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# The Canadian Snowshoe

by

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VOL. X

*The Canadian Snowshoe.*

By THOMAS DRUMMOND.

Presented by DUNCAN C. SCOTT F.R.S.C.

(Read May Meeting, 1916.)

It is impossible to give definite historical information about the Canadian snowshoe before the advent of the whiteman, and nothing absolute can be said as to its origin. Indian legends however tell us something about the subject, and one of these legends in a condensed form is given.

"In the winter when the swamps and muskegs and barrens harden in the cold, and the lakes congeal into ice, and the ground is covered with a thick mantle of snow, then the Wendigo, the cannibal frost-fiend, holds sway, and he skims swiftly over the surface of the snow on his fleet snowshoes carrying cold and terror wherever he goes. He watches for the lone hunter or trapper who, belated in the woods, makes camp at nightfall, cleans the snow away, spreads balsam boughs upon the ground and rests before a cheerful fire. After darkness comes the moon, and the air becomes colder and colder as it rises, the frost crystals sparkle like diamonds in the bright light, the northern lights rush crinkling across the sky, and the trees crack and snap in the clear frosty air like the discharge of artillery. Then the poor mortals shiver with fear and they say the Wendigo is abroad, and they pile wood upon the dying fire to keep him away till the morning comes, when the fiend retires baffled and defeated."

The snowshoe naturally originated in rude forms and in these rude forms is known elsewhere than in North America, as for instance in Norway and northern Asia. Very primitive forms are also reported from Japan, Korea and The Caucasus. These latter appliances are what might be called emergency snowshoes, roughly and quickly made for special and exceptional cases where heavy snowfalls have occurred in unusual places, and they are interesting as examples of the ingenuity of different aborigines under independent conditions. They

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are necessarily rude and have remained so, and they have no bearing upon the development of the snowshoe which has taken place in Canada, for the finished article is only to be found where there is a definite winter of deep snow, and where they are in common use as the only means of moving about during that season. It is therefore fair to consider that there was an absolute and independent origin of the snowshoe here and at a very early date.

In Europe and Asia appliances for travelling over the snow have taken the form of the ski, and the development has been along that line, but in Canada and in the bordering lands for various reasons the development has been altogether along the lines of the webbed snowshoe.

Canada is a vast territory consisting of woodland, park and open country, and it includes the Laurentians, the Rocky mountains and the barrens of the far north. In such a vast country widely varying snow conditions are to be found.

The North American Continent was peopled by numerous and distinct groups of Indians divided into different linguistic stocks, who from central points spread themselves over the whole country from the Atlantic to the Pacific, and as far north as the Arctic. Nothing definite can be said as to their origin but it can safely be said that they are known to be a race of very great antiquity.

These different groups or stocks had snowshoes peculiar to themselves, in size, form, turn-up and method of weaving the netting. It is proposed to treat the subject from this point of view by giving descriptions and examples of most of the principal types. Other branches of the subject will be taken up later on in the article.

The principal Indian stocks from a snowshoe point of view are as follows:—

*ALGONKIAN.* Certain Virginian tribes and other American tribes near the International Boundary and in the Western States, Canada from the Atlantic Ocean to The Rocky Mountains and from the International Boundary northward to the latitude of Hudsons Bay.

*ATHABASKAN.* Interior of Alaska and Canada north of the Algonkians and west of Hudsons Bay.

*ESKIMOAN.* Arctic coast of North America and islands, also Greenland and part of the Arctic Coast of Asia.

*IROQUOIAN.* Region of great lakes, both sides of the St. Lawrence to the Saguenay and Gaspé coasts. New York State, Quebec, Ontario and part of the Western States.

*SALISHAN.* Most of the British Columbian Indians and various tribes to the south of the International Boundary.

*SIOUAN*. The basins of the Missouri and upper Mississippi between Latitudes 39 and 49 and between Longitudes 89 and 110.

*TLINGIT*. Alaskan coast and adjacent islands and a small part of Western Canada.

The subdivision into tribes is as follows:—

#### ALGONKIAN.

Abenaki	Quebec, Maine and New Hampshire.
Algonquins	
Blackfoot	Western Canada.
Bloods	Western Canada.
Cree	Canada.
Delaware	Canada and Eastern States.
Malecites	New Brunswick and Quebec.
Micmac	New Brunswick and Nova Scotia.
Mississauga	Canada.
Montagnais	Quebec and Labrador.
Naskapi	Labrador.
Ojibwa	Eastern Canada and The States.
Ottawa	Canada.
Peigan	Western Canada.
Potawatomi	Canada and State of Michigan.
Passamaquaddy	Maine.
Penobscot	Maine.

Also Arapaho, Cheyenne, Menomini, Sac, Fox, Kickapoo and other tribes of American Indians outside of the snowshoe belt.

#### ATHABASKAN.

Babines	Babine Lake, British Columbia.
Beavers	Peace River.
Carriers	Western Canada.
Cariboo Eaters	Western Canada.
Chilcotin	British Columbia.
Chipewyan	Lake Athabasca.
Dog Ribs	Great Bear Lake.
Kaiyukho'tenne	Yukon River Alaska.
Kuyukukho'tenne	Yukon River Alaska.
Kutchin	Including various interior Athabaskan tribes.
Hares	Great Bear Lake and north.
Nahane	Stikeen River British Columbia
Sarcee	Western Canada.

## ATHABASKAN—Continued.

Sekane	Findlay and Parsnip Rivers.
Slave	Great Slave Lake.
Tahltan	British Columbia.
Yellow Knives	Great Slave Lake.

Also Navaho, Hupa, Kiowa and other American Indian tribes outside of the snowshoe belt.

*IROQUIAN.* Various tribes of 6 Nation Indians in Quebec, Ontario, and New York State; also other tribes in North Carolina, Wisconsin and Oklahoma.

*SALISHIAN.* Bella Coola, Lillooet, Okanagan, Shuswap and Thompson River Indians of British Columbia, and other bands in British Columbia and the United States.

*TLINGIT.* Chilkat, Tlingit, Yukutat, Sitka and other bands on the Alaskan Coast.

## ESKIMOAN.

Aleuts  
 Central regions  
 Labrador  
 Alaskan  
 Greenland  
 Arctic Islands  
 Northern Asia  
 Mackenzie River

For convenience of description the country is divided into eastern woodland, plains, plateaus and Mackenzie river, Arctic and North Pacific Coast.

The Eastern Woodland Belt is thick forest with fallen timber and underbrush. Where the snowshoe is in common use the snow is deep and soft. It includes Newfoundland, Nova Scotia, New Brunswick, Maine, Ontario and the northern part of New York State.

The Plains Belt takes in the plains proper and the adjoining park country as comprised in Manitoba, Saskatchewan, Alberta and some of the country to the south of the International Boundary. The snowfall is lighter but it is wind driven, hard and dry.

The Plateaus Belt is largely woodland, thinning out in the north into The Barrens. It includes British Columbia, Alaska, The Yukon and the Mackenzie River Basin, with the contained Rocky Mountains. It is a varied country as regards topography and snowfall.

The Arctic Belt takes in the Arctic coast and islands, and also parts of the Alaskan and Atlantic coasts. It is more or less woodless except for willow and alder in the river valleys. The snow is drifted and hard.

The snowshoe is used in the State of New York and in other parts of The States bordering upon the Canadian line, but, as no distinct types can be found and as the snow is not very permanent, it is assumed and reasonably so, that it is an intrusion at these points from The Canadian Algonkian Indians.

In separating the snowshoe into its types various considerations are to be taken into account, such as snow conditions, available material, frame, number of cross-bars, outline and shear, and webbing and size.

The snowshoe may be flat or turned up, it may be pointed at both ends, round, oval, lenticular, of the beaver-tail type, or as in common cases, have the ordinary trailer. The frame may be of one or two pieces, rectangular, round or oval in cross-section, and with or without a wedge-shaped keel on the inside. When hardwood is available for the frame it allows of more elaborate shaping, and neater forms are the result. There may be from none to two or more cross-bars, but if there are more than two their main use is as spreaders. The usual arrangement is two cross-bars, and this divides the snowshoe into three spacings namely toe, foot and heel.

There are three kinds of mesh namely hexagonal, rectangular and irregular, and the toe and heel netting is usually made of finer material. In certain types the toe and heel netting is absent, as will be seen later on.

There are four methods of attachment of the netting to the frame (1) by a string passing along the inside of the frame in a series of loops one to two inches long. The holes through the frame where the loops join are V-shaped, about  $\frac{1}{2}$  inch apart on the inside and coming together just under the outer surface. One hole is bored in a slanting direction through the frame from the inside and the other arm of the V is started in the same hole outside and bored back again; the string being passed from the inside through the frame then back again, knotted and looped to the next set of holes, and so on around the frame. This leaves a looped string on the inside of the frame with no cord projections on the outside. The attachment to the cross bar is either by a looped string as described above, or through vertical holes or slots or around the cross-bar. This is the Algonkian method. (2) In the Athabaskan type the attachment in the toe and heel spaces is also made with a looped string, but the hole is vertical through a wedge-shaped keel on the inside of the frame as in the lacrosse stick,

and looped around the inside of the frame as above. The Athabaskan snowshoe is made with a two-piece frame spliced in front into a rounded form; the loops go into the turns of the splicing and avoid the vertical holes there. (3) The hexagonal mesh in the foot-space, Algonkian type, is around the frame in a series of hitches or turns. This is sometimes used in the Athabaskan type when the foot-space is netted with hexagonal mesh. (4) In the Eskimoan type with rectangular and irregular meshing the transverse strands pass through horizontal holes in the frame, and at right angles to it, say, across the spacing from one side of the frame through the hole on the other side from inside to outside, then along the outside of the frame to the next hole and back again through it to the corresponding hole in the other side of the frame, and so on till the spacing is filled up. The longitudinal strands are attachments to the cross-bars either through slots, holes or around the cross bars.

In addition to the difference in meshing and the method of attachment to the frame, there are distinctions in the way of shape and turning which make fairly typical tribal forms, but, as will be seen later on, these tribal forms are somewhat complicated by transitions.

The typical Eskimoan snowshoe has the rectangular or irregular mesh in which the strands pass through the sides of the frame. The shoe is pointed at both ends, made of two pieces, has two cross-bars and is well turned up in the front. The netting in the toe and heel spaces is either wanting or very irregular and rudimentary. As the snow is hard in the Arctic regions the snowshoe is short, and it usually has a string from the toe to the front cross-bar. It is illustrated by figures 6 and 7 in plate 1. Figure 6 represents the typical form, and the same shoe is used by the Siberian Eskimo. It is from the Alaskan coast but the exact locality is unknown. The example is 30 inches long and 9 inches wide. It has rudimentary netting in the toe and heel spaces and it is well turned up in the front.

Figure 7 represents an almost flat form from the mouth of the Yukon. The length is  $36\frac{1}{2}$  inches and the width  $9\frac{1}{2}$  inches. It apparently had rudimentary netting in the toe and heel spacings which is now destroyed, and it is probably a transitional form. The Eskimo now use the more finished shoe of the Athabaskans as shown in plate 2.

The rectangular Athabaskan form is long and narrow, turned up in front and usually right and left. It has a two-piece frame neatly spliced in front, bent into a rounded form and finished up with a trailer behind. Very often there is a string from the toe to the front cross-bar and it almost always has an extra cross-bar in the heel spacing which is knitted into the mesh. The toe and heel netting

is in hexagonal mesh attached to the frame through vertical holes in a keel, as described above. The foot-netting is rectangular in most of the examples given in plate 2 which illustrates this type, and shows a number of distinctive shapes and forms peculiar to different localities along the Alaskan coast. Most of the examples in this plate are from the fine collection of the Smithsonian Institute in which this particular type is well represented. The writer has never seen this shoe in use and knows it only from specimens. The rectangular foot-netting is reported to be peculiar to the Alaskan coast west of the Yukon drainage, and the hexagonal foot-netting to the interior east of this. The writer would judge from this that the true Athabaskan type had hexagonal foot-netting as shewn in figure 2, plate 2, in which case the other examples are transitional forms between the Eskimoan and Athabaskan forms. Many of these shoes are neatly made and ornamented with tufts of wool.

Figure 1 is a Bristol Bay type 44 inches long and  $9\frac{3}{4}$  inches wide. It is spatulate in form, well turned up in front and the outline is modified by each cross bar.

Figure number 2 was obtained at Sitka, Alaska, but it is reported to be from the interior in the direction of the headwaters of the Yukon River. Its main peculiarity is the hexagonal foot-netting, looped around the frame as in the ordinary Algonkian type, but more roughly. The length of this snowshoe is not given.

Number 3 came from Norton Bay, Alaska. It is 46 inches long and  $10\frac{1}{2}$  inches wide. The two shoes represented by this specimen are made in rights and lefts. The filling in the toe-space is hexagonal, and from the description it is attached to the frame in Algonkian style. The foot-spacing is square-woven and quite rough. The peculiar arrangement in the heel spacing is shown in the figure.

Number 4 is 48 inches long and 11 inches wide. It is a wide variety well turned up at the toe. The attachment is Athabaskan throughout, and it is a good specimen of weaving. It is reported to have come from the Chilkat and the netting is made of sinew twine.

Specimen number 5 is a Kutchin shoe from some point well into the interior but not exactly known. It is a fairly good shoe presenting some peculiarities in the weaving of the toe-netting. The three crosses would indicate the maker to be from the vicinity of some of the interior Canadian Missions.

Number 1, 2, 3 and 4 are from The United States National Museum. Number 5 is from The Victoria Memorial Museum, Ottawa.



This Athabaskan type of shoe is apparently exclusively used by the Athabaskan Indians of Alaska. It is also used by the Canadian Athabaskan Indians of the Yukon, the Mackenzie River Basin and the interior of British Columbia. The Western Cree type of shoe (Algonkian) has replaced this form among various tribes of the Canadian Athabaskan Indians of the interior, and it is difficult with our knowledge of these Indians to state whether this change has occurred only locally or has been more or less complete.

The typical Western Cree type (Algonkian) is long and narrow and made up of a two-piece frame pointed at both ends and well turned up in front. It often has a string from the front point to the front cross-bar, and from one to three cross-bars as spreaders in the toe-spacing, which cross-bars are usually circular in cross-section and not knitted into the netting; sometimes also it has an extra cross-bar in the heel-spacing. It has the usual Algonkian hexagonal netting and attachment to the frame, and the two shoes representing the pair as in the case of long snowshoes are usually made in rights and lefts. It is illustrated in plate 3.

Figure 1 in this plate is Western Cree from Manitoba. It is 6 feet long and 15 inches wide with an extra cross-bar in the heel-spacing which is knitted into the netting and another in the front space which is not, and it also has a twisted rawhide cross-string in the front. It belongs to the Montreal Amateur Athletic Association. The Indians in the vicinity of Winnipeg are said to have had several pairs of snowshoes in use, one pair the height of a man, of which this is an example for long trips while shorter shoes were used around home and for shorter trips.

Number 2 is Western Cree from Pembina River some 70 miles west of Edmonton, Alberta. It is 54 inches long and 12½ inches wide, made in right and left with turned-up front, and two spreader cross-bars in the front spacing.

Number 3 is from the Mackenzie River Basin east of the Rocky Mountains, the exact locality being unknown. It has a two-piece frame neatly spliced in front in Athabaskan style but the turn-up in front instead of being long and gradual as in the above type is short and abrupt so that the turn-up points backward past the right angle. It has the hexagonal mesh and Algonkian attachment to the frame but the latter is oval in cross-section, and fuller in the centre than at the ends. It is an interesting example and the only one of the kind ever seen by the writer. In all probability it is a transitional form between Athabaskan and Western Cree types.

Number 4 is Western Cree from Lake Athabasca, 56 inches long and 13½ inches wide with a two-piece frame, pointed fore and aft and

well turned up. It has one cross-bar in the heel-spacing and three in the toe, and it is ornamented with tufts of wool.

Number 5 is a Chipewyan snowshoe from Fond du Lac, 37½ inches long and 8 inches wide, right and left but not markedly so and well turned up. It shows an extra cross-bar in the toe-spacing and also a twisted rawhide thong. The Chipewyans are Athabaskans but the shoe in common use has conformed to the Western Cree type. The Carriers of Stuart Lake, British Columbia are also Athabaskans, According to Father Morice they have four kinds of snowshoes.

*KHE LA PAS*, (rounded mocassin). The same type as the Algonkian snowshoe in plate 4.

*LET'LU*, (stitched together). The pointed Western Cree type, which was introduced about 40 years ago and came into common use.

*AII ZA*, (snowshoe only). The typical Athabaskan shoe.

*SESKHE*, (black bear foot). Oval willow frame, single cross bar, and rough netting.

Number 6 is a Sioux snowshoe from an unknown locality. It is 33 inches long, 8¼ inches wide and it has two cross-bars in the toe space. It conforms to the usual Western Cree standard.

It might be stated that this Western Cree snowshoe is the best type made, and this is evidenced by the large area over which it is in use, practically westward from Winnipeg to the interior of British Columbia and north almost to the Arctic Ocean. It has largely replaced the Athabaskan types east of the Rocky Mountains, especially where these people lived along the Hudson's Bay Company trade routes to the far north, as in the case of the Chipewyans, Carriers and other Athabaskan tribes. It is used in the interior of British Columbia by the Fort George Indians (Athabaskans) where the snowshoe is much turned up in the front so that the point strikes the shin at each step. In the spring-time when travelling in wet snow, these Indians are said to re-string the foot netting in the evening to keep it tight. This shoe is especially suited for walking on crusted snow.

The type of snowshoe used by the Eastern Woodland Indians is represented by plate 4, an Ojibwa Algonkian type. Figures 1, 2, 3 and 4 represent the common forms. They are flat shoes of the one-piece frame type with 2 cross-bars and a hardwood frame. They are bent into a wide shape with a long trailer. The bend in front varies, and it is said to be somewhat distinctive as to locality. They are neatly made and often ornamented with tufts of wool and coloured cloth, and also by working patterns into the webbing, as in figure number 1, which is 45 inches long by 21 inches in width. Specimen number 2 is 40 inches by 17½ inches, and number 3 is 36 inches long

by  $14\frac{1}{2}$  inches wide. Numbers 1, 2 and 3 belong to various clubs and private collections in Montreal. Number 4 belongs to the Varden collection of the United States National Museum. The size is not given but in form it is narrower than the other varieties. It is a very old snowshoe and has several peculiarities, but the main characteristics are the same.

Numbers 1 and 4 would appear to represent extremes in this type and gradations between are well represented by numerous examples which are not figured in the plate. Number 5 is a Huron Snowshoe from Lorette, Quebec. It is 35 inches long by 16 inches wide and is perhaps a modern shoe. It is somewhat peculiar in shape and is possibly a transition between the Ojibwa and Montagnais snowshoe.

The Montagnais and Naskapi Indians of Quebec and Labrador Peninsula have snowshoes peculiar to themselves as shown in plate 5. There are 5 varieties, namely the Beaver tail, the Swallow tail, the two-bar oval, and the single-bar oval, (1) with the bar in front (2) with the bar in the middle under the foot. Number 1 is the Beaver-tail type, the example is 27 inches long and 26 inches wide. Figures 2 and 2a show examples of the Swallow-tail variety, number 2 is 36 inches long and  $24\frac{1}{2}$  wide, number 2a is  $37\frac{1}{2}$  inches long and 20 inches wide. Figure 3 shows the oval two-bar variety, the example being 24 inches long and 17 inches wide. In this particular example a rawhide covering has been put on at the sides of the foot-spacing to protect the attachment to the frame. In the wider varieties of these snowshoes the cross-bars are curved. Figures 4 and 5 represent the single-bar variety, number 5 being the common form. Figure 4 has no toe-hole and the attachment to the foot is made by thongs through the eyelet holes. These latter two specimens are taken from the eleventh Annual Report of the Bureau of Ethnology.

All of these Eastern Woodland types are flat and wide with a good bearing surface suitable for travelling on the soft snow of the woods. They are usually very neatly made and are also symmetrical.

Various rough types of snowshoes are given in plate 1. Figures 1, 2 and 3 are called Emergency Snowshoes and are interesting as examples of what can be done with the available material at hand when caught in the woods in a sudden snowstorm. Number 1 is made from a slab of bark stiffened and strengthened by sewing a willow frame around the edge with withy thongs. It is 30 inches long and 10 inches wide. Number 2 is made by bending a sapling frame into the ordinary trailer form and filling in with netting made from withy thongs. It is  $30\frac{1}{2}$  inches long and 11 inches wide. The

netting is interesting, being made in rectangular mesh which is unusual in the East. It was probably adopted in this case because it is an easier type of mesh for the material used. Numbers 1 and 2 are of Iroquois origin and come from Brant County, Ontario. Number 3 is 30 inches long and 9 inches wide. It is made of spruce boards sewed together with thongs. It is of Algonkian origin and comes from Maniwaki, Quebec. Figure 4 is interesting as being the only figured example of the Salish type of Snowshoe. It is 24 inches long and 13½ inches wide, and has a rough sapling frame bent into an oval form. The netting is rather roughly made with coarse thongs doubled and twisted on each other. It is somewhat irregular, has long slings to the frame and a small netted foot-space. It is a little turned up in front, and it comes from Lillooet, British Columbia.

Figure number 5 is a very irregular and rudimentary form from The Ute Indians of Utah. It is included here as representing a type found in British Columbia which is figured in mesh and netting by number 4 and in outline by this number 5. This British Columbia shoe is locally known as The Bear-Paw snowshoe. It has little bearing surface for soft snow but is useful for steep climbing in the spring when the snow is hard and firm. The Bear-Paw snowshoe is also Salishan.

The Tlingit apparently have no type peculiar to themselves. They are said to use the Athabaskan shoe of Alaska and the interior.

The foregoing examples show the types of snowshoes used by the various tribal groups of the North American Indians. The record is probably incomplete for the Salishans but fairly comprehensive for the others.

The examples given illustrate the standard types of the different Indian Stocks, but it is to be remembered that there are endless variations from these in the way of width, length, turn-up, outline, material used in the netting, neatness and the peculiarities of individual makers. There are also transitional forms brought about by intercourse between the various tribes. It is considered that most of these changes have occurred in recent times and that the figured examples represent the older types and forms of the snowshoe.

Plate number 6 gives examples of the modern club snowshoe. The modern club snowshoe, which is somewhat turned up in front does not correspond exactly with any of these old eastern forms, at least the writer has been unable to find any prototype, so it is assumed that they are innovations introduced for racing purposes when snowshoeing became a popular sport.

Varied forms of the modern snowshoe are now being introduced as novelties, and many of the older forms are being copied and reproduced.

The common and usual filling for snowshoes is the so-called gut more properly known as babiche. Animal rawhide with the hair removed is soaked in water, cut around and around with a knife to the size required, stretched, dried and rolled into balls ready for use. In the better kinds of babiche the parchment is treated so as to make it clear and transparent. Seal thong, twisted thong and sinew are used for the same purpose.

It is known that snowshoes were in existence long before the whites appeared in America, but very little definite information can be given as to their form and finish. It is reasonable to suppose that the form types were about the same then as now but that the principal development in finish and neatness has occurred since the time of the whiteman, for with the introduction of the steel knife and axe it can easily be seen that much could be done in the way of improvements. A study of old French archives for information upon this point would be of historical interest and importance.

Having given a description of the various types of the Canadian Snowshoe, it is perhaps not out of place to say something about its use and application. Some people know the snowshoe simply from the sporting point of view and can recall pleasant evenings spent in that way, but nothing more. Many of us, however, know it from the true point of view as a means—in fact the only means—of travelling about in the wilds during the winter season.

Looking at the question from this point of view the Canadian Snowshoe is of national importance and it has materially aided and hastened the development of our country. It has been used in a **military way**, in an **exploring way**, in an **engineering way** and in the **ordinary avocations of life**.

In a **military way** the snowshoe was largely used in the early history of Canada, first in the border wars between the Hurons and Algonquins who were Allies of the French, and the Iroquois who were Allies of the British, and afterwards between the French and the Iroquois and the French and the British.

In the Huron Iroquois War which lasted for nearly 100 years and which resulted in the scattering and practical extermination of the Hurons, the snowshoe was largely used in winter forays, and several notable examples are given.

Ville Marie near Montreal was raided by the Iroquois in the winter of 1644 and the fort was nearly captured. The Indians who used snowshoes in the attack were defeated by Maisonneuve after a fierce fight, and had to retreat.

In the winter of 1649 the Iroquois undertook an expedition against various Huron Mission Towns near the site of the City of Orillia,

Canada. In the beginning of the winter the Indians started from the Hudson River in the State of New York and travelled on snowshoes around the head of Lake Ontario to St. Ignace, a distance of about 500 miles. St. Ignace was surprised, burnt and destroyed and the inhabitants tortured and massacred. St. Joseph and other mission towns suffered the same fate. At Ville Marie (not the place mentioned above) which was fortified the Iroquois were defeated and forced to retreat.

To stop the incursions of the Iroquois, the French Governor De Courcelles on January 9th, 1666 set out from Quebec for the Indian stronghold with 500 men on snowshoes, each man carrying his blankets, accoutrements and food. They travelled up the St. Lawrence and Richelieu Rivers and over Lakes Champlain and George. Conquered more by the elements than by the Indians they were forced to retreat without success, after having travelled over 1,000 miles and lost many men through cold and exposure.

In the early spring of 1686 Troyes and St. Helene with a company of men on snowshoes travelled 600 miles to Hudson's Bay and captured the posts there.

In 1690 Frontenac organized three expeditions against the Iroquois which were undertaken in the winter upon snowshoes so that the Indians might be surprised. One started from Montreal under the command of St. Helene and burned and destroyed Schenectady in the State of New York. On its return it was pursued by the Indians almost to the gates of Montreal and in the last fight near the latter place a number of men were lost. A second party started from Three Rivers under Hertel and destroyed Salmon Falls, New Hampshire. The third expedition started from Quebec under Portneuf and the Fort at Casco Bay near Portland, Maine, was destroyed.

In 1697 D'Iberville with a command on snowshoes ravished the British settlements.

The treaty of Ryswick in 1697 ended this war but it broke out again in 1702, and practically ended with the conquest of Canada in 1759. During this time numerous expeditions on snowshoes were undertaken by both sides.

The snowshoe then has played an important part in the early Military History of Canada.

In an **exploring way** the snowshoe has been used on all the winter expeditions in British North America.

The fur-trading companies were the pioneers of our country and in their rivalry and search after fur-trade routes their representatives gradually pushed their way across the Continent. The annals of their adventurous travels make most interesting and instructive

reading, and the names of these early explorers should be written in large letters in the history of our country. Space here will only allow a few brief remarks upon two or three of the more well-known expeditions.

Sir Alexander Mackenzie in his famous explorations for the Hudson's Bay Company discovered the Mackenzie River in 1789 and descended it to the Arctic Ocean where he established posts and traded with the Eskimo and Athabaskan Indians. He made his well-known trip across the Continent to the Pacific Ocean in 1792-3. In the winter parts of these expeditions the snowshoe was in constant use.

Simon Fraser an explorer for the North-West Company established the first trading post in British Columbia in 1805 and descended the Fraser River to the Pacific Coast the following season. David Thompson another official of the same Company crossed the Rocky Mountains by way of Bow River in 1800 and descended to the Pacific Coast by way of the Thompson River, arriving at the Coast in 1811, after trading with the Indians and establishing posts on his way down. Snowshoes were most important on both the Fraser and Thompson expeditions.

Arctic research expeditions and their consequences introduced a new incentive for explorations. In 1819 Franklin took command of one of these expeditions by way of Rupert's Land. He spent the first winter on the Saskatchewan River. The following spring he descended the Coppermine River and surveyed the Arctic Coast eastward. He arrived at York Factory in 1822 after having travelled some 6,000 miles by land and water and Arctic ice, much of which was done by sled and snowshoe.

In 1825-27 Franklin undertook a second exploration, and mapped the Arctic Coast westward to the 150th Meridian. In this expedition he was accompanied by Richardson who was also a noted Arctic explorer.

In 1845 when in search of the North-West Passage Franklin was lost with his ships and crew. Numerous Franklin search expeditions were sent out by Britain and America, and these expeditions brought out many men who became famous as Arctic, and sub-Arctic explorers.

Dr. John Rae joined the Hudson's Bay Company in 1833. He undertook two expeditions in 1846-7, and in 1848 he accompanied Richardson in a Franklin search expedition. In 1853-4 he explored King William's Land, and in 1864 he made a telegraph survey from Winnipeg over the Rocky Mountains.

All these men, Franklin, Richardson and Rae, did most of their Arctic work through Hudson's Bay Company posts with dogs, sleds and snowshoes. They were well known in the west as famous travellers and expert snowshoers. Franklin's diary for several years is still at one of the northern Hudson's Bay Company Posts. It is related of Richardson and Rae that in their land travels with dog sleds and snowshoes less than 100 miles a day was considered a poor day's journey, and as the driver had to do all this distance on snowshoes he might reasonably be considered a qualified traveller.

The annals of many other famous pioneers of our country could be given, and they all add their testimony to the record of the service rendered by the snowshoe.

Most engineers can call to mind many occasions on which the snowshoe has been used in an **engineering way** as a means of accomplishing work which would have been impossible without it. In large and continuous work like the actual building of a railroad, horses are used because the construction work makes this possible, but, in winter preliminary railroad survey work, dependence must be placed upon the snowshoe for maintenance of transport and in the daily operations of the survey. It has been used in the winter surveys of all of the transcontinental and important railways of the country such as the Canadian Pacific, Grand Trunk Pacific, Canadian Northern, Intercolonial and other railroads. While upon this subject it might be stated that, upon one occasion at least during the days of the Government Canadian Pacific Railway surveys, parliamentary information about certain mountain passes became necessary. Engineers volunteered and the work was accomplished by means of the snowshoe.

I should like to make myself clear as to the importance of the snowshoe for I think it is not fully understood. At the beginning of the winter when the snow begins to fall, it is possible to move about without the snowshoe, but, as the depth increases this becomes more and more difficult, and travelling finally becomes impossible without its use.

Under such winter conditions the snowshoe is an engineering appliance of equal or even greater importance than the transit or level.

The snowshoe is used in the ordinary avocations of life as an aid to trade and barter, travel and transportation, the chase, lumbering, mining, distribution of mails, administration of justice in the far north, and in many other ways. In short, through it total isolation has been prevented in the winter, and the ordinary pursuits of life go on as usual; from this point of view alone it has been of great service to man.



In addition to the foregoing uses, snowshoeing flourished for many years as a very popular sport and a few words might be said about this aspect. The Montreal, the St. George and numerous well known French snowshoe clubs were formed, in which the aggregate membership list reached almost to army dimensions.

Annual racing meets were held by these clubs and the records for the regular distances are as follows:—

100 yards	11 $\frac{3}{4}$ secs.
120 yards hurdle	18 secs.
220 yards	26 secs.
440 yards	1 min. 07 $\frac{3}{4}$ secs.
880 yards	2 mins. 33 secs.
1 mile	5 mins. 40 secs.
3 miles	19 mins. 02 secs.
5 miles	33 mins. 49 $\frac{1}{2}$ secs.

The clubs had weekly evening tramps to some favourite resort where the evening ended with a supper enlivened with song and speech.

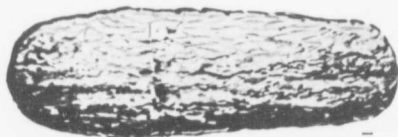
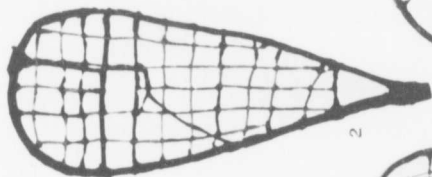
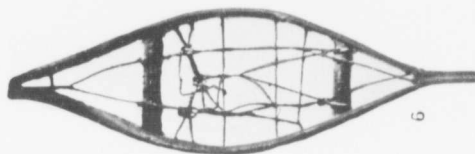
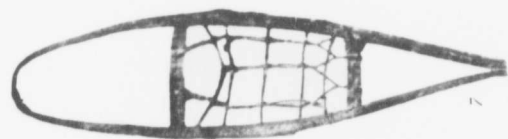
This article has given a fairly comprehensive description of the older standard types of the webbed snowshoe used in Canada and the bordering lands.

It has been shown that the use of the snowshoe has materially aided and hastened the development of our country, and enabled its inhabitants to live their ordinary life during the winter season.

Examples in proof of this have been taken from the past but it might be pointed out here that its use is not confined to the past, for in the wilds the snowshoe still holds winter sway and in these more restricted areas it yet remains a useful and necessary appliance to the pioneers of our country.

## EXPLANATION OF PLATE 1.

- FIGURE 1. Emergency Showshoe made from a slab of bark stiffened with a willow frame 29 inches long and 9½ inches wide. Of Iroquois origin, from Brant County, Ontario. Victoria Memorial Museum, Ottawa, Canada.
- FIGURE 2. Emergency Snowshoe made by bending a sapling frame into the ordinary flat trailer form and weaving a rectangular meshed netting of withy bark. It is 30½ inches long and 11 inches wide. Of Iroquois origin from Brant County, Ontario. Victoria Memorial Museum Ottawa Canada.
- FIGURE 3. Emergency Showshoe made from spruce boards sewed together with thongs. It is of Algonkian origin from Maniwaki Quebec, and is 99 inches long and 9 inches wide. Victoria Memorial Museum, Ottawa, Canada.
- FIGURE 4. Interior Salish from Lillooet, British Columbia. It is 24 inches long and 13½ inches wide and has coarse netting. It has a bent willow frame without cross bars, and is a little turned up in front. Victoria Memorial Museum, Ottawa, Canada.
- FIGURE 5. A rough Snowshoe from the Ute Indians of Utah with a bent willow frame, oval in outline. It is included here because it corresponds to a Salish Snowshoe from British Columbia which is represented by this number 5 in shape and by number 4 in mesh. This Salish snowshoe is locally known as The Bear Paw snowshoe. United States National Museum.
- FIGURE 6. Eskimo Snowshoe from the Alaskan Coast which is pointed at both ends and well turned up in front. It has 2 cross-bars and is 30 inches long and 9 inches wide. The foot netting is in rectangular mesh wove through the sides of the frame in Eskimo style as described elsewhere. Victoria Memorial Museum Ottawa Canada.
- FIGURE 7. Eskimo Snowshoe from the mouth of the Yukon River. It is nearly flat and 36½ inches long and 9½ inches wide. Foot netting in ordinary rectangular mesh. The toe and heel netting is destroyed but it was of a rudimentary form. It is a transitional form between Eskimo and Athabaskan shapes. United States National Museum.



EXPLANATION OF PLATE 2.

Types of Snowshoe worn by Canadian and Alaskan Athabaskan Indians:—

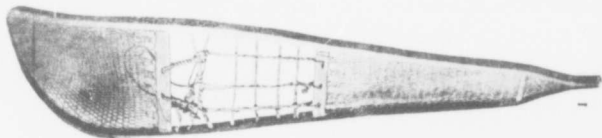
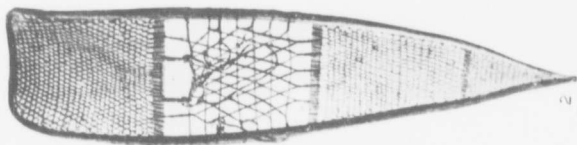
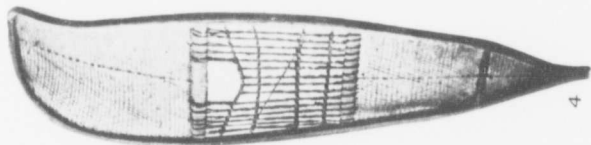
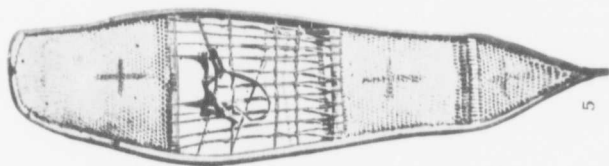
FIGURE 1. A Bristol Bay variety 44 inches long and  $9\frac{1}{4}$  inches wide. It is spatulate in form, well turned up in front and the outline is modified by each cross bar.  
United States National Museum.

FIGURE 2. Obtained at Sitka and said to have come from the interior near the head waters of the Yukon. Its main peculiarity is the hexagonal meshed foot-netting looped around the frame as in the Algonkian types.  
United States National Museum.

FIGURE 3. From North Bay Alaska 46 inches long and  $10\frac{1}{2}$  inches wide right and left foot shoes distinct. The filling in the toe space is attached in Algonkian style through V-shaped holes. The heel-space is filled with a series of longitudinal cords converging at the tail as shown in the figure.  
United States National Museum.

FIGURE 4. This specimen is 48 inches long and 11 inches wide. It is short and wide and well turned up at the toe. The attachment to the frame is Athabaskan throughout and it is a good specimen of weaving. It came from Sitka, Alaska.  
United States National Museum.

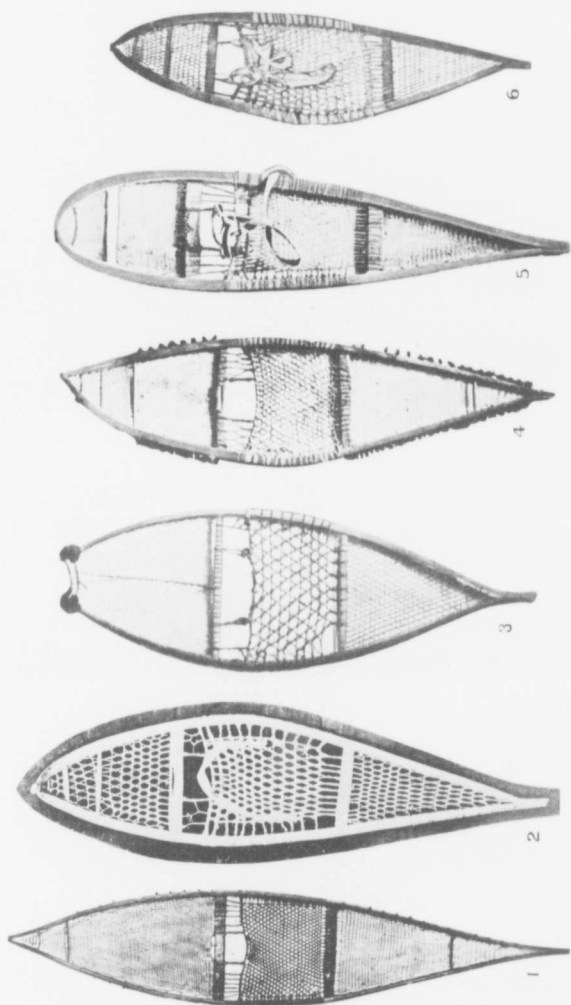
FIGURE 5. A Kutchin shoe from the interior country, the exact locality being unknown. The shoe is fairly well made and presents peculiarities in the weaving of the toe-spacing, part of it being in longitudinal filaments. From the three crosses it is judged that the snowshoe comes from the vicinity of some of the interior Canadian Missions.  
Victoria Memorial Museum, Ottawa, Canada.



## EXPLANATION OF PLATE 3.

## Western Cree Types of Algonkian Showshoes:

- FIGURE 1. The usual Western Cree type with a two-piece frame pointed at both ends and well turned up in front. From the Province of Manitoba, 6 feet long and 14½ inches wide. It has an extra cross-bar in both the heel and toe spaces and a twisted rawhide cross-string near the front. The shoes are almost symmetrical and neatly made.  
Montreal Snowshoe Club, Montreal.
- FIGURE 2. Western Cree from Pembina River, Alberta. A two-piece frame pointed fore and aft and well turned up in front. 54 inches long and 12½ inches wide. The shoes are right and left with two extra rounded cross-bars in the toe-spacing. A peculiar arrangement of the slings attaching foot-netting to front cross bar.  
Private Collection, Montreal.
- FIGURE 3. Mackenzie River Basin, exact locality unknown. Symmetrical shoes 52 inches long by 16 inches wide. A two-piece frame spliced in front and bent into a rounded form and finished with a trailer behind. The bend in front turns sharply upward at right angles. The frame is oval in cross-section, tapers both ways from the middle and is neatly made. An interesting shoe and probably a transitional form between Western Cree and Athabaskan types.  
Victoria Memorial Museum, Ottawa, Canada.
- FIGURE 4. Western Cree from Lake Athabasca, 56 inches long by 13½ inches wide. The usual unsymmetrical double-pointed frame well turned up in front with extra cross-bars in heel and toe-spacings. Neatly made and ornamented with tufts of wool.  
Victoria Memorial Museum, Ottawa, Canada.
- FIGURE 5. A Chipewyan showshoe from Fond du Lac, 37½ inches long and 8 inches wide. Right and left but not markedly so. The typical Western Cree form well turned up in front. The Chipewyans are Athabaskans and this is a Western Cree intrusion into this area.  
Victoria Memorial Museum, Ottawa, Canada.
- FIGURE 6. A Sioux Snowshoe from an unknown locality. It conforms to the Western Cree type with the double pointed two-piece frame well turned up in front. The shoes are right and left and they have two extra cross-bars in the front spacing. The length is 33 inches and the width 8½ inches.  
Chateau du Ramozay Collection, Montreal, Canada.



EXPLANATION OF PLATE 4.

Algonkian Snowshoe types of Eastern Canada and bordering lands.

FIGURE 1. Ojibwa Snowshoe 45 inches long and 21 inches wide. The type used around Montreal for heavy work. A hardwood frame in one piece bent in front into a wide form and finished in a trailer behind. The shoe is perfectly flat. As a rule it is very neatly made, and in this particular example quite an intricate pattern is worked into the toe and heel-meshing.  
St. George Snowshoe Club, Montreal.

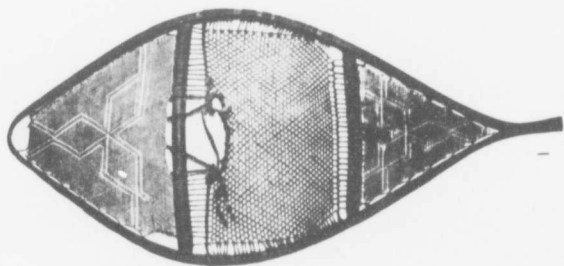
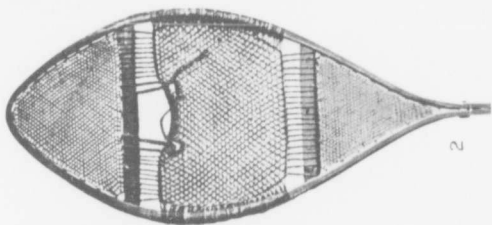
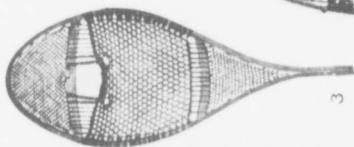
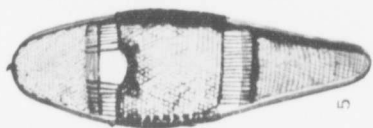
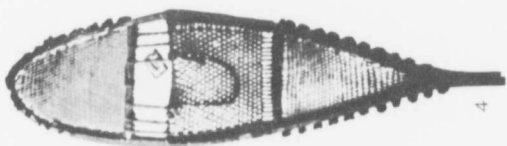
FIGURE 2. Ojibwa Snowshoe with the same general description as number 1. It is 40 inches long and 17 inches wide,  
Private Collection, Montreal.

FIGURE 3. This shoe is 36 inches long and 14½ inches wide.  
Private Collection, Montreal.

FIGURE 4. An old Algonkian Snowshoe from Canada, probably one of the oldest in existence. The size is not given but it is a narrower shoe than the examples given above. It is flat and of the same type as the other specimens.  
Varden Collection, United States Patent Office.

FIGURE 5. A Huron Snowshoe from Lorette, Canada. A lenticular oval shoe, 35 inches long and 16 inches wide. It is perhaps a modern type and apparently a transitional form between the Montagnais two-bar oval and the Ojibwa types.  
Victoria Memorial Museum, Ottawa, Canada.  
All of the above Snowshoes are flat.





## EXPLANATION OF PLATE 5.

Snowshoes worn by Montagnais and Naskapi Indians (Algonkian) of Quebec and Labrador, Canada.

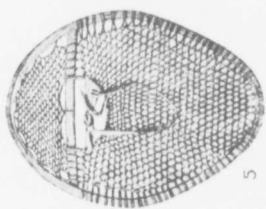
FIGURE 1. The Beaver-tail variety, 27 inches long and 26 inches wide. North Shore of Gulf of St. Lawrence. Private Collection, Montreal.

FIGURE 2. The Swallow-tail variety, 36 inches long and 12½ inches wide. North Shore of Gulf of St. Lawrence. Private Collection, Montreal.

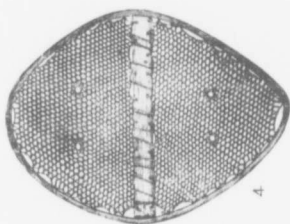
FIGURE 2a. Another form of the Swallow-tail variety from the same district. It is 37½ inches long and 20 inches wide. Private Collection, Montreal.

FIGURE 3. The Oval two-bar variety from the same district. 24 inches long and 17 inches in width. The attachment of the foot-filling to the frame is protected by a strip of rawhide. Victoria Memorial Museum, Ottawa, Canada.

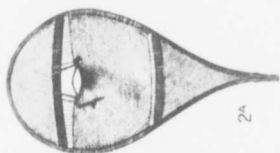
FIGURES 4 and 5 show the single-bar variety, one with the cross-bar under the foot and the other with the bar towards the front. The dimensions are not given but they are about 18 or 20 inches in length. From the Labrador Coast. Eleventh Annual Report of The Bureau of Ethnology. All of the Snowshoes in Plate 5 are flat, and are neatly made. In the wider varieties the cross-bars are curved.



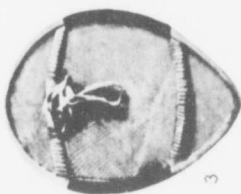
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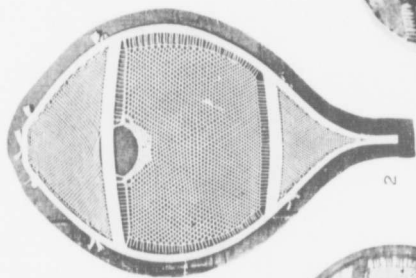
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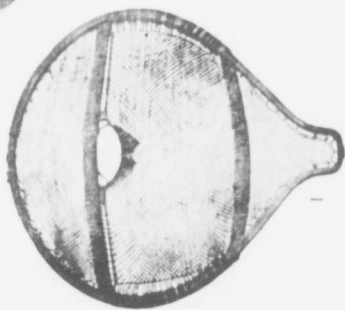
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*EXPLANATION OF PLATE 6.*

The modern club snowshoe as used in the Province of Quebec is usually made in two sizes, namely 12 inches wide and 42 inches long, and 14 inches wide and 42 inches long.

It is a light snowshoe suitable for sporting purposes but not strong enough for hard continuous work. The frame is usually made of Ash and the shoe is somewhat turned up in the front.



