as a Scout, a league of nations comprising boys of many races and colours and creeds all bent on building a brotherhood which will eventually abolish war.

Chapter III

THE MAN WHO STARTED SCOUTING

In the middle of the last century a lad of 12 at Charterhouse, an English school, was more interested in an adjacent stretch of woods, "The Copse" than in his studies. Years later he wrote: "It was here I used to imagine myself a backwoodsman, trapper and scout. I would creep about warily, looking for trail signs and observing rabbits, squirrels and birds.

"I set snares, and when I caught a rabbit I learned to skin, clean and cook

him. And since there were 'Redskins' about- that is, school masters looking for boys out-of-bounds—1 made small non-smoky fires."

Some years later, during the Matabele war in Africa, the schoolboy, now a young cavalry officer, was out scouting to locate an "impi" or regiment of native warriors. With him was a Zulu tracker. While crossing a grassy plain they came upon the footprints of native women. The tracks pointed to some hills. They followed, and presently their alert eyes discovered in the grass to one side, a tree leaf. They picked it up, and identified it as from a kind of tree they had earlier seen growing near a native village.

The leaf was damp. They sniffed it and recognized the smell of native beer. From this they deduced that the women were carrying pots of beer, with the tops covered with leaves.

The leaf lay ten yards from the trail. No wind had been blowing since 5 a.m. It was now 7. "Thus we read the news," recounted the young officer, "that during the night a party of native women had taken beer to the enemy hidden in the hills. The women would have reached there about 6 o'clock. The men would probably start drinking at once, as the beer goes sour quickly; and they would by the time we approached their hiding place be getting sleepy." All of which' proved true, and the reconnoitering expedition was a complete success.

The young officer was Robert Baden-Powell, later Colonel Baden-Powell, the "Hero of Mafeking," and still later Lieut.-General and Lord Baden-Powell of Gilwell; and it was out of such a life of adventure-fighting the wild mountain tribesman of the Indian frontier; tracking wild boars and tigers in the jungles of India; reconnoitering in wars with African tribes or hunting wild buffalo, elephants and rhinos in West Africa, the Sudan and Central and South Africa; and finally the South African war of 1900-02, when he discovered as commanding officer during the famous siege of Mafeking, that boys could take their place beside men in dangerous situations,-it was out of such a thrilling story-book life of adventure and outdoor fun that "B.-P." evolved Scouting. Or, as he always called it, "The Game of Scouting for Boys,"-a boys' brotherhood of the outdoors, for fun, and as a sound preparation for a useful, healthy and happy life.

And it was out of Baden-Powell's life experiences and thinking that he evolved the Scout Promise, with its emphasis on Honour and Duty to God; the Scout Law, the motto Be Prepared the Scout tests and the Scout uniform and hiking equipment, including the staff and the Scout hat, the Stetson which was worn by the Canadian Mounted Infantry and Artillery in the South African war, and later by the South African Constabulary, (which B.-P. organized), and by the Royal Canadian Mounted Police.

Such was the rugged outdoor type of man who started the Boy Scout Movement.

"HAT PLUMES"

You will want to know what ranks the different coloured hat plumes worn by your leaders represent. Your Scoutmaster will wear a Green plume; your Assistant Scoutmaster, a Red plume; the District Scoutmaster, a White plume, and your District Commissioner and his Assistants, a Purple plume.

Chapter IV

THE TENDERFOOT TESTS

To qualify as a Tenderfoot Scout a candidate must learn and pass the following tests.

TEST NO. 1

Know the Scout Law and Promise and their meaning in accordance with his age.

THE SCOUT LAW

1.-A SCOUT'S HONOUR IS TO BE TRUSTED.

If a Scout says "On my honour it is so," that means it is so. Similarly, if a Scout Leader says to a Scout, "I trust you on your honour to do this," the Scout is bound to carry out the order to the very best of his ability, and let nothing interfere with his doing so. If a Scout were to break his honour by telling a lie, or by not carrying out an order when trusted to do so, he may be directed to hand over his Scout Badge, never to wear it again, and cease to call himself a Scout. Remember - A Scout is always on his honour.

2.-A SCOUT IS LOYAL.

A Scout is loyal to the Queen, his country, his church, the members of his family, his chums and brother Scouts and Scouters; he sticks up for them and helps and stays by them through good times and bad. When employed he is loyal to his employers, and carries out his work faithfully - except in the event of being asked to say or do something dishonest or dishonourable. In such a case he explains his reasons. The Scout is loyal to the good principles of his home and church upbringing; he will not do anything to lower his own self-respect.

3.-A SCOUT'S DUTY IS TO BE USEFUL AND HELP OTHERS.

It is a Scout's duty to be alert at all times and to do helpful things for other people, even at the cost of his own comfort, pleasure or safety. He must Be Prepared at any time to do his best to save life and help the injured. He must do at least one Good Turn to somebody every day, and remember always that helping others begins at home, often some small thing for Mother or Father, or other members of the family. Bigger Good Turns then follow naturally. a

4,-A SCOUT IS A FRIEND TO ALL AND A BROTHER TO EVERY OTHER SCOUT.

A Scout has a friendly attitude toward all people, without regard to their nationality, their national origin, their religion, .or whether they are rich or poor. He makes the best of other boys, and learns to get along with them, even though some of their ideas and manners may not be such as he is accustomed to. Particularly does he make it a point to be friendly with brother Scouts wherever he meets them, - in his home district, at school, away from home, when travelling in other lands. At the same time he learns to recognize and not associate with persons who are immoral or lawless and given to loafing with street-corner gangs or spending their time in pool rooms, roadhouse dance halls or other dubious "hang-outs."

5.-A SCOUT IS COURTEOUS.

A Scout is polite to all, but especially to old people, to invalids, to those who are crippled, to women and children; and needless to say, without regard to whether they are rich or poor, well dressed or poorly dressed. He is prompt to direct strangers requiring direction and if desirable to guide them personally to their destination. He must not take any reward for being helpful or courteous.

6.-A SCOUT IS A FRIEND TO ANIMALS.

He should save animals as far as possible from pain, and should not kill any animal unnecessarily, for it is one of God's creatures. Killing an animal for food or one which is harmful is allowable. He takes proper care of animals at home, and does not overlook arrangements for their care when away from home during summer or other holidays.

7.-A SCOUT OBEYS THE ORDERS OF HIS PARENTS, PATROL LEADER OR SCOUTMASTER WITHOUT QUESTION.

Even if he is given an order he does not like, a Scout must obey promptly and cheerfully as do sailors and soldiers; and as he would for the captain of his hockey or football team. He must carry out an order because it is his duty to do so. After he has complied he may state any reasons against it But he must carry out the order at once. This is discipline, - Scout discipline - and self-discipline, which is one of the most important things in everyone's life.

8.-A SCOUT SMILES AND WHISTLES UNDER ALL DIFFICULTIES.

When a Scout gets an order or a request to do something he responds readily and cheerily; never in a reluctant, hang-dog manner. He does not grumble over disappointments or mishaps, nor find fault with other Scouts over the occasional mishap or hardships of hiking or camping. In any disappointing or annoying situation he forces himself to smile, then whistles a tune. And, presto! He's all right! Splendid examples of living the 8th Scout Law have been given by invalid Scouts, in some cases boys who have suffered injuries which left them for years in a plaster cast, in bed. A number of such lads have been awarded the Cornwell Badge (a medal created in memory of Jack Cornwell, the Scout hero of the Battle of Jutland of the first World War), for their cheery courage and determination to "carry on" with Scouting, with their school studies and such other things as they could do. They were true Scouts.

9.-A SCOUT IS THRIFTY.

A Scout is always ready to earn money honestly (which of course does not mean accepting a "tip" for a good turn); and he does not spend money needlessly or foolishly. Instead he places as much as he can in a bank savings account, against a time of need or to help himself through college, or start himself in business when older. (Many young men are unable to start college or to take advantage of some excellent business opportunity because they lack capital which they might have possessed had they started saving a little each year when they were boys). A Scout is also thriftily careful of his clothes, his bicycle and other things that cost money and require replacement.

10.-A SCOUT IS CLEAN IN THOUGHT, WORD, AND DEED.

A Scout avoids the company and loafing "hang-outs" of boys or men who persist in unclean talk or the telling of unclean stories. He does not read immoral or suggestive magazines or books. He does not permit himself to think or do anything that is not pure, clean and manly. He of course is always clean about his person, washing and bathing regularly and frequently,-

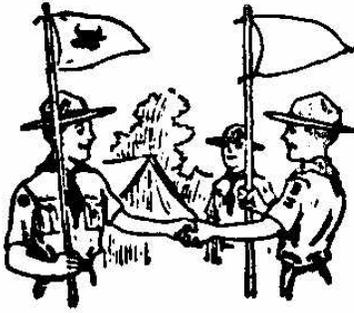
remembering that there is much truth in the admonition that “cleanliness is next to godliness.”

The Scout Promise is not made until all the Tenderfoot tests have been passed. (See Page 37)

THE SCOUT MOTTO - BE PREPARED

If suddenly faced by an accident or call for help, instead of being confused and afraid, a Scout is expected, because of his training, to do something to help. And when some of the every day things of life go wrong-as they do now and then for everyone-he does not “lie down” and whine “What’s the use!” He faces up to the problem with his best brains and courage. He is always “Prepared”.

THE SCOUT LEFT-HANDSHAKE



The grandson of an Ashanti Chief who fought against Lord Baden-Powell told this story of the origin of the Scout Left-Handshake. When the Chief surrendered to B.-P., the latter proffered his right hand as a token of friendship. The Ashanti Chief however, insisted on shaking with the left hand, explaining, “the bravest of the brave shake hands with the left hand, as in order to do so, they must throw away their greatest protection, their shield.” Thus Scouts shake hands with the left hand as proof of their good faith and true friendliness.

THE DAILY GOOD TURN

The Slogan of the Boy Scouts is “Do a Good Turn Every Day.” It is through the faithful carrying out of this slogan that Scouting is best known to the public. Every Scout should accept it as an obligation of membership that he seek an opportunity to do at least one Good Turn every day-”to help other people at all times.”



There are two kinds of Good Turn—the individual and the corporate. The individual Good Turn is the personal Good Turn a Scout does for other people, his community or his sponsoring institution. The corporate Good Turn is the one he does in conjunction with a group—his Patrol or Troop.

In Scouting for Boys, Lord Baden-Powell writes: “You Scouts cannot do better than follow the example of your forefathers, the Knights. One great point about them was that every day they had to do a Good Turn to somebody. When you get up in the morning, remember that you have got to do a Good Turn for someone during the day; tie an extra knot in your handkerchief or tie, and when you go to bed at night, think to whom you did your Good Turn.”

TEST NO. 2

Know the Scout Salute and Scout Sign as given in Camp Fire Yarn 3 of “SCOUTING FOR BOYS.”

The Scout Salute

A Scout salutes with his right hand when either with or without a hat. The three fingers (like the three points of the Scout badge) remind him of the three parts of the Scout Promise: To do his best to—

*Do his duty to God, and the Queen,
To help other people at all times;
To obey the Scout Law.*



Fig. 1

**Scout
Salute**



Fig. 2

**Salute
with Staff**



Fig. 3

**Scout
Sign**



Fig. 4

**Sign
with Staff**

When his hands are occupied, a Scout salutes by turning his head and eyes smartly to the right or the left as the case may be. When riding a bicycle he salutes in a similar manner. When marching in a parade a Scout follows the special saluting instructions issued by his Scoutmaster.

When a Scouter approaches a group of Scouts, the senior Scout present calls the party to the Alert and himself salutes.

Scout's salute at the hoisting of the Union Flag and when the National Anthem is played. Scouts salute a funeral when the hearse is passing and when in civilian clothes raise their hats. Remember that Scouts shake hands with brother Scouts with the left hand.

The Scout Sign

The Scout Sign as shown in Figs. 3 and 4 is used by the Scoutmaster when investing a Scout, by the Scout when making his Promise, or any subsequent repetitions.

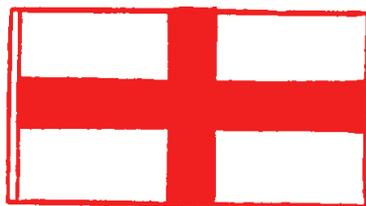
Many Scouts in foreign countries use the Scout Sign as a form of greeting between Scouts, and of course if you were greeted this way, you would return the greeting with the Scout Sign also.

TEST NO. 3

Know the composition of the Union Flag (commonly called the Union Jack) and the Canadian Flag (the Red Ensign) and how to hoist and break them. If a Sea Scout, in addition, know the composition of the White, Blue and Red Ensigns and when and by whom these are worn.

Composition of the Union Flag

The Union Flag (or Union Jack) is the national flag of the British Empire, and is made up of the old national flags of the three former kingdoms of England, Scotland and Ireland. In 1606 King James VI of Scotland (who had become King James I of England in 1603) joined the English and Scottish



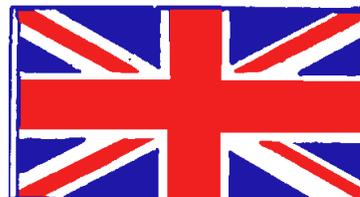
**THE FLAG OF ST. GEORGE
ENGLAND**



**FLAG OF ST. ANDREW
SCOTLAND**



**FLAG OF ST. PATRICK
IRELAND**



THE UNION FLAG

flags together to form the first British Union Flag or Union Jack. The English flag was the white flag with the red cross of St. George and the Scottish flag, the blue flag with a white diagonal cross of St. Andrew.

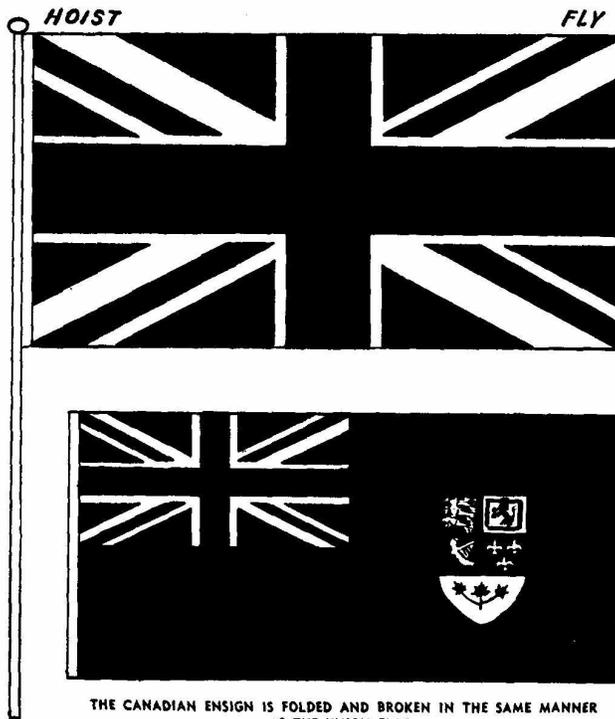
It is called a "Jack" either from "Jacques" the nickname of King James as the flag's originator, or more probably from the "jack" or "jacket" which knights wore over their armour to show their nationality. English knights wore a white Jack with the red cross of St. George; and this was also their flag.

In 1801 the red diagonal cross, retaining a portion of the white ground, representing the white flag with the red cross of St. Patrick was added, making the Union Jack of Great Britain and Ireland-and the British Empire.

The Canadian Red Ensign

The Canadian Red Ensign is a red flag with the Union Flag at the top corner next the hoist, and with the Shield of the Arms of Canada in the Fly.

It was authorized by Order-in-Council in 1945 to be flown on "Federal Government buildings within and without Canada. and to remove any doubt as to the propriety of flying the Canadian Red Ensign wherever place or occasion make it desirable to fly a distinctive Canadian Flag."



A typical occasion when it is desirable to fly the Canadian Red Ensign is when a Canadian Contingent attends a World Jamboree, and when the use of the Union Flag might confuse the contingent with that from the British Isles.

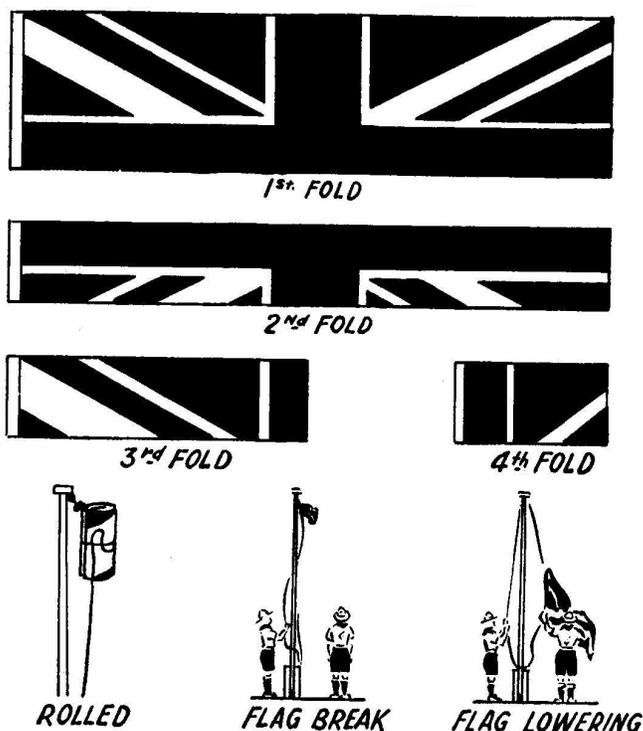
The Shield of the Coat of Arms in the fly shows the emblems of the principal races making up the population of Canada:- the three lions for England; the lion rampant for Scotland; the harp for Ireland, and the fleur de lis for France. Below appears a sprig of maple, emblematic of Canada.

How to Fly the Flag

If you study the Union Flag you will see that the red diagonal cross has a broad white band on one side and a narrow white band on the other. When flown from a staff the broad white band should be at the top nearest the staff (the HOIST of the flag), and at the bottom on the free end (the FLY of the flag). When the Flag is flown upside down it is a signal of distress. The same rule, of course, applies to the flying of the Ensign.

How to fold for breaking

When flags are flying on public occasions a Scout should observe whether those in his neighbourhood are flying correctly. In case one is upside down he should go to the owner, courteously explain and offer to change it.



When draped over a balcony or on the wall of a banquet hall the flag's correct position is judged from the front. The hoist should be at the top left corner. Hung lengthwise, the hoist should be at the top right corner (as if the flag had been moved around "clockwise" from the first position).

Breaking the Flag

It is always more effective and Scoutlike to raise a flag furled and suddenly break it out in the breeze with a tug of the halyard, than to raise it free; so every Scout should learn to do this. Take particular care to snug the

tucked-in loop so it holds, but comes free when pulled. Nothing is more embarrassing than failure to break out a flag when the command is given to do so. (See illustration opposite.)

TEST NO. 4

Know how to clean a wound, and make and apply a clean dressing.

A cut finger, hand or foot, a scratch or puncture from a rusty nail or wood splinter, are common accidents among boys, and older people. The Tenderfoot Scout must be able to give first aid for wounds of a minor nature. For even a slight scratch or cut may result in a dangerous infection if not properly cleaned and covered. (Infection means the entrance into the body of bacteria, which multiply in the blood. Every year many persons die from such "blood poisoning.")

Cleaning a Wound

Smaller cuts and scratches should be treated with an antiseptic-rubbing alcohol, Dettol, Mercurochrome or fresh iodine, (if iodine is used it should be allowed to dry before it is covered). Next place a Band-Aid or sterile dressing and bandage in position. In the case of a puncture wound by a nail, pin or splinters the safest procedure is to get medical attention as soon as possible.

In the case of more serious wounds, only foreign objects such as cinders, glass or bits of clothing that are on the surface should be removed. Never search for, or attempt to remove, objects that are embedded in the wound. Apply an antiseptic to the wound and around the edges. Cover the wound with sterile gauze over which is placed a pad of cotton wool. Bandage both firmly in place provided there are no foreign bodies in the wound, but lightly if these are present or suspected.

Points to Remember

Do not become excited even if there is considerable bleeding. Keep cool, remember that cuts are seldom as serious as they first appear. Go about your job quietly and confidently; keep your hands off the wound and do not breathe on it.

Making and Applying a Dressing

First spread out a clean handkerchief, triangular bandage or towel, and on it place all the necessary material.

In using a sterilized dressing (and every Scout should carry one in his kit), remove the outer envelope, being careful to expose it as little as possible to the air. If a sterilized dressing is not available, cut a piece of clean gauze, lint or boracic lint to the required size and apply. Avoid touching the side of the

dressing to be applied to the wound.

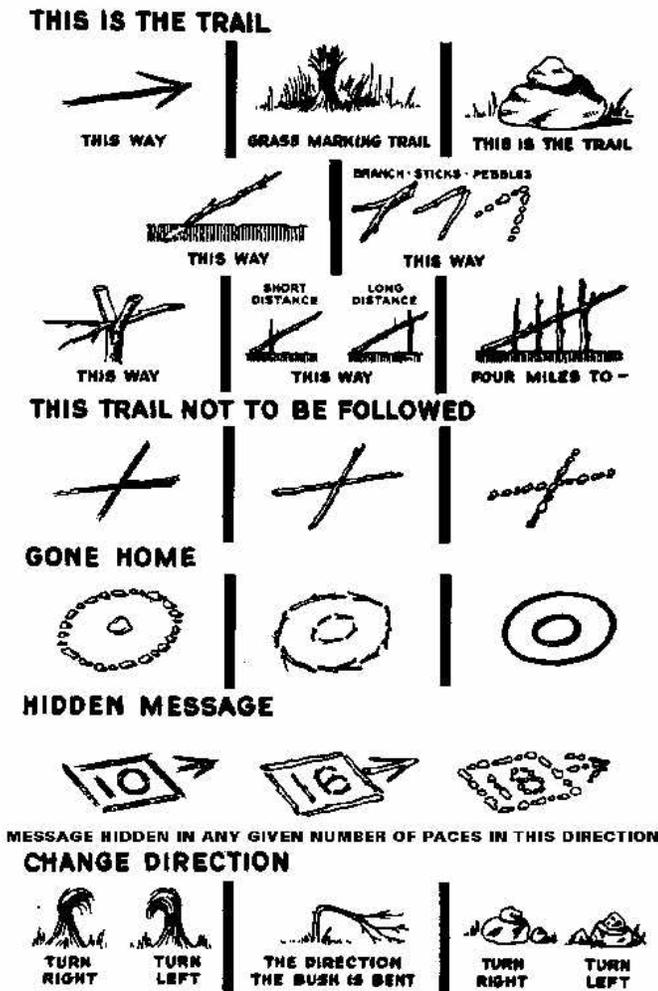
For small cuts or punctures, cover with a pad of suitable size, then adhesive; or use a made-up combination such as Band-Aid. Never apply adhesive or absorbent cotton directly over a wound.

In all cases of possibly serious injuries (and this is most important) secure medical aid or get your patient to a doctor as soon as possible.

TEST NO. 5

Make and know the meaning of the woodcraft signs given in *Camp Fire Yarn 4 of "SCOUTING FOR BOYS."*

Scout Trail Signs

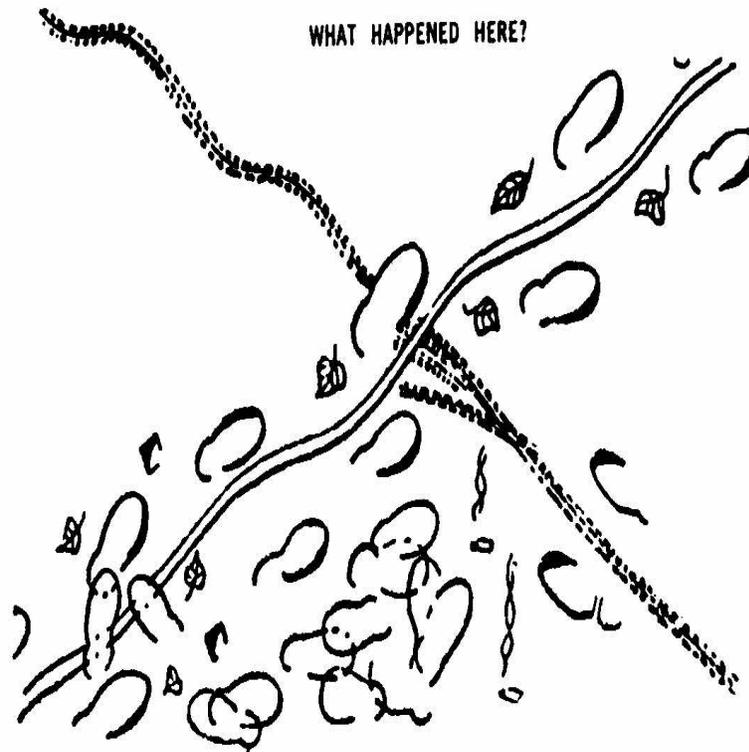


Here we come to one of the most interesting and useful features of Scouting,-trail making and trail reading. It's real fun, and it means using your brains. You start with the simple trail signs while hiking and playing games, then you go on to the bigger fun of following and reading the tracks of birds and animals, and human beings-"reading the story they tell."

These signs may be made with chalk, stones, twigs or grass, as shown in the accompanying sketches.

Here is what Baden-Powell says of woodcraft and trailreading: Woodcraft, amongst other things, means learning about wild animals by following their foot-tracks and creeping up on them so you can watch them. You only shoot them if in

need of food; or if they are harmful. No Scout kills an animal merely for sport. As a matter of fact, by watching wild animals one comes to like them too well to shoot them.



Study this tracking problem. Check your solution with the correct solution on page 35

Woodcraft includes, besides the ability to discover tracks and other small signs, the ability to read their meaning,- at what pace an animal was going, whether undisturbed or alarmed, and so on. In the same way you read the footprints of men, women and children; horses, dogs, cattle of different kinds and size. In the woods or bush you come to know that someone or something is moving when you see birds suddenly fly.

A Tracking Story

Once, when a young cavalry officer in Kashmir, India, Baden-Powell was taking a morning bike, incidentally looking for trail "stories." He came upon a tree stump about five feet high. Near it was a stone to which 'were sticking bits of bruised walnut husk. The bits were dry. At the foot of the stump was a cake of hardened mud, showing the impression of the grass shoe. Some 30 yards along the path were the shells of four walnuts. Close by was a high sloping rock. Wrote B.-P.- These were my deductions: It was a man carrying a load, because Indian carriers when they rest do not sit down, but ease their load against a sloping rock and lean back. Otherwise, he probably would have sat down on the stump to eat the nuts. Instead he broke the walnuts on the

tree stump, and went on some 30 yards to the rock to eat them. The man had picked the nuts from a tree 150 yards north. So he had been travelling south (the footprints had disappeared). He was on a long journey because he was wearing grass shoes; if not going far he would have been barefoot.

“No important story,” concluded B.-P., “but just an example of everyday practise which should be carried out by Scouts.”

TEST No. 6

Demonstrate with. rope how to tie the following knots: Reef, Sheet-bend, Glove-Hitch, Bowline, Round Turn and Two Half-hitches, Sheepshank. Explain their uses. Whip the end of a rope.

About Knotting

One of the skills expected of every Scout is deftness in tying knots; and knot tying is of almost constant use at home, at the store, in building operations and house painting, in countless ways on the farm.

There have been occasions when the saving of life depended upon the ability of someone to tie a knot quickly and securely. Some years ago a man and his wife and a boy of 17 on an ice floe were carried down the Niagara rapids to their death because they could not secure a knot in a rope lowered from a bridge.

Knots can be made an interesting hobby, as you will discover when you come to advanced knot work, splicing and lashing of the Second and First Class tests.

To acquire speed in tying knots adopt a certain technique for each knot, - that is, handle the rope in one definite series of moves for each knot. And practise with a fairly heavy and fairly long rope - never with string or small cord. During hiking and camping you will want to try knotting with pliable roots of spruce, poplar, etc., when procurable.

Knotting Definitions

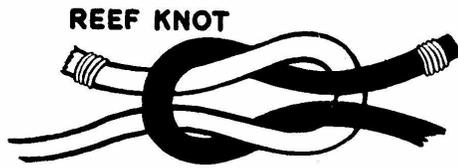
Standing Part: The longer, unused part of the rope with which you are working.

Bight: The loop formed when the rope is turned back upon itself.

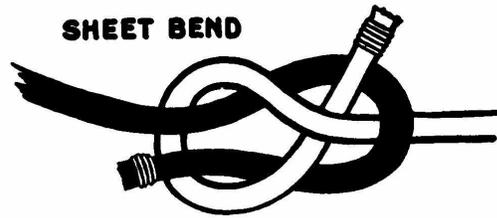
Free End: The end of the rope which is free to work with.

Tenderfoot Knots

REEF KNOT: This knot (also called the Square Knot) is used for joining two pieces of string or cord of equal thickness, but not recommended for joining ropes. It is neat and fiat and is always used to fasten the ends of bandages. Also used for brailing tents.



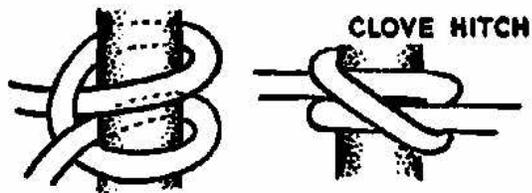
REEF KNOT



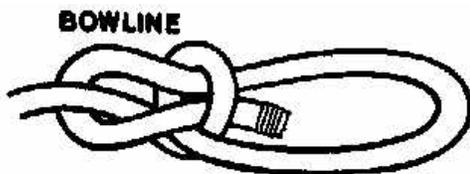
SHEET BEND

SHEET BEND: Used to join two ropes of equal and/or unequal thickness. More secure than a Reef for joining two cords or ropes of the same thickness. For joining larger ropes the Carrick Bend is preferable. (Note. The ends finish on opposite sides.)

CLOVE-HITCH: Is used for securing a rope to a spar or pole when the pull is steady. It is also used for beginning a square or sheer lashing. Hold the standing part in the left hand, pass the end around the pole, up over the standing part, around the pole again, and bring the end down and under the last turn. Pull tight.



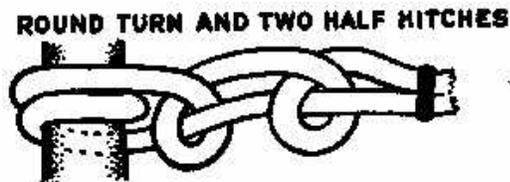
CLOVE HITCH



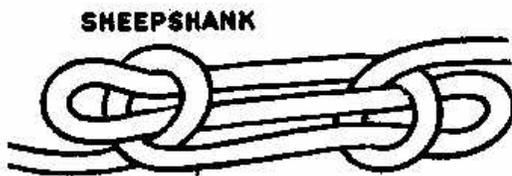
BOWLINE

BOWLINE: This knot is used for making a loop which cannot slip. First make a loop towards you in the standing part. Bring up the free end through the loop, pass it behind the standing part, then down through the loop again. Its name originated from the fact that sailors frequently used this knot when mooring a ship.

ROUND TURN AND TWO HALF HITCHES: This may be used for securing a rope, such as the painter of a boat, to a post or ring. If knot is to be used for any considerable length of time the end should be seized as in the illustration. It is the best knot for securing a towrope to a disabled automobile or for similar purposes.



ROUND TURN AND TWO HALF HITCHES

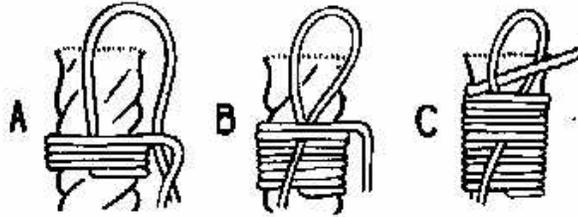


SHEEPSHANK

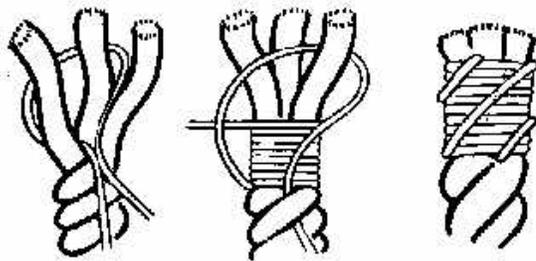
SHEEPSHANK: This knot is used for shortening a rope without cutting it, or for strengthening a weak part of a rope. Follow the illustration and you will readily master it.

Whipping Rope Ends: The ends of all Scout-used rope should be whipped with a yard length of stout twine, for neatness as well as to prevent unravelling. There are several systems of whipping. The two shown here are most commonly used.

Common Whipping: This is one of the simplest. Lay the twine in a loop on the rope with the loop going beyond the end. Hold this down with the left thumb. Then wind the twine tightly round the rope towards the end (A). Do not go over the free end of the loop. Alter six or seven turns, bring in the free end of the loop and bind it down (B). When a few more turns are finished, slip the free end of the main twine through the loop (C) and then pull steadily in the direction of the main rope until it is securely within the whipping. The length of the whipping is from 1/2 inch to 1 inch according to the thickness of the rope.



Sailmaker's Whipping: This is for a laid rope only. Unlay two or three inches of the rope. Put loop of twine round middle strand. Relay the rope. Wind long end of twine round and round working towards the end of the rope. When the whipping is long enough, slip the loop back over the end of the strand it goes round and pull steadily and firmly on the short, unused end.



Then bring the end up so that it serves the third strand. Tie off the end with a reef knot in between the strands on top; the knot will then be hidden. This makes a very neat whipping if done carefully. Keep everything tight.

TEST NO. 7

Demonstrate the proper use of a ground sheet and blankets for a camp bed. Always place the ground-sheet rubber side down on the ground; this prevents ground moisture getting into the blankets.

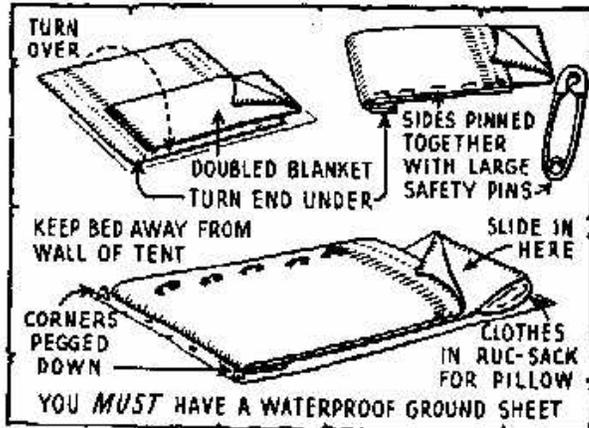
In our climate, even in summer, you need at least two blankets for your camp bed, and at least as much blanket beneath as over you.

To make a Scout bed with a ground-sheet and two blankets: spread the ground-sheet on the ground, rubber side down. Over this spread a blanket, lengthwise, one half over the ground-sheet, the other half out on the ground.

Double the second blanket once lengthwise and place (see illustration) with its open side toward the uncovered half of the first blanket, and about a

foot higher toward what will be the head of the bed.

Now bring over the open half of the first or lower blanket, tuck the bottom underneath (and on top of the ground-sheet), and pin along the side with large blanket pins. Thus you have a thoroughly snug sleeping-bag or "fleabag" as Scouts usually call it.



For outdoor sleeping during the late Fall or Winter one or more extra blankets may be needed. These are spread out on the ground on top of the first blanket, brought over together and pinned—thus giving added thickness both beneath and above.

If caught in a cold spell with insufficient blankets, sheets of newspaper placed between the blankets will provide good insulation against the cold.

TEST NO. 8

Make any one of the following:- Scout Staff, fid, marlin spike, tent peg, pot hook or similar gadget.

A Scout Staff: The staff is an important item of Scout equipment, especially when hiking or camping. It is 5 ft., 6 in., in length, and is marked in feet from the bottom, with the top six inches marked in inches, for use in measuring when needed. Sometimes it carries at its top on one side the carved head or figure of the Patrol animal or bird of its owner, and below this a notched record of his Scouting history. Such staves become prized souvenirs of a boy's Scouting days. (By the way the plural of staff is staves.)

Some uses of the SCOUT STAFF

Preferably a Scout hikes out into the woods to select and secure his staff, having first obtained the necessary permission. It should be of stout straight wood, 1 1/4 or 1 1/2 inches in diameter, and fairly light in weight when seasoned. Suitable woods are first, hickory, when obtainable; ash, oak and good grades of elm not showing more than 15 year rings; sugar maple, wild cherry, yellow birch, mountain ash and saskatoon.

When such natural wood staves are not procurable, as in many Prairie districts, an old but sound broomstick makes an admirable substitute.

Some uses of the SCOUT STAFF



The Scout staff was adopted by the Founder, Lord Baden-Powell, because of its usefulness during one of his early military campaigns in the jungle country of West Africa, - for testing the depth of swamp holes and dark streams; for guarding his face when pushing through heavy bush; for feeling his way in the dark; for carrying bundles over his shoulder when wading a stream.

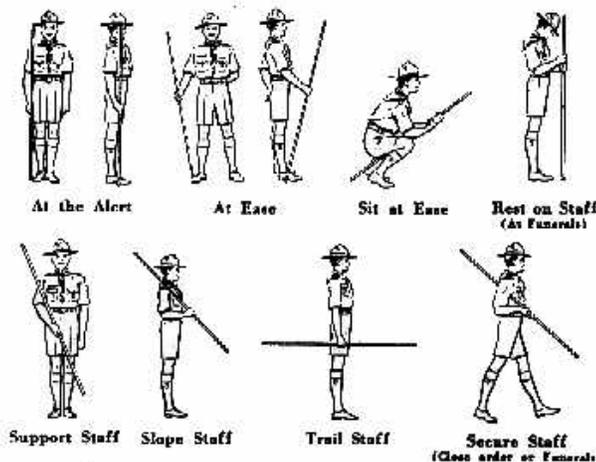
Other uses found by Scouts in different countries: For jumping ditches. As a pole for a small hike tent. Several staves as the framework of a brush lean-to. For signalling. For improvising a flag pole (several lashed together). For light bridge building. (At the great World Scout Jamboree in 1929 French Scouts built an 80-foot replica of the famous Eiffel Tower entirely of lashed Scout staves.) With one or two others, in pairs, to carry logs. To carry anything slung between two Scouts. As a long splint for a broken leg. As handles for an improvised stretcher. For

forming a barrier to control crowds at a fire, a drowning, a street accident, or along a parade route.

The staff should be carried slung by a thong loop over and behind the right shoulder. The thong is passed through two small holes about ten inches apart in the upper third of the staff, so placed that the staff clears the ground by several inches. The thong is secured by small stop-knots.

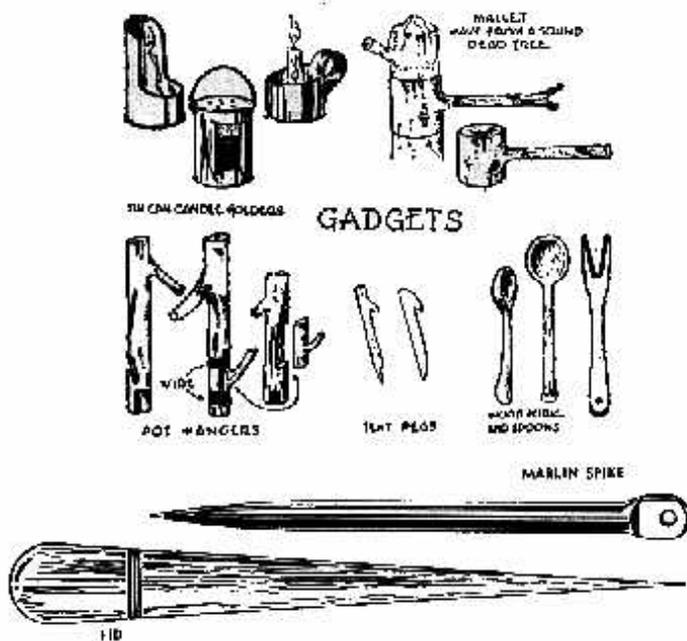
When on formal parade or marching the staff is carried in any of the carrying positions illustrated below and as directed by the Scoutmaster.

PARADE USAGE OF THE SCOUT STAFF.



When carrying the staff free on the street a Scout should do so in a way not to annoy or endanger other persons. And he should not strike trees, fences, etc., in passing.

Marlin Spike: The marlin spike is a steel tool, about half inch in diameter at the butt and tapering to a point. It is usually about a foot long, but may be smaller. The butt is drilled with a hole a quarter of an inch in diameter and should always be carried on a lanyard. Both the marlin spike and the fid (see next page) come in very handy for splicing and other types of rope work. Scouts who have machine shops in their school will have little difficulty making one of these.



Fid: A fid is a wooden tool, similar in shape to a marlin spike, but larger, say an inch and a half to two inches in diameter at the butt and tapered. It is usually over a foot in length, and is generally made of hard tough wood. It should be smooth and polished.

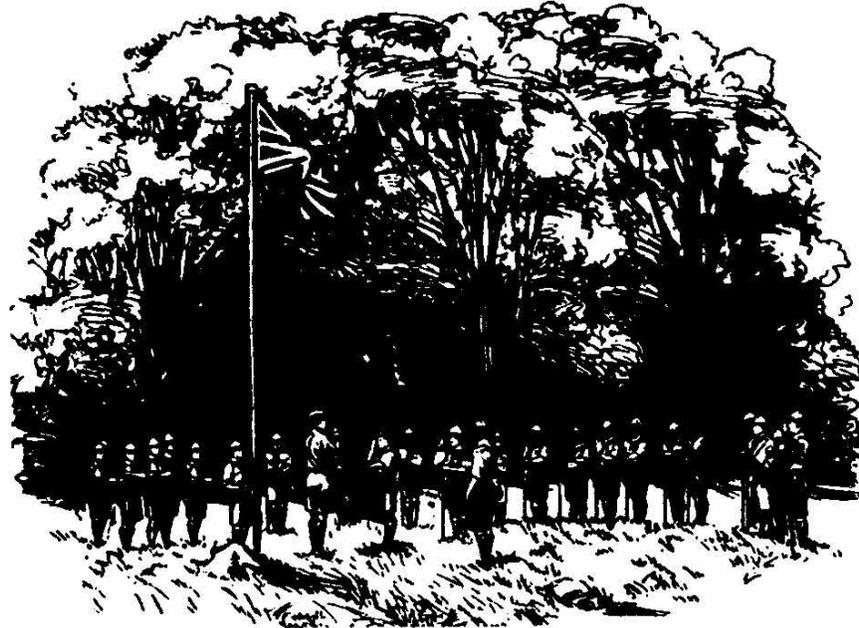
Gadgets: The test calls for a tent peg, pot-hook or similar camp gadget, and introduces you to one of the interesting features of Scout hiking and camping, the

making of various handy gadgets out of wood, knots, bark, empty tin cans, shells, wire, etc. By this practise you develop your ingenuity and resourcefulness until finally you are able to go into the woods or take a cross-country hike with practically nothing but some flour and bacon and a blanket, improvising plate, cup, spoon, fork, frying pan, etc., as needed. Such gadgets can also make an interesting souvenir collection which in later years will recall many enjoyed outings, cooking adventures and other mishaps and experiences. For this purpose dates should be cut, burned or scratched on the different articles. The gadgets would include some of those shown on page 35.

THE SCOUT PROMISE AND INVESTITURE

When a Scout is invested and takes his place as a full-fledged Scout in the Troop and in the world Brotherhood, he is required to "make the Promise." This takes place at his investiture. The investiture is a simple ceremony,

which may take place at an indoor Troop meeting, or preferably in the woods during a hike or at Camp. In preparation, the Scout-to-be will have memorized the Promise and Law, and will have had them fully explained, first by his Patrol Leader and next by his Scoutmaster.



A Scout Investiture in The Woods

Needless to say the making of the Promise is a very important act, for it marks the moment at which a boy actually becomes a Scout. Before his investiture he is just a boy, like other boys. The moment he has made the Promise he is something different. He is a boy, who like the Knights of King Arthur, has obligated himself, on his honour, to do his best to live according to a certain code of rules-THE SCOUT LAW.

The ceremony, though simple is solemn and important. The Troop will be in the Horseshoe. The Candidate is presented to his Scoutmaster by his own Patrol Leader, who should have trained him. He places his left hand on the Troop Flag, makes the Scout Sign, and personally promises his Scoutmaster:-

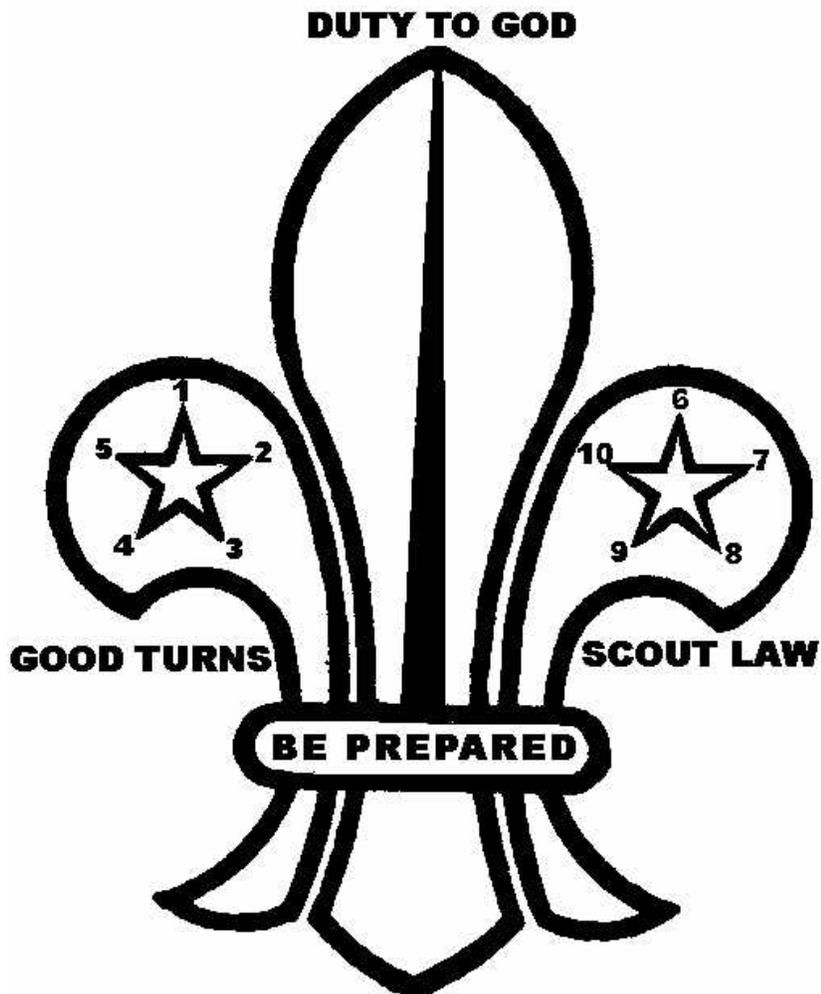
“On my honour
I Promise
That I will do my best
To do my duty to God.
and the Queen
To help other people at all times.
To obey the Scout Law.”

YOU MAY NOW WEAR THE SCOUT BADGE

Here is the meaning of The Scout Badge. The three fronds represent the three parts of the Promise-Duty to God and the Queen: Help others: Obey the Scout Law.

The two five-pointed stars are sometimes called the “eyes” of the Scout. The ten points on the two stars represent the ten Scout Laws.

The “Be Prepared” band, binding the fronds stands for the bond of Brotherhood between Scouts.



THE SECOND CLASS TESTS

TEST NO. 1

Have one month's satisfactory service as a Scout and be able to repass the Tenderfoot Tests.

Having just completed your Tenderfoot tests it is not likely your Scoutmaster will ask you to repass them until you have qualified for the balance of the Second Class Tests.

One month's satisfactory service means just that-you must be satisfactory in your attendance in your co-operation, and in the Scout Spirit, living up to your Promise and Law and trying to do your Good Turn daily.

TEST NO. 2

Know the general rules of health as given in Camp Fire Yarn 18 of "SCOUTING FOR BOYS."

Good Health

Naturally the possession of good health is taken for granted by the average boy; often so much so that little care is given to its preservation. A Scout, however, keeps in mind the fact that good health is one of his most important possessions, also that it will not "just take care of itself," but must be guarded. And the Scout realizes the necessity of forming good health habits when he is young, and that this is sure to "pay big dividends" in later years in the ability to live out a well-rounded, useful and happy life.

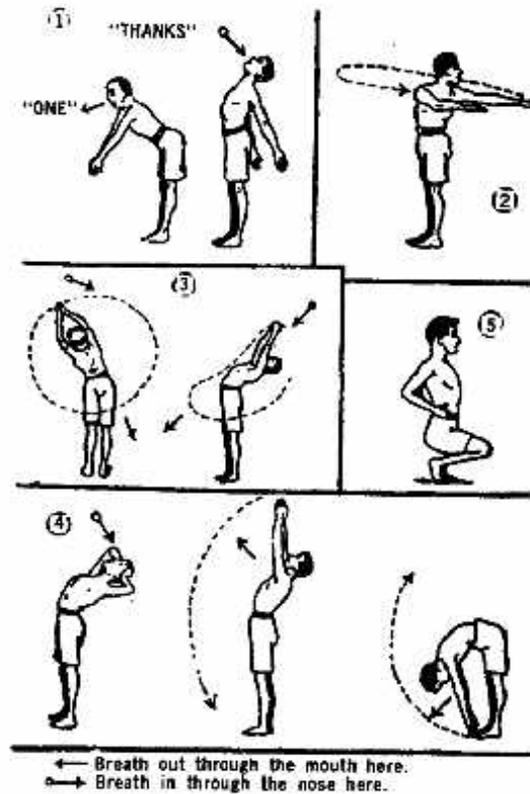
TEST NO. 3

Demonstrate the six exercises described in Camp Fire Yarn 17 of "SCOUTING FOR BOYS."

The general rules of health set forth in Scouting for Boys have proved their value for several generations of Scouts. One of the first rules is proper exercise. It is possible for any boy, even though he may be small and weak, says B.-P., to make himself into a strong and healthy man, if he takes the trouble to do a few body exercises every day. They only take about ten minutes, and do not require any kind of apparatus such as dumb-bells, parallel bars and so on.

They should be practised every morning, the first thing on getting up, and every evening before going to bed. It is best to do them with little clothing on, and in the open air, or close to an open window. The value of the exercise is much increased if you think of the object of each move while you are doing it, and if you are very particular to breathe the air in through your nose and to breathe out through your mouth since breathing in through the nose prevents you from swallowing all sorts of little seeds of poison or bad health which are always floating about in the air, especially in rooms from which the fresh air is shut out.

Begin the exercises by rubbing the head, face and neck firmly several times with the palms and fingers of both hands. Thumb the muscles of the neck and throat. This will serve to make the neck, usually a weak and tender spot, strong and muscular. Next wash your face in cold water, brush your hair, clean your teeth, wash out your mouth and nose, drink a cup of cold water and- Demonstrate the five other exercises described in Camp Fire Yarn 17 of Scouting for Boys (as illustrated above). Do them slowly.



TEST NO. 4

Be able to deal with simple First Aid problems as follows: Shock, (not electric); Bleeding from the nose; Sprains; Stings and Bites; Burns and Scalds; Avoidance and Treatment of Sunburn. If a Sea Scout, know how to fasten a life jacket on himself and be able to throw a lifeline with reasonable accuracy.

Scouts are taught elementary First Aid, not with the idea of becoming amateur doctors, but that they may be able to give prompt and intelligent first aid to an accident victim. Ability to do this is universally expected of a Scout, whether in uniform or recognized by his Scout Badge.

Points to Remember.-Keep Cool. Act promptly, but not excitedly. Tell yourself, and your patient, that such things are never as bad as they first

seem,-that “We’ll have you fixed up in no time.” Remember that the patient is the one person to be considered; not persons who may be crowding around. Tell them to stand back. Do not be guided in what you do by the advice of onlookers. As a Scout, you should know what you can do and how to do it. Unless the injury is slight and the treatment simple, send for a doctor, or have arrangements made at once for taking the patient to a doctor or a hospital.

Shock.-The condition of shock may result from any serious accident or from burns or scalds, or from severe fright. The sufferer is pale, the skin is cold and clammy, there may be beads of sweat on the forehead; the pulse is faint, and if the patient speaks, the voice is weak.

First, stop bleeding, if any. Then, keep the patient warm, but not too warm. Wrap him in warm coats or blankets if available, and apply hot-water bottles or hot bricks or stones wrapped in cloth to the armpits, the feet and between the thighs. Be sure you test the heat of these appliances on yourself before using them on the victim. In a shocked condition, the victim does not feel the heat as he would normally, and you may quite easily burn him. There is also a danger of overheating and thus actually increasing shock. Always call a doctor.

If the victim is unconscious, give nothing by mouth; if conscious and able to swallow, give hot sweet tea, coffee, milk or a teaspoonful of fresh Aromatic Spirits of Ammonia in a glass of water. Never give alcohol to an injured person.

Bleeding from the Nose.-If indoors, place the patient in a chair before an open window, the head thrown slightly back and the hands raised above the head. Undo all tight clothing around the neck and chest and apply cold applications to the nose and back of the neck. Direct the patient to breathe through the mouth. Outdoors, sit patient upright against a tree or fence and follow same treatment.

Sprains-A joint is said to be sprained when by a wrench or twist the muscles around it have been stretched or torn. Turning the ankle is a common form of sprain. If on a hike, and lacking time for extended treatment, just bandage tightly over the shoe, if a stream or pond is nearby soak foot, shoe and bandage in the water and provide a cane or improvised crutch and carry on. If in camp, treat with alternate hot and cold water applications, then bind snugly,-a broad adhesive bandage beneath the instep; draw up snugly on either side of the foot; slit both ends and cross the slit lengths upwards before and behind. Over this apply a tight roller or narrow triangular bandage.

Stings.-Extract the sting, if present, and dab the part with iodine or diluted ammonia. A paste of baking soda or wet salt, or a solution of washing soda (a teaspoon to a glass of water), will relieve the pain. Don’t stir up hornets’ nests for unnecessary stings.

Bites.-A bite from an animal wound may have very serious consequences and may easily become dangerously infected. Wash the wound thoroughly under running city tap water, or other water that has been boiled. Mild bleeding should be encouraged rather than arrested. The surrounding area should be painted with an antiseptic and covered with a sterile gauze dressing and a roller or triangular bandage. Get the patient to a doctor, or a doctor to the patient as soon as possible. Bleeding may be encouraged by gently squeezing around the bite.

Burns and Scalds.-Any Scout First Aid Kit contains an excellent emollient with directions. If such a preparation is not at hand, do not break blisters or remove any clothing adhering to the burned area, cut around the cloth that is sticking. Cover the area as soon as possible with sterile gauze and bandage lightly. A little sterile petrolatum may be applied to the dressing to prevent it from sticking. If it is not possible to get medical aid, immerse the burned area in warm water to which has been added baking soda (1 tablespoon to 1 pint of water). Cover the part with strips of gauze soaked in the solution and bandage lightly. Keep moist and warm, and get patient to a doctor.

Sunburn.-Most boys regard sunburn as something they must endure each summer in order to acquire a tan. Not only is sunburn (which is the same as fire burn) unnecessary, but frequently results in considerable suffering, sleepless nights, a "sick headache" and general lack of energy. The simple precaution at the summer's first visit to the old swimming hole, the beach or at camp, is to take your tan slowly, -by covering up with a shirt or jersey as soon as the skin reddens and begins to sting, and remain covered until the sting has passed.

For ordinary sunburn use one of the emollients (soothing ointments) or special gauzes contained in the Scout First Aid Kit. If a kit is not at hand use olive oil or vaseline. For more serious burns, with blisters, do NOT prick the blisters. In all cases of extensive burns secure medical attention at the earliest opportunity.

Most serious phase of exposure to the sun is sunstroke, and unconsciousness. For this, loosen the clothing and remove the patient to a shady spot. Place him in a sitting position, head and body up. Fan vigorously and apply cold water or ice to the head, neck and spine. When consciousness has returned, give a drink of water.

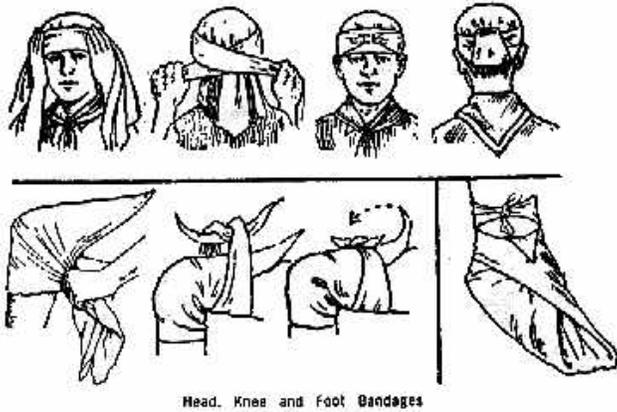
TEST NO. 5

Demonstrate the use of the Triangular Bandage as a Large and Small sling, and as applied to the head, knee and foot; and understand the importance of summoning adult help.

The Triangular Bandage.-The triangular bandage is made by cutting a

piece of cotton 40 by 40 inches into two triangles; that is diagonally from corner to corner. Or it may be improvised from a Scout neckerchief or any similar piece of cloth.

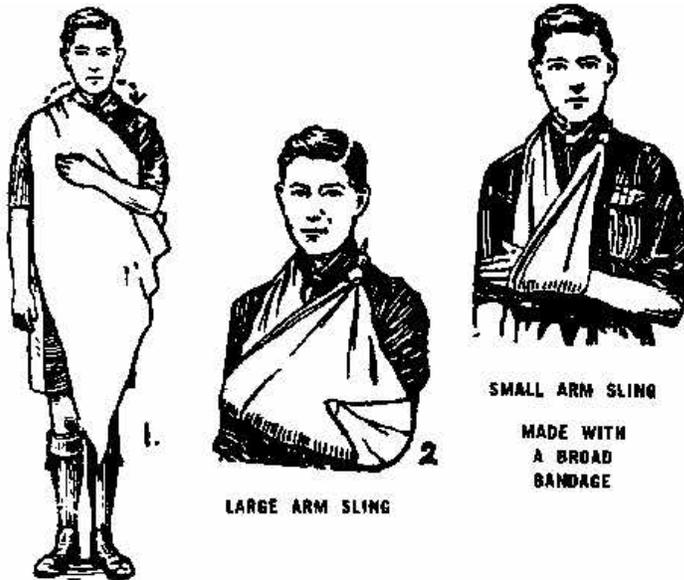
Large Arm Sling.-To make a large arm sling spread the bandage down the front of the patient's body (as illustrated). Carry one end over the shoulder on the uninjured side and bring it around behind the neck so that the end



just hangs over in front on the injured side. Carefully place the bandage point behind the elbow, and gently bend the arm across the centre of the bandage. Bring up the second end and tie to the end at the shoulder, making the knot at the side of the neck (not behind the neck). And naturally you use a reef knot.

The sling thus formed (see illustration) should support the arm so that the little finger is slightly above the level of the elbow. Conclude by bringing point forward around the elbow, and fasten with a safety pin.

Small Arm Sling.-To make a small arm sling, fold a triangular bandage as a broad bandage. Lay one end across the shoulder on the uninjured side and carry it around the back of the neck to the injured side. Bend the elbow, and, supporting the forearm, wrist and hand with the bandage, bring up the lower end and tie to the upper end; the knot being at the side of the neck (not at the back). The knot, again, is a reef knot.



Summoning Help.- A Second Class Scout must not assume the responsibility of treating any serious injuries, and must always call an older, fully qualified first aider or a physician.

TEST NO. 6

Follow a trail of half a mile; or in Kim's Game, remember 16 out of 24 well assorted small articles after one minute's observation.

Following a Trail.-This test introduces you to one of the most fascinating of Scouting games,-the following and "reading" of the story told by human and animal tracks. For the first practise the paper trail of the old game of Hare and Hounds may be used (the paper dropped bit by bit, sparingly). Hounds should collect every piece of paper as they go along.

Next you will want to try following the footprints and other trail marks left by another Scout-a stone overturned, a maple leaf beneath an oak tree, scrapes where he climbed an old rail fence, a bit of cloth torn from his shirt by the prong of a wire fence, trampled grass where he rested and ate an apple.

Then you will begin looking along dirt roads and lanes, borders of streams and ponds, and lakes and river shores for the "track stories" of birds and animals. Or in winter you will go out and look for snow tracks.

Some Tracking Hints.-An old rule of trackers is to "look into the eye of the sun." That is, face the sun so you will have the full benefit of the sun's shadow across the imprint. Otherwise you may not get the true value of the shadows.

When an animal track has been identified, put your mind, as it were, into that of the animal. Why was it going in this direction? Was it in a hurry, or was it taking its time? Was it watching out for a possible attack from an enemy on the ground or a flying enemy?

When a track is lost, never walk forward over its possible location. Mark the spot where the last impression appears, and if you cannot hit upon a direction clue by imagining yourself the animal, begin studying the ground in advancing half-circles.

The condition of overturned pebbles or stones (damp or dry) may indicate the time since they were disturbed-the weather being allowed for; that is whether cloudy, sunny, windy, and the exposure of the stones to these effects.

The passage of a person or animal across a hay or grain field, or through grass, will show dark shadows when made coming toward you, and light if going from you. The deduction is based on the fact that light is reflected by grass stems bent away from the observer, and shadows made when the grass ends incline toward him.

In winter a light fall of damp snow provides the best tracking. In very light snow the wind will soon erase tracks, so on such a day a start should be made immediately the snow has ceased falling.

You will not get mixed up on rabbit tracks from the fact that bunny places his hind feet in advance of his forefeet. A Tenderfoot has been known to “follow” a rabbit backwards. The rabbit’s foot is so well furred that his snow tracks are seldom sharp.

The tracks of an otter are rather round, and in dry snow may be indistinguishable. He can be identified by the undulating form of the trail and the frequent dragging of his tail.

Kim’s Game.-This game was taken by the Founder of Scouting from Rudyard Kipling’s famous boys’ book “Kim”- the story of an orphan son of an Irish soldier in India who grew up among native boys and was later trained for Government Intelligence work by a dealer in old jewels and curiosities, and had numerous exciting adventures. The training was begun by showing Kim (his name was Kimball O’Hara) a tray of precious stones for a minute’s observation, then covering it and asking Kim how many stones and what kind they were. At first Kim could remember only a few, but soon, by practise, he was able not only to say exactly how many, but to describe the stones. Then he practised with other articles, and ultimately was able at a glance to see all sorts of details at things which were of value in tracing and dealing with criminals.

Kim’s Game, while given as an alternative test to following a trail, could well be taken by every Scout; and in any one of its numerous possible variations, indoors and out, it always gives good fun.

In its commonly used test form, 24 articles of different kinds,-say, a key, a pocket knife, a coin, a marble, a comb, a lump of coal, etc.-are placed on a table and covered with a cloth. The Scout steps to the table, the cloth is removed for exactly one minute; the Scout looks, endeavouring to fix as many as possible of the articles in his mind; the cloth is replaced, and the Scout retires by himself to a corner and writes down as complete a list as possible.

As with Kim, the purpose of the test is to develop the faculty for observation and memory. (A surprising number of people can look at things and not see them, or “see” things that aren’t there.) And of course the test will not be regarded as a mere stunt, or “exam” to be passed once-possibly at the first try, by mere good luck. No. It must be proof that you can really see details, and remember them.

Here are some variations of the game:

Elimination Kim’s.-One or more articles are removed after the first look, and the game is to name those after a second minute’s observation.

First Aid Kim’s.-A collection of first aid items (not necessarily 24) is used, and their use as well as number is required.

Knot Kim’s.-Similarly, a selection of knots, bends, splices and lashings is

used.

Natural History Kim's.-On the hike or in camp mixed collections of leaves, bark, wild flowers, weeds, fungus, pieces of rock, etc., are shown.

Solution To Tracking Problem

Here is the solution to the tracking problem on page 19. Pushing a wheelbarrow full of dead leaves, a man wearing wooden shoes meets a friend on his bicycle coming from his right. Both stop. The farmer rests his wheelbarrow, but the cyclist remains on his bicycle, resting his toes on the ground. They talk for about ten minutes, time enough to smoke a cigarette. They leave while their cigarettes are still alight. The cyclist leaves first, as is revealed by the wheelbarrow tracks crossing the bicycle tracks.

TEST NO. 7

Be able to recognize and name six common trees and know the value of their woods for fires. (In areas where there are not sufficient trees the examiner may substitute shrubs.) If a Sea Scout know the uses of four types of Canadian lumber used in boat construction.

This test is self-explanatory. It should not be difficult to find, even in the smallest community, someone who can identify six trees and advise on their value as firewood. In heavily treed areas Scouts will want to go beyond the minimum requirements of this test and be able to recognize ten or twelve common trees.

TEST NO. 8

Demonstrate correctly the following: Square Lashing and Sheer Lashing; Guy-line Hitch and Timber Hitch.

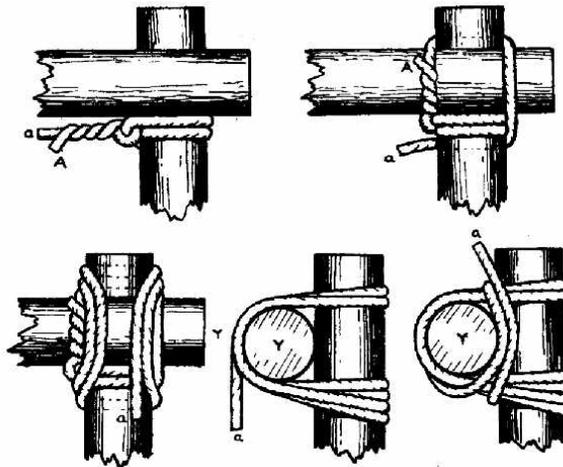
The use of lashings instead of nails enters into practically all forms of outdoor Scouting, the making of over-night bivouac shelters, and at camp all sorts of conveniences, usually called gadgets. In fact, when you are a First Class Scout you can go into the woods with a rucksack of simple necessities and a handaxe, and build a completely equipped camp, spruce shelter, kitchen with numerous gadgets, rustic table and benches; perhaps a stout bridge over a creek (providing a short cut to the farm where you get your milk); a 20 or 30 foot fire ranger's or signalling tower. In a word, a layout to make a Tenderfoot's eyes stick out.

Practising lashing is always good fun, too; and when you've finished a job, all snug and taut, and stronger than if nailed, you feel as if you have done something.

In the trades, lashings are used extensively by builders and construction engineers in erecting "false work" of various kinds, and by carpenters and

painters for running up scaffolding on the outside of buildings. If you are living by the sea or in an inland waterfront community, you can study the use of lashings by sailors, longshoremen and yachtsmen.

The Square Lashing.-This lashing is used where spars cross each other, and touch where they cross. Start with a clove hitch round the upright spar immediately below the point where the other spar crosses. Twist the free end and the standing part round each other, after the clove-hitch has been forcibly tightened in order that the hitch may hold firm. Now take the lashing in front of and over the second spar, the clove-hitch being placed at the angle nearest the take-off on to the second spar. Pass the lashing behind the first spar, and down in front of the second spar, and finally round behind the first spar immediately below the original clove-hitch.

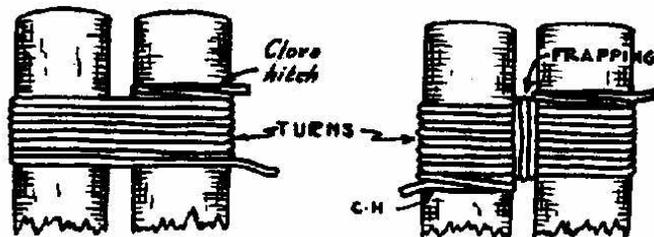


Repeat the process four times, keeping on the inside of the previous turn on the second spar, and outside on the first spar. When lashing on the ground, strain, or tighten each turn by running a half-hitch round a mallet, and pinch, as illustrated on page 51. Now take a couple of frapping turns round the lashing between the spars, strain well, and finish off with a clove-hitch round the most convenient spar.

The test of a lashing is neatness and snugness. The golden rule is, "Never hurry a lashing."

The Sheer (or Round) Lashing.-This lashing is used to bind two parallel spars together for increased strength, or end-to-end to make a flagstaff, or two spars to form sheer-legs.

This lashing is usually started with a clove hitch round one of the spars, but sometimes, if the spars are not to be opened out, the clove hitch is placed



around both spars, or a timber hitch round both spars is used. As in other lashings the free end and the standing part are twisted round each other. Seven or eight turns are then taken round both spars. If the spars are to

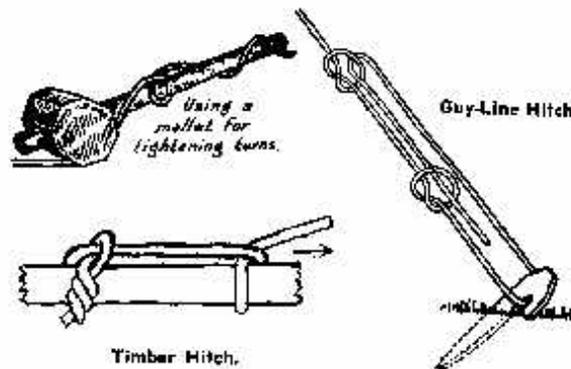
be lashed parallel to each other for strength, or if the spars are to be used as sheer-legs, then a couple of frapping turns are taken, and the lashing finished off with a clove hitch on the opposite spar. In sheer-legs the starting clove hitch will be below the lashing on one leg, and the finishing clove hitch above the lashing on the other leg. If, however, two staves are being lashed together in order to make a flagstaff, not only will two lashings be required, but it is best to omit the frapping turns and tighten up the lashing with wedges, since the closer the staves can be brought together the better. These wedges can be just pointed or sharpened pieces of wood, nothing elaborate is necessary.

The position of sheer-leg lashings depends upon the purpose. If to lift or sustain weight, the lashing is near the top; otherwise, lower down. In any case the legs should not spread farther than a third of the distance from the spar butts to the lashings. A light spar, or ledger, should be lashed (square lashing) a short distance above the butts, and holes dug for the feet to prevent slipping.

Two guy-lines are required for raising and controlling, one "fore" and one "aft" attached to the tips of the sheer.

The Timber Hitch.-In addition to its use for starting a diagonal lashing, the Timber Hitch frequently is useful in camp for hauling logs to the council fire, and spars and timbers for such pioneering jobs as bridge and tower building. It is quickly adjusted, holds snugly under strain, and is easily freed.

The Guy-Line Hitch.-This hitch (frequently used for securing the main guy-lines of large tents) is started by casting two overhand knots in the rope some distance apart (see illustration). The running end is then passed around the tent peg, carried upward, then down through the two knots. The knots are then pulled taut. The guy-line is lengthened or shortened by loosening the two knots and adjusting the running end.



Lengths of Lashings.-It is advisable to know beforehand the length of lashing rope required for the different lashing jobs and different sizes of spars or timbers.

Lengths depend chiefly on the size of the spars or timbers. As a rough working rule the diameter of a spar in inches is the length of the lashing rope in fathoms. That is approximately six feet. In other words if you are lashing two-inch spars together you will need 12 feet of rope for each lashing; three-

inch spars, 18 feet, and so on. For lashing instruction and practise each Patrol should have in its equipment box, various lengths of rope for particular work, ends properly whipped and kept in bags according to length. Length of rope can be made readily recognizable by whipping with coloured sailmaker's yarn or twine.

TEST NO. 9

Know the safety rules, care and use of hand-axe and knife. Demonstrate the correct way of chopping firewood.

Axemanship.-Baden-Powell once told of a Canadian guide, with him for salmon fishing, "who with his axe and no other tool could do the finest as well as the biggest work, from cutting down a tree to sharpening a pencil." One day the guide built a small bridge across a creek near the fishing camp. Said B.-P., "The logs were neatly trimmed, and cut to lock, but what made me stare were the floor boards. They were as smooth and straight-cut-as if done with a plane or saw. it was indeed a work of art."

A skilful axeman is a true craftsman, and an axe is not "merely an axe," but a craftsman's tool, and one of man's most useful tools. With it alone the early pioneers of Eastern Canada and the Pacific coast cleared their land, built their cabins, made their furniture and fashioned the sled or cart with which they drew their first grain to the new grist mill- whose water wheel had been made with an axe.

Even today the axe is the first tool concerned in the production of many things, including paper for books. For instance it cut the trees which produced the paper for this Scout book!

A woodsman takes pride in his axe. It is kept bright and clean, free of nicks, and often is actually "as sharp as a razor." Old time Canadian lumbermen were said to have shaved themselves with their axes.

Kinds of axes-There are several kinds of axes in common use in Canada today. These are the splitting axe, with a somewhat "fat" blade; the cutting axe, with a thin, sharp blade, and the double-bitted (double bladed) cutting axe. The last is used in "topping" and felling the giant trees of British Columbia.

The most suitable axe for Scout camp use is the medium weight axe, with head weighing about 21/2 pounds. Also useful is the small axe, or Scout hand-axe, for carrying in a holster on the belt when hiking.

Selecting an Axe.-When buying an axe, look to see that the grain of the handle is straight throughout. Note whether the head is snugly wedged on, and finally whether it is "well hung." Most axe blades have a little set-off, right or left from a line along the centre of the handle. Some woodsmen prefer a little set-off. To discover this, hold up the axe by the back of the blade,

cutting edge up, and sight along edge toward centre of handle head. If set-off is more than a quarter inch, try another axe. Never buy an axe with a painted handle-the paint may hide flaws in the wood.

Sharpening.-Most new axes require some sharpening, and of course all axes call for resharpening from time to time, however, carefully used. If available, a turning grindstone is used. The blade of the axe is held, as illustrated, at a very slight angle, and the stone turned from you. Plenty of water is required (in a trough or dripping steadily from a can hung directly above), to prevent the steel from overheating and losing temper. To remove "wire edge" give the wheel a couple of final turns toward you, and finish off with a carborundum whetstone (see Scout catalogue). If a grindstone is not available, a fine file and the whetstone will do a good job.

Care with an Axe.-Always carry an axe, other than your Scout hand-axe, on the shoulder, the blade flat and cutting edge away from the body.

Pass an axe to another person by the handle, hanging, the blade turned to one side, and be sure the other person grasps it before you let go.



When finished with an axe, never go away and leave it on the ground. This has caused many serious accidents. When through, "mask" the axe by driving it lightly into a stump, or log-but never in a live tree. Do not drive it into the ground; it may strike a stone, or if left overnight it will probably show rust along the cutting edge.

Seldom lend your axe, or use another Scout's axe. One reason is that the set-off of the blade may be considerably different, particularly if yours has a right set-off and the other Scout's a left set-off; which will tend to spoil the precision of your accustomed stroke. In other words be wary of using a strange axe.



If an axe head shows signs of coming loose, at once tighten it by whittling and driving in a hardwood wedge. A flying axe blade may travel a considerable distance, and is a most dangerous missile.

Occasionally bad handling in camp results in the breaking of an axe han-

dle close to the head. If unable to pull or pound out the stub you may have to burn it out. To do this, push the axe blade down into solid damp soil, and build a close small fire about the back. (See illustration).

Axe Practise-Like any other craftsman's art, axemanship calls for practise to develop skill. A good axeman swings slowly and regularly, with only a little more effort than is necessary to raise the axe.

When cutting a log, learn to "throw chips" with an even, alternate right and left stroke, leaving a smooth, even "kerf" as the cut is called. Practise cutting and splitting until you can hit a hairline. "Keep your eye on the cut."

Knifecraft-A good Scout knife, taken care of and always sharp, is second only to a handaxe in its practical usefulness. It is good fun to whittle something out of a piece of white pine, or other soft wood; and all kinds of things can be made. (See page 35). Note a few DON'TS: don't whittle towards, but always away from you. Beware of nails. Don't hammer on the back of blade. Don't use the handle as a hammer or blade as a screw-driver. Don't stick the blade into the fire. Don't go about notching benches or railings, or cutting initials in trees. Always have your knife under control, and then you'll never have cut fingers. Playing "knifie," as some people call it, is a waste of time, bad for the knife and dangerous. Scouts never play this game. Use an oilstone for sharpening.

Note.-Scouts under First Class grade are not permitted to wear or use sheath knives. Tenderfoot and Second Class Scouts should wear and use a good jack-knife.

TEST NO. 10

Know the Semaphore or Morse sign for every letter of the alphabet and for the numerals; also the table of Miscellaneous Signals given in Camp Fire Yarn 7 of "SCOUTING FOR BOYS", (See Page 60). Be able to send and receive a simple message accurately out of doors. For a Sea Scout this must be under working conditions ship to ship or ship to shore.

To pass this test it is not sufficient merely to know the alphabet. The Scout should be able to send and read any letter given, and a few short, easy words and numbers.

Semaphore-Semaphore signalling is used chiefly for short distance communication, and often is handy when en a hike or camping. For distant signalling flags are necessary, but for shorter distances and when practising, the hands alone may be used. When using the hands they should be extended to full reach, and held flat to the front.

Learning the Alphabet

The simplest method of learning the alphabet is by circles, thus:

1st Circle-A to G.

2nd Circle-H to N (omitting J).

3rd Circle-O to S.

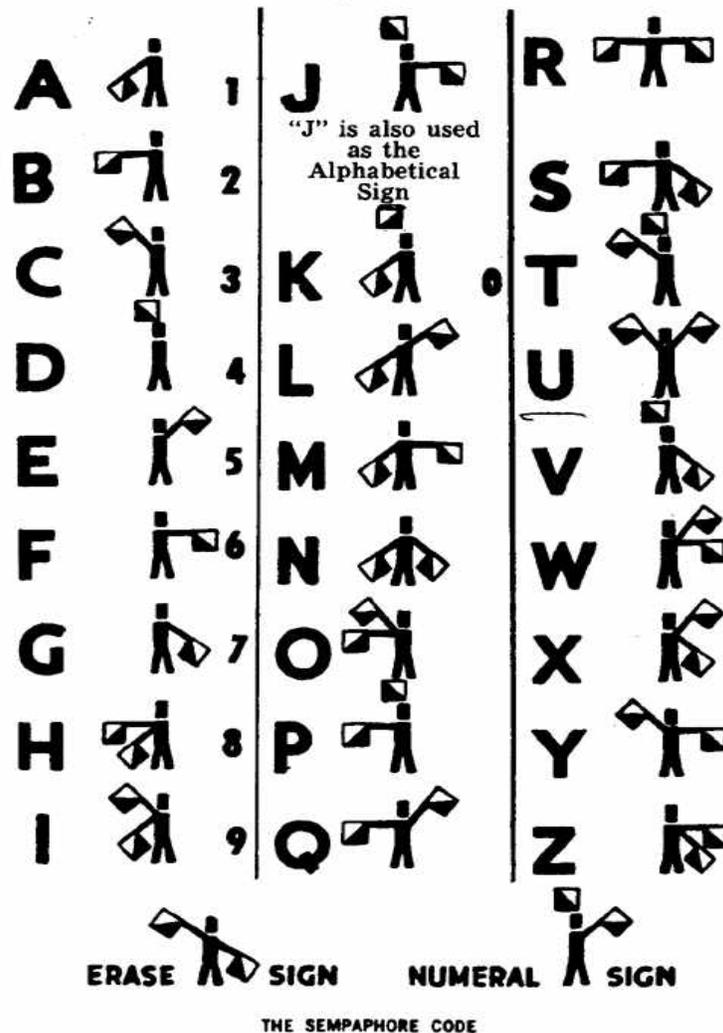
4th Circle-T, U, Y and "Erase -

5th Circle-Numerical Sign; J (which also is used as the Alphabetical Sign), and V.

6th Circle-W and X.

7th Circle-Z.

The letters A to K (omitting J) are read as the numerals 1 to 0 when preceded by the Numerical Sign. When the numbers are finished and letters are resumed the sender again signals J, as the Alphabetical Sign.



When practising letters, the arm movements follow in natural order. When making words the letters are formed in the most convenient manner. Thus in sending WHO, the O may be made from the H either by moving both arms, or by keeping the one at B steady and moving that at A to C position. In making one arm letters the arm is never brought across the body; thus in making C the right arm only is used.

When sending words the arms are not brought back to Ready after each letter, but if an arm is already in position to assist in forming the next letter it is held steady. Thus, to send CAN, the right arm is first placed at C, after a slight pause brought down to A and kept steady, and after a similar slight pause the left arm is placed at G which with the right at A forms the next letter required, viz., N.

Points to Remember

- (1) Signalling is useful only when it can be read; that is, when the letters are perfectly made and can be clearly seen. So -
- (2) The sender must exactly face the person he is signalling; must stand firmly, the feet eight to ten inches apart.
- (3) Flags must be held at full arm reach, arm and flag making a straight line,-no dropping at the wrist; first finger lying along the pole.
- (4) Arms inexact position for each letter-no slanting forward nor to the rear. This is most important.
- (5) When making T, O, W and the Numerical Sign the flags must not cover one another.
- (6) Turn slightly on the hips when making such letters as I and X, but keep the eyes to the front.
- (7) When making double letters bring the flags in to the body after the first letter.
- (8) Don't try to send fast as soon as you have mastered the letters; and never send faster than the ability of the receiver to read. This only wastes time through the necessity of repeating.

The International Morse Code.-In the Morse communication system letters are formed by dots and dashes on a telegraph instrument, by short and long buzzes on a buzzer, by lamp flashes, by whistle notes or short and long waves of a flag.

Because of this adaptability, Morse is much more useful than Semaphore, but requires more practise.

There are several systems of learning the alphabet. The one here given will be found effective. Progress will be most rapid when two or more Scouts work together, using a buzzer. (This can be easily improvised with a door bell, a dry cell, a flat spring and a few lengths of copper wire.)

Letter Groups.-Practise the letters in the following successive groups, then words containing only those letters; then words including letters previously learned. And so on. Only regular and continued practise will bring speed in reading. In sending do not attempt to be fast as soon as you know the letters. As with Semaphore, clearness of signals must be your object. Always remember, a message that cannot be read is no good.

Dot Letters: E I S H

Dash Letters: T M O.

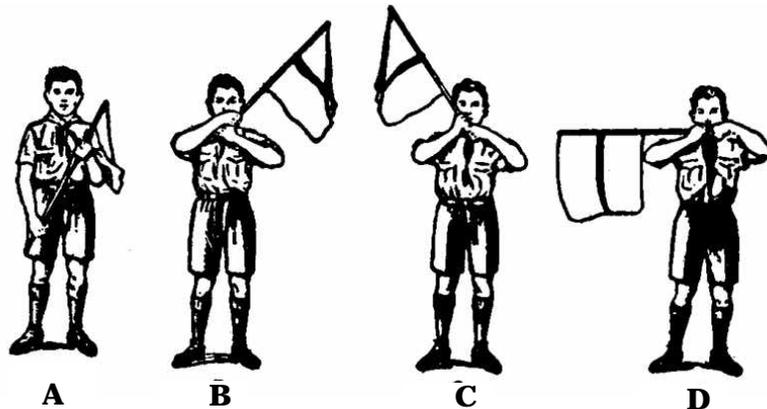
Remaining Vowels and Two Long Letters: A U C J

Short Opposites: A and N, U and D, G and W, R and K.

Long Opposites: V and B, F and L, Q and Y, P and X

Morse Flag Signalling - In Morse Flag signalling there are two positions-"Prepared to Signal" and "Ready": and two movements- Dot and Dash.

In "Prepare" (Fig. A), hold the staff in the right hand about six inches from the butt, gather in the folds of the flag with the left hand; at the same time carry the left foot about 12 inches to the left, balancing the weight of the body equally on both feet.



In "Ready" (Fig. B), raise the flag from position A and allow it to fly free, the left hand grasping the butt of the staff; which should be level with the chin and 8 inches from it; right hand in same position as in "Prepare to Signal."

Elbow should be free from the body, and the eyes to the front. For DOT (Fig. C) pivot the staff between the hands and swing it smartly from the "Ready" to a corresponding position on the opposite side of the body and back.

For "DASH" (Fig. D), swing the staff from the "Ready" position smartly to a position just below the horizontal, pause slightly and return to "Ready."

To prevent the flag clinging to the staff, swing it in a flattened “figure-of-eight.”

MISCELLANEOUS SIGNALS

Miscellaneous signals are signals which are additional to those shown in the regular Semaphore or Morse Codes. They are explained below. Semaphore

Signal	Meaning and Use
WE., WE., WE.	Calling up signal.
Numerical Sign	Numbers will be sent. See Semaphore Chart.
Numerical Check	Receiving station repeats each figure.
Alphabetical Sign	Letters will be sent. See Semaphore Chart.
Erase	To erase wrongly signalled word-See Semaphore Chart.
K	Carry on (answer to V.E. if ready to receive message.)
Q	Wait. (Answer to V.E. if not ready to receive message.)
A	General Answer (used after each word to show that it has been received correctly.)
AR	End of Message signal.
R	Message received correctly. (answer to AR)
G.B.	“Good-bye” (used when station is going to close down.)

MORSE

Signal	Meaning and Use
WE., WE., WE	Calling up Signal
K	Carry on (Answer to, V.E. if ready to receive message.)
Q	Wait (answer to V.E. if not ready to receive message.)
T	General Answer (used to answer all signals except numbers.)
AAA	Period or Decimal.
AR	End of message signal.

- R.Message received correctly (answer to A.R.)
- 8 dotsErase (to erase anything sent incorrectly.)
- G B“Good-bye” (used when station is going to close down.)

When figures are sent by sending station, the receiving station will always “check” them back by the alphabetical check, that is:-

A is check of 1	E is check of 5	H is check of 8
B is check of 2	F is check of 6	I is check of 9
C is check of 3	G is check of 7	K is check of 0
D is check of 4		

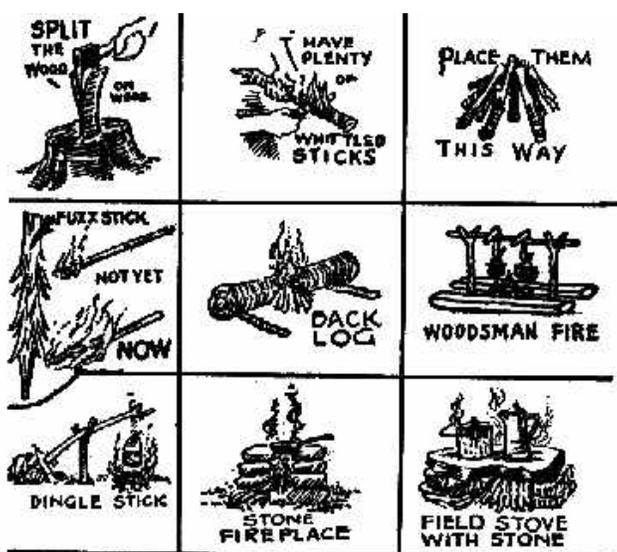
instead of using the general answer. Thus 6 would be answered by F. Where there are figures and letters in the same group the figures only are checked back.

A	•••••	N	•••••
B	•••••	O	•••••
C	•••••	P	•••••
D	•••••	Q	•••••
E	•••••	R	•••••
F	•••••	S	•••••
G	•••••	T	•••••
H	•••••	U	•••••
I	•••••	V	•••••
J	•••••	W	•••••
K	•••••	X	•••••
L	•••••	Y	•••••
M	•••••	Z	•••••
NUMERALS			
1	•••••	6	•••••
2	•••••	7	•••••
3	•••••	8	•••••
4	•••••	9	•••••
5	•••••	0	•••••
ERASE SIGN			
•••••			

TEST NO. 11

Lay and light a wood fire in the open, using not more than two matches. No paper or birch bark to be used. Cook over this fire a quarter pound of meat and two potatoes.

One of the most reliable fire starters is the fuzz-stick. This is a piece of pine or other soft dry wood about a foot in length and an inch in thickness, whittled into the likeness of a shaving brush, but with the end extending below the shavings and sharpened. The sharpened end is stuck in the ground, and kindling piled about it tent-wise.



Another good starter is a little bundle of dry twigs broken from the ends of dead branches on live trees, and stood up wigwam-like.

In windy weather a small dry stone placed in the kindling wigwam will solve the problem of striking the match safely.

In dry weather this test will give you little trouble, but in wet weather you will need to know where dry wood can be secured. It is a good thing to remember to “Go to

the living and get the dead”, which means the lower dead branches of living trees.

Making a fire during a rain is a nice test of a Scout’s woodcraft. One method, in continuous downpour, is to find a wide-spreading hardwood tree, climb and shake the moisture from the branches on one side, then build your fire (a small fire) beneath. By the time your fire is going well the rain will not affect it; provided, of course, you keep feeding it, preferably keeping it in wigwam shape.

And being a proper Scout, you will not overlook all the usual forest fire precautions-building on rock or bare ground, and when through “putting the fire out three times,” so there is not the remotest chance of a spark remaining in the soil or beneath a buried root.

Cooking.-This means that your cooking must be done in the open, with a fire similar to that built for the fire-making test, and under conditions which usually exist in the woods or on the prairies while camping.

The quarter pound of meat and two potatoes must be properly cooked, and served together as a meal. Preferably the steak is broiled on a forked stick or a "tennis racquet" broiler. The potatoes may be covered with clay and roasted in hot coals. Another method is to dig a small hole, build a hot fire in it, remove the fire and put in the potatoes, cover with hot earth and ashes, and rebuild the fire for 40 or 50 minutes.

Another Scouty method is the Kabob. Cut your meat into squares about 1½ by 1½ inches. Cut your potatoes into slices about one quarter inch thick. Also cut carrots and onions into slices. Obtain a green stick about one half inch thick, spear a slice of meat, potato, onion, carrot, meat, potato, onion and carrot until, your supply is all on the stick, and then slowly cook it over hot coals. This is called a Kabob, and with salt and pepper to your taste makes an appetizing and satisfying meal.

TEST NO. 12

Demonstrate that he understands the Highway Code of his Province and any special local rules insofar as these affect pedestrians and cyclists.

We cannot give you the details of this test, because Highway Codes differ slightly in the various provinces. Get your Scoutmaster to write, or write yourself to the Department of Highways in your Provincial Capital and ask for a copy of the code. It will be gladly sent to you.

Note also that this test provides that you should know and live up to the special rules regarding pedestrians and cyclists in your community. If you live in a built up area, it is altogether likely that one of these rules will be that you must not ride bicycles on the sidewalks. Another rule might be that you must not cross an intersection against a red light. Have your Scoutmaster, or yourself enquire at your Town or City Hall for those rules which are local ordinances relating to pedestrians and cyclists. This test is provided so that you will become safety conscious, and do your bit as a Scout to cut down the terrible loss of life and limb through traffic accidents. Remember this-it is not always the motorist who is to blame.

TEST NO. 13

If he has the use of a bicycle, demonstrate that he is keeping it properly maintained and that he is able to effect minor repairs.

As you will probably have had a bicycle for some time before you became a Scout you will probably know quite a lot about keeping it in good order and making minor repairs. However, boys often overlook important little things, so here are a few reminders for you. They were prepared by an official of Canada's largest manufacturer of bicycles.

1. Keep the front hub bearings properly adjusted so that the wheel will revolve freely. Oil often with machine oil.

2. Oil the pedals frequently.
3. Keep the brake clean, oiled and adjusted so it will function quickly and smoothly. Your local bicycle shop will show you how.



Keep Your Bicycle in Good Running Order

4. Oil and keep adjusted your steering column.
5. Use special chain oil to keep the chain and gears running easily.
6. Oil often the main hanger to which the pedal cranks are attached, as this is the power plant of your bicycle.
7. Always keep your tires inflated hard. Avoid skidding and hitting curbs. Check wheel alignment to save tire wear.

Here are the Ten Commandments for Cyclists which will help you observe Test 12.

1. Keep to the right and near the curb.
2. Meeting traffic, pass on the right; overtaking traffic, pass on the left.
3. Turn right, close to the curb. To turn left, approach intersection as closely as possible to centre line of highway, then make left turn by passing to the right of, and as close to, the intersecting line as possible.
4. Raise one arm when stopping or slowing up to indicate direction when turning.
5. Ride straight. Don't wobble.
6. Watch for STOP signs and traffic officers' signals.

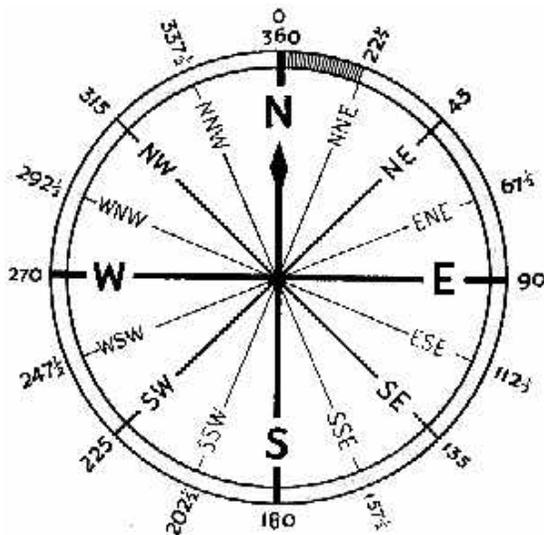
7. Give traffic coming from the right the right of way at intersections.
8. Do not hang on to moving vehicles.
9. Don't "cut in" in front of a moving car.
10. Keep your feet on the pedals-your hands on the handlebars. Always use a light at night, and red light or approved reflector and a ten inch white strip painted on the rear mudguard.

TEST NO. 14

Demonstrate the practical use of a compass and know the 16 principal points.

In addition to its value while hiking or camping in out-of-way places in the woods or mountains or on the plains, the compass can be used to develop another faculty expected of every Scout. This is "a sense of direction," to enable him intelligently to direct strangers visiting his community, for many people lack this sense. Not infrequently motoring tourists lose their direction on winding roads or at inter. sections, and particularly in strange towns and

cities, with the result sometimes that night comes before they reach a planned stopping place.



One way to use the compass to help develop good direction sense is, during hikes, to note and name your changes of direction from time to time as indicated by sun shadows, or the feel of a steady wind on a cloudy day, or the drift of clouds overhead, then check with your compass. After a time this recognition of change of direction will become automatic, and you will rarely find yourself going the wrong way in town or country.

Learning the Compass Points.-These are readily learned by repeating the four cardinal points, North, South, East and West, then the midway points starting at North: North-East (NE), South-East (SE), South-West (SW), and North-West (NW). Next, again starting at North: North North-East (NNE), East North-East (ENE), East South-East (ESE), South South-East (SSE), South South-West (SSW), West South-West (WSW), West North-West (WNW), North North-West (NNW). This completes the 16 principal points required for the Second Class Test.

Ways of Demonstrating Use of the Compass. Indoors: Seated in the centre of a circle of boys with a compass in your hand, give the compass direction of certain Scouts as they are called by name. . . . With 15 other Scouts you form a 16-point circle. The circle revolves, is halted, and you tell your new compass position. . . - Outdoors: You are asked to direct a "tourist" to a neighbouring town entirely by compass. . . . In town or on the hike you give the direction of buildings or landscape features as asked.... On a hike you travel entirely by written compass directions, such as: "Proceed WSW to intersection of three roads. Take road NNW one mile to old log barn; cross field NE to small stream," etc.

TEST NO. 15

Take part in at least three regularly conducted hikes; or two short cruises of from 4 to 8 hours each under authorized leadership, and if a Sea Scout know how time is marked on ship board, and how a crew is divided into watches.

Hiking is one of most enjoyable experiences of Scouting. It is a healthy practice too-ask your doctor. With so many automobiles, motor cycles and bicycles around these days, most boys do far too little hiking.

In "The Hiker's Handbook" by Douglas Leechman, the author points out:- "We are a little apt to forget that walking is man's normal method of getting from one place to another. Riding, whether on the back of another animal or in some kind of machine propelled by muscular energy, steam, electricity or gas, is an artificial device."

"Walking" Mr. Leechman adds, "is a far more healthful mode of progression than any other. The repeated movements of the muscles stimulate the circulation of the blood, promote the operation of the digestive system, massage the Pymphatic glands, and give the heart and lungs enough work to keep them healthy. A lack of exercise is definitely harmful because the system is deprived of these benefits, and lazy habits, if persisted in, result in a lowering of muscular tone, in 'going soft', as we call it, and in an impairment of the balance essential to good health."

Apart entirely from the health standpoint that Mr. Leechman stresses, hiking is both fun and adventure, and the requirement of three hikes before you become a Second Class Scout is by way of introducing you to this fun and adventure.

Make the hikes serve a double purpose. Perhaps one could be used as a compass hike, travelling only on compass directions. Another could be an observation hike, identifying trees and shrubs or birds. Another could be a tracking hike - following a trail of Scout Trail Signs over an extended area. Or you could have a cooking hike, or a hike just for the fun of hiking.

Keep a log of each hike; it will be good practice and preparation for writ-

ing the log of your First Class Journey.

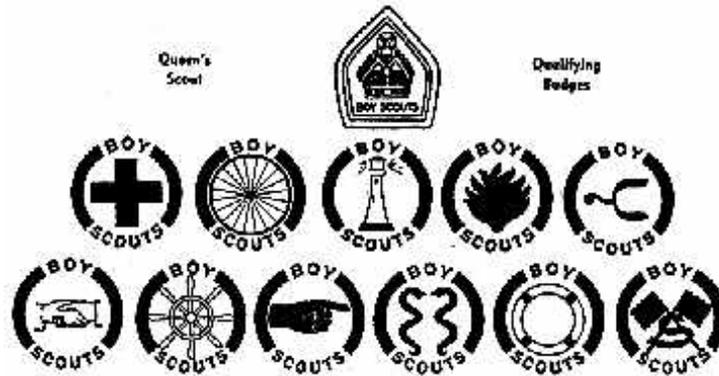
NOW FOR PROFICIENCY BADGES

As soon as you are a Second Class Scout, you are permitted to qualify for, and wear any six of the Proficiency Badges. It is suggested that Second Class Scouts tackle first the Queen's Scout Qualifying Badges, which will advance them a step towards that Grade.

The Queen's Scout Qualifying Badges are designed to fit you for service to your community. That is what a Queen's Scout is—a First Class Scout who has specially fitted himself for service.

Proficiency Badges were introduced into Scouting by the Founder to aid you in developing a taste for hobbies and handicrafts, one of which may ultimately give you a career. Many former Scouts can testify that they were first introduced to their life's work by an interest in one of the Proficiency Badges.

The requirements for all Boy Scout Proficiency Badges may be found in the handy pocket size "Wolf Cub and Boy Scout Proficiency Badge Reference Book", or "Policy, Organization and Rules for Canada", available from your Provincial Headquarters, Stores Department Agents or direct from The Stores Department, The Boy Scouts Association, 306 Metcalfe Street, Ottawa 4, Ont.



THE FIRST CLASS TESTS

Before being awarded the badge of the First Class Scout a Second Class Scout must have attained the age of 14 years, and satisfied his Scoutmaster that he can re-pass the Tenderfoot and Second Class Tests; and must pass the following tests.

TEST NO. 1

Must be able to re-pass the Second Class Tests.

TEST NO. 2

Save money regularly by depositing in a bank account (a sum consistent with his opportunity for regular saving), and demonstrate thrift through the proper care and maintenance of his personal belongings.

You will not regard this test as a sort of "admission fee;" something to be done merely to meet the requirements. It must represent money earned and saved,-put aside. Proof that you have continued to live up to the 9th Scout Law, and have now fully developed the habit,-not of spending all your money as you earn it, but of regularly banking a certain amount, or certain percentage.

In other words, in money matters you have developed self-control, self discipline. And the real, down-to-earth value of this test! Because the "business side" of every man's life is based on this ability to "save against a rainy day" and in order that he may take advantage of "good buys" when they come along,-including the buying of a town or city home or a farm. Sensible thrift and wise spending always has marked the chief difference between success and failure-not only in business but in the trades and professions and on the farm.

The Amount Regularly Saved.-This is not at all so important as the determination and sometimes the self-denial put into it. Like the widow's mite, one boy's banking 25 cents may mean much more than the \$5 deposited by another lad. And quite possibly the "25 cent boy" will be the one out in front ten, fifteen or twenty years from now, perhaps with the "\$5 boy" working for him.

So, make it a point to pass this test absolutely on accomplishment and merit.

Remember too, that unless you show your Scoutmaster that you are tak-

ing proper care of your uniform and other personal belongings, he will not pass you on the savings requirement. alone. Care of your things is as much true thrift as regularly banking some of your allowance or earnings.

TEST NO. 3

Be able to explain the functions of the principal organs of the body.

Principal Organs of the Body

Bones.—The framework.

Brain.—The “control.”

Nerves—For carrying messages between the brain and the various parts of the body.

Stomach and Bowels.—For digesting food and removing waste substance from the body.

Liver—For storing food for the muscles.

Pancreas—For supplying the strong digestive juices.

Heart—For pumping blood through the body.

Spleen—For destroying old blood cells.

Lungs—For supplying the blood with fresh oxygen from the air.

Kidneys and Bladder—For removing and temporarily storing the waste fluids of the body.

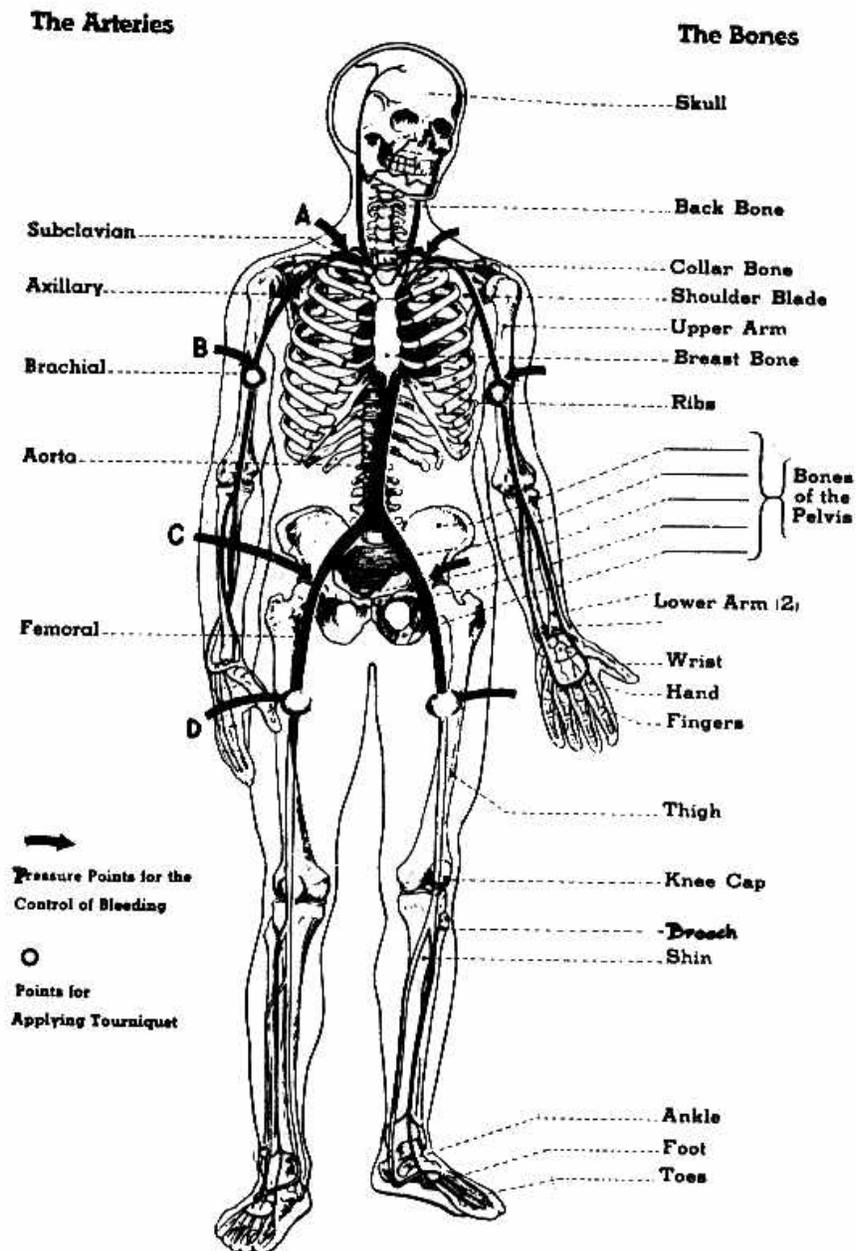
As a whole the human body may be compared to a motor car or steam engine, i.e. an assemblage of different parts fitted together and working together as one machine. The framework is held together by joints which can be bent or moved by the muscles. This permits us to move about and do things.

The muscles system therefore may be considered as the engine which drives us along.

Engines require fuel. The fuel of the human engine is food. When we eat our breakfast our teeth chew (or should chew) the food into small pieces, and mix it up with saliva from the mouth. We swallow the chewed mouthful, and it descends into the stomach, which is just like a small churn.

In the “churn” the food is all mixed up, digestive juices are added, and the breakfast gradually changes into a creamy fluid like condensed milk.

At the lower end of the stomach is a small ring-like valve. This valve opens when the food is properly churned, and allows a small portion to pass into the first part of the intestine, or “small bowel.”



The bowel is like the inner tube of a bicycle, and there are 22 feet of it all curled up inside your "tummy." Here the food is further digested by strong juices from the pancreas, and absorbed into the blood. Round the bowels are hundreds of small blood vessels, into which the food is taken, to be carried to the muscles, brain, bones and all the other parts of the body.

Now the muscles require food every time they move; and since we cannot be eating all day, a portion of the food is stored up in the liver in the form of starch and sugar.

After the small bowel absorbs all the good from the food, the waste material passes on into the "large bowel," which is about the size of a motor car inner tube, and 6 to 8 feet in length. The material is still in a watery condition, and in the large bowel the water is extracted and the material left in a semisolid state like soft clay. This then is passed out of the body.

All the water which the large bowl collects is taken by the blood to two little organs called kidneys, along with a lot of waste products of the liver and muscles.

The kidneys are like two clever little filters. They know just what substances to keep back in the blood, and what substances to collect and pass down through two small pipes to the bladder. When the bladder is full, a message is sent to the brain by the nerves, and another message is sent from the brain to the bladder telling it to empty itself.

We all know that a fire will not burn without a gas called oxygen, which is present in the air. In the same way we cannot burn the fuel in our muscles or digest the food in our stomach without oxygen, so we draw air through our nose down the windpipe into our lungs.

Lungs are like very fine sponges, and the air goes into the little chambers. Round the chambers are fine blood vessels, in which flow small red blood cells shaped like discs. These little blood cells take up oxygen, and become a bright red colour. That is why blood in the arteries is such a bright red.

You will have seen by now that the blood has to carry all sorts of things round and round the body, just as trains and motor vans carry things all over the country. The blood is kept circulating by the heart.

The heart is a hollow muscle, divided into four chambers with valves (like those in water pumps) which only allow the blood to go one way. So the blood passes from the lungs into the top left chamber of the heart, from there through a valve into the bottom left chamber, and from there is "pumped" by the heart muscles into one big artery, which divides into many more going all over the body-to the brain, muscles, bones, stomach, bowels, etc.

The arteries keep on dividing and getting smaller, until they are tiny little pipes called capillaries.

The blood now returns, first through the small venous capillaries, then by little veins, which all join up into larger veins, and finally into one big vein, which is connected to the top right chamber of the heart.

From this chamber the blood passes into the bottom right chamber, and

from there is pumped through the lungs, and then back to the top left chamber, ready to begin all over again.

The right and left chambers of the heart work together, the left side pumping blood to the body at the same moment as the right side is pumping blood to the lungs.

Each “pump” causes a wave to pass along the arteries. This is what we feel at the wrist when we “take the pulse.”

New blood cells are always required to replace old ones, which are removed in passing through an organ called the spleen. The spleen is located on the left side of the abdomen, at the top, just behind the stomach. The iron from the dead red blood cells goes to the liver, where it is stored, and used again.

Now a motor car running along the road without anyone steering it would soon smash itself. Likewise our body without a brain to control it would quickly be in trouble.

The brain is placed inside a very strong bony box called the skull, which protects the delicate brain cells from harm. From the brain the spinal cord passes down inside the bones of the spinal column.

From the brain and spinal column millions of nerves pass, like telephone wires, to every single organ and part of the body. Messages continually pass along these nerves. When we walk or eat or laugh or think, or stand still doing nothing, these messages still go to and from the brain. Even during sleep this wonderful telephone system is in operation, regulating our breathing and our heart beats, and keeping our internal organs in proper working condition.

The Wonder of It.-Does not this reading of the structure and working of the human body make you realize what a marvellous machine your body is, and how you should take care of it?-and most of all, make you think with awe and reverence of the knowledge and wisdom of the Great Master Mind, God, who created it!

TEST NO. 4

Know the position of the main arteries (names unnecessary), and be able to stop bleeding.

How to Stop Bleeding.-Bleeding from an ordinary cut usually may be stopped by digital pressure, that is, pressure with the thumb or fingers directly over or on either side of the cut until the blood has coagulated and sealed the wound. A suitable bandage then is applied (as learned in the Second Class Tests).

Arterial bleeding, however, is a much more serious matter, and may call

for pressure at a certain "pressure point," or the use of a tourniquet.

A severed artery is indicated by bright red blood coming in spurts with each beat of the heart. Immediate action is necessary. First apply pressure with the thumb or fingers directly on the bleeding spot (except where there also is a bone fracture.) Use the free hand to make a firm pad (with a clean handkerchief or other piece of linen), and place the pad beneath the thumb, being careful in doing so not to release the pressure. Tie the pad snugly with a handkerchief or narrow bandage, and place the limb in an elevated position.

Where this treatment is not effective in stopping bleeding, use pressure above the wound; that is, on the side nearest the heart.

The illustration on page 73 shows the location of the main arteries and the points at which pressure may be effectively applied. It will be noted that there are only a few points at which the arteries can be reached and pressed against the bone. In other cases it will be necessary to use a tourniquet bandage encircling the limb.

In the leg, the artery descends about in line with the inner seam of the trousers from a point half way above the knee. The course of the larger artery in the arm follows the inside of the large muscle of the upper arm, about in line with the coat-sleeve seam.

The Tourniquet.-A tourniquet is a narrow cloth, knotted or with a small firm pad; used to stop bleeding from a cut artery in a limb. The tourniquet is placed in position around the affected limb so that the pad or knot is directly over the pressure point-be sure that the pressure point is one between the wound and the heart. The band is then tightened sufficiently to arrest bleeding from the cut artery but not enough to prevent blood returning to the heart through the veins.



The most commonly used tourniquet is a handkerchief, strip of cloth or narrow bandage (folded triangular bandage) in the centre of which an overhand knot is tied. Place the knot on the pressure point selected, encircle the limb with the bandage and tie with a half reef knot. Lay a short stick on the half knot and over it tie a reef

knot. Twist the stick to tighten the bandage and thus press the pad on the pressure point to stop the flow of blood.

Note in the illustration on page 54 the points where a tourniquet may be applied-at B and D.

A tourniquet should be loosened slightly every twenty minutes, in order to

let a little fresh blood into the affected part. Otherwise the limb below the tourniquet will turn dark, and gangrene may set in. Limbs, and even lives, have been lost through failure to observe this rule. A tourniquet should only be used when there is more than one patient, or when direct pressure fails.

During instruction or tourniquet practice the bandage should not be tightened more than momentarily.

TEST NO. 5

Be able to recognize and apply first aid to fractured arm, forearm and collar-bone, and know the importance of not moving suspected fractures.

Fractures:-A fracture is a broken bone. There are six types of fractures classified in two ways:

(1) According to the condition of the surrounding flesh:-

Simple:-When the bone is broken with but slight injury to the surrounding flesh.

Compound:-When the fracture includes a wound allowing germs to get to the seat of the injury. The fractured bone ends may or may not protrude.

Complicated:-When the bone is broken and in addition there is injury to some internal organ such as the brain, lung, spinal cord, etc.

(2) According to the injury to the bone itself:-

Comminuted:-When the bone is broken into several pieces, as from a crush.

Greenstick:-In children, a limb fracture is likely to be a Greenstick Fracture; that is, the bone may be bent and cracked without being completely broken across.

Impacted:-When the broken bone ends are jammed in together.

Fracture Signs and Symptoms.-When a Scout finds a person who has fallen, or been struck by a car, or otherwise come to grief, and if there is no serious bleeding to be first dealt with, he will endeavour to discover whether any bones have been broken. If bone ends show through the flesh he will recognize a compound fracture.

Otherwise he will look for the following signs:

1. **Pain.** If the patient is conscious he will complain of pain in one spot.
2. **Uselessness of Limb.** The limb cannot be put to its normal use.
3. **Alteration in Shape.** The limb may be bent, twisted, or shortened, so

that when compared with the sound limb it appears of unnatural shape.

4. **Swelling.** Generally present very soon after the accident, due to effusion of blood and contraction of the muscles; this making the bones over-ride.

5. **Irregularity.** If the bone is close to the skin the fracture may be felt.

6. **Unnatural Mobility.** When the limb is handled (which never should be done unnecessarily) it gives where, if uninjured, it would not be movable.

7. **Crepitus.** You should know this sign, but should never try to obtain it for fear of aggravating the injury. It means the "gritting" which may be felt or heard when broken bone ends are rubbed together.

Signs 6 and 7 will of course not be present with impacted fractures, since the bones will be wedged forcibly together. (This usually happens when a person has fallen from a height and landed with all his weight on an outstretched arm or leg.)

Fracture Appliances.-In the treatment of fractures doctors use splints,, that is, supports made of various materials adapted to fit limbs, and applied so as to render the injured parts immovable. When surgeon's splints are not available, substitutes may be improvised of: Pieces of wood, skis, umbrellas, folded newspapers, cardboard, corrugated packing paper, Scout staves, etc.

These should be padded by wrapping them with cloth or other soft material; the object being to avoid their hurting the patient when put into place.

To fix the parts, if bandages are not readily at hand, use temporarily: Scout neckerchiefs, handkerchiefs, belts, neckties, braces, shoe laces, stout string or cord, -strips of cloth, etc.

Note. A modern practice is to bind the injured limb, well padded, to the body. For instance, a broken leg can be immobilised by being tied to the other leg. A broken arm may be bound to the body. Splints should only be used when considered essential.

General Rules for Treating Fractures.-

1. Send for a doctor.
2. Treat doubtful cases as fractures.
3. When there is bleeding, attend to this first, think about splints next.
4. Prevent further injury by supporting the limb and applying temporary splints.
5. Do not move the patient until splints have been firmly fixed.
6. Reduce shock by keeping the patient warm.

7. Do not apply a splint over a wound if this can be helped.
8. Tie all knots (reef knots) on the splint.



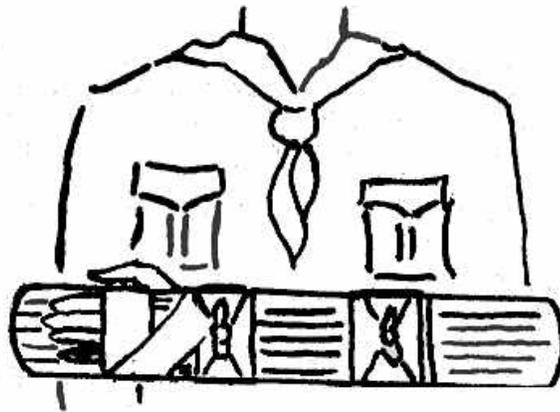
Fractured Arm Bone.— All the usual signs of a fracture previously mentioned will be present. These having been noted, and while awaiting the arrival of a doctor, proceed to apply splints, — first, one on the inside of the arm extending from the armpit to the elbow, and one or more (two are illustrated) on the outside, from shoulder to elbow.

Secure the splints in place by two narrow bandages, one above the point of fracture, the other below. Make the knots over the splints (as illustrated). This done, apply a small arm sling, care being taken to leave the elbow unsupported, so that the weight of the arm may tend to overcome any possible overlapping of the broken bone ends.

Fractured Forearm.-There are two forearm bones (and only one in the upper arm), and both of these forearm bones may be broken. In case of a double break a resulting deformity is easily seen.

When but one bone is fractured, an irregularity may be felt by gently passing the hand over each bone separately.

To apply the necessary splints, first gently bring the forearm up at right angles to the arm, keeping the thumb upwards, the palm of the hand towards the body, and the hand a little higher than the elbow.

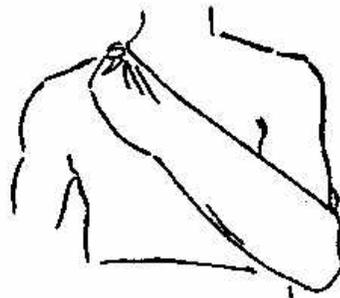


Now apply two broad splints, one on the inside and one on the outside, from the elbow to just below the wrist. Secure with narrow bandages, making sure the thumb is left free, and finish with a large arm sling.

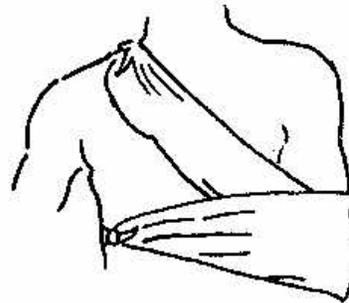
Fractured Collar Bone.-The two collar bones can be felt above the chest on either side of the neck, as narrow curved rods about the thickness of a finger. Their inner ends rest upon the upper part of the breast bone, and their outer ends join the shoulder blades. Their purpose is to keep the shoulders thrown back.

A collar bone fracture usually occurs near the middle of one of the bones.

The symptom is a forward droop of the shoulder, and the patient will be noticed to incline his head toward the injured side and probably will support the arm on the injured side with the opposite hand, in an effort to alleviate



St. John Sling



Fractured Collar Bone

the pain. On passing your fingers gently along the bone you will feel the slight irregularity under the skin.

Procedure: Apply a St. John Sling or large arm sling if necessary, to the arm on the injured side. To apply a St. John sling, place the forearm diagonally across the chest with the fingers pointing to the opposite shoulder. Place the triangular bandage over the arm, with the point to the elbow and one end on the shoulder of the uninjured side. The upper side of the bandage should be parallel to the forearm.

Pass the base of the bandage well up under the forearm. Carry the lower end across the back and tie the two ends together in the hollow just above the collar bone of the uninjured side. Be sure the arm is supported in a well formed "pocket." Tuck in the point of the bandage around the front of the elbow and carry the fold thus formed to the back of the arm and pin. The pulse at the wrist must be frequently checked when using this sling.

Then place a broad bandage over the elbow and carry the ends around the body. Tie on the opposite side at the front.

Other Fracture Cases.— The preceding simple fracture tests—"walking cases"—complete the requirements in this subject for the First Class Badge. Scouts with this limited training are not expected to deal with more serious fractures, such as those resulting from motor accidents, falls from heights, etc., for the reason that the moving in any way of such victims may cause puncturing of the lungs or arteries, or other serious injury by needle-sharp fragments of broken bone.

In such fracture cases, usually lying prostrate on the ground, the victim should be left exactly as found,—simply covered and kept warm until the arrival of a doctor or ambulance.

If circumstances do compel moving, however, as on a much travelled highway, or at a blind curve, this is done by carefully slipping an overcoat or car

rug beneath the victim, and thus drawing him carefully to one side.

TEST NO. 6

Demonstrate the proper method of dealing with the following emergencies: Fire, Drowning, Fainting, Gas Suffocation, Frost-bite, Electric shock, Breaking through ice.

Dealing with Fire.— Fire problems of course vary in countless ways, depending on the type of buildings involved, whether in city, town, village or country, the fire fighting apparatus available, near or distant, etc. Where there is no fire brigade, or where it takes the firemen some time to reach the scene, much can be done by Scouts, especially by an efficient Scout Patrol.

The following suggestions will apply as they fit circumstances:

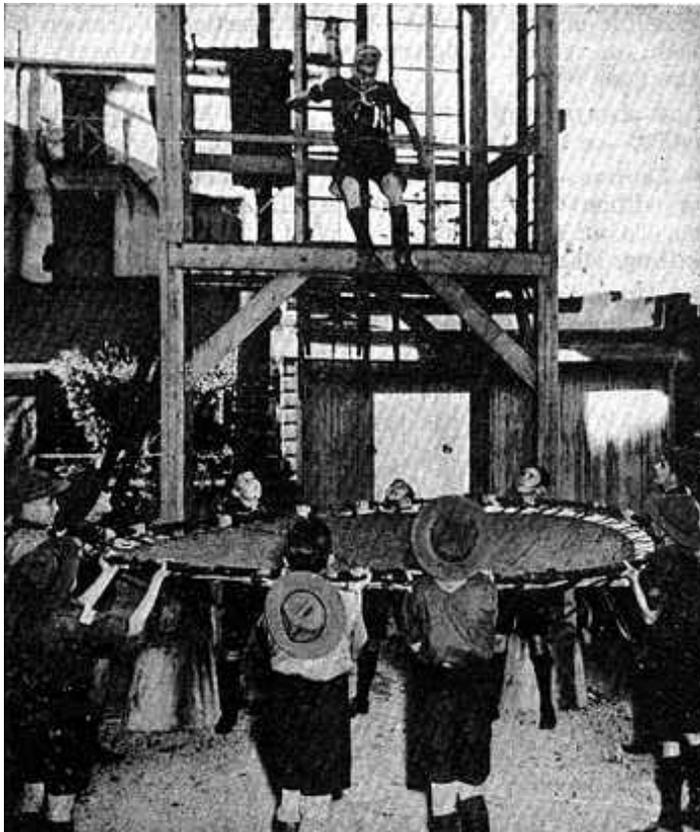
First warn the building occupants, if any.

Send in a fire alarm from the nearest alarm box, or by telephone. If the former have someone remain at the box to direct the firemen, if necessary.

Arrival of the firemen probably will end the opportunity for usefulness. However, if you see an opportunity, offer your services to the Fire Chief. Nothing should be done without an order from the Chief.

The first move at a fire is to rescue persons who may be unable to escape unassisted. This accomplished, try to put the fire out or prevent its spreading.

Rescue.— Run for ladders. If unavailable, improvise a jumping-net with one or more strong blankets or sheets. (Scout Patrols should practise this.) As many Scouts as possible should hold the net. If a blanket is used three or four inches all round the edges should be rolled back to provide hand holds.



A Jumping Net.— The correct technique with a jumping net is to place the holders at approximately even distances about the net, each grasping very firmly, palms up; the net at chin level, and not more than two or three feet out from the house wall, -without regard to the height from which the person is to jump.

Instruct the jumper to leap in a half-sitting position, elbows out, and the holders to keep their eyes on the jumper, ready to move the net if necessary to catch him in its centre. If available, a mattress, loose bed clothing, hay or straw should be placed on the ground beneath the net.

Entering a Burning House.— Care must be taken in entering a burning house. Although earlier advice was to crawl as flat as possible on the floor, the present practice of firemen is to crouch, the reason being the possible presence of heavy gases at the floor level.

And always keep between the fire and an exit, -a door or window, -so that you may not be trapped.

A Caution.— Within a burning house never open a closed door without first feeling the panel. If burning hot, do not open. To do so may release a blast of superheated air that is killing. Many lives are lost in this way.

An Unconscious Person.— Within a burning house never open a closed door without To rescue an unconscious person from a smoke-filled room the quickest method is to grasp one of the victim's wrists, throw it over your shoulder, and drag him out. Another method, in the case of a man, is to pull his coat or shirt up over his head, turn him on his back, and drag; or simply pull the coat out beneath the head (to protect it), and drag by the feet. In particular cases other methods will suggest themselves to the cool-headed, resourceful Scout.



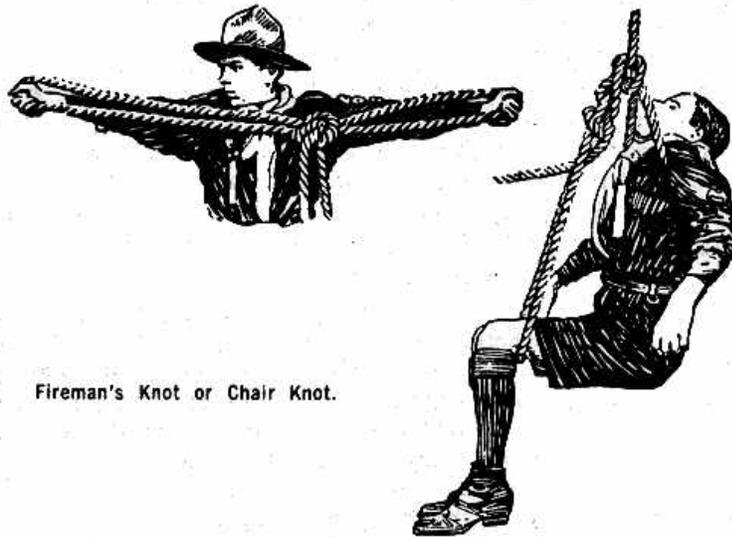
The Fireman's Lift.



Where time and heat and smoke conditions permit, the Fireman's Lift (as illustrated) may be used by a strong Scout. It should occasionally be practised.

Lowering From a Window.— Within a burning house never open a closed door without A good knot for lowering a person from a window is the

Fireman's Knot, or Chair Knot. To tie this, first make a double overhand knot, pull the loops through, one loop about two or three feet, the other three or four feet, according to the size of the person to be lowered. Over each loop pass a half hitch, as in making a sheepshank; and slip the hitches down to the knot. (See above.) The smaller loop is placed under the victim's armpits, and the larger one just above the knees.



Fireman's Knot or Chair Knot.

The knot should be made in the middle of the length of rope, so that someone on the ground may guide the person safely down by means of the end.

After lowering the rescued person, to escape yourself, tie the rope end about the leg of a bed or other heavy piece of furniture (round turn and two half hitches), and descend hand-over hand, facing the wall, feet against it. Do not slide; this may result in severe hand burns, from the friction.

Improvised Rope.— Within a burning house never open a closed door without -If necessary to improvise a rope, tear up bed sheets along the warp, that is, the long way, and tie the lengths together with reef knots.

A Bucket Line — Within a burning house never open a closed door without Scouts in localities lacking fire fighting apparatus should practise the forming of bucket lines, and the rapid passing of pails of water in one direction and empty pails in the other. The throwing of water from a pail also should be practised, in order to cast the water accurately. This is not by any means easy, especially if a wind is blowing.

To Prevent Spread of Fire — Within a burning house never open a closed door without Clear away all inflammable material in the path of the fire, including small buildings if necessary and possible. This work should be done at a proper distance from the fire, because if there is not sufficient time to clear an area, the labour will be lost, and a fresh start necessitated.

If not possible to clear away surrounding structures, keep them soaked with water. Blankets spread on a roof and kept soaked provide effective protection.

If fighting ground fires use a shovel, an old sack partly filled with wet leaves, green boughs, etc. Never stamp on fire or coals with your shoes.

A Nova Scotia Example — Within a burning house never open a closed door without From a newspaper item: “Timely arrival of a number of Boy Scouts who were on a hike visiting the farm of Doug Smith probably saved considerable loss in valuable wood property when they extinguished a fire yesterday on the outskirts of the farm. While some of the boys secured branches and beat the fire out, others dug ditches and prevented the fire sweeping up an embankment to the woods.”

Fire in Your Home — Within a burning house never open a closed door without If a small fire such as may occur in a kitchen, throw a rug or woolen blanket over the flames, and soak with water. If too large for this, give the alarm, and close all doors and windows, to prevent the flames being fanned by the wind.

Clothing on Fire — Within a burning house never open a closed door without The victim of this type of accident usually is a woman or a child. The first thing you do is get the victim down on the floor, instantly. Never permit the person to run. If a rug or loose carpet is within reach, wrap this tightly about the person, and roll them over and over on the floor. If a rug or carpet is not at hand, just roll the burning person about, and endeavour to choke the flames in the folds of his clothing.

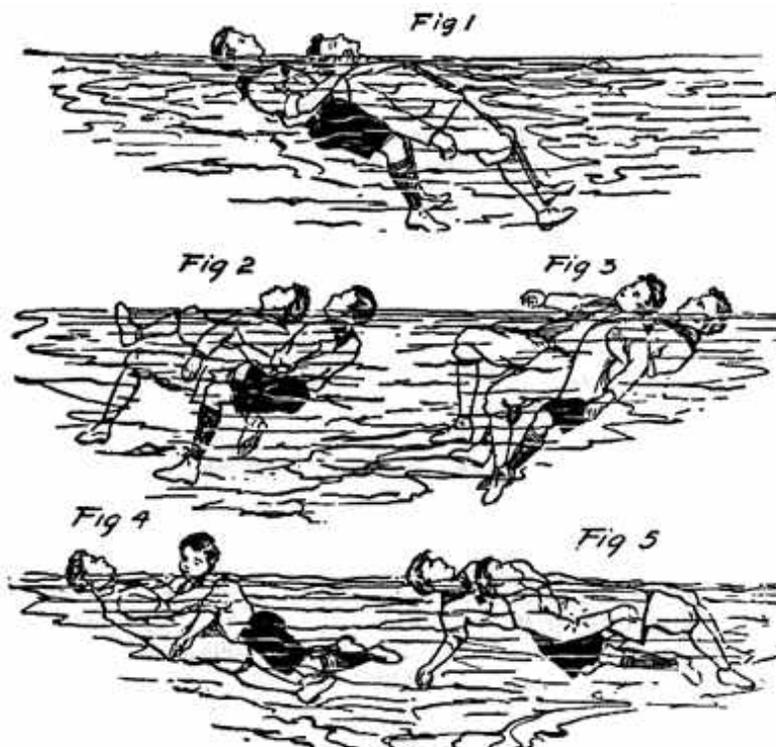
Treating Burns — See page 42.

Rescuing Animals — As a rule horses or other animals are so terrified by fire that they will do nothing to save themselves, and will resist efforts to lead them to safety. Blindfold them with a bag or blanket, and lead, or back them from the building.

Drowning Accidents — Every Scout swimmer should practise life saving. With training, it is not difficult. A moderately strong swimmer can save a drowning person if he knows how to go about it.

The secret of success is to make the water carry the weight. A very slight effort in the water will keep either yourself or another afloat, and the body of an unconscious person can be brought to the surface with comparatively little effort.

First Step.-As a first step in learning life saving the Scout should acquire a special back-swimming leg stroke, with the legs kept well beneath the surface, to avoid kicking the person being saved. In practising this stroke the arms should be folded across the chest, and the legs from the knees down kept in continuous motion with short, sharp semi-circular kicks that never bring the legs actually together. When you have mastered this, practise with the arms outstretched before you, trailing on the surface, and with the head well raised. Then try supporting someone.



To do this, place a hand on either side of the subject's head, the hollow of the hand over the ears, fingers extended along the jaw. (Fig. 1, next page).

Remember that to tow a person is not enough. You must keep his nose and mouth above the surface. Your subject will cease to struggle if he finds himself progressing shoreward and his nose and mouth above water.

Another way to support a person when on your back is to grasp him under the biceps (Fig. 2), the fingers gripping the upper arm muscles, palms up, thumbs out; or under the armpits (Fig. 3).

Fig. 5 shows an excellent one-arm hold, the rescuer's left arm over the victim's left shoulder, across the chest, and gripping him beneath the right arm.

By any of these methods the drowning person is held in such a position that he cannot seize you; and should he struggle unduly it is easy to get clear of him until he swallows enough water to render him more easily handled.

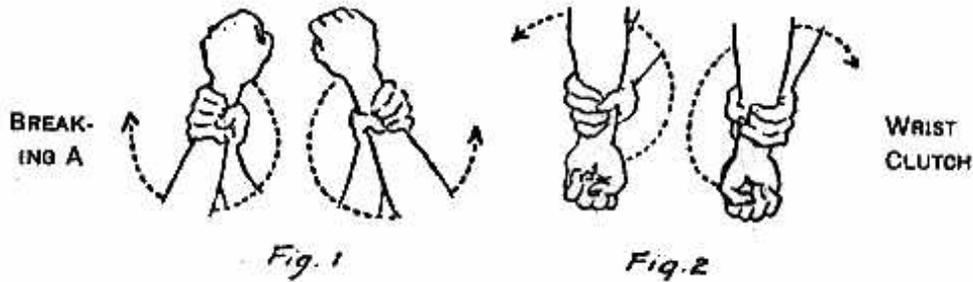
Helping Another Swimmer.-When another swimmer has become exhausted, or is taken with stomach cramps, but remains cool, he may be helped as in Fig. 4. Direct him to lie on his back; face him, and have him place his hands lightly against your shoulders, close to the neck. Then simply swim shoreward, using the breast stroke.

In all cases this is the easiest method of rescue, where the coolness of the subject makes it possible

When Clutched.-If care is used in approaching a frightened or drowning person there is little danger of being clutched. Your life saving practise, however, should include the breaking of "death grips." For this possible situation keep always in mind that a drowning person grasps only at what he sees above the water. If necessary, keep ducking out of sight, and coming up, until

you have a safe opening for grasping him.

However, do not fail to practise "breaking grips." If clutched by the wrists, throw both hands above your head, bring them sharply down, then outward and up, -against the other's thumbs (Figs. 1 and 2, above).



If clutched round the neck from in front (as above), place the flat of the right hand over the clutcher's nose and chin. With the left hand under his right elbow, lift, and at the same time press the right hand against the right side of his face. This will throw him into a carry position. Begin to swim at once, keeping the victim's head well up.



Another break for the same clutch: Take a deep breath, lean well over the clutcher, place your left hand in the small of his back, and with the right hand over his chin, drive his head back with all possible force.



The back strangle hold (illustrated) is the most difficult one to deal with, and must be broken without an instant's delay or you may yourself need help. Grasp the clutcher's wrists (Fig. 1), arch your back against his body, and throw your head sharply up against his nose. As the victim releases his grip, slip out under his arm (Fig. 2); and retain your grasp on his arm until you have secured a safe carrying hold (Fig. 3).

If clutched close about the body from in front: lean well over, place the left hand in the small of the other's back, and at the same time lift your right knee and place it as high as possible against the clutcher's stomach. Now, with a strong, sudden push, drive your arm and leg straight out, at the same time throwing your body backwards.

Save Your Strength.-In all cases the Scout rescuer should save his strength. Where there is a current or tide, do not struggle needlessly against it with your burden. Swim with it, and make shore at an angle, gradually. Or wait until a boat or other coming aid reaches you.

Diving Rescue.-Where a drowning person has disappeared in quiet water, the location of the body will be shown by rising bubbles. If there is a tide or current, you must dive at the spot where the person went down, and look along the bottom, swimming with the current.

Use Discretion.-You should never plunge into the water to make a swimming rescue if the rescue can be made in a safer way. When a person has fallen from a bridge or a dock, a throwing line or buoy often can be utilized without placing your own life in danger. At other times a boat or canoe can be used to advantage. The help of logs or planks also should not be overlooked. Where possible you should practise throwing a life-line and life buoy. (After such practise you must always leave the line properly coiled and the buoy in position for further possible use.)

Reviving the Apparently Drowned.-If possible, send immediately for medical assistance, blankets and dry clothing. As soon as the victim is clear of the water, quickly feel with your fingers in his mouth and throat, and remove such things as tobacco, loose food, false teeth and gum. If the mouth is tight shut, pay no more attention to it until later. Proceed instantly to the restoration of breathing.

Using the Holger Nielson Method.-First of all. Carry the patient to a smooth flat place (if there is slight slope the head should be lowest if the face is pale and highest if the face is red or bluish).

As quickly as possible take off any outer clothing the patient is wearing and loosen his waist-belt and collar.

If the patient is lying on his back, turn him over as follows:- The rescuer goes down on his right knee in front of the patient's head, with his left foot on the ground out to the side. The centre of his body should be slightly to the

right of the patient in order to obtain sufficient purchase for the turn.



Fig. 1 - First Phase

Fig. 2 - Second Phase

Pull the patient's arms up over his head to keep them clear during the turn, and to be ready to place them easily under the forehead. Then with both hands grip the patient's upper left arm, (Fig. 1), and turn him over with a steady pull. When the turn is half complete: i.e., the patient is on his side, release the right hand and place under the head to prevent it striking the ground, (Fig. 2).

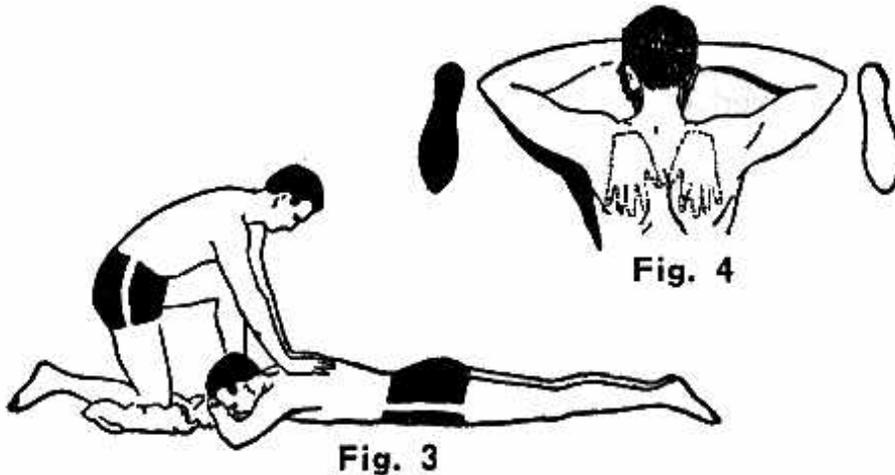


Fig. 4

Fig. 3

Then, with the patient in the prone position, place the patient's forehead upon his crossed hands, so that the nose and mouth will be free of the ground. The operator then, with the flat of his hand, slaps the patient smartly between the shoulders. Normally, the mouth will then open and the tongue fall forward. In drowning cases, any water that may have gotten into the upper breathing tubes will be driven out by these blows.

Kneel at the head of the patient on either the right or left knee. Place the knee close to the arm and just at the side of the head. Place the opposite foot near his elbow, (Fig. 3). It is permissible to kneel on both knees, if that proves more comfortable for the rescuer.

Place the hands upon the victim's back so that the heels of the hand lie just below a line running between the armpits, (Fig. 4). The tips of the thumbs should just be touching, the fingers spread downwards and outwards.

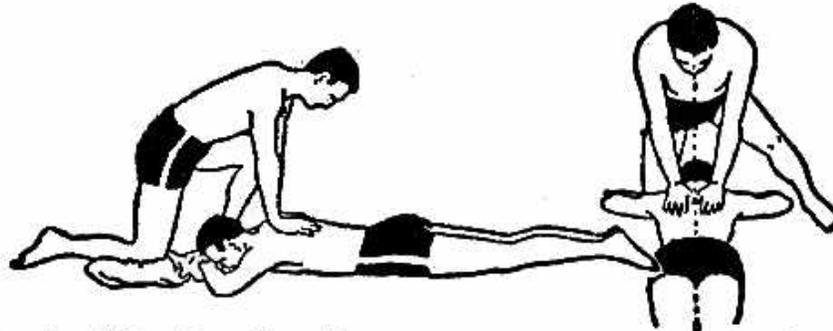


Fig. 5 - "One-two-three"

Fig. 6 - Expiration

Letting the weight of the trunk gently rock forward on the arms until they are vertical (Fig. 5), the operator exerts a smooth, gentle, evenly increasing pressure from above, downwards on the patient's back, using no force whatever and without bending the arms. This movement takes $2\frac{1}{2}$ seconds and must be undertaken while counting one-two-three. (Figs. 5 and 6).

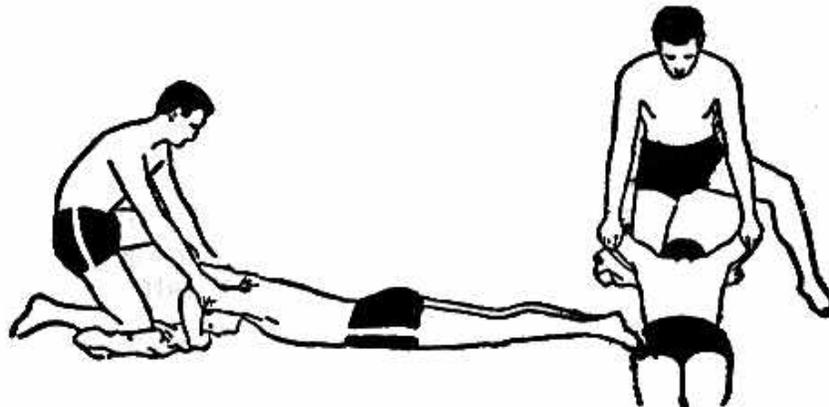


Fig. 7 - "Five-six-seven"

Fig. 8 - Inspiration

Then counting "four" he rocks the trunk back, and allows his hands to glide back past the shoulders until they can grip his upper arms near the elbows. He then performs a steady raising and pulling motion on the arms for $2\frac{1}{2}$ seconds, counting, five-six-seven. (Fig. 7 and 8). The movements are then repeated.

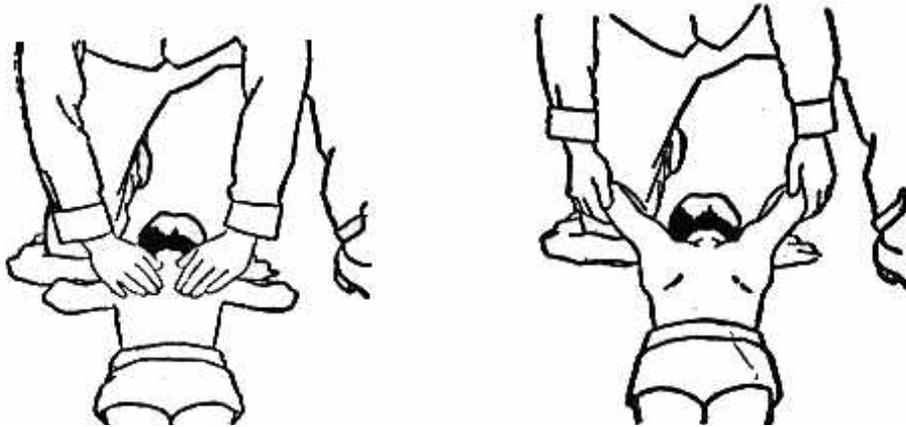
When Signs of Life Appear-Signs of life usually become apparent through a quivering of the body, a gasp, and the patient's skin returning to its natural colour. Artificial respiration should be continued for a while until the

breathing becomes more natural and a pulse can be felt.

When these signs of life appear the arm raising alone should be continued.

Reviving Children.-Attempts to revive children should be undertaken with particular care. The pressure must be reduced and should be a little faster than with an adult.

If the child is under 4 years of age, the body should be laid on a table or bench and the rescuer work standing. The pressure exerted should be very light. (Fig. 9.)



When Injuries are Present.-When arm bones are fractured, or sprains or burns occur, place the arms along the patient's sides, and raise his forehead on some soft support. Use the shoulder raising technique as illustrated. (Fig. 10.)

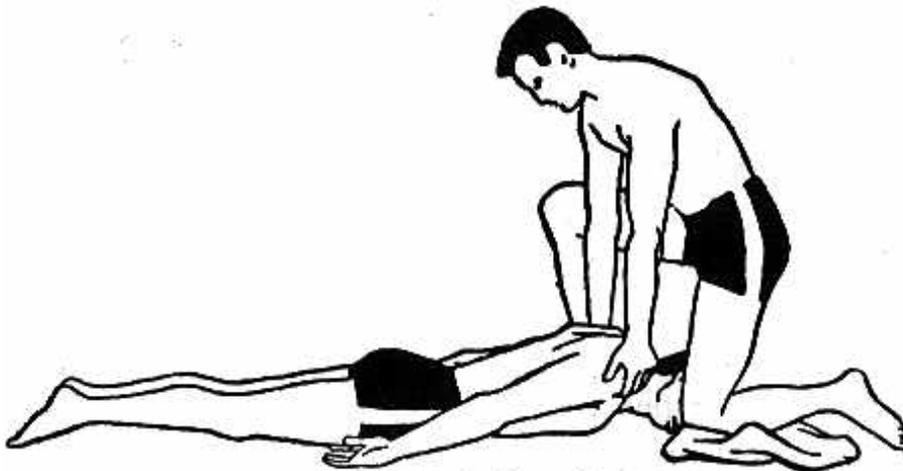


Fig. 10 - For injured patients

In the case of rib or back injuries the pressure method is also omitted and the shoulder lift used entirely. The rate should be about 12 to the minute.

In the event of fractured or dislocated shoulder the shoulder raising should be done from the armpits.

Important Things to Remember.-Always treat the patient for shock, keeping him warm.

Make sure that at all times the nose and mouth are free.

If possible carry the patient to a nearby house or shelter giving respiration on the way.

If artificial respiration has to be suspended the patient must be turned on his back.

When the patient has sufficiently recovered to swallow, give small quantities-by the spoonful-of stimulants such as strong coffee or tea without milk or sugar.

Get a doctor to the patient or the patient to the doctor as soon as possible.

If a doctor is not available do not allow the patient to sit up, stand or walk for several hours after revival.

Using the Schafer Method.-Place the patient face downwards, with the arms extended. (Loosen, but do not take time to remove clothing.) Turn the face to one side. Kneel astride the body. Place the hands on the small of the back, fingers spread, thumbs parallel on either side of the back bone.

Swing forward slowly, arms straight, so that the weight of your body is gradually not violently, brought to bear. The movement should occupy the time necessary to say slowly, **“Out water!”** Swing backwards, relaxing the pressure, without lifting the hands, saying slowly, **“In air!”** Repeat deliberately, without any marked pause between the movements, making a complete respiration in four or five seconds. The movements should be at the rate of 12 to 15 times a minute.



Now, while continuing the breathing movements, have someone loosen any tight clothing about the patient's neck, chest or wrist. If procurable, have dry, warm covering placed over the patient, and apply hot water bottles or hot bricks or stones wrapped in flannel, between the thighs and to the armpits and feet. All this without interference with the breathing movements.

Artificial respiration must be carried on without a moment's interruption until the victim breathes, or until a doctor pronounces life is extinct.

This may mean carrying on the breathing movements up to four hours, or even longer. In such a case it will be necessary to change operators.

Changing Operators.-To change operators, the relieving Scout kneels on the operator's left. When in proper, parallel position, he leans sideways, places his hands upon those of the first Scout and follows his movements. The first Scout shifts his knee off to the right, removes his hands, and the second Scout moves fully into his place, and carries on.

Appearances Which may Accompany Death.-Breathing and the heart's action cease entirely. The eyelids generally are half closed and the pupils dilated. The jaws are relaxed (not clenched), and the hands partly open. The lips and nostrils are covered with a frothy mucus. Coldness and pallor of the skin increase.

General Cautions.-Prevent unnecessary crowding of persons about the patient.

Avoid rough handling. Under no circumstances hold the patient by the feet.

Do not place the patient in a warm bath unless at medical direction, and even then it should be employed only as a momentary excitant.

Spirits are on no account to be given without direct medical orders, as alcohol may lead to fatal results.

Finally, once you have begun artificial respiration, allow no one to interfere or interrupt, however much older the person, if you can help it.

Fainting.-The signs and symptoms of a person who has fainted are similar to those of shock. Keep the patient lying down with the head low and elevate the lower limbs. Loosen the clothing about the neck and chest. Give nothing by mouth if the patient is unconscious. If bleeding has been the cause of the condition guard against it restarting. Smelling Salts or Ammonia Inhalant may be held to the nose provided there is no injury to the head; keep the patient warm; if he does not regain consciousness in a few minutes send for a doctor. If you see a person about to faint, or who complains of feeling faint, tell him to sit down and bend the head down between the legs for a few seconds.

Gas Suffocation.-Get the patient into the open air quickly as possible. Loosen the clothing from the waist up and give artificial respiration.

To enter a room in which a person has been overcome by illuminating or coal gas, first tie over your mouth and nose a dampened handkerchief or towel. Keep low (these gases being light gases), move quickly and breathe as little as possible. Open or break a window if necessary to get a quick circulation of fresh air. Turn off any gas jets, or if from a coal stove or furnace, open the draft.

Then deal with the victim.

In case of carbon monoxide poisoning in a garage, throw wide the doors before entering. Walk erect to the side of the victim, and holding your breath, stoop quickly, seize and drag him to the outer air. Call for help, send for a doctor, and begin artificial respiration.

Frostbite.-Do not bring the patient into a warm room until, by mild friction and the application of dry, gentle warmth, sensation and circulation have returned to the affected parts. When circulation is fully restored, keep the patient in a room at a temperature of 60 degrees. DON'T rub frostbites with snow.

Electric Shock.-Before touching a victim of electric shock, discover whether he is still in contact with a charged wire, or other metal. If still in contact, it is as dangerous to touch him as it is to touch the source of the shock.

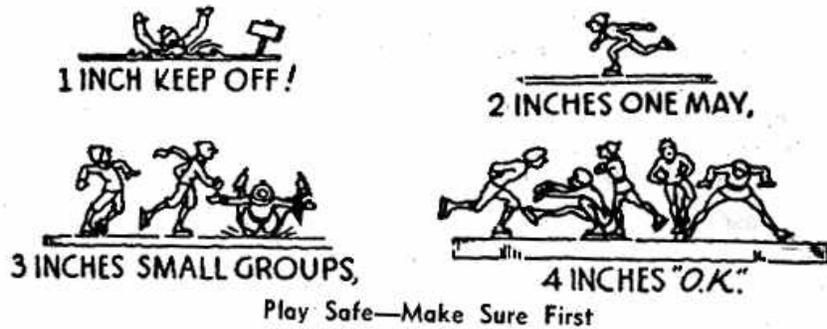
First if possible shut off or have shut off the power, then endeavour to push him clear with a dry board or other piece of dry wood, if available. Where wood is not at hand, or cannot be used for any reason, the victim may be freed by the use of any of the following materials, as covering for the hands, or stand upon: India-rubber sheets or gloves (without holes), several thicknesses of dry paper, dry glass, dry bricks, dry stones, etc.

Conductors of high voltage electricity include metals of any kind, water or other liquids (except oils); damp cloth, damp paper, wet pavement, wet wood. These conductors should be looked for and avoided.

Resuscitation is the same as for drowning. Before commencing work see that the patient's neck is free of tight clothing. The tongue should be drawn out and held by an assistant, or where no aid is available the tongue should be held out with a needle or nail, the wound thus caused can be treated later, when breathing is restored.

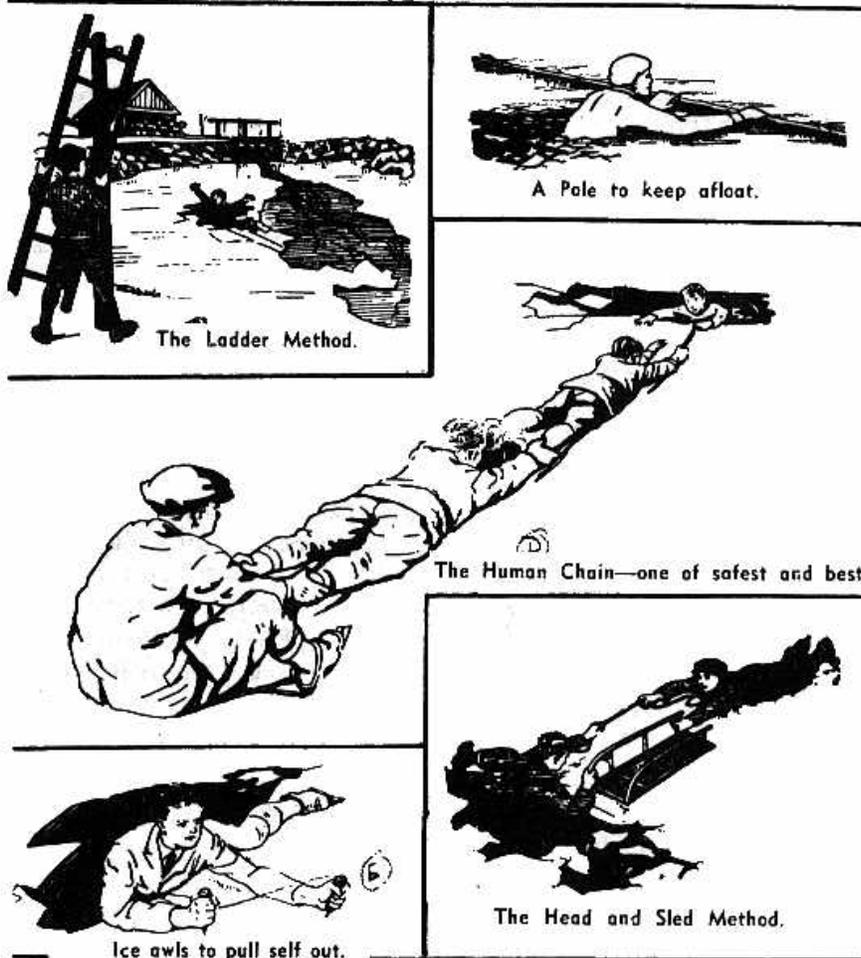
Breaking Through the Ice.-If you should break through the ice in the first place keep your head. If the ice is thin, do not try to climb back upon it, but spread out your arms over the surface, and wait for assistance. If alone, carefully break the ice further until you have a solid surface in front of you, then, with arms fully extended, and taking as much weight as possible,

endeavour to roll out at full length, sideways. If you have your pocket knife, and can reach it and open it with one hand and your teeth, use this as an ice pick, to pull on as you roll. To rescue another person, you naturally will use a hockey stick, a pole, board, ladder, or rope if available. If a rope, tie it round your body and have someone hold it, or tie it to something on shore. If using



a ladder or board push it across the break in the ice, then crawl along it and help the person to pull himself upon it.

Methods of Ice Rescue.



When the ice is thin, or weakened, do not walk upon it but crawl upon your stomach to distribute your weight as widely as possible.

If the rescued person is conscious, get him ashore quickly, and keep him running until he reaches some place where his clothes can be removed. Put him to bed, and restore circulation. Give him hot drinks, and warm him with hot water bottles, etc.

If the victim is unconscious when drawn out, treat as for drowning.

If you must cross dangerous ice to reach a person some distance from shore, carry a long pole, if procurable. Should you break through, this will aid you in climbing out. When crossing snow-covered ice always watch out for "air holes," or "breathers." Frequently they are indicated by small circular "humps," or by an icy crust above the hole.

TEST NO. 7

Be able to throw a life line with reasonable accuracy.

All Scout camp and other Scout "swimming holes", should, like public swimming pools, be equipped with a life line and lifebuoy, hanging on the pegs of a conveniently placed post; and Scout **Be Prepared**-ness should include the ability to throw these.

Life lines usually are of half-inch hemp or manila rope, the length depending upon the distance concerned.

The Test.-For this test a rope between 30 and 50 feet in length should be used; and the thrower should place the bowline loop within grasping reach of the "person in difficulty" four times out of five; any kink spoiling a throw.

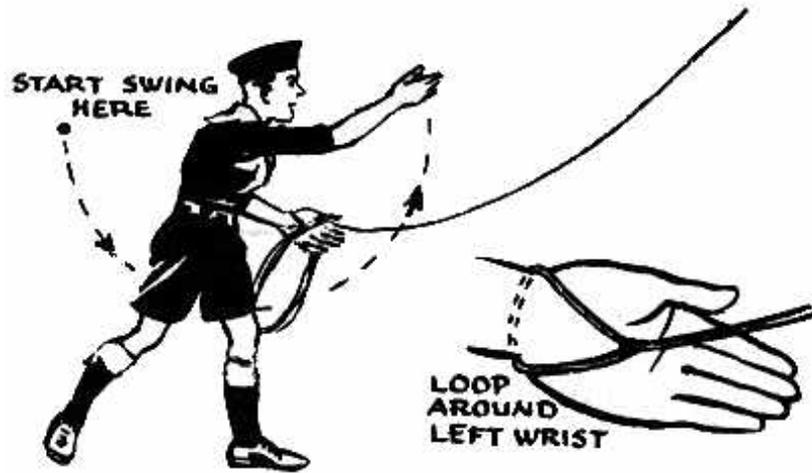
The line always should be pliable and free of kinks. To assure this, and whether kept coiled on a peg or otherwise, the line should regularly be taken down and thrown a few times, then carefully re-coiled.

Life lines at public swimming pools sometimes have a weighted end, for throwing. These, however, can be dangerous in the hands of an inexperienced rescuer. It is safer to make a bowline in one end of the line, with the advantage that this loop can be grasped readily by the person being rescued, and probably drawn over his head and shoulder, which makes his rescue sure.

Coiling a Life Line.-It is most important that a life line be properly coiled. To do this (having first made a bowline), hold the bowline in the left hand, as the first coil. Now, with a twisting overhand movement (to equalize kink tendency when thrown), add turn against turn until completed.

Now turn the coil completely around, so that the bowline is in the right hand, and divide it, holding two thirds in the right hand, the balance in the left, the end securely gripped, or better yet, tied to a post or tree.

Throwing.-With a single, long under-arm swing (no whirling about the head), heave the coil, aiming at a point directly beyond the person in difficul-



ty-unless there is a current to allow for-at the same time opening the left hand to allow that portion of the line to run free. (For a left-handed Scout the procedure would be reversed.)

After Use.-Dry line before re-coiling.

New Rope.-A new rope will require stretching. This may be done by tying it at a "reaching" height between two suitably spaced trees, then hanging on it. As it stretches it is tightened, until the stretch limit has been reached.

TEST NO. 8

Swim 50 yards, or if a doctor certifies that swimming is dangerous to the boy's health; or where the Provincial Commissioner considers that water for the purpose is not within reasonable distance of the Troop, pass the test for one of the following Badges. Camper, Handyman, Healthyman, Naturalist, Pioneer, Stalker, Starman or Tracker.

For these Badge Requirements see "The Wolf Cub and Boy Scout Proficiency Badge Reference Book" or "Policy, Organization and Rules for Canada".

This swimming test is not a speed test; no time limit is fixed for the 50 yards. The Scout may use any stroke desired, and may change stroke during the test, so long as his feet do not touch bottom. He should finish with plenty of reserve strength, such as he would need should he swim the distance in order to aid someone in distress.

When the test is taken in a swimming pool the length will be measured, and the Scout will swim as many times this distance as will equal fifty yards. In doing so he must not touch the sides or bottom of the pool. He may dive at

the start.

Every Scout is expected to do his best to prepare for this test at an early date not only for his own benefit, but that he may become **Prepared** to rescue others from drowning.

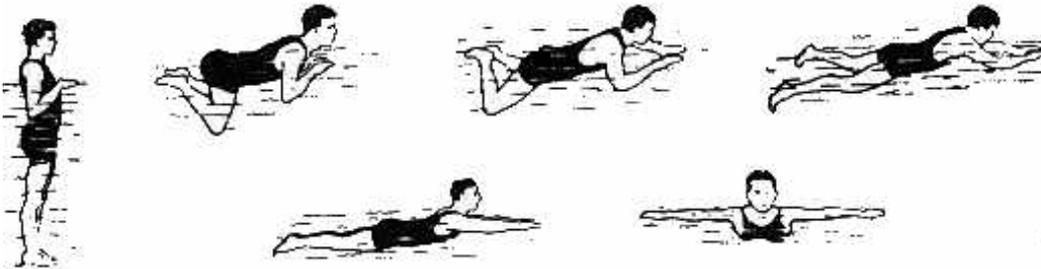
Learning to Swim.-If you start off with the idea that it is practically impossible to sink when the lungs are filled with air, you will have no real difficulty in learning to swim. If learning by yourself, take your first lesson in water a little above the waist.



You are going to discover how easily the body will float. Sink on your knees until the water reaches your chin. Throw your head back

until the water covers your ears. Extend your arms at full stretch behind your head, palms up, slightly hollowed. Now take a deep breath, inflate your lungs, throw yourself backward and give a slight push off the ground with both feet. Separate your Legs, throw your head well back and raise your chin. Repeat a few times, then have a try at swimming, using the breast stroke.

The Breast Stroke.-In water up to your chest (as illustrated), bring your hands together, thumbs and forefingers touching, palms downwards, elbows touching the sides. Keep the feet together, and give a push off the bottom, at the same time shooting the arms forward. Turn the thumbs down until the



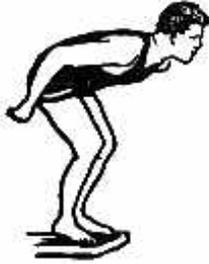
backs of the hands incline inwards. Slowly sweep the arms outwards and backwards until the hands are opposite the shoulders, elbows stiff and both hands at the same angle. Bend the elbows, drawing the hands downwards and inwards in a semicircle. As the elbows come back to their original position turn the palms of the hands together and bring them forward until they meet in their original position, ready for another stroke.

Legs.-As the hands circle back to the first position draw the knees up under the body. Without pause kick as far apart as possible, straightening the knees, depressing the heels and turning the feet out at right angles. Holding the legs rigid, bring them together again; shoot out the arms, and repeat the movements.

Breathing.-Hold the head back. Exhale through the nose as the arms are brought back to the body, and inhale through the mouth as the hands are thrust forward.

With the breast stroke mastered it will not be difficult to acquire other strokes.

Diving.-Diving frequently is necessary in making a water rescue, and the Scout swimmer should master diving for this reason as well as for the good fun of it. Incidentally diving offers the timid boy a splendid means of developing nerve and courage.



As with swimming, diving is chiefly a matter of confidence. It must be tackled boldly. The first dive should be taken from a bank or plank a few inches above the water. The feet are placed together, the stomach drawn in, the body bent slightly forward, the arms allowed to hang straight, a little in front of the hips. Bend both knees, and swing the arms to the rear to get an impetus. Throw the body forward and downwards at an oblique angle, head first, by quickly stiffening the knees at the same time shooting forward the hand to the full extent of the arms, over the head, palms downward.

As the body leaves the diving board, and is almost horizontal with the water, use the toes to give the final kick-off. This tends to throw the Legs upwards. The legs should be kept rigid the knees straight and feet together.

After the first dive confidence will rapidly increase.

Some Water Cautions.-Never attempt to dive unless you know that the water is deep enough for the purpose.

Never enter the water if overheated or fatigued, nor directly after a meal. Wait at least an hour and a half after eating. Otherwise you will be liable to cramp. (Many drownings each summer are due to this.)

On entering the water, immerse the whole body immediately, head and all, either by diving or ducking under; or throw water over the head and body with the hands.

In case of cramp, **keep cool**. Turn on the back, and float. If seized in the leg, turn up the toes, straighten the limb and stretch the muscles; rub, or kick the surface of the water until relieved.

An Indian method of guarding against stomach cramps:

Before entering the water rub the pit of the stomach vigorously with the dry palm of the hand for a minute or so; dash cold water on the stomach, rub for another minute, then plunge in.

In unknown water beware of holes, weeds, sunken logs, swift currents, eddies or undertows.

For growing boys prolonged swimming before breakfast is not to be recommended. Some boys are not physically up to it and others might be harmed.

It will be unnecessary to warn a Scout against calling "Help!" just for fun. This has resulted in drownings when help was really needed.

Swimming With the Clothes On.-Many excellent swimmers have lost their lives through suddenly finding themselves in water fully dressed, and becoming excited because of the weight and the binding of the wet garments. Therefore you should learn to swim with your clothes on.

Like swimming under other conditions, it is chiefly a matter of keeping cool. If you are wearing a coat, use the breast stroke. Bubbles of air will work into the shoulders of the coat and add to your buoyancy.

When practising the removal of your clothes in the water start with the shoes. If wearing suspenders, do not remove the coat first. The suspenders may slip off and give you trouble with your trousers.

After the shoes are off, remove the coat, then the trousers. The latter will come off easily with a little careful kicking and thrusting.

TEST NO. 9

Read the meaning of a series of simple tracks made in sandy or other suitable ground. These should include running, limping, carrying weight, walking backwards, and blind gaits.

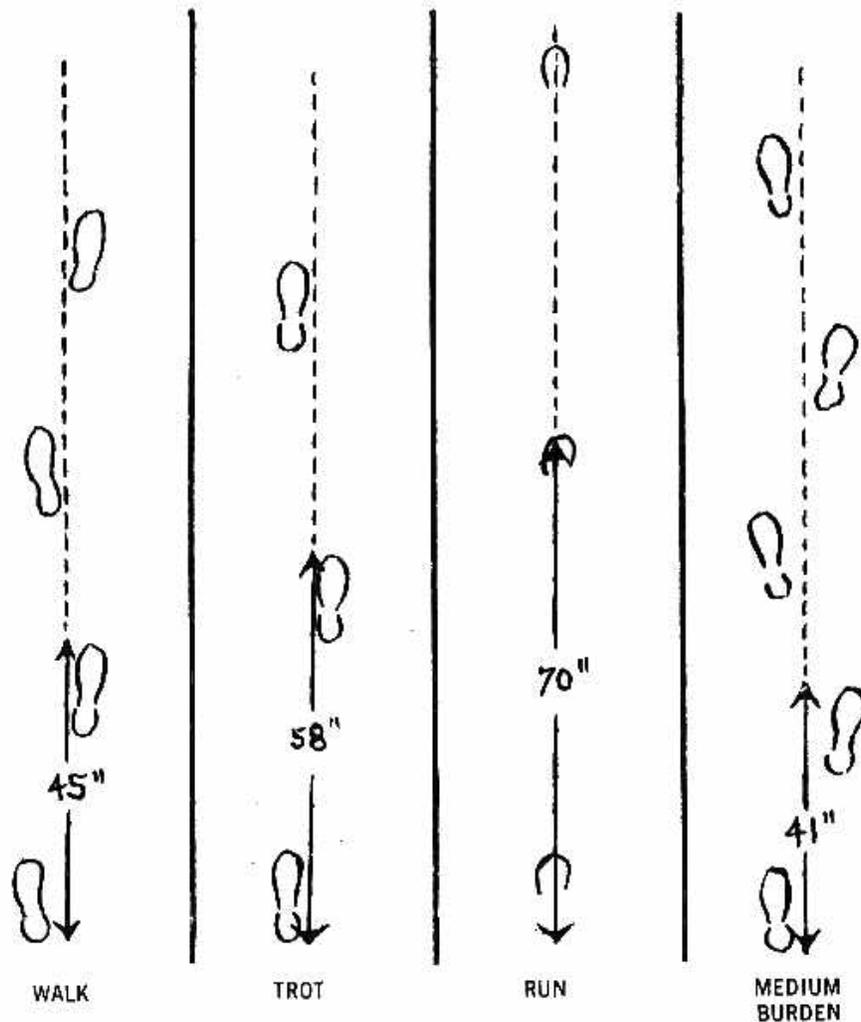
In "Scouting for Boys" the Founder says: "One of the most important things that a Scout has to learn, whether he is a war scout or a bunter or a peace Scout is **to let nothing escape his attention**; he must notice small points and signs, and then make out the meaning of them; but it takes a good deal of practice before a tenderfoot can get into the habit of really noting everything and letting nothing escape his eye."

In Second Class Test No. 6 you have been given some practical instructions on the subject of tracking. This First Class Test is to help you become more efficient-not simply to be able to follow and understand simple tracks and trail signs-but to be able to follow more difficult tracks and be able to reconstruct a story from what you see.

On page 106 we have had an artist reproduce tracks showing the marks left by a person running, or limping or carrying a weight, etc., but you will gain much more from experimenting yourself.

First of all have a friend, or yourself make a track through sand walking. Then make another track beside the walking one-this time running. Then

carefully examine the two tracks and note the differences. Then carry on by making a track when you are carrying a heavy weight; walk backwards and then see what sort of a track you would make blindfolded (blind gait).



Measurements for a Man 5' 8" in Height, 165 lbs. in Weight

For this test your Scoutmaster will probably set you a problem in tracking, employing these tracks.

From this simple beginning you should be able to work up to more difficult tasks and problems. You'll get a kick out of being able to answer the questions: Who was it? What did he do? Where did he go? When did it happen?

TEST NO. 10

Be able to recognize and name from life, any 12 common trees and/or shrubs and any six common birds.

In your Second Class Test No. 7, you started to learn how to recognize trees and shrubs. This test is intended to extend your knowledge along this line. It also serves to introduce you to bird life. It should not be difficult to be able to increase your recognition of trees or shrubs from the six you learned as a Second Class Scout to the 12 you require for this test.

Around your own home you will be able to see enough birds for the purposes of this test. There are few parts of Canada where you will not find sparrows, robins, swallows, crows, starlings, and many other common birds. Get to know what they look like, how they fly, their songs, and their mating and nesting habits. You'll be surprised how your interest in nature is awakened as you increase your knowledge of the plant and bird life of your own district.

TEST NO. 11

Using improvised apparatus, such as a Scout stall, estimate three distances up to half-a-mile, and three heights up to 100 feet. In each case the estimate must not vary more than 10% from the actual measurement.

Such questions, often asked and seldom answered by the average person, are expected to be answered and with some degree of accuracy, by a First Class Scout. And such ability at estimation has many useful applications in life.

Incidentally, practice in estimation can add interest to hikes,-contest in guessing the height of trees, church steeples, etc., and proving by Scout-staff checking who was nearest; how far to the next hill, then pacing it off. And so on.

Judging Distances.-A general tendency to keep in mind is that one is apt to underestimate the distance of objects seen distinctly and over-estimate those seen indistinctly. Especially deceptive is the distance of an object seen across a stretch of water, snow, or the level prairie; or when viewed uphill, or downhill.

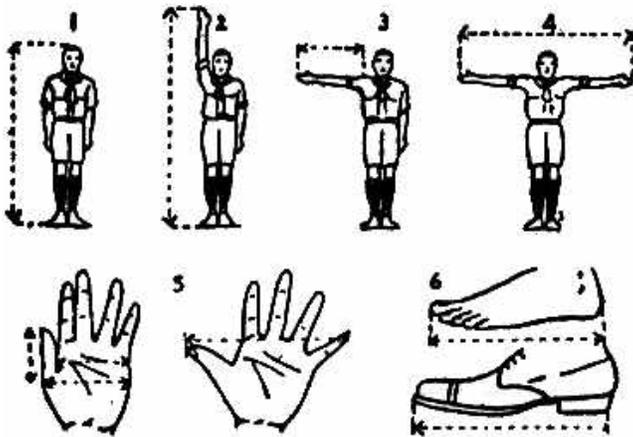
Objects appear farther off when in the shade; when across a valley; when the background is of the same colour as the object; when you are lying down or kneeling; when there is a heat haze.

Objects appear nearer when the sun is behind the observer; when the air is especially clear, as on a bright sunny day after a rain; when object and background are of different colours; when the ground is level or when covered with snow; when looking over water or across a deep chasm; when looking upwards

or downwards; when the object is large when compared with its surroundings, as in the case of a tall monument, a large church, or a mountain.

At night visible points usually appear nearer than they do by day.

Learning to Judge Distance-As a means of checking your estimates, learn the exact length of your pace. If fairly tall, learn to pace an exact yard, heel to heel.



On a quiet road, in a field, or out on the prairie, begin judging short distances to various objects, then pacing to check your "guess." Gradually increase the distances. Do this in competition with several other Scouts and you'll find it an interesting game.

Remember that the eye measures distance as in an air line," from eye to object, and does not allow for irregularities of the ground. In other words, ground distance may be greater than visual distance.,

As an aid in making short measurements you should know a number of your Personal Measurements. Your known hand-span will often be particularly useful. If fully developed your measurements will be close to this: Breadth of thumb, and nail joint of forefinger, 1 inch. Span of the thumb and forefinger, 7 inches. Span of thumb and any other finger, 8 1/2 inches. Wrist to elbow, 10 inches. Elbow to tip of forefinger (the cubit of the Bible), 17 inches. Your reach, arms outstretched, will nearly equal your height.

Some Further Hints.-At 800 yards a man looks like a post. At 700 the head is not yet visible. At 600 the head is visible as a dot. At 500 the shoulders appear bottle shaped. At 400 movements of the legs can be seen. At 300 the face can be seen. At 200 buttons and details of clothing are recognizable. At 100 eyes and mouth can be seen clearly.

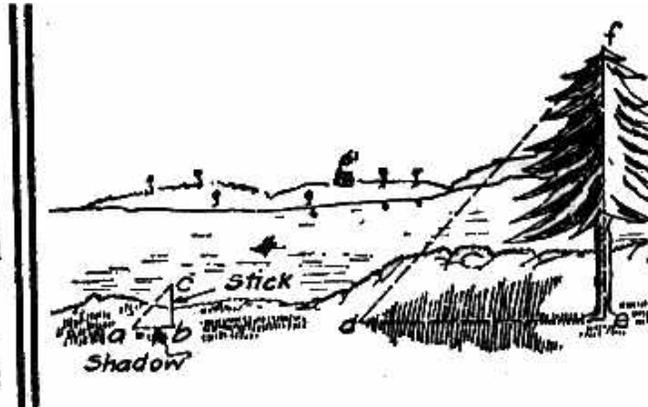
To estimate greater distances, judge the farthest probable distance, then the nearest possible, and "split the difference."

Judging Height-With practise you will be able to estimate height up to 3,000 feet or more. A simple method measuring the height of trees and ordinary buildings is the Pencil Method illustrated. Standing some 75 feet from the tree, with a pencil or stick upright in the fully extended hand, first move the thumb up the stick until the exposed length covers, to your eye, the lower six feet of the tree (the height of a man). Now move hand and pencil up in six-

foot jumps till the top is reached. Multiply the jumps by six and add any odd feet left at the top. To get the Height of a Building a rapid method is to calculate the height of a storey, and multiply by the number of storeys.



Pencil Method

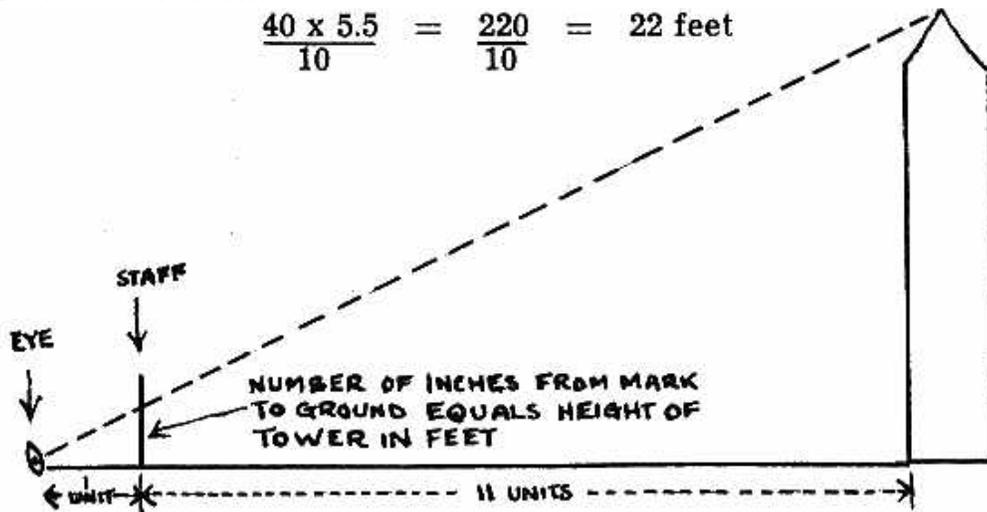


Shadow Method

Height by Shadow.-For this you need your Scout staff, notched in feet and inches; or a straight stick of known length (measured by the spread of your fingers). Proceed thus (see illustration): Stand the staff (bc) upright in the sun and measure the length of its shadow (ab). Measure the length of the shadow of the tree. Multiply by the length of the staff. Divide by the length of the staff shadow. The result is the height of the tree.

For example, say the length of the tree's shadow is 40 feet, the staff's shadow ten feet and the Scout staff is the normal length of 5 feet 6 inches, the formula will be as follows:

$$\frac{40 \times 5.5}{10} = \frac{220}{10} = 22 \text{ feet}$$



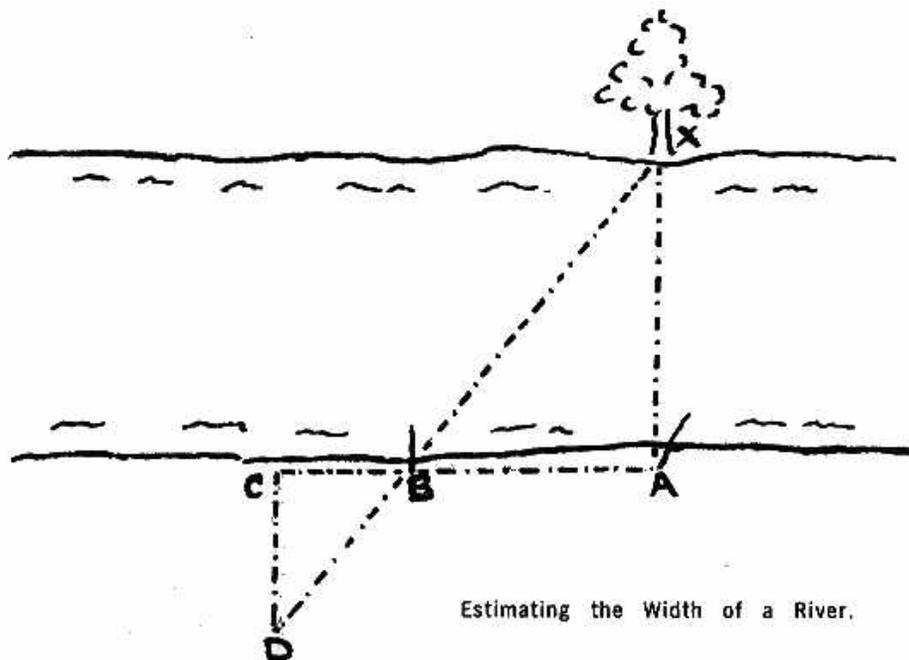
Inch to the Foot Method or One in Twelve-Here you start from the base of the object which you are measuring, mark off eleven units of any length, say eleven staff-lengths, here set up a Scout staff with a companion to

hold it. Measure off one more unit beyond the upright staff and there, getting your eye as close to the ground as possible, sight the top of the object. Where that sighting line cuts the staff have your companion make a mark on the upright staff, then measure the number of INCHES from that mark to the ground. This will equal the height of the object in FEET.

Judging Area.-Lone Scouts in particular may find it useful to be able to judge area,-the acreage of fields, orchards, wood lots, etc. Begin by making yourself familiar with a square yard,-four square yards, eight, sixteen,-a quarter acre, a half acre, an acre. Remember that a square acre measures a little over 208 feet, or approximately 70 yards on each side. This is not a First Class Test.

Judging Numbers.-This is another ability that may be most practical value to a Lone Scout,-that is, for judging the number of sheep in a flock, cattle in a herd, chickens or turkeys in a flock, etc. For practise, "guess" at a glance the number in a small portion of a flock or herd, then check by actual count. When you can estimate closely to this extent, practise applying your small-portion guess to the whole flock, or herd, and multiplying by the number of "portions."

The system can be used to estimate quickly the number of people at an entertainment, hockey or football game, etc. This is not a First Class Test.



The Width of a River.-If, like Polly Wolly Doodle, you "come to a river and cannot get across," here is one way of discovering just how far you must swim: Pick out a point A (illustration) just opposite a tree, X (or other promi-

ment object) on the other side of the river, and drive a stake in the ground. At right angles to the imaginary line across the river make a base line AB, any convenient length, say 40 yards, here place a stone or push a stick into the ground. Continue along in the same direction for half the first distance you measured, to point C; CB will be 20 yards. At point C turn at right angles and walk inland until you bring your marker and distant tree in line, stop at this point, D. Now measure the line CD. This will give you half the distance from A to X. Double that and there's your answer.

Judging Distance by Sound.-Distance can sometimes be judged by sight and sound. If you see a gun fired, for instance, and count the seconds between the flash and report, you can tell how far the sound has come,— if you remember that sound travels at 365 yards a second.

During a thunder and lightning storm you may be able to quiet nervous people by pointing out to them the time between the flash of lightning and the roll, or crash of a bolt, -this proving that the bolt in reality struck several miles away.

TEST NO. 12

Demonstrate the following: back and eye-splice, fireman's chair knot, manharness knot, rolling hitch, par-buckling.

This test is provided to help you increase your knowledge and usefulness with rope. As these requirements are unfolded for you in the following paragraphs you will readily see how useful they can be to you on many occasions.

Back Splice.-This is a method for pointing a rope, and is much superior to whipping, especially on "hawser laid" ropes, that is, ropes which have three or four strands.

Start with a Crown Knot as illustrated on opposite page.

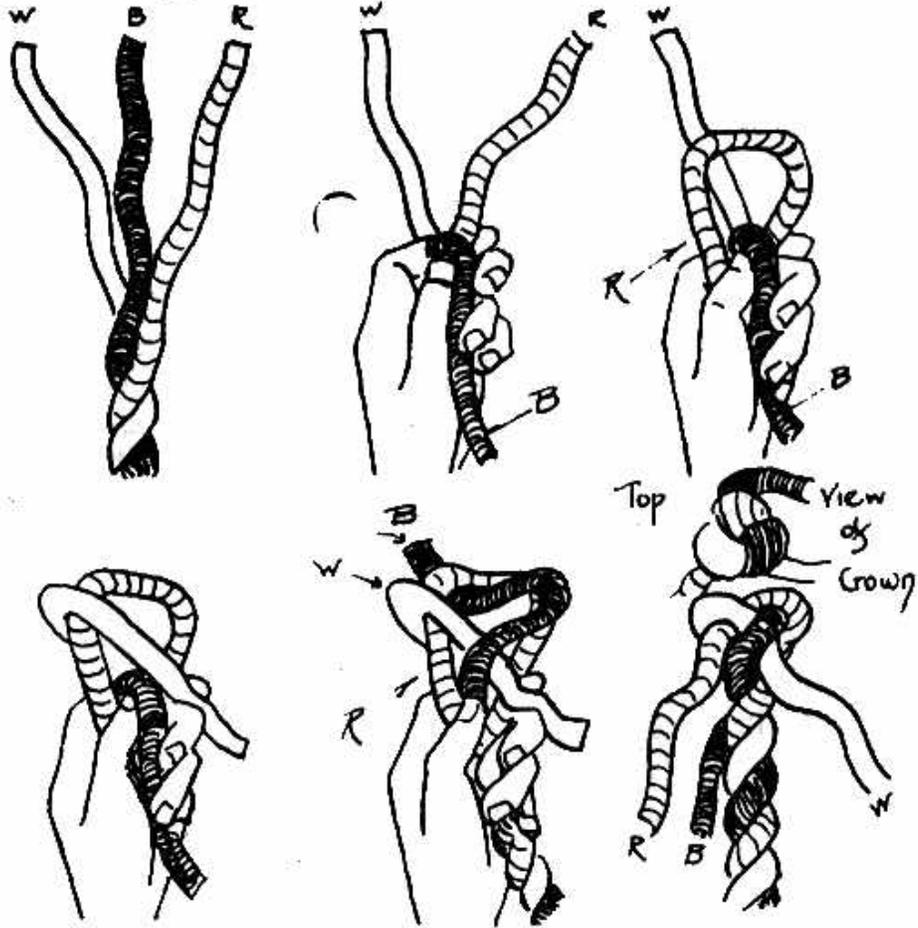
Then pass each strand in turn from left to right, that is against the lay, over one strand and under one. It will be noted that each strand passes under itself. Repeat the process until the ends are used up. The splice may be made neater by cutting away half of each strand after the first interlacing. See cut.

Eye-Splice.-An Eye-Splice is used for placing a permanent loop at the end of a rope.

To make an eye splice in three stranded rope, unlay the strands for a short distance and bend the rope to form an eye of the desired size, placing two end strands across at right-angles to the lay of the standing part of the rope and the other strand behind (A).

Take then centre strand under the nearest strand of the standing part (B). Take the first end strand under the next strand, going in where the second

BACK SPLICE

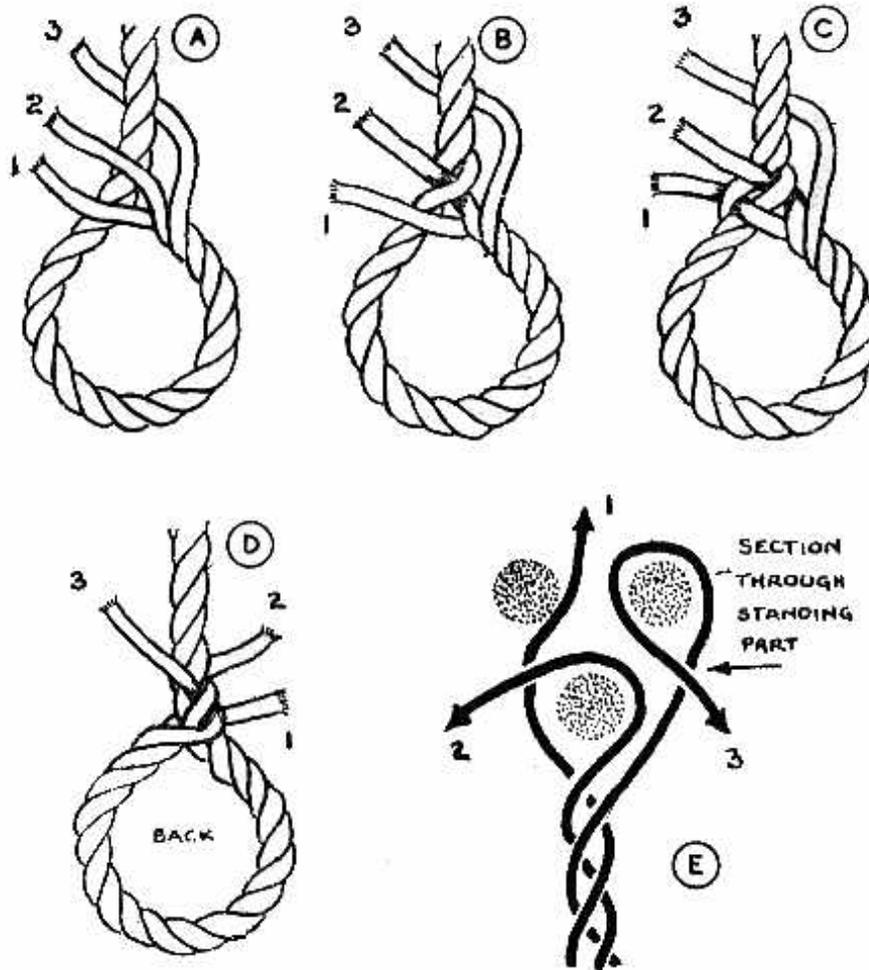


TUCKING.

Strand R only All Strands once All Strands Twice.



strand came out (C). Turn the rope over and tuck the third strand under the remaining strand of the standing part, going in where the first strand comes out (D).



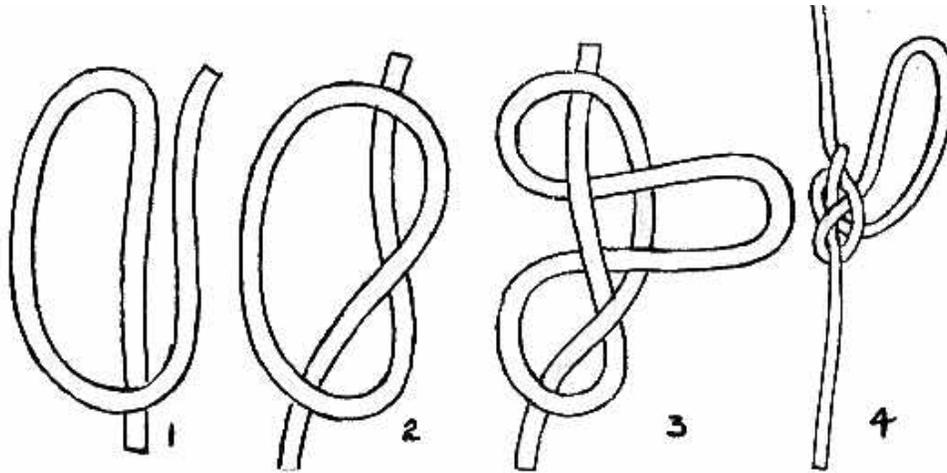
There should now be an end strand projecting from each space of the standing part (E). This completes the first tuck. Tuck each strand in turn “over and under one”, making three full tucks and two taper tucks. The taper tuck is made with the strand thinned down by scraping away some of the fibres. To complete the splice, roll it underfoot, then stretch it and finally cut off surplus ends of strands.

Fireman’s Chair Knot.-You will find a description of this knot and an illustration under First Class Test No. 6.

Manharness Knot.-This knot or hitch is used to make a loop in the middle of a tow-rope, which will not slip, so that a Scout towing may put it over his shoulder and add his weight.

This knot is best made by laying the rope on the ground; it can also be done by holding the loops over the hand. The illustrations explain the simple method of making.

Rolling Hitch.-This hitch is somewhat similar to a Clove Hitch which you learned way back as a Tenderfoot, but is less likely to slip under a sideways pull. It is useful for attaching a rope to another rope which has a strain on it.

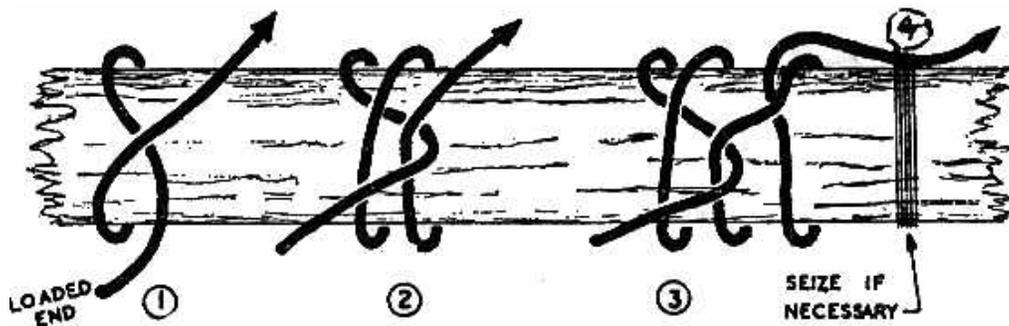


Start with a half-hitch as in Fig. 1. Then take a round turn, round standing part and larger rope, as in Fig. 2.

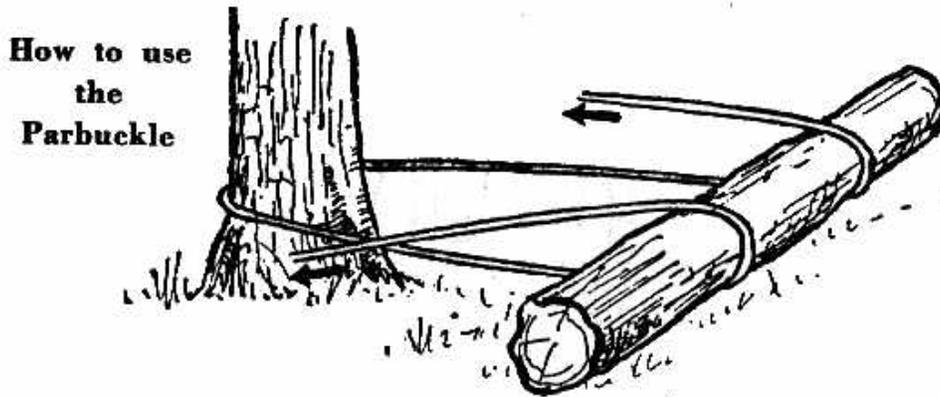
Then a half hitch on top similar to the first one as in Fig. 3.

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, as in Fig. 4.

Parbuckling.-Have you ever tried to lug a big log up a hill or over rough ground? Well, parbuckling will show you just how easy and with what little effort this can be done. Of course you can use it for moving other cylindrical objects such as barrels, by the same method.



The rope is bent in two and the loop hitched round a tree stump, post or other firm anchorage. Both ends of the rope are then passed under the log, round behind, and over it and are brought back in the direction of the anchorage- exactly as shown in the illustration.



If the ends of the rope are held taut or slackened together the log may be moved, raised or lowered with comparative ease. If the strain upon the two ends is not equal the direction of the log may be changed slightly, but if a short object-such as a cask-is being moved, it may readily slip out of the parbuckle.

TEST NO. 13

Demonstrate the proper use of an axe for felling and trimming light timber; or if this is impracticable, make a "Pioneer" model such as a bridge, a derrick, etc., of a type approved by the Examiner. If a Sea Scout, make a model boat or deck model; help repair Troop Craft.

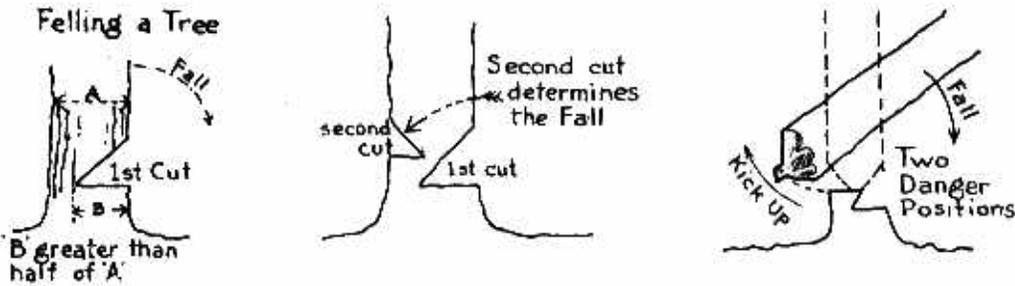


This test may be considered as combining a review of the axemanship demonstrated for your Second Class Badge, and an exhibition of your further improved skill with an axe. As a First Class Scout you should be able to tackle any axe job on hike or at camp with sure moves and efficiency.

This finished axemanship will be shown, in the present test, chiefly by your skill in trimming the tree you have felled,-the deftness of your strokes; the lopping off of smaller branches with one clean cut, and your selection of safe footing for your chopping "stances" on the ground or on the tree trunk itself.

Tree Felling.-The illustration explains the felling' cuts. and the lower notch, or kerf on the side to which it is desired to "lay" the tree.

Before beginning to cut, clear away all underbrush and hanging branches within reach of your full swing. A comparatively small branch may catch your axehead and deflect your stroke.



Spectators, if any, should be at least two axe lengths away -an axe length being the distance from the armpit to the head of the axe.

Make sure you have a firm footing.

Never stand behind a tree when it falls. It may violently kick back as its branches hit the ground, or if it swings, or lodges in another tree.

As the tree begins to crackle or sway, give the traditional lumberman's cry of "Timber!" and spring well to one side. In trimming, always work upwards from the butt.

TEST NO. 14

Send and receive a message out-of-doors, either in Semaphore, at 20 letters a minute, or in Morse at 15 letters a minute. (Sea Scouts will use Morse). He must also understand the alphabetical check for numerals. Where it is desired to pass the test in Morse by buzzer, the test may be taken- indoors provided the sender and receiver are out of sight of each other.

In your Second Class signalling test you have learned the fundamentals of signalling, the code and procedures. It is well to point out here that while there are other miscellaneous signals in use, Scouts use those originally outlined in "Scouting for Boys". This test aims to make you more proficient in the use of signals and able to send with greater speed.

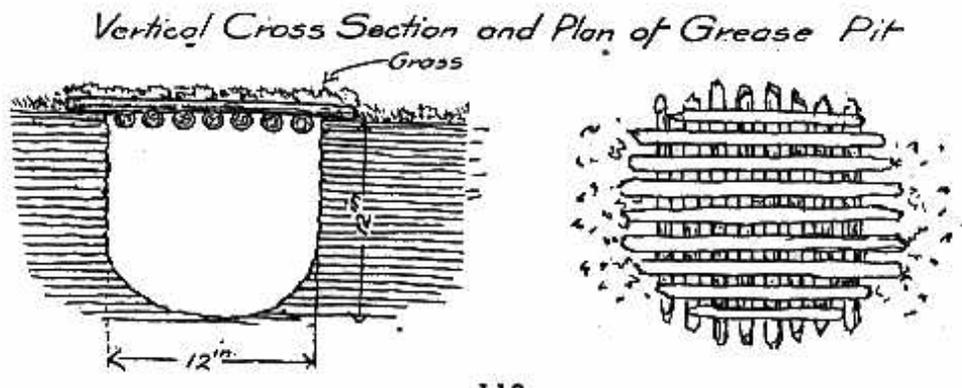
The development of speed in signalling can only be attained by practice. Read again the instruction given in Second Class Test No. 10. Here are a few special reminders.

When you have contacted your station and your message is under way, respond to each word with the appropriate signal when receiving ("T" in Morse, "A" in Semaphore), to show that it has been received. At the end of the message, if sending, signal "AR" to indicate end of message, and, if receiving "R" to indicate complete message received. If a numeral appears in the message you are receiving, respond to each numeral individually with the letter check indicated in Miscellaneous Signals on Page 61.

Should you make an error and recognize it in the sending, send a series of "E's" (EEEEEEE) to denote the error and then send that word over again. Occasionally in sending figures you may wish to use a decimal. In Semaphore you change to alphabetical and send the word "DECIMAL". In Morse send AAA, as shown in the table of Miscellaneous Signals on Page 60.

TEST NO. 15

Make a ramp kitchen with open fire and other necessities and prepare therein (a) two of the following dishes: porridge, rice, pancakes. (b) a "damper" of half a pound of flour or a "twist" baked on a thick stick. (c) a stew. (As an alternative for the stew, skin and cook a rabbit, or pluck and cook a bird, or clean and cook a fish).



When taking this test you will be expected to go about the job in an orderly manner. Make sure that you have a sufficient supply of suitable firewood (including dry hardwood if procurable), and fresh water. Make the usual Scout small fire, placed so that the smoke will blow from you and the food you are cooking.

A Full Scout-size Bridge.—Here is a bridge building job that every Troop should aim some day to achieve.



Top:Placing the ramp timbers. Length depends on shore line.

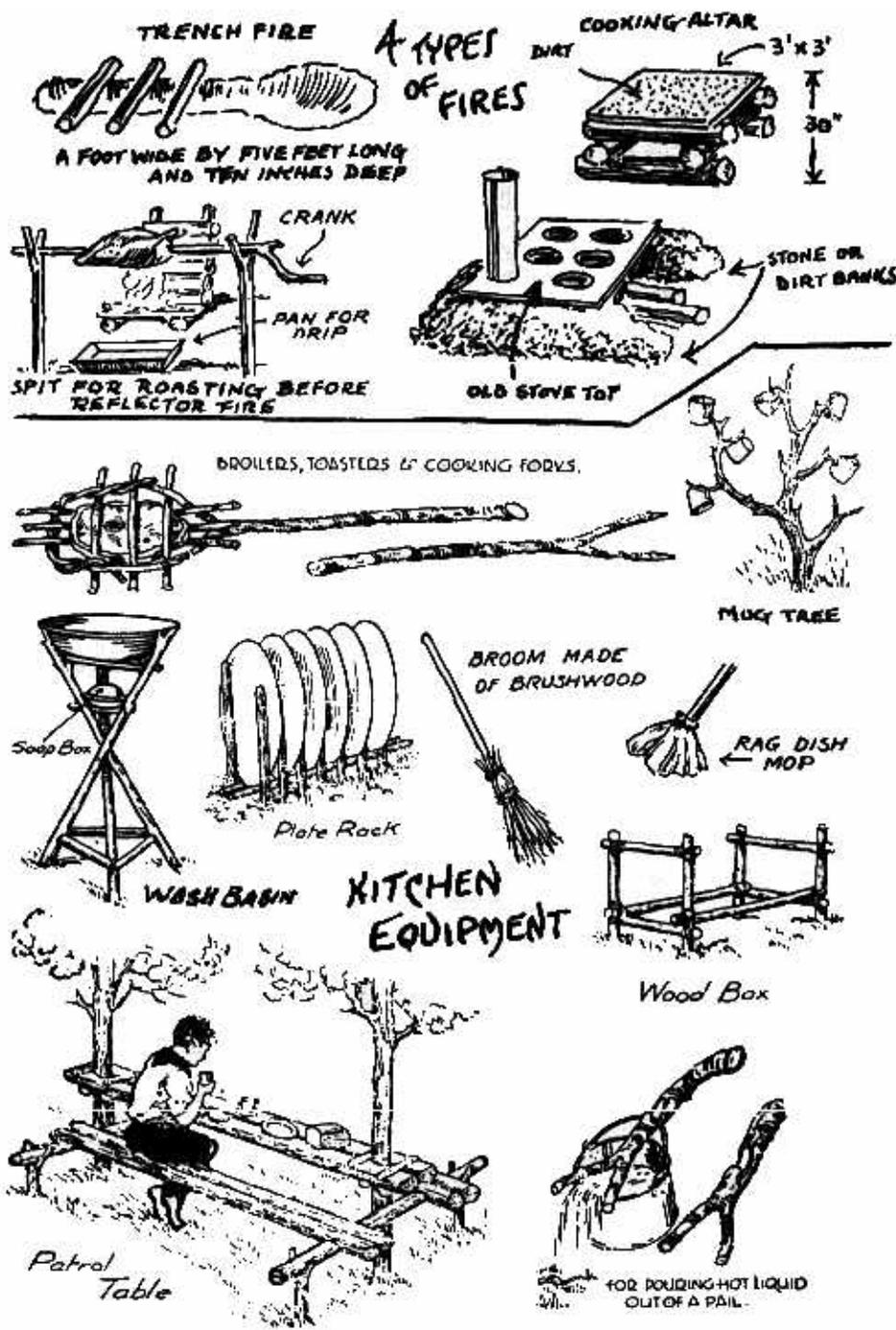


Middle: Finishing the floor. The first bottom floor piece was square-lashed to the ramp timber.

Remaining cross pieces, working upward, are being secured with a turn round the ramp. They finish at the top with the square lashing.



Bottom:Ready for Troop, trek cart, or any reasonable traffic.



Recipes.

Porridge.-For each person allow one pint of water, 2 ozs. of rolled oats or oatmeal, and a quarter teaspoon of salt. Bring the water to a boil, add the salt, sprinkle in the oatmeal, stirring as you do so. Allow to simmer a half hour. (Coarse oatmeal will take an hour.) Stir frequently to prevent burning.

A double-boiler is the surest method to prevent burning. One may be improvised by placing a small pot inside a larger one containing an inch of water, with a few pebbles in the bottom to keep the two vessels apart.

Rice:-For each person allow one half pint of water, one ounce of rice and one-eighth teaspoon of salt. Bring the water to a boil, add the salt, and sprinkle in the rice, stirring. Boil for 20 minutes. Continue to stir frequently to prevent burning (if not using a double-boiler.)

Pancakes.-Mix a half cup of flour, a half teaspoonful of baking powder, a third teaspoon salt and a tablespoon of sugar. Beat one egg and mix it with one cup of milk. Add the milk and egg to the flour and stir until smooth. Drop by spoonfuls on your hot, greased frying pan. When puffed, full of bubbles and cooked on the edges, turn and cook on the other side. This makes enough pancakes for two persons.

Damper.-Use 1 1/2 pints flour, 1 1/2 heaping teaspoons of baking powder, 1/2 heaping teaspoon of salt, 1 heaping tablespoon cold grease, 1/2 pint cold water or sweet milk. The quantity of water or milk may vary with the quality of the flour. Too much liquid makes the dough sticky and prolongs the baking. Baking powder also varies, and directions on the can should be studied.

Mix thoroughly with a big spoon or wooden paddle, first the baking powder with the flour, and then the salt. Rub into this the grease (lard, cold pork fat or dripping) until there are no lumps left, and no grease adhering to the bottom of the pan. This is tedious, but it does not pay to shirk it. Complete stirring is necessary to success.

Now add the water, and stir with the spoon until the result is rather a stiff dough. With a clean, round stick roll out the dough at once to a half-inch thickness, and bake in a frying pan (covered if the wind is blowing), or on hot stones.

Twist.-Work damper dough into a ribbon two inches wide. Get a stick of sweet green wood (birch, poplar, maple or sassafras), about three feet long and three inches thick. Peel the large end and hold over hot coals, or sharpen and stick into the ground, leaning over the fire. When the sap simmers, wind the dough spirally round the peeled end, and turn occasionally while baking.

Hunter's Stew.-Cut lean meat or game into small pieces, brown with fat in a frying pan, shuffling the pan so as to sear but not burn. Drop the meat into a kettle of boiling water, and set to one side or hang high over the fire, to simmer. Later add potatoes, onions, rice and salt and pepper.

It is essential that the stew should not boil hard, but merely simmer. The time will vary according to the materials used Cook until tender.

If a thick stew is desired, rub a little flour into the grease left in the frying pan and add water, stir, and allow the mixture to boil for a few minutes. Stir

this into the stew a short time before it is served.

Skin and Cook a Rabbit.-A rabbit (cottontail, jack rabbit or hare) is a meal likely to come the way of a Scout from time to time, so you should know how to prepare and cook one.

To prepare: Place the rabbit on its back. Cut the legs off at the first joint. Slit the skin down and between the hind legs, and “peel” toward the head,- that is, turn the skin inside out. (If your first time, have someone hold the hind legs.)

Your Scout knife (sharp) may be required to free the skin in spots.

The skin removed, slit the carcass down middle of the belly, and remove entrails.

Wash well in warm water. If there is time before the feast, rub well with salt and soak for several hours.

Now cut up, first removing the legs; and make a stew similar to Hunter’s Stew, adding an onion and several pieces of lean bacon. Cook for an hour and a half. (Note that rabbit is good eating only in Fall and Winter.)

Pluck and Cook a Bird.-For easy plucking, first scald a fowl by holding it head down and pouring scalding hot water through the feathers close to the body.

For “Scout roasting” it is not necessary to pluck. Remove the entrails and wash the inside, then plaster with clay and place in the middle of your fire, and cover with hot coals and ashes. In an hour and a half to two hours the bird will be cooked, and the feathers will come off with the baked clay coat.

Fish and meat may be cooked in the same way, the meat being wrapped first in several thicknesses of wet paper. But the real way to cook a Scout-caught fish is to broil it on a plank.

TEST NO. 16

Have a general knowledge of the Highway Code of his Province and be able to answer questions and give demonstrations in relation to any part of it; and, if a Sea Scout, know the rules of the road at sea.

As a Second Class Scout you learned the Highway Code, and special rules relating to cyclists and pedestrians. This test broadens your knowledge and you must learn those details related to other traffic. You should know how properly to turn a corner, how to pass oncoming traffic or traffic proceeding in the same direction, or parked. You must know when and when not to pass other vehicles, which means you must be able to recognize highway signs and interpret them.

While much information may be obtained from the booklets issued by your Provincial Highway Department, perhaps your Scouter will be able to gather the essential information in more concrete form.

TEST NO. 17

Demonstrate the methods of controlling traffic, both vehicular and pedestrian.

Boy Scouts in many parts of Canada have done excellent work in traffic control in many fields. Hundreds of Scouts are members of School Safety Patrols in larger centres. Yeomen service was rendered by Scouts in this field during the visits to this country of members of the Royal Family, and in several disasters.

To give efficient service in traffic control the prime necessity is a clear and cool head. The Scout who gets easily rattled is not going to be of much value.

Instructions in this test should come from a member of the local Police Force. In communities where no Police Force exists Provincial Police or Royal Canadian Mounted Police will be glad to assist.

Just one or two reminders. Scouts should never try to take traffic control out of the hands of constituted authority. They should assist when asked by police, or in the absence of police might direct traffic in the case of an accident until the arrival of the police.

Fall fairs in rural communities offer excellent opportunities for Scouts in those areas to assist in traffic control.

TEST NO. 18

If he has the use of a bicycle, demonstrate that he is keeping it properly maintained and that he is able to effect all reasonable repairs.

This test simply assures that what you learned as a Second Class Scout about your bicycle and its maintenance is being continuously carried out. For the purposes of this test, your Scoutmaster may at any time inspect your bicycle, and question you on your knowledge of its operation and repairs. In the Second Class test you are expected to effect "minor" repairs. In this test you should be able to make almost any kind of repairs which do not require the use of machine shop equipment. For instance you would not be expected to weld a broken frame, but you would be expected to replace a brake or three speed cable. To make sure that you fully understand the vital parts of your machine and how to keep them in good condition read over once again the instruction given in Second Class Test No. 13.

If you are not using your bicycle in the winter time your Scoutmaster may expect that you would have it properly stored against the weather, and not just leaned against the wall of the garage or some other out-building.

TEST NO. 19

Understand the procedure for reporting accidents.

It is a law in many Provinces that if you are a witness to an accident you must report it to the police. Now if you had the opportunity to listen in on a traffic accident case in a police or civil court you would be surprised at the many versions of an accident that will be given in evidence. Some are right and some are wrong, and yet it is not necessary to think that someone is giving false evidence. So few people are really trained to make accurate observations that a tremendous amount of confusing evidence results.

A Scout, of all people, and because he is a trained observer should be able to report accurately on an accident. To train yourself, take any given happening that you may see and make a mental report of it.

If you were someday to become a cub reporter on a newspaper the first thing your editor would tell you is that every story must answer five questions-Who? What? Where? When? Why? If you train yourself to answer those five questions in everything you witness, you'll soon become an expert.

An accident: Who was involved? What happened? Where did it happen? When did it happen? Why did it happen? It might not always be easy to answer the last question, and if you cannot answer it, it is better to leave it to the police to figure that out.

It is a good idea to practice this at Patrol Meetings or in your Patrol Instruction period. Plan a "mock" accident, and then have each Scout report on it, giving an answer to the five questions listed above.

The essentials in reporting accidents are:-

1. Call doctor or ambulance if necessary.
2. Call the Police.
3. Make careful note of your observations as outlined above.
4. See that where possible, conditions are left as they are so that Police may easily reconstruct the accident.
5. See that crowds do not erase wheel or skid marks which might assist police in their work.
6. Should there be glass or other debris from an accident on the highway, a Scout should, as a Good Turn, clear this away to prevent distress to others. This of course would be done after police investigation is completed.

TEST NO. 20

Read and be able to use a topographical map, and if a Sea Scout, a navigation chart. Point out a direction by day and night without the use of a compass.

Reading a Map.-Reading a map means more than simply pointing out certain signs and symbols, and telling the examiner what they represent. The Scout must be able to tell just what kind of country is indicated, the direction in which the streams flow, the kind of roads, paths, etc.

The Scale.-One of the first things a Scout must note, in order to understand a topographical map, is the "scale" to which the map is drawn. By the term "scale" is meant the proportion a distance on the map, bears to the actual distance on the ground. When the scale is one inch to the mile, one inch on the map represents one mile on the ground and on topographical maps is usually shown in a scale of inches and also in this manner, which is known as the representative fraction:-

$$\frac{\text{Distance on map}}{\text{Distance on ground}} = \frac{1}{63360} \frac{\text{inch}}{\text{inches}}$$

Thus a distance on the map of five inches would represent five miles on the ground, and two villages shown three inches apart, would be three miles apart actually.

The North Point.-After acquainting himself with the scale, the Scout should locate the north side of the map. The symbol correctly indicating this is shown on some maps, but not on topographical maps. Where the symbol does not appear it is assumed that the top of the map is north. True north may also be recognized by the points of longitude marked at the top and bottom of topographical maps.

It is important to note the variation between "True North" and "Magnetic North"; that is, the difference between Geographical North, the actual centre of the "top of the world", and the North towards which the compass needle points- which is not the True North.

The reason the compass needle does not point to the True North is that the earth is a great magnet, and like any magnet, as a magnetic North Pole and magnetic South Pole and these poles are not located anywhere near the geographic poles. For some reason still unknown they are slowly but constantly shifting.

The Magnetic North at present lies in the south-western corner of Boothia Peninsula, a large barren projection of the Canadian mainland, about 700 miles from the True North Pole.

So always keep in mind the compass "variation".

Orienting.-In order to use a map out of doors, as for finding your way when on a hike through unfamiliar country. you must know how to "orient" it. This means simply to stand and hold the map so that the road you are following is exactly in line with the road as shown on the map; and houses, trees and fields shown on the map are actually seen by you in their true direction from the point on the map at which you are standing.

Conventional Signs.-Since each individual person would have a different way of showing the various things on a map, such as houses, roads, trees, etc., certain signs, or "symbols," are used. Names of roads are written in from left to right and from bottom to top. Conventional signs used on Topographical maps are illustrated on opposite page.

Making a Map.-While not a required test, every Scout should learn to make a Sketch Map, in preparation for the Route Map of his First Class Journey. The Sketch Map should be drawn from notes and a rough sketch made as you tramp over the route or section of country selected. (See also A Plane-Table Sketch Map, page 131).

Before setting out to make this map measure the length of your double pace; that is, every step with the right foot. Do this by pacing a known distance of 100 or 200 feet, counting the paces taken, and dividing into the distance. The average Scout will take approximately 20 double-paces in 100 feet, or about 5 feet to the pace. Pedometers should not be used. Most professional map makers do their own counting, and Scouts should do the same.

You will find it helpful in judging distances to learn the regulation measurements or distances between certain familiar objects. For example, telegraph poles usually are 150 feet apart; a standard roadway is 66 feet wide (1 chain); fence rails are 18 feet long; steel rails are 30 feet in length. If you are a bicycle Scout you have in your bicycle a ready-made means of measuring miles-either by cyclometer, or by a piece of red cloth tied to one of the spokes of the front wheel.

Taking Bearings.-If possible you should secure some preliminary instruction in taking bearings with a pocket compass reading degrees, not points. Bearings are always given in three figures 003°-045°-135°

Compasses are graduated continuously around from zero to 360 degrees. North is zero, East is 090, South is 180, and West is 270. On such a compass a bearing is read simply by the number of degrees.

Simplest Way to Take Bearings.-The simplest way to take a bearing is to stand facing in the direction to be determined, compass in both hands, about breast high; then turn the box until the N. is under the North end of the needle. Sight over the pivot and read the degrees on the far side of the box. A pencil may be held upright on the rim to assist in marking the place. Most compasses are marked in two-degree spaces. Read the nearest two-degree

How to Proceed.-Select for a starting point a crossroads, or a bend in the road. Take a bearing on the stretch ahead. Note this on the field sketch (always standing with the map held in the direction in which you are going). Begin pacing. Suppose at 40 paces you come to the middle of a small bridge. On your sketch draw the sign for a bridge. Opposite it mark 200 feet (provided your stride has worked out at 5 feet to the stride). Show the stream under the bridge. Mark the direction of the stream's flow with an arrow. Resume pacing and counting. At 62 paces you arrive opposite a house on the right. Make a square mark for the house, and opposite it 310. Resume pacing and counting.

At 84 paces you arrive opposite a house on the left. It is a short distance from the road. Estimate the distance, if not over 300 feet. If over this distance, pace it. Show the house on the sketch, with the distance paced to the point opposite (420), and with the estimated distance of the house from the road. Resume pacing and counting until you reach the bend 'in the road. Mark on your sketch the paces to this point. Take bearing on the next stretch of the road and continue as before; also sketching in streams, trees, fields, fences, crops, etc. with their proper symbols. Continue in this manner until the circuit is completed. If you wish to note on your map certain objects not visible from any point on the Traverse Circuit, run a new Traverse Line across the interior of the Traverse so as to touch the objects desired,-as inaccessible building or other objects too far away to be easily located from a bend in the road; or from some other definitely located point on the Traverse Circuit. This method is accurate, and timesaving. Care must be taken to have the two bearings intersect each other at a reasonably wide angle.

The Final Map

The Scale.-Draw the map to a fixed scale. A scale of 400 feet to the inch will be found convenient. Distances may be measured, or "plotted", with a foot rule divided into inches, half and quarter inches. The better way for the Scout, however, is to make a plotting scale by copying the divisions from a foot rule on a strip of paper, and subdividing at least one quarter inch into ten equal spaces (by eye). Each of these little spaces will represent a 10-foot distance on the ground.

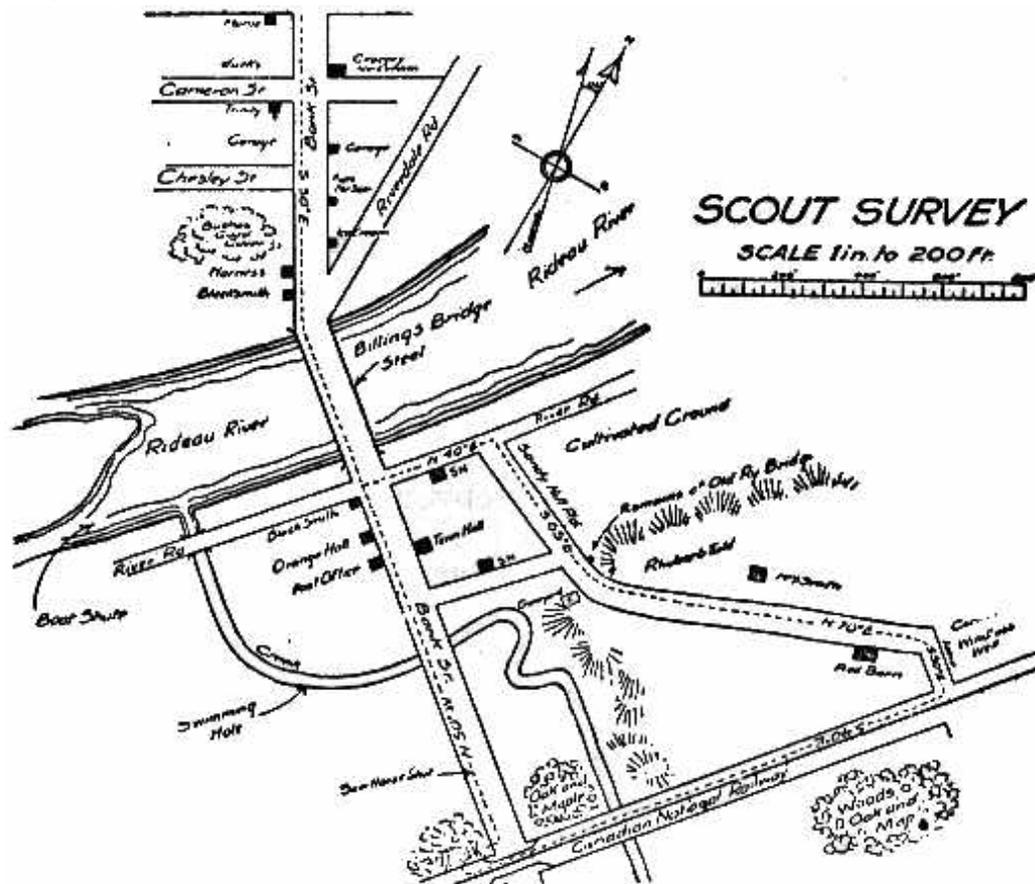
Draw the final map at home. Use a sheet of heavy white paper approximately eight by ten inches in size. Allow a margin of at least one inch. Use a medium hard pencil, well sharpened; and make neat, firm lines. (If it is a route or hike sketch, indicate the route followed by a dotted line in red ink.)

The Protractor.-Bearings will be plotted with a protractor (a half circle divided into 180 degrees). Cardboard, celluloid, or metal protractors may be bought cheaply.

To plot a bearing, first draw through the point from which it was taken, a

line in the direction of the Magnetic North. Place the protractor on this line, centre it on the point, and mark off the proper number of degrees. Connect this point with the first, and the line will represent the direction determined.

Error of Closure.-Plot the traverse circuit first and do not plot houses or other details until you are satisfied that the main traverse is correct. There is bound to be a small discrepancy; that is, the last course, when plotted will not bring you back to the starting point. This discrepancy is called the Error of Closure. Do not be ashamed to show it. Every Survey, no matter how carefully done, has an error of closure. An error of 100 to 200 feet (1/4 to 1/2 inch) is allowable. If the error is larger than this, there probably is a mistake. You may have read a bearing wrong, or dropped 100 paces in your count. If necessary, repeat some of the old measurements.



Lettering.-Print (do not write) the names of villages, roads, streams, etc. Lettering should be from left to right and bottom to top. Give bearings and distances of courses of your traverse circuit, also bearings taken to distant houses and other principal objects. In the lower right corner print the map title, and under it your name, Troop number, and date. Also show the direction of the Magnetic North as determined by your compass, and the scale of the map in words, or in a fraction, and always in the form of a divided bar.

The Scout Plane-Table Sketch Map

There is nothing complicated in the making of a Sketch Map. It is 90 per cent simple sense, it is always interesting fun, and when finished you have something that you can be a bit proud of.

Material Required.-A smooth board some 24 inches square a suitable piece of any light coloured paper, a few thumb-tacks, a medium soft pencil with rubber, a ruler, an ordinary compass, and several Scout staves, or sticks secured on the spot.



The Map “Theory.”-The theory of the Sketch Map is, first the fixing on your map board of the positions of several landscape features, or landmarks, then filling in the details or landmarks between.

Procedure.-Choose two landmarks (a big tree, say and a knoll topped by a large bush) a good distance apart, but visible from each other, and from each of which most of the other features of the landscape can be seen.

The line between these two selected landmarks is your Base Line.

Decide where on your board you may reasonably mark the two ends of the Base Line, keeping in mind the extent of the area you wish to cover in your map.

Now with your ruler draw the Base Line on the board, and mark one end A and the other B.

Fix a Map Scale.-Pace off the distance from landmark A to landmark B in feet. (Do it twice, combine the results and divide by 2, and you’ll be pretty close.) Divide the ground distance by the length of the Base Line on your board, and that will be your Map Scale, it may be: 1 inch equals 60 feet.

“Ray” Lines.-Carry your board to landmark A, and set it up on a Scout staff tripod (as pictured). Adjust the board so that a sighted line over A and B on the map covers landmark B.

Now, without moving the board, look towards the other landmarks you wish to locate, and from point A draw a light pencil line-or ray line-in the direction of each such land mark. (Lightly label these lines, so you can identify them later.)

Move your board to landmark B, and “orient” it so that a sighted line over B and A on the map covers A landmark. Again draw ray lines to the selected

landmarks.

The point of intersection of the two sets of ray lines will indicate the correct location of the various landmarks on the map.

Now the Details.-Rub out the ray lines, leaving only the landmark points. Change the landmark points into Conventional Map Symbols (see page 129) and letter in. Remember that lettering is horizontal, except for rivers, railways and canals.

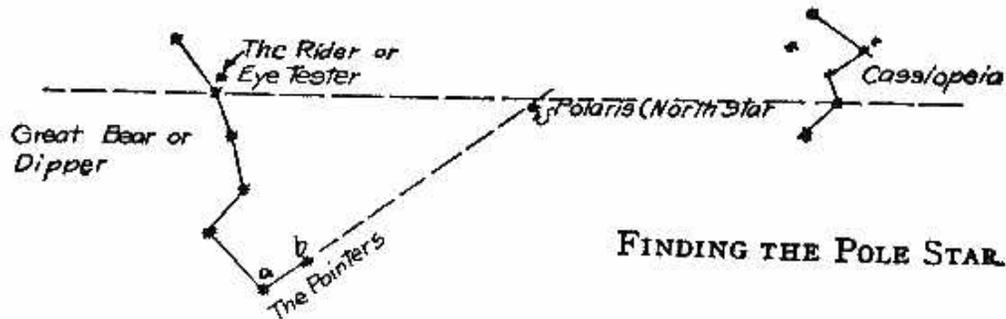
The next step is to wander round the area with the map in your hand and fill in details between the landmarks,- trees, streams, ponds, fences, buildings, roads, trails, bush-land, swamp, knolls, etc.

Finally indicate the direction of North by an arrow in a corner of your map, and mark the Scale used. And your Rough Sketch Map is completed.

Pointing Out a Compass Direction

The last part of the test is not as simple as it might appear. It does not mean that a Scout shall stand in his Troop meeting place and point out any direction asked for. It means that he shall be able to stand in the open, and either by studying the stars at night, or the sun in the day time, locate the North, and other points in the compass.

One of the most satisfactory tests is taken at night, out in the open, away from familiar buildings, or other objects. The Scout is blind-folded, turned about several times, those present also changing their position; then his eyes are uncovered, he looks skyward, and finds "where he is"-and where the North is-solely by the stars. This is good fun, and a real test.



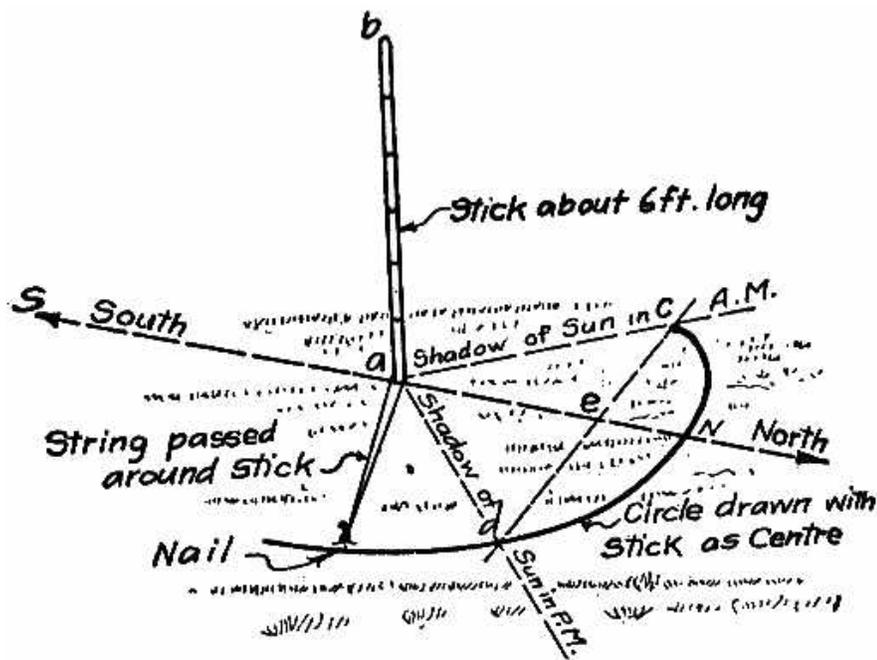
Should you be able to see the Dipper, but not the Pole Star itself, you will be able to locate the Pole Star's approximate position by following out the line indicated by the two Pointers for a distance of five times the space between the Pointers.

Finding the North By Shadows

Another way of finding the North is by means of the shadow of a pole. This

is a very slow method but a very good one. Let us suppose that your Troop is in camp, and that you have been asked to locate the True North. Proceed as follows:

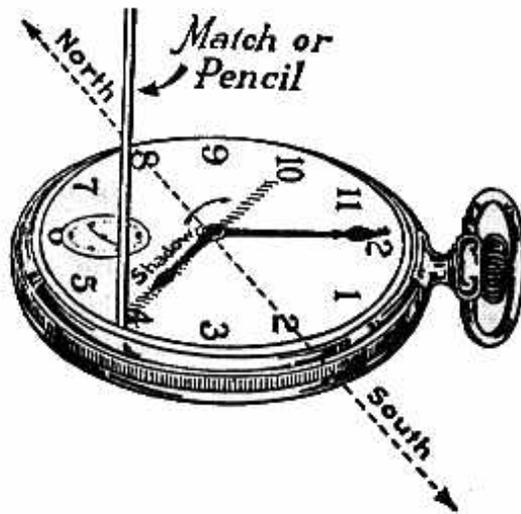
On a level piece of ground stand a 6 or 8 foot pole (a b) in an upright position. At about ten or half past ten in the morning tie a piece of string loosely around the bottom of the pole (a) and hold the other end of the string at the end of the pole's shadow. (c) Now, imagining that the bottom of the pole is the centre of a circle and the shadow (ac) the radius, on the ground draw a half-circle. (If you cannot scratch the ground to show the circle, indicate it by bits of sticks or small stones.) In a few minutes you will notice that the shadow has left the circle and is getting shorter. You, of course, know that the shadow of the stick will be shorter at noon than at any other time, and that it then begins to lengthen again. Watch it until it stretches out and once more strikes the circle at (d). Mark the point right away, and draw a line from (d) to (c). Now find the middle of the line (dc), that is the point (e), and draw a line from (e) to the base of the pole (a). The line (ae) will be the North and South line. The North end (in Canada) is always on the same side of the pole as the circle.



The Watch Compass.-Your watch can also tell you the North. Place it on a flat surface and stand a lead pencil or small stick over the end of the hour hand. Turn the watch until the shadow of the pencil falls along the hour hand. Now a line drawn half way between the end of the hour hand and 12 o'clock runs North and South; and between 6 a.m. and 6 p.m. the North will lie on the side of the watch on which the hour hand is farthest from 12 o'clock.

Now you will want to know what to do in case the sun is not shining. On almost any cloudy day you will be able to use the watch method if you will take a piece of white paper and place it over the face of the watch, and hold the pencil at the end of the hour hand, close to but not touching the paper

Under the point of the pencil you will notice a very small shadow. One side of the shadow will have a sharp or well defined edge, and the opposite side will be rough and indistinct. The sharp edge is the side from which the light of the sun is trying to come; therefore turn the hour hand in that direction, or until



you think the little shadow, if produced backward, would pass through the centre of the watch. Sometimes the day will be so dark that it will be difficult even to see the shadow under the point of the pencil. In that case use a stick about half an inch square and not sharpened. Practice will show you that no matter how dark the day you can always get a shadow and that the shadow will have a sharp edge and a rough edge. The sharp edge is the side toward the sun.

TEST NO. 21

Go on foot, preferably with a companion, a 24 hour journey of at least 14 miles outside city, town or built up area. In the course of the journey, the Scout must cook his own meals, one of which must include meat, over a wood fire in the open.; find his camp site and camp for the night. He must carry out the instructions given by his Scoutmaster as to things to be observed en route. He must hand in, on his return, a log of the journey, including a sketch-map of his route. A Sea Scout may make his journey partly by water and partly by land. (In abnormal circumstances or to meet exceptional cases, the District Commissioner may permit modification of the requirements of this section). THIS TEST SHOULD BE TAKEN LAST and where practicable should be conducted by the District Commissioner or his appointee.

The purpose of this test is to prove whether you have 'First Class Scout ability' to take care of yourself on the trail, as would a frontiersman, trapper or prospector. The ideal test would be by canoe up some, strange river, or through the woods along an old Indian trail, fishing and hunting by the way, sleeping in a lean-to, making your meals of flap-jacks and bacon, hunter's stew of rabbit, partridge or fresh caught trout (in season).



In the event of your running into continued heavy rain, and where it is not possible to make a good weather-proof lean-to, and you are not possessed of a hike tent, you may pass the night under any hospitable roof or comfortable barn, rather than run the unnecessary risk of a severe cold or other ill-effects.

When two Scouts take the test together they should make separate Journey logs, and write separate reports. The reports should describe the character of the country, birds and wild animals seen, and briefly relate all the interesting observations and happenings of the hike.

Scouts should not be accompanied by a leader or another Scout who has previously taken the Journey.

Note:- Normally Test 21 should be the final one taken for the First Class Badge.

The Badge of the First Class Scout is a combination of the Scout Badge and Second Class Badge. It is granted on the recommendation of the Scoutmaster. It is embroidered on cloth, and is worn on the left arm between the shoulder and elbow, in the place of the Second Class Badge.

The Bushman's Thong

Having reached the goal of First Class Scout, you will want to "go the extra mile" and attain the top insignia of Scout woodcraft, the Bushman's Thong, -a thong, worn over the right shoulder with which various uses can be made in the woods, including the stringing of a fire-bow.

The Bushman's Thong may be worn by First Class Scouts who hold the Camper Badge and one each of the following Proficiency Badge groups:

- (a) Naturalist, Stalker, Tracker;
 - (b) Forester, Starman, Pioneer, Weatherman.
- These Badge requirements follow:-

Camper (Compulsory)



- (i) Must have camped out a total of thirty nights, either in bivouac or under canvas.
- (ii) Take part in a hiking, camping, or canoeing trip of not less than three days' duration.
- (iii) Submit a satisfactory menu and list of provisions, utensils and kit required for a Patrol of Scouts for a three day summer camp.
- (iv) Must have cooked thirty camp meals.
- (v) Know how to select and lay out a camp for (1) a Patrol, (2) a Troop of 32 boys; and how to make necessary kitchen, rubbish pits or incinerators, latrines, etc.
- (vi) Demonstrate how to pitch and strike a bell or other standard tent, and how to carry out ordinary repairs on tents.
- (vii) Demonstrate an understanding of the correct use and care of an axe.
- (viii) Know the precautions to be taken against forest or prairie fires, or both.
- (ix) Know the precautions to be taken to avoid the danger of contaminated drinking water.
- (x) Present himself for inspection correctly clothed and equipped for a three-day camp, and demonstrate his ability to pack properly against wet weather and transport this equipment on his back.

Group A - Select one Badge

Naturalist



- (i) Explain in his own words and from his own observations:-
- (a) The pollination and development of a wild flower, or
- (b) The development of a bird from an egg; or
- (c) The life history of an insect or a fresh or salt water fish; or
- (d) A month's observation of pond life.
- (ii) Keep a nature diary, illustrated by sketches of the animals, birds, trees, plants, insects, etc., recorded; this diary to contain the dates and places of:-
- (a) First appearance of 12 spring or autumn migrants;
- (b) First flowering of 18 wild flowers, or description of appearance and habits of six sea-birds or water fowl;
- (c) First appearance of six butterflies or moths or description of six animals.
- (d) Make a carbon or other impression of 18 leaves of common trees.

In towns one of the following alternatives may be selected in place of (ii) (the District Commissioner deciding whether the area may be considered a town for the purpose of this badge):- Make a collection of leaves of thirty different trees; or of sixty different species of wild flowers, ferns and grasses, dried and mounted; be able to name these correctly and identify them in the field;

Or,

Make coloured drawings of twenty flowers, ferns or grasses from life. Original studies, as well as finished pictures, to be submitted.

Stalker



- (i) Demonstrate his ability to stalk through undergrowth and long grass, quickly and inconspicuously, and understand the value and use of cover, camouflage and danger of wind.

- (ii) Give proof of having stalked and studied at least six wild birds or animals in their natural state in the open, by producing photographs or sketches which he himself has taken, and by describing what he saw.

Tracker



- (i) (a) In Kim's game remember 25 out of 30 well assorted articles after one minute's observation three times running; each article being described.
- (b) By smell alone recognize 8- out of 10 as sorted liquids or solids in common use.
- (c) By hearing alone recognize 8 out of 10 different sounds.
- (d) By touch alone recognize 12 out of 15 assorted articles (including such things as dry tea leaves, flour, sugar, etc.)
- (ii) (a) Recognize and explain two different characteristics in each of five different types of simple human tracks.
- (b) Solve within 25 per cent, error, three simple tracking stories set in sand, snow or other suitable media.
- (iii) Produce six casts of animal or bird tracks, all casts taken by himself, unaided, two at least of the casts to be those of wild animals.
- (iv) Follow a simple nature trail of at least one mile in length, containing at least 40 signs, of which 35 must be noted and described verbally or in writing when trail is completed.

Group B - Select one Badge

Forester

Candidate must successfully complete Part I before proceeding with Part II.

Part I



- (i) Identify ten principal native tree species in own locality, and explain their principal distinguishing characteristics.
- (ii) Identify five kinds of native shrubs.

Part II

- (i) Describe the principal uses of ten species of Canadian woods. If possible visit a wood-using factory.
- (ii) Explain the aim of forestry, and compare with unregulated lumbering.
- (iii) Tell what are the effects of fires on soil, young forest growth and mature timber; the principal cause of forest fires and how best to overcome them; three general classes of forest fires, and how to fight each.
- (iv) Describe the Government Forestry activities in the Province.
- (v) Successfully plant or assist in the planting of at least 12 trees.
- (vi) Describe the general features of lumbering, or shingle mill or pulpwood operation; how the cutting is done in the woods, method of transportation to the mill, and manufacture there. Visit some portion of woods operation or sawmill, pulp or paper mill or shingle mill.
- (vii) Discuss one or more of the enemies of trees, such as insects (leaf-eaters, bark-borers, wood-borers), or decay (fun-gas diseases), produce a specimen of any one of them, and tell something of how damage from these sources may be lessened or overcome.

Starman



- (i) Have a knowledge of the Solar System, including general information concerning the Sun, Moon, Planets, Meteors, and Comets.
- (ii) Describe the causes of Tides and Eclipses. (iii) Have a general knowledge of the heavenly bodies beyond the Solar System; their composition, size, distances and movements.
- (iv) Be able to name and point out at least six Constellations, and know their principal stars.
- (v) Be able to find direction and tell time by the stars.

Pioneer



Show real efficiency in the following:

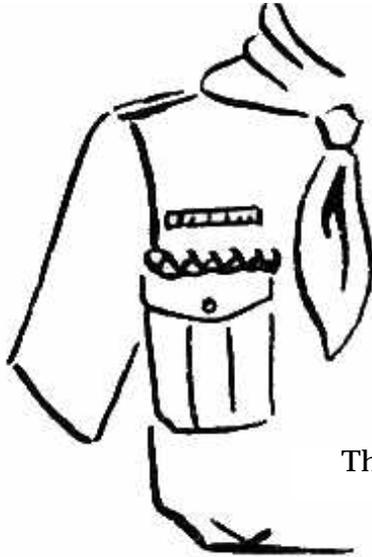
- (i) With a felling axe cut through a 9-inch log or other piece of timber neatly and quickly.
- (ii) Tie the following knots and thoroughly understand their uses: Tenderfoot Test knots. Timber Hitch. Bowline on Bight. Rolling Hitch. Catspaw. Double Sheet Bend. Man Harness knot. Marline Spike or Lever Hitch. Draw or Highwayman's Hitch. Fisherman's Bend or Hitch and Fisherman's knot.
- (iii) Use the following lashings in the proper way: Square. Diagonal. Sheer or Round. Figure of 8. Be able to lash a block to a spar.
- (iv) Build a model bridge or derrick.
- (v) Make a camp kitchen.
- (vi) Build a camp shelter or hut suitable for three occupants.

Weatherman



- (i) Know the names of at least two cloud types at each of the low, middle and high cloud levels, and demonstrate his ability to recognize these clouds. He must be familiar with the formation of afternoon cloud and its relation to showers.
- (ii) Have a knowledge of the chief source regions of cold, warm, moist, and dry air masses, and understand something of the way they are formed and how they affect the country over which they move.
- (iii) Know Buys-Ballots Law relating wind direction and low pressure or storm centres.
- (iv) Keep a continuous daily record of weather observations for at least two months. This includes observations of wind, cloud types and their direction of motion, temperature and rainfall. (One observation, and preferably two, a day, at fixed times.)

- (v) Obtain from the official check temperature location in his Public Weather Region a record of observations for the same two months, and, by comparison with his own, find the average daily difference in simultaneous or nearly simultaneous temperature readings, for the whole period. Then determine one or more corrections to be made to the official forecast temperatures to obtain a forecast of local temperature.



The Bushman's Thong is worn like this

- (vi) From his weather record and knowledge of the weather elements, prepare at least five rules for local weather forecasting.
- (vii) Make as continuous a record as possible of the wind, and cloud types, before, during and after a rainstorm.

Chapter VII

A QUEEN'S SCOUT



With the accession of Her Majesty, Queen Elizabeth II to the throne, the time honoured rank of King's Scout, became Queen's Scout, with Her Majesty's gracious approval.

The significance of the rank of Queen's Scout is sometimes forgotten. It is the top grade and honour in Scout training, for it literally means what the name implies,-a

Scout who has passed certain tests of proficiency qualifying him for “the Queen’s service,” in times of national emergency, and who has assumed the obligation always to **Be Prepared** for such service.

Appropriately the idea of King’s Scouts originated with a British King,- King Edward VII, “Edward the Peacemaker.” It was mentioned on a doubly notable occasion,-the day on which Lieutenant General Baden-Powell resigned from the British Army to give all his time to the new, rapidly spreading Boy Scout Movement, and the occasion on which he was knighted as Sir Robert Baden-Powell.

You will be interested to read what the Chief Scout some years later wrote of the happening. After relating the circumstances of his visit to King Edward at Balmoral Castle, the Chief Scout continued, characteristically:

Colonel Legge called to a footman to bring a cushion, and to another to bring a sword. It was like a preparation for an execution.

“Then we walked in. The King, in Highland dress, shook hands, smiling most genially, and kept hold of my hand while he told me that for my many services in the past and especially for my present one of organizing the Boy Scouts, he proposed to make me a Knight Commander of the Victorian Order.

“He then sat down, and I knelt on the cushion in front of him. The equerry handed him the sword, and he tapped me on each shoulder, and hung the cross round my neck and hooked the star of the Order on my coat.- “After dinner King Edward called me aside and sat me down on the sofa beside him, and talked for half an hour about my “Boy Scouts.” The Movement was not two years old then, but it had spread rapidly. The previous day I had been at Glasgow for a rally at which 5,640 boys were present, and the previous month 11,000 were present at the Crystal Palace.

“His Majesty asked me all about our aims and methods, and expressed his belief that the Movement was just what the country needed, and that he would like to review the Scouts the following year at Windsor Castle.”

It was after this talk that His Majesty “King Edward the Peacemaker” offered the suggestion that “Scouts who passed special tests of efficiency should be named ‘King’s Scouts.’

Queen’s Scout Requirements.

Following are the Queen’s Scout requirements as laid down in Policy, Organization & Rules:- Must be a First Class Scout, qualified to wear four of the following badges of which Ambulance Man and either Path. finder or Coast Watchman are obligatory:- Ambulance Man, Coast Watchman, Cyclist, Fireman, Horseman, Interpreter, Pathfinder, Pilot, Public Health Man, Rescuer, Signaller.

A Queen's Scout must be reexamined annually for his Ambulance Man's badge, and must cease to wear the Queen's Scout Badge should he fail in it.

The badge of the Queen's Scout is a golden crown worn on the left arm above the First Class Badge, and surrounded by the qualifying badges.

The Queen's Scout Badge Tests.

Following are the Queen's Scout Proficiency Badge requirements.

Ambulanceman

(To be passed annually.)

In addition to passing First Class first aid tests must:-



- (i) Know how to improvise splints and diagnose and bind a fractured limb.
- (ii) Know how to deal with choking, burning, poison, grit in the eye, sprains and bruises.
- (iii) Know how to diagnose and treat fits, fainting and insensibility as the examiners may require; drag an insensible person with ropes, and improvise a stretcher.
- (iv) Know the Schafer and Holger-Nielson methods of artificial respiration.

Demonstration called for by each paragraph above.

- (v) Know the causes of and how to treat the following common camp ailments :-Constipation, diarrhoea, indigestion, chills and colds, headaches, rashes and sore throat.

Coast Watchman.



- (i) Know every rock and shoal within five fathom line on a four mile stretch of coast near his headquarters.
- (ii) Know all the danger spots to bathers and visitors, and what to do if they get into difficulties. If on tidal waters, know the places where persons are liable to be cut off by the tide.
- (iii) Know when the moon rises and sets, and its quarter.
- (iv) Know the best landing places for boats, and where they may shelter and find safe anchorage under all weather conditions.

- (v) Make a rough sketch chart of local waters, showing principal danger points, shoals, lights and channels.
- (vi) Know the light houses which can be seen from his strip of coast and describe the lights they exhibit.
- (vii) Know the routine followed in his own home waters in the event of a serious accident along the shore, the information to include life-saving stations, coast guards, rocket apparatus, telephone and addresses of doctors and police.
- (viii) Know the mercantile code of signals.
- (ix) Know the marks of fishing boats and the national and house flags of all ships which regularly pass the home waters of the Troop.
- (x) If on tidal waters know:
 - (a) The rise and fall of tides, both spring and neap, and how to ascertain the times of high and low water.
 - (b) Know the set of current at all stages of the tide in the home waters of the Troop.

Pathfinder



- (i) (a) For country district and towns up to 5,000 population, have a reasonable knowledge of the history of the community and places of historical interest; also location of doctors, ambulances, hospitals, schools and churches.
- (b) Have knowledge of farms with their approximate acreage and registered stock, also the location of blacksmith shops and garages within two miles in all directions from troop headquarters.
- (c) Have a general knowledge of the country within a 25 mile radius, so as to be able to guide strangers to districts, towns or cities.

Make and present a map, drawn in ink, showing as much as possible of the information required above.

Examiners may use their judgment in excluding undesirable areas and substituting others.

- (ii) (a) In towns and cities, population 5,000 to 50,000, have an intimate knowledge of the locality, either round his home or troop headquarters as may be decided by the Scoutmaster, including fire alarm boxes, hydrants, fire and police station, sub-post offices, telegraph and telephone offices and the names and addresses of six doctors, (three nearest troop headquarters and three nearest home); veterinarians, factories, livery stables, gasoline stations, motor repair shops, the principal food, provision, drug and hardware stores, taxi stands and cycle repair shops.
- (b) Make and present a map, drawn carefully in ink, showing as much as possible of the information required above.
- (c) Have a general knowledge of his town or city, and its history and places of historical interest. Also the location of all main hospital, fire and police administration buildings, ambulances, post offices, railway stations, colleges, universities, churches, cathedrals, large hotels, museums, airports, bus terminals, and radio stations; government, municipal and large office buildings, monuments, memorials, and plaques, parks, rivers, and lakes, and places of amusement. Also a comprehensive outline of all the important street car and bus routes and the principal main and cross streets. Any of the above, if within his area, to be on his map.
- (d) Have a general knowledge of the country within a 25-mile radius and be able to direct strangers to the nearest districts, towns or cities by railroad, electric railway, highways and water routes.

Note:- The area over which the above intimate knowledge will be required has a one-mile radius from home or troop headquarters. The Examiners will use their judgement in excluding undesirable areas and substituting others.

- (iii) In cities over 50,000 in population, same as (ii) but with an area having a half mile radius.

Cyclist



- (i) Sign a certificate that he owns, and has owned for at least six months, a bicycle in good working order, correctly equipped with lamp, bell, rear reflector, pump, tools and tire repair kit, and that he is willing to use it in public service if called upon at any time of emergency.

- (ii) Ride his machine satisfactorily and keep it in repair and good running order and show that he can mount and dismount neatly by either pedal.
- (iii) Demonstrate ability to repair punctures satisfactorily, take a bicycle apart, clean it and put it together again.
- (iv) Know the Highway Safety Rules as laid down in the Traffic or Vehicle Act of his Province, traffic signals; be able to read a road map; know the names or numbers of the principal highways in his part of the province.
- (v) Repeat correctly a verbal message after a ride of at least one hour's duration.

On ceasing to own a bicycle he must cease to wear the badge.

Fireman



- (i) Know how to turn in a fire alarm. Know the local fire department telephone number and the nearest fire alarm box to his dwelling, school or place of business.
- (ii) Have a knowledge of the dangers of the use of gasoline, celluloid products, illuminating gas; oil, gas, alcohol and gasoline stoves and lamps; Christmas decorations; and method of fighting a fire resulting therefrom.
- (iii) How to work in fumes and smoke.
- (iv) Have a knowledge of fire prevention in the home, the factory, and in the forest.
- (v) Have a knowledge of the use of hose and hydrants; ladders, ropes, jumping sheets, and how to improvise same: passing buckets. Know the various types of fire extinguishers and their proper use for various classes of fires. Know the various ways of forming a scrum (using arms, hands, staves, ropes).
- (vi) Have a knowledge of the different fireman's drags and lifts; First Aid for burns; artificial respiration and the method of changing operators.
- (vii) Know how to control panic rescue animals and salvage property.
- (viii) Know how properly to attend a house furnace and be able to explain the drafts system.

- (ix) Have a knowledge of why fires are caused by defective electric wiring and defective electrical appliances.

Horseman



- (i) Must have a horse at his disposal.
- (ii) (a) In the case of light horses, ride properly at all paces and jump an ordinary fence or ditch; saddle and bridle a horse correctly; harness correctly in single and double harness, and be able to drive single and pair:
or
- (b) In the case of heavy draught horses, know how to harness them in single and double harness. And in either alternative:
- (iii) Know how to water and feed, and groom a horse properly.
- (iv) Know how to clean and keep harness.
- (v) Know the evil of bearing and hame reins and ill-fitting harness.
- (vi) Know the points of a horse, and be able to detect common ailments and lameness.

If the Scout ceases to have a horse at his disposal he must cease to wear the badge.

Interpreter

Carry out the following tests in any language other than his own:



- (i) Carry on a conversation.
- (ii) Write a simple letter of at least 100 words on a subject given by the examiner.
- (iii) Read and translate at sight a passage from a book or newspaper.

Pilot



- (i) Be able to read any chart and have a good knowledge of the chart for the nearest port and the coast or shore on each side of it. This must include a knowledge of the standard markings on the chart.
- (ii) Know the buoys, beacons, land marks, and leading marks into and out of his home port or harbour.

- (iii) Know:- The rule of the road at sea, as adopted either for deep sea service or for inland waters; the lights carried by various kinds of vessels; the simple sound (whistle) signals used to indicate course in passing of proximity of dangers; and the conventional storm signals.
- (iv) Know the lead and its markings; understand arming of the lead.
- (v) Know Canadian Government systems of buoys and buoyage.

Public Health Man



- (i) Know the modes of transmission of the following diseases:-Scarlet fever, diphtheria, tuberculosis, measles, mumps, whooping cough, chicken-pox, typhoid fever, dysentery, summer diarrhoea, small-pox, malaria, ringworm, scabies; the measures adopted by sanitary authorities to prevent their spread, and the steps which should be taken by private individuals in cases of infection.

NOTE: *Bacteriological and medical details are not required.*

- (ii) Explain the local health laws regarding notification of the presence of infectious disease, and the regulations regarding quarantine or isolation; and describe one or more methods for disinfecting a room and its contents, and for disinfecting a house, after a contagious illness.
- (iii) Describe one or more methods of sewage and garbage disposal, including the method used in his own community. Describe an accepted method of garbage disposal in a summer camp.
- (iv) Explain how the house-fly carries disease.
- (v) Describe methods for assuring supplies of pure water, milk, meat and exposed foods.
- (vi) Describe ways in which Scouts may aid the local health authorities in promoting good health in the community.
- (vii) At the age of 16 or thereafter be instructed by a qualified physician (or his appointee) in the dangers of venereal disease.

Rescuer



- (i) Perform in the water four methods of rescue and three of release from the clutch of a "drowning" person; of about the same size as the rescuer, the "victim" to be carried at least ten yards in demonstrating each of the rescue methods.
- (ii) Dive from the surface to the depth of at least five feet and bring up a stone, brick or iron-weighted object of not less than five pounds.
- (iii) Demonstrate the Schafer and Holger-Nielson methods of resuscitation and the promotion of warmth and circulation.
- (iv) Swim 50 yards and then undress before touching ground.
- (v) Throw a life-line to within one yard of a small object 15 yards away three times out of four. See First Class Test No. 7.

A Story

The practical value of this test had an unusual and convincing demonstration following the capture of Hong Kong by the Japanese during the 2nd World War. The incident, related by Pte. Leslie Canivet, a former Scout of the 1st Ottawa and 10th Britannia Troops, occurred on the tragic Christmas Day of 1941 when the Canadian and British garrison was overwhelmed by the Japanese.

Pte. Canivet, with seven other Canadians, escaped to the nearby hills, and at the first opportunity set out to swim Repulse Bay to the mainland. Four of the party, weighted down by their clothes and boots, were drowned. Leslie Canivet got his clothes and boots off in the water, and reached the shore.

"That was the advantage of being a Boy Scout," he declared, when finally back home. "I learned to take off my clothes in the water when I took swimming lessons with the Scouts."

Hints on Diving Rescue

When a person drowning has disappeared in quiet water the location of the body will be shown by rising bubbles. If there is a tide or current, dive where the person went down, and look along the bottom, swimming with the current.

On reaching the victim, grasp him by the hair, the slack of the coat or the shirt between the shoulders, or under one arm, and plant a foot on either side of the body. Pull upwards, shove off with the feet, and swim with the back

stroke. At the surface change the grip to the head hold as shown on Page 88.

It is not difficult to raise the body of an unconscious person from below water. Because of displacement pressure, the actual submerged weight of the average person is less than ten pounds.

Signaller



- (i) Send and receive by Semaphore flags at the rate of seven words (35 letters) a minute, and by Morse flag at the rate of three words (15 letters) a minute 90 per cent, accuracy. Sending style to be 100 per cent, accurate.
- (ii) Send and receive at the rate of six words (30 letters) a minute on buzzer or sounder-90 per cent. accuracy.
- (iii) Send and receive at the rate of five words (25 letters) a minute by lamp, hello, or other flash system—90 per cent. accuracy.
- (iv) Understand how to call distant stations, and the procedure in handling messages-95 per cent accuracy.
- (v) Know the phonetic alphabet-100 per cent, accuracy. (vi) Know the bird or other Troop calls, staff and hand signals used in his Troop-90 per cent. accuracy.

Chapter VIII

THE ALL-ROUND CORDS

Scouts are entitled to wear any of the following All-Round Cords for which they are qualified. Only the highest grade cord is worn; that is, when the B Cord is earned, it replaces the A Cord. The Cord is worn on the right shoulder.



A Cord.-Green and Yellow. For holders of six Proficiency Badges. Open to First Class Scouts only.

B cord.-Red and White. For holders of twelve Proficiency Badges. Open to Queen's Scouts only.

C Cord.-Gold. For holders of eighteen Proficiency Badges. Open to Queen's Scouts only.

Note:-A and B are double cords, C single.

SEA SCOUTING.



What Are Sea Scouts?

“This point should be settled first of all” says Gilcraft in **Sea Scouts**. “Sea Scouts are Scouts primarily, belonging to the same Association and passing the same tests as other Scouts. They are all **Boy Scouts** and this fact must always be kept in mind.”

“A Sea Scout should be able to camp, to build bridges, and to render First Aid as efficiently as his shore-going brother, and sea training is never given at the expense of his ordinary Scout work. The Sea Scout has this special privilege, however, that **in addition** to the wide interests that he is offered as a Scout he has also the added interest and experience that are given him on the water.”

The additional tests for Sea Scouts in Tenderfoot, Second Class and First Class work are included in those sections. In addition to those tests the Sea Scout has the opportunity to earn the Anchor Badges. “The Canadian Sea Scout Manual” carries all the necessary instructional material on these Tests and Badges. As the Anchor Badges may be earned by Boy Scouts as well as Sea Scouts the requirements are included here.

The Anchor Badges



These three badges, Red, White and Gold respectively, show that the Scout has developed proficiency afloat as well as ashore, and he may work for them while he is taking his Second Class, First Class or Queen’s Scout tests.

The Anchor Badge is worn on the right breast above the “Boy Scouts-Canada” Badge and to the left of the Leaping Wolf Badge.

The Red Anchor Badge

- (i) Be a Second Class Scout.
- (ii) Be able to swim 50 yards wearing socks, shorts and shirt.
- (iii) Demonstrate his ability to handle a small boat under oars or paddle; the position from which to row or paddle; how to follow a straight course; how to steer; how to pull away from or approach a dock; how to tow and be towed.
- (iv) Know the commands used in a pulling boat.
- (v) Know how to stow gear in and keep trim a small pulling boat or canoe.
- (vi) Know the safety rules for small craft as prescribed by the District Council or Provincial Commissioner.
- (vii) Demonstrate his ability to make the following knots; Carrick bend, Bowline on the Bight, Double Sheet Bend, and explain their uses.
- (viii) Know how to get help in case of an accident on or near the water in the area in which he operates.

The White Anchor Badge

When this badge is earned it replaces the Red Anchor Badge. To qualify for the White Anchor Badge the candidate must:

- (i) Be a First Class Scout.
- (ii) Know the lead line, its markings and purpose.
- (iii) In areas where they exist know the system of buoyage and navigation lights in his home waters.
- (iv) Know the locations of the main channels and the chief landmarks in the area in which he operates.
- (v) Be able to make minor repairs to his Patrol or Troop craft and its gear.
- (vi) Have done his share of the overhaul and maintenance of his Patrol or Troop craft.
- (vii) Be able to follow a chart of the area in which he operates.
- (viii) Describe three types of craft.
- (ix) Know the parts and the uses of three types of anchors.

- (x) Demonstrate ability to repass tests for the Red Anchor Badge.

The Gold Anchor Badge

When this badge is earned it replaces the White Anchor Badge.

To qualify for the Gold Anchor Badge the candidate must:

- (i) Be a Queen's Scout.
- (ii) Hold the Rescuer's Badge.
- (iii) Hold two of the following Proficiency Badges:- Coast Watchman. Pilot, Signaller, Rigger.
- (iv) Hold two of the following Proficiency Badges:- Boatman, Weatherman, Starman.
- (v) Demonstrate his ability to repass the White and Red Anchor Badges.
- (vi) Must hold a Charge Certificate as required by Rule 359(g) Policy, Organization and Rules for Canada.

Chapter X

ROVER SCOUTS WHAT THEY ARE!



Rover Scouts are a Brotherhood of the Open Air and Service. They are hikers on the Open Road and Campers of the Woods, able to shift for themselves, but equally ready to be of some service to others. They are in point of fact a senior branch of the Boy Scout Movement-young men over 16 years of age.

Every Scout should aspire to be a Rover Scout some day. By so doing he is able to complete the full programme of training that Scouting has to offer through Wolf Cubs, Boy Scouts and Rover Scouts.

If there is already a Rover Crew in connection with your Group, you will naturally pass on into it with the approval of your Scoutmaster and the Crew, when you are sixteen and ready to move up.

If there is no Rover Crew connected with your Group, talk over the whole question with your Scoutmaster, who will discuss the matter with the Group Committee and see if a Rover Scout Leader can be obtained and a Crew started.

Rovering offers plenty of red-blooded adventure for older boys, and your Scout training will help you in carrying out the programme of the Rover Scout Crew.

Don't be discouraged if there is no Crew with your Group. Do what you can through your Scoutmaster to see that a Crew is organized, and an opportunity provided for older Scouts to continue in the Scout Brotherhood.

Chapter XI



LONE SCOUTS



Boys of Scout age (12 to 18 years) living in small villages, on farms or elsewhere, where it is not possible to form Scout Troops owing to lack of sufficient boys or of a suitable person to act as Scoutmaster, may register with Provincial Headquarters as Lone Scouts.

Each Lone Scout chooses a "Counsellor and Friend", a man who will take an interest in his Scout activities, give him advice and guidance when needed, and act as his Examiner in the necessary tests.

The Lone Scout is just as much a member of the great World Brotherhood as is any Scout anywhere. He makes the same Scout Promise. Except that connection with Scout Headquarters or a Provincial Lone Scoutmaster usually is maintained by personal letters, the Lone Scout programme is carried on very much as Scouting in the towns and cities.

As a matter of fact, in his outdoor opportunities the Lone Scout usually is better able to follow the ideas of the Founder, Lord Baden-Powell, than is the average town or city Scout. The real outdoors is just beyond the kitchen door. With more spare evenings the Lone Scout will find more interest in the study of Scout Proficiency Badge hobby subjects.

Lone Scout Tests

Except that they are carried out mainly by mail, the Lone Scout programme tests, etc., are the same in all respects as laid down for other Scouts.

Uniform

The uniform is the same as for Boy Scouts, except the neckerchief which is mauve.

Lone Scout Patrols

In special cases permission will be given to Lone Scouts to organize Lone Patrols of from five to eight members, including a Patrol Leader. If desirable, one person may act as Counsellor and Friend for a whole Patrol.

Making the Scout Promise.-For the Lone Scout the arrangements for making the Scout Promise will be somewhat different to those outlined for the Scout-to-be of a town Troop. If he is to become a member of a Lone Patrol, the Patrol Leader will instruct him in the meaning of the Promise and Law; and at the Investiture, the Promise will be made to the candidate's Counsellor and Friend.

If he is to be a single Lone Scout, he will have the meaning of the Promise and Law explained by his Counsellor and Friend, and the Latter will receive the Promise, in the role of a Scoutmaster.

The Promise may be made in the presence of the boy's parents. Usually this is much appreciated by parents, and helps them to understand the real purposes of Scouting.

Occasionally a Lone Scout-to-be is able to visit a town or village Troop for his Investiture. This makes a very nice occasion. In fact, it provides an ideal introduction to the Brotherhood friendliness of Scouting. In such cases the Counsellor and Friend, if possible, accompanies the boy, and receives his Promise instead of the Scoutmaster of the Troop.

Starting a Lone Patrol.-After you have made some good progress with your tests, and have qualified as a Second Class Scout, you may be in a position to interest several other boys and form a Lone Patrol.

As you know, it is always more fun to do things along with other lads; and you will be able to help one another in studying the more advanced tests and the Proficiency Badges.

And, equally important, as a Patrol you will be able to do various Good Turns-for your school, in connection with different church happenings, and in other ways. (A very fine Good Turn has been the tidying up of a country church yard that has grown up in weeds and otherwise been neglected.)

New Friends Through Scouting.-One of the fine things about Scouting, especially for the boy in a district where there are few lads of his age, is the making of Scout friends, and the right kind of friends. Lone Scouts frequently have the opportunity of spending a few days or a week camping with other Scouts, in a camp planned by Provincial Headquarters. Again there are occasional Patrol Leaders' Conferences and Training Courses to which Lone P.L.'s are always welcome,- with billets arranged for them in friendly homes. And finally, a few years later, if going in town to High School or to College, you will at once find yourself among Scout friends, the finest way to start college life.

Lone Scout Gate Signs.-The common practice of Lone Scouts is to erect on a post or tree at the entrance to their farm or village home, a sign like those illustrated. This helps the Scout Field Commissioner to find you when in the district, and occasionally will bring you a friendly visit from a passing Scout or Scoutmaster. The signs shown will suggest others- mechanical weather vanes with a Scout hiking, Signalling, etc.

Some Lone Scout Proficiency Badges

Lone Scouts may try for any of the more than 80 Scout Proficiency Badges. Here are the requirements for a few which will be of special interest to many Lone Scouts.

Bee-Keeper



Have a knowledge of

- (i) The principal tools, equipment and supplies used in modern bee-keeping.
- (ii) The flowering season of the principal nectar-yielding plants of the neighbourhood.
- (iii) Apiary management throughout the season for both comb- and extracted-honey production, as well as of hive-manipulation to prevent natural swarming.
- (iv) At least one good method of producing queen-cells by natural means, as well as by grafting, for use in artificial increase.
- (v) At least one practical system of artificial increase.
- (vi) The use of bee-escapes, and the care and preparation of the honey harvest for sale.
- (vii) The feeding and preparation of bees for winter, and both cellar and out-door wintering.

Dairyman



(i) Have a knowledge, gained by practice, of management of dairy cattle (or much goats), milking, making butter and cheese, pasteurization of milk, care of dairy utensils and appliances.

(ii) Have a practical knowledge of the use and purpose of the Babcock test.

Farmer



(i) Have a knowledge, gained by practice, of ploughing, cultivation, drilling, fencing and draining.

(ii) Have a general knowledge of farm machinery, hay-making, reaping, loading and stacking, and an acquaintance with the routine seasonal work on a farm, including the care of cattle, horses, sheep and pigs.

(iii) Know how to lay down fire guards.

Poultryman



(i) Know how to construct an all-year type of sanitary poultry house to accommodate at least eight hens and a male bird.

(ii) Know how to care for a flock of at least eight hens.

(iii) Know how to run an incubator and test hatching eggs; and have a practical knowledge of rearing chicks by brooder; or, know how to take care of a setting hen, and of a hen with chicks.

(iv) Have a practical knowledge of feeding, killing and preparing birds for market.

(v) Know how to grade and pack eggs for market.

(vi) Know the names of two light-weight laying breeds, four medium weight general purpose breeds and two heavy-weight table breeds.

(vii) Know two methods of determining whether a hen is about to lay, is in full lay, and near the end of a laying period.

Stockman



- (i) Know the value and meaning of pedigrees and the principles of selection through the choice of pure bred sires of proper conformation.
- (ii) Have a practical knowledge of the care of beef cattle and sheep.
- (iii) Know the three best breeds of beef cattle and characteristics of each breed.
- (iv) Know the breeds of sheep recommended for his district with the reason for selection.
- (v) Have a practical knowledge of the methods employed in the sheltering, feeding and watering of stock during the winter and be familiar with the other seasonal work of the stockman.

Rope On The Farm

Rope is in some way used every day on the farm, and "knowing rope" and its uses should be a specialty of every Lone Scout. He should be able to splice a broken hay-fork rope, and so keep the work going, perhaps with rain threatening; should know how to improvise a halter so the knot will not slip and strangle the animal, etc.

Kinds of Rope.-For the hay-fork, grain slings and hoists, hemp and Manilla generally are used; for livestock halters and halter shanks, the softer and more pliable cotton rope. Manilla is more pliable than hemp and equally strong. The 3-strand is commonly used, although the 4-strand is stronger and more pliable. It costs more, but gives better service, everything considered.

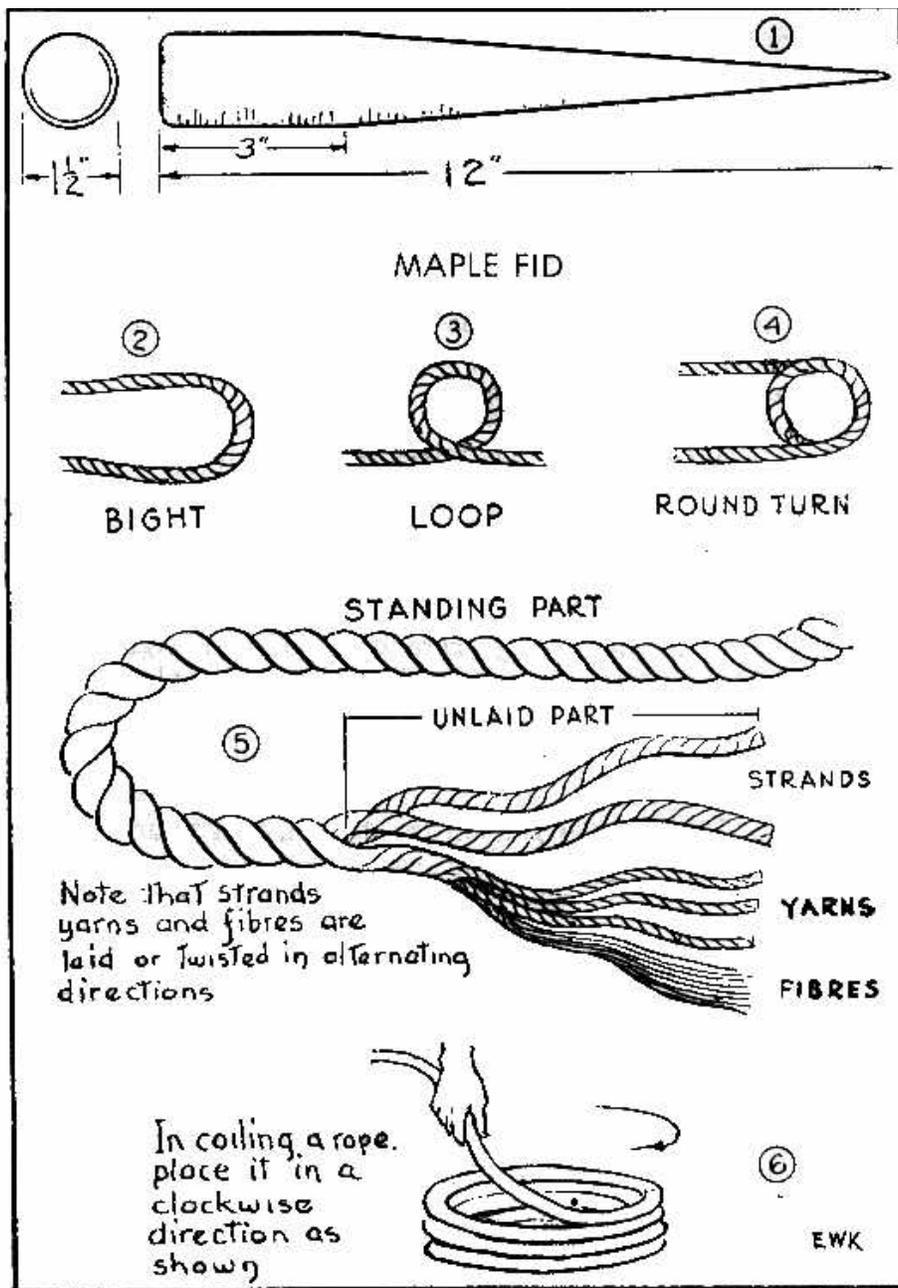
Rope Deterioration.-On the average farm about half the original cost of rope each year is lost through neglect to whip ends, and failure to dry wet rope before coiling. In other words, rope care in these two details would double the life of farm rope. Other deterioration results from overloading, surface wear, and internal wear and heat. Surface wear is the greater evil, since farm rope is in frequent contact with the ground, and picks up sand and other grit, which wears surface and cuts the rope fibre. Internal wear comes from heavy strain, and friction from rubbing beams or posts, or the edges of poorly aligned pulley blocks. Sharp bends put unequal strain on outer and inner fibres.

Rope care.-For heavy hoisting use the largest suitably sized pulley block and rope.

See that your rope is free of kinks before making up grain slings.

When hemp and Manilla rope become dry and brittle, apply as much good

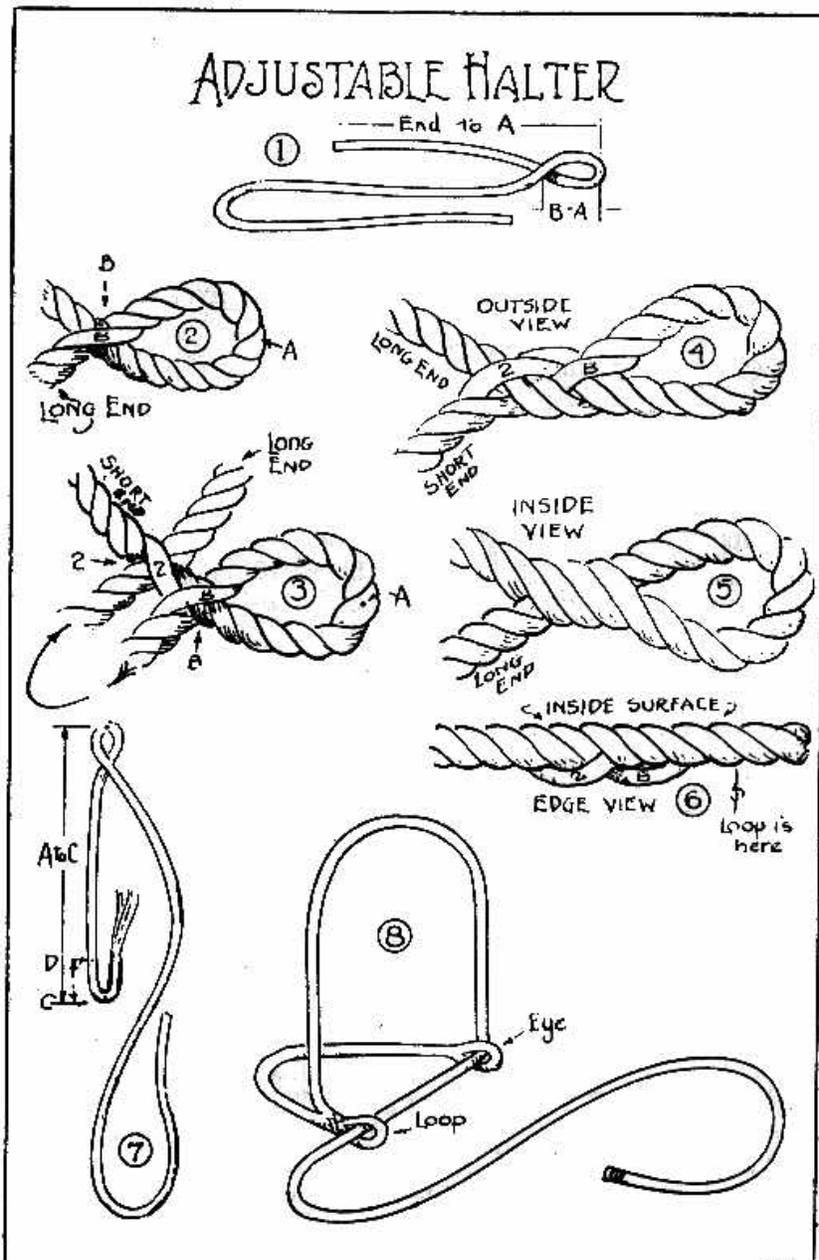
lubricating oil, tallow or fish oil as the fibres will absorb. Keep acids away.



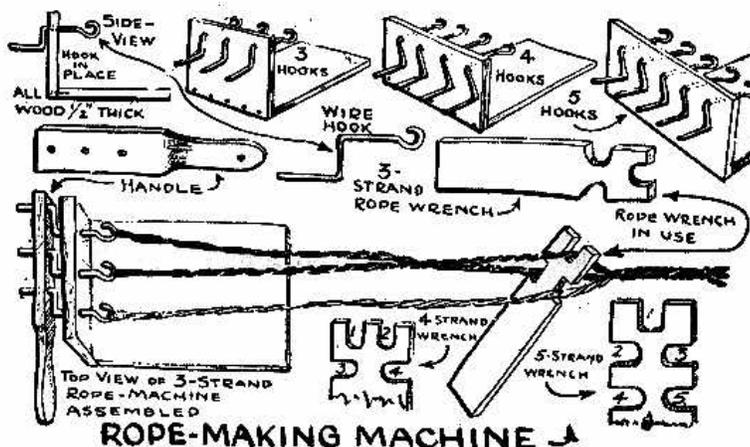
Making an Adjustable Halter

1. Cut rope to required length. (See table on page 133.)
2. Place rope on a bench, with long end to your left.

3. Measuring from end on your right, mark point A at "End to A" distance in table. A now divides rope into a long and short end.
4. Measure from A towards long end, and mark the distance A to B.



5. With the rope still flat on the bench, and your marline spike parallel to the bench top, raise the strand B. Drawing the short end towards you, still keeping it in touch with the bench top, bend in a bight so that this end may be passed under strand B and away from you (Fig. 2 in Illustration.) As you pull through, keep it parallel as possible to the strands of the long end. Pull until you have a small loop of a size to admit the rope not too loosely. (Fig. 2.)
6. Without turning the loop over, pass the long end away from you under the second strand of the short end, counting two full strands of the short part, out from under and to the left of the B strand. (Fig. 3.)
7. Pull the long end up snugly (Fig. 4.), thus putting a flat surface on the rope on the side opposite to the raised strands. This side will go next to the animals jaw. Draw the four strands of the short end close together on the flat side (Fig. 5.). An edgewise view of the loop will now look as in Fig. 6.
8. Measure A to C (Fig. 7).
9. Bend a bight in the rope with C at the point (Fig. 7).
10. Measure back on the rope same distance as A to B (to point D).
11. Unlay the end and make an eye-splice. Eye and loop AB should be the same size.
12. Pass long end of the rope through the eye, then through the loop AB.
13. Crown and tuck end of rope.



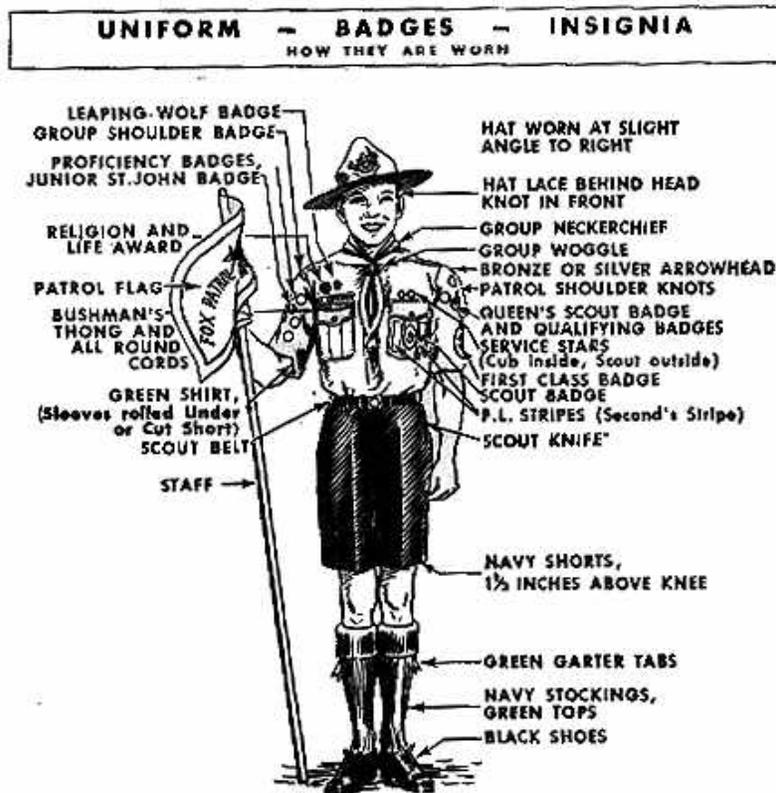
Adjustable Rope Halter Dimensions

	Rope Sizes		Measurements		
	Diam.	Length	A-D	A to B	B to C
Animals					
Sheep and Calves	3/8"	8'	18"	13/4"	9"
Small Cows	1/2"	12'	24"	3"	12"
Average Cows	1/2"	12'	27"	3"	14"
Large Cows and Bulls	9/16"	15'	30"	3 1/2"	16"

Chapter XII

It's Smart To Be Smart

One of the first things a visitor to Canada wants to see is a Mountie. Their colourful scarlet coats and Stetson hats represent to the tourist from abroad the reputation of Canada's finest—the Royal Canadian Mounted Police—the reputation for smartness, efficiency, dependability.



In the same way the Boy Scout Uniform is recognized by our fellow Canadians as the sign of a boy who is "Prepared", who is efficient, who can be relied upon in any emergency.

In an emergency a boy in uniform is worth a dozen without it. He can be readily recognized in a crowd, and his uniform clothes him with a certain authority that his ordinary school clothes can never do.

Another reason for pride in the Scout uniform is its distinctiveness, which has been one of the reasons for Scouting's growth and popularity throughout the world. And one of these distinctive features has been its smart hat, so neat and distinctive that it is worn with pride by those same Royal Canadian Mounted Police. Every Scout should be sufficiently proud of his Scout hat to use it only for proper purposes. Never use it for games at Troop or Patrol meetings. Keep the strap polished brightly, and keep your hat brim neatly pressed. Use a damp cloth and iron over it. Never apply the iron direct to the hat brim. Be sure you iron it on a perfectly flat surface, or your brim will have a buckle in it.



the crown, put in the dents and creases and the result will not only look smart but will never come out.

Your Hat Dents.-Try this method of putting the dents in your Scout hat. Bash in the crown of the hat until it looks like a shallow basin. Fill this basin with water and let it stand in a sink or bath tub until most of the water has been absorbed into the hat and the balance has dripped through. Then push up

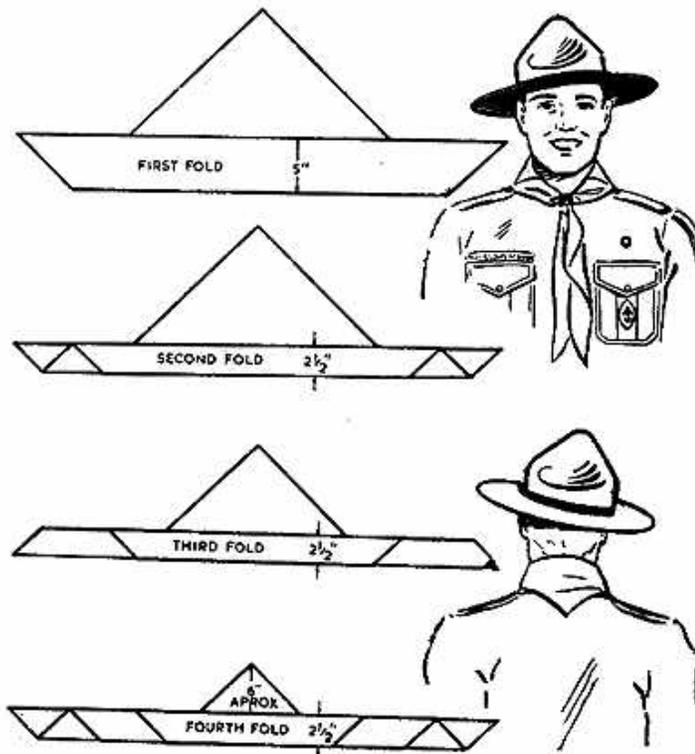
And a Smart Neckerchief

The neckerchief must be washed and ironed at frequent intervals; for no tidy Scout is ever seen in a neckerchief crumpled and soiled, as though it had been used as a dishrag. Tie a small knot in the ends of your neckerchief until your daily Good Turn is' done.

It will be unnecessary to speak of clean shirt, shorts (one and a half inches above the knee), neat stockings and shined shoes as a part of the Scout tradition of tidy dress.

Remember this chapter title-It's Smart to be Smart.

See chart for correct way to fold neckerchief.



Chapter XIII

MISCELLANY

Scout's Pace



One of the original outdoor Scout tests, and still being used by a number of Troops as a matter of tradition, and because of its popularity with boys, is "Scout's Pace." It was one of Baden-Powell's favourites," as a method of travel which permits of endurance when travelling long distances." African runners of certain tribes used it, and were able to travel for many hours without halting, except for a drink of water.

For Scouts however, it was not given as a trial of endurance or speed. The terms were "Go a mile in 12 minutes at Scout's Pace," and it was required that the mile be covered within a time error of 30 seconds.

The purpose of this test was to develop a sense of time and pace until a Scout could in 12 minutes know he had covered exactly one mile, or again that when he had covered a mile on the road, he knew that 12 minutes had passed.

If you think it is easy, try it! Put a watch in your pocket (to use only as a check at the end of each mile) and attempt it on the way home from school or in the evening out on the road.

Scout's Pace is approximately 20 steps running and 20 steps walking alternately. It may take quite a bit of practice before you are able to do it within the time limit.

Making Plaster Casts

Another of the several kinds of hike and camp souvenirs of which every Scout should have a collection is a display of plaster casts of the footprints of birds and animals, both wild and domestic, -marked with name, and place and date of taking.

It is not a difficult art, and the necessities are simple and inexpensive, -several pounds of plaster of paris (from a hardware or drug store), a medium-sized can, something to carry water in, a few collar-like strips of cardboard and some paper clips; or these can be improvised on the spot by half splitting a few twigs.

The Procedure.-Having found a distinctly made foot impression, preferably in clean, moist soil, sink a card collar around it and secure the overlapping ends with paper clips or split twigs. With a little water in the can, sift in plaster, stirring, until you have what you judge to be a sufficient quantity with the consistency of fairly thick cream. Pour this into the mould, with a circular motion if a large track.

Allow some 20 minutes for hardening. Remove the collar and lift the cast. Carefully brush off loose clinging earth. Later, when cast is quite dry and hard, wash clean with water and a soft brush.

With practice you will soon be able to record the footprints of anything from a sandpiper to a moose. It is fun also to have footprints and handprints of some of your boy friends. These can be made in a small sand-box at home.

If you wish to hang your print, make a loop of cord and place it half-way through the cast as you pour your plaster.

Camouflage and Stalking

One of the alternatives for the First Class swimming test, (only if a doctor certifies that swimming is dangerous to a boy's health), is the passing of one of the several Proficiency Badges, one being the **Stalker**.

This particularly scouty badge calls for the ability to stalk wild animals for observation and taking photographs.

The first principle of camouflage is the copying of Nature's colour protection scheme for wild animals. One of the first objectives is to "break-up" the natural lines of the figure- from the viewpoint of the observer. In a dark background you make sure of covering the high-light of your face.

With the same idea, when stalking a bird or animal you will give first attention to the colour of your clothes and your background and surroundings. Next, the wind direction. That is, you will make sure you are stalking up wind and not down wind towards your quarry.

Then you will be constantly alert to "freeze" the instant the deer, for example, suddenly stops feeding and raises its head.



Learn to walk lightly, on the balls of your feet (the thump of your heels may be heard), and practice balancing on one foot while carefully placing the other-to avoid sticks or dry weed stalks and that deadly "Snap!"

Learn to crawl like a cat. As you move bring your knee up to where you placed your hand, and at the same time do not let your feet make the slightest noise.

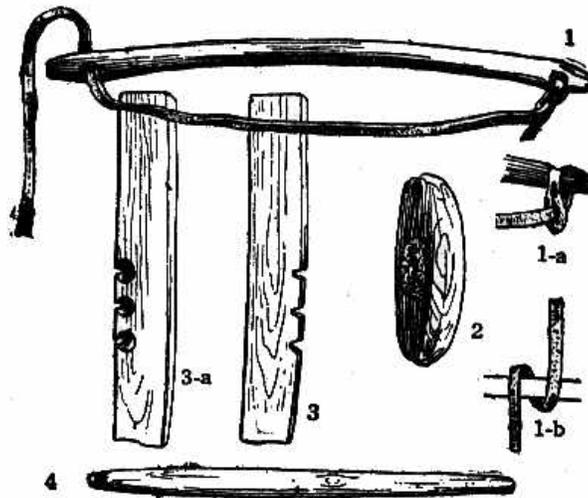
Indian Fire



Although the making of Indian fire, or fire with a fire bow, is not a First Class Scout Test, every Canadian First Class Scout should be able to go into the woods, find the necessary materials, and with his knife and leather thong (or a lace from his shoe) make an Indian fire set, and get his fire.

If close attention is given to details while learning, it is not difficult. The illustration shows the various parts of a fire set, the bow, the fire-board, the fire-pan (this may be simply a flat chip), the hand-block (some Indians called it the "Thunder Bird"), the "bird's-nest" of tinder and the spindle or drill.

1. Drill bow; 1-a. Applying the thong; 1-b. position of cord on spindle
2. Hand rest for top of spindle
3. Hearth showing slots; 3-a. Hearth showing pits and slots
4. Spindle of correct form



How Fire Comes.-In

operation, the drill, whirling in the shallow round hole, or fire-pit, at the point of the notch in the fire-board, grinds up a brown wood powder, or wool, which works out into the notch. By the time the notch is full, the heat from the whirling spindle has ignited the powder, which begins to turn black and smoke. This developing coal is carefully placed in the bird's-nest, in the hand, swung briskly in a circle (like a baseball pitcher "winding-up") until the heat is well developed, placed on the ground and blown to a flame.

The Wood Used.-Indian fire (fire by friction) cannot be made with any kind of wood. Some woods grind up too easily, developing little heat; others are too hard, making little or no powder; while a resinous wood, such as hemlock "polishes", loses friction as it develops heat, and produces only spindle smoke.

It is a theory that in every section of Canada a native wood can be found that will make Indian fire. Testing of this theory offers a field of interesting experimenting by Canadian Scouts while on the hike. Indian fire sets made with different kinds of wood in different places at different times-with kind of wood, place and date burned or inked on both the fireboard and spindle-make one of the Scoutiest woodcraft souvenir collections.

Some introductory pointers. The production of smoke from the fire-pit is not necessarily a sign that the wood used will produce fire. Several woods, like hemlock, produces lots of smoke, but rarely bring a spark. The best wood test is the powder; after a few turns of the drill, feel it. It should be fine and soft, not gritty and coarse.

Varieties of Canadian wood with which you are most likely to succeed are: Basswood, Cedar, Elm, White Pine, Fir, Tamarack or Hackmatack, Soft Maple and the root of Cottonwood and Willow. Of course, all wood should be seasoned and dry.

Among fire-making experts there is some difference of opinion as to whether the spindle and fire-board should be of the same wood. This also offers Scouts an interesting field for experimenting.

Making an Indian Fire Set

The scouting stunt, with your hand-axe and knife, is to make a complete set in the woods from one tree branch; say, a dead branch from a live white pine. The branch butt should be three to four inches in diameter; the butt then providing the fire-board and hand-block, the next piece the spindle, and the smaller end the bow.

The Fire Board.-The handy size is four by 12 inches. It is best not thicker than three-quarters of an inch. The thicker your board is, the "slower" it will be; that is, there will be more low temperature to overcome. Thinner than three-quarters of an inch, your fire-pit wears through too quickly

The fireboard smoothed off both sides, and the edges squared, near one end cut a notch three-quarters of an inch wide and of the same depth. At the tip of the notch cut a shallow hole, or cup (such as would take the half of a marble), of a width just a little less than the diameter of your drill, when made; the outer edge of the cup being a quarter inch from the edge of the fire-board.

The Spindle.-The spindle, or drill, may be round or octagonal in shape, three-quarters of an inch in diameter, and preferably 9 or 10 inches in length. The shape of the lower or friction end is important. It should be rounded, like the half of a marble; the purpose being to secure the maximum grinding surface. The shape of the top is not important, except that it must not be too thinned down and pencil sharp; and must fit easily into the hole of the hand-block. When making a spindle of a section of a tree branch, shape it so that the year rings are as much off-centre as possible, to secure most friction.

The Hand-block.-This needs little describing. It should be of a size and shape to grasp firmly in the palm, and at the same time prevent any part of the hand touching the drill. When made from the butt of a branch it should, if possible, be cut so that the knot of a small branch stub lies in the centre; this then being bored for the socket. Lacking the centre knot, find and force a pebble into the hole. Otherwise the hole should be kept greased to reduce friction.

The Fire-Pan.-This is placed under the notch to facilitate the picking up of the smouldering "coal". While the fire-pan shown in the illustration has advantages, in the woods a small flat chip will serve as well if handled carefully.

Tinder.-The best tinder is shredded cedar bark, or dry pine or cedar pounded into wool between stones. This was the Indians' preference. Fine dry

dead grass, or an old field mouse nest make excellent "bird-nests." (Needless to say no Scout would be so unwoodsmanlike as to use gasoline or kerosene to hurry up a spark.)

The Bow.-This, actually a small bow with a stout thong string, should best be 20 to 36 inches in length. The longer bow gives a longer spin with each stroke, and perhaps a greater speed, but the shorter bow is easier to control-less likely to be rocked up and down under stroking; and is more convenient to carry, or stick in a corner of your rucksack.

The thong should be strong, pliable hide, a quarter inch in width. Strung, it should be of such a length when twisted around the spindle it grips snugly yet runs freely. It is knotted securely at one end of the bow, and the other end made adjustable, to permit of tightening if necessary.

To Operate.-Twist the bow thong once around the middle of the drill, so that the drill is on the outside of the thong,-not inside against the bow.

Kneel on the right knee and place the left foot firmly on the fire-board. (Study illustration at beginning of this chapter.) Hold the hand-block so that the drill is perpendicular, and adjust yourself so that your left wrist is pressed firmly against your left shin just below the knee.

Hold the bow as pictured-precisely at right angles to the drill. Now press down moderately on the hand-block, and with a rapid, even stroke, drive the bow backwards and forwards. Continue until the notch is well filled with powder, and the powder is smoking freely.

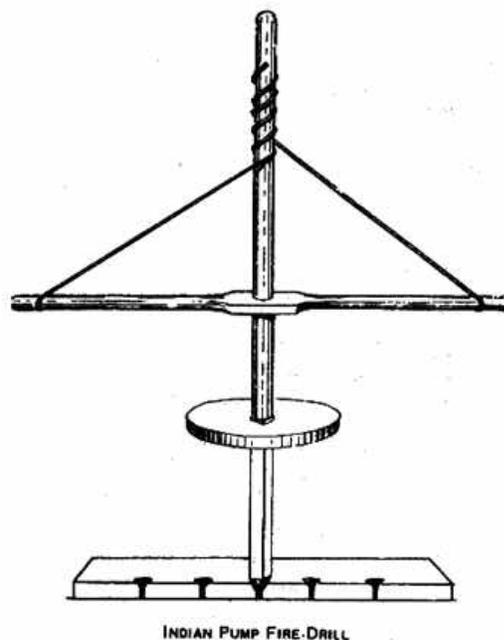
Being very careful not to move the fire-board (which might result in breaking up the little dust-ember) lay aside the bow and drill.

With the hand fan gently until a spark shows.

Place your right hand on the fire-board, to steady it while you remove your left foot. Carefully hold the fire board with your left hand, and with the finger tips of the right hand give the board a light tap (to break the coal from the sides of the notch).

Tip the fire-board up, toward you (as though on a hinge), and place it to one side.

Place the bird's-nest in your left hand.



Very carefully pick up the fire pan, anti tip the smoking “coal” into the nest.

Close your fingers loosely about the nest, and proceed to swing it in the air-very slightly closing in the fingers as the heat develops. When uncomfortably hot, place it on the ground, blow it into flame-and build up your fire.

The fire may be brought by placing tinder over the coal on the ground, and blowing directly upon it, but the hand coaxing method is surer and the flame, when it comes, is much stronger. While the “nest” is being held in the hand, the increasing temperature of the coal further dries and heats the tinder, so that the moment the flame comes, the tinder flashes into full blaze. The advantage of the hand method during wet weather is obvious.

If when beginning operations smoke does not come within a minute, it is useless to continue. Examine the end of your drill. You will probably find it is “polishing.” Perhaps it has developed a point, and is only grinding at the bottom of the hole. With your knife, pare the drill-end until it fits the hole snugly. If it again fails (where the wood is known to be suitable), drop a little dry dust into the hole.

The Time Required.-Your first attempt to make fire may fail. Keep at it, each time giving careful attention to every step and detail. When you have caught the knack practise until you can get your flame within the minute.

Off to the Woods.-If your first attempts have been made in the cellar or kitchen at home, or at Troop meeting, for your next try leave matches behind, stick a hide thong in your pocket or rucksack, and bike off to the woods for the “real thing”-to prove that you can do what the Indians used to do.

And when you can get your fire you can call yourself a real Canadian woodcraft Scout.

An Indian Ceremonial Fire Set.-Having mastered the fire bow you will find it fun to make a ceremonial fire drill set such as used by the Indians to make “new fire” at the New Year festival and in the important Sun Ceremony. A study of the illustration will give you the details.

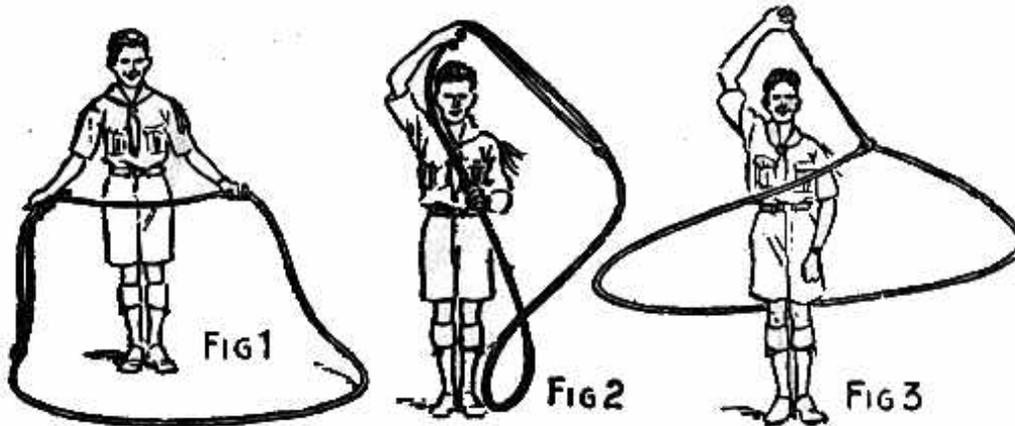
How to Spin a Lariat

One of the newer Scout Proficiency Badges is the Rope Spinner, but whether or not you wish to earn this badge, you’ll find there is endless good fun in lariat spinning, and fine exercise too. It is more easily demonstrated than explained, but a few hints, with illustrations, and regular practise on your part, will give you a start. You can go on from there and develop some of the rope tricks you have p r o b a b l y seen displayed by cowboys at rodeos and elsewhere.

First, the Rope: The best for spinning is a 16 or 18 foot length of braid-

ed spot cord No. 12, with an eye honda in one end. Of course you can begin with any fairly light, pliable rope of the necessary length.

First Trick-The Crinoline. Hold the rope as in Fig. 1, palms up, arms away from the body, the "spoke" or stem, in the right hand, the loop resting lightly on the fingers of the left. With a sweep, bring the right hand up in front of the face, around and over the head, until it comes above the right ear. Now let go with both hands, and continue the spin with your hand above your head, only twisting the wrist.



Important Points. Maintain the push-around wrist movement. Hold the rope loosely, allowing it to turn over in the hand.

Having mastered it, change the hold from right to left hand. Next have another Scout step in under and take over, you stepping out.

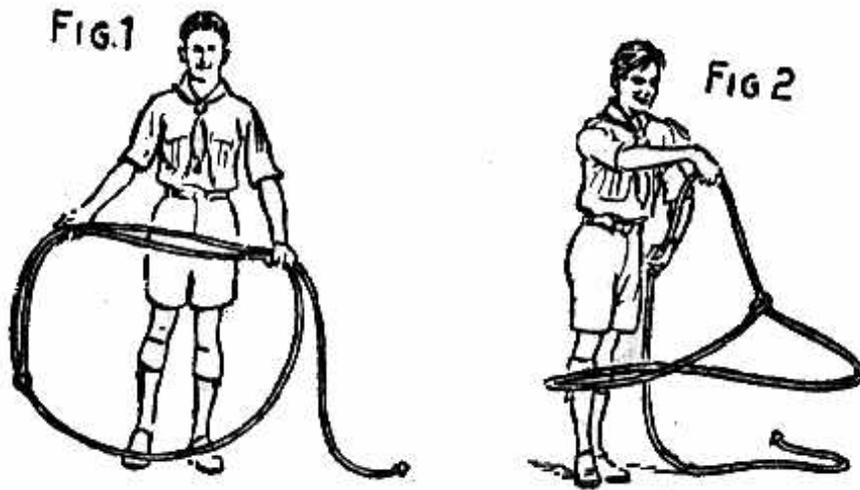
As another stunt, a second Scout crawls under and with his head between your legs hoists you, still spinning, into the air.

Next go after the "Corkscrew"-that is, "bouncing" the Crinoline. First slowly, then faster, send the hand up and down in a spiral movement that throws the loop higher and higher, until it stands almost straight in the air.

The Flat Spin. Hold the rope as shown in Fig. 1. With an easy, round swing move the arm out in a counter-clockwise circle, and in the same motion let go the loop and "stir the pot". The loop must be flat.

Having mastered the right hand, spin, change to the left. Next try passing the spin around behind your back.

The Giant Spin. For this, use a rope 50 feet or more. Start as a Crinoline, and gradually feed out with a long, full arm swing.

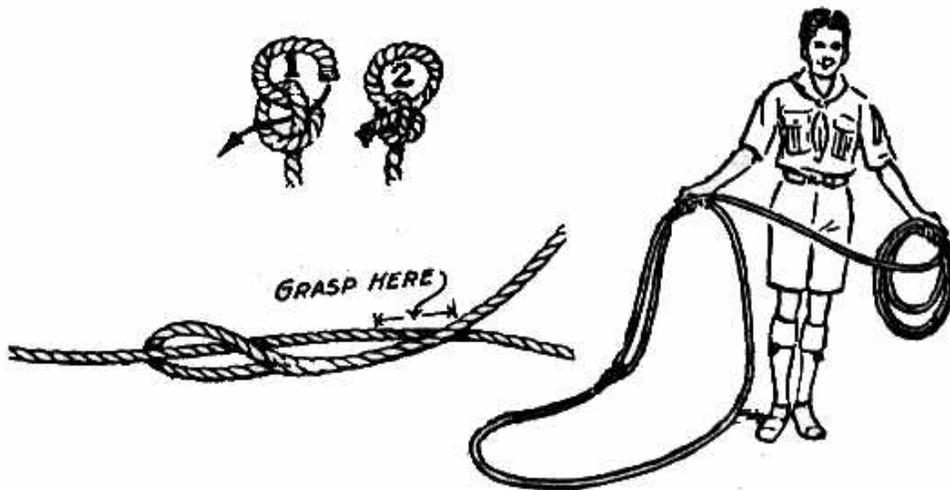


How to Throw a Lariat

Every Scout should be able to throw a lariat within reach of person in the ice, or over or within reach of the victim of a summer water accident in throwing distance of shore.

The Lariat.-While any light, pliable rope of suitable length may be used in first practise, to develop skill a 40 foot length of 3/8 inch Manila rope should be acquired. Make an "eye" in one end. To render the lariat pliable pull it back and forth round a post.

Throwing.-Make a loop from your extended hand (above your head) to the ground. Hold the loop in the right hand, about two feet from the honda. Gather up the spare rope into coils and hold lightly in the fingers of the left hand, the knot at the end of the rope held in the crotch between the thumb and forefingers. Now circle the loop about the head in such a way as to keep



it open, the twirling hand being turned over each time it passes the back of the head. Aim a little high and to the right of your target, and with the same swing, but in a larger circle, let the loop go.

To catch an animal, throw the open loop on the ground in front, and jerk as he steps into it.

