

SIMPLICITY & MAGIC

Turning and looking back, I could see the smoothly curving line of exclamation points sunk only three inches or so in the four-foot-deep snowpack. A hundred yards behind us, interrupting the continuity of the snowshoe trail, was a man struggling knee-deep through the snow, with only climbing boots on his feet. My wife was ecstatic. She had passed a veteran mountain climber, a member of the 1963 American Mount Everest Expedition, and he was rapidly losing ground.

It must have been the right choice way back in 1950 when I chose snowshoes rather than skis for winter outings in the Cascade Mountains. When a housewife in her mid-thirties, mother of three, can operate snowshoes this well in steep, rugged terrain, their usefulness and feasibility for winter travel becomes readily apparent.

No doubt the simplicity of snowshoeing is the greatest advantage over skis in rugged backcountry. And this same simplicity has made snowshoeing, for me, the most practical means of navigating otherwise unreachable winter terrain.

The basic design of the snowshoe probably ranks second only to the wheel in practicality of form. Its physical composition has undergone occa-

The Technique of Snowshoeing.

BY GENE PRATER

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sional alterations, but its general size, shape and structure remain pretty much the same as they've always been.

Because of our rapidly advancing technology, the last few years have seen several new approaches to traditional problems of expense and weight. Plastic and aluminum snowshoes are now available and, within certain limitations, seem to perform well, but the overwhelming majority of people continue to put their trust in the familiar wooden-frame model.

HOW TO PICK A SNOWSHOE

Three snowshoe designs have survived other variations as the most popular: the Yukon (or Trail) with its high toes and an elongated body usually measuring 10 x 56 inches; the Michigan (or Maine), which is teardrop shaped and generally 12 x 48

inches, with a upward turn of the toes; and the Bearpaw, short, flat and rounded and most commonly 12 x 28 inches. Variations of the Bearpaw are only 10 inches wide and three to four feet in length.

Each shape has its own advantages and disadvantages. The Yukon was designed with the deep powder and sparse underbrush of the West in mind, the Bearpaw for the heavy snow and thick vegetation of the Northeast. The Michigan and Maine seem to fall somewhere in between the two. The shoe that works best for you is the right one. It makes good sense to rent, if possible, until you find the model, weight and size snowshoe that best conforms to your needs.

Getting the right size involves a number of factors. Your height and weight are important, but so too are your strength and endurance. And old rule of thumb is that a pound of weight on the foot is as tiring to carry as five on the back. Thus, a pair of 10-pound Yukon or Michigan shoes will be the equivalent of a 50-pound pack. Unless you are in exceptional condition, a somewhat lighter shoe with a lower "fatigue factor" would be a wise selection.

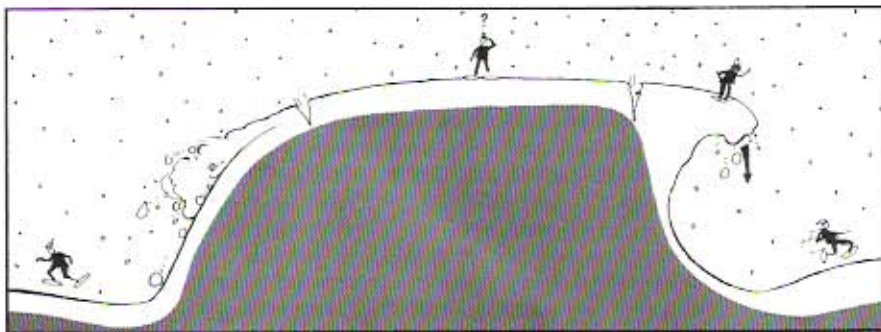
I usually suggest that a person with a body weight over 200 pounds use a 10 x 56 inch Yukon, or 13 x 48 inch Michigan design. From 175 to 200 pounds, choose a 10 x 46 inch Yukon pattern or 12 x 48 inch Michigan. People weighing between 150 and 175 pounds are best supported by a 10 x 36 inch Bearpaw or 12 x 34 inch Michigan.

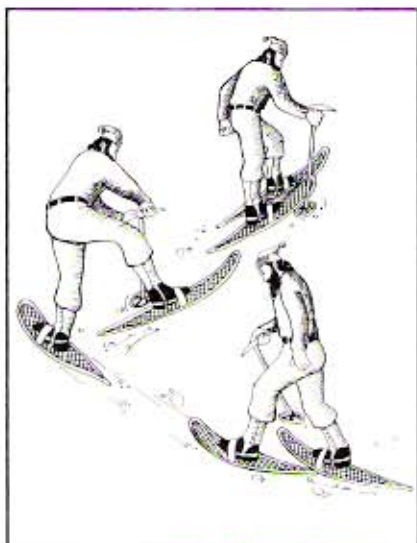
For lightweights under 150 pounds there is a wide array of Bearpaws, although the most common size seems to be 12 x 28 inches. Plastic snowshoes are an alternative in this weight-class, but a note of caution: Although they are light, they are also flimsy. The user tends to sink repeatedly deep into the snow — a process which can be especially tedious when carrying a heavy pack.

Recently, aluminum-frame models have been added to the market on an increasing scale. They come in most sizes and at a great reduction in weight. The advantages of a lighter weight snowshoe are fantastic. But they cost up to double the

Avalanche conditions: Snow may slide on a 25 degree slope, and slides continually on a 60 degree slope. Snow slabs formed by warm winds — crusts up to many inches thick — slide in blocks. Cor-

nices are always dangerous and may, in falling, trigger slides below. Enough new snow on a hard base will slide on any slope. Heavy wet snow — a springtime danger — will slide if the slope is steep.





Snowshoe kick-turn: Begin an uphill turn by firmly stopping on the outside (in this case the left) shoe. For additional stability plant the axe or pole. Then pick up the inside shoe and point it in the new direction. To complete the turn release the outside shoe and walk on.

price of wooden-frame webs. Only time will tell if metal and synthetic fiber will replace wood and rawhide.

THE BUSINESS OF WALKING

Your first outing on snowshoes shouldn't be too long. In the beginning they are cumbersome, and special attention is required to keep from stepping on your own snowshoes and tripping yourself. Depending on the terrain, a mile or less should be long enough.

Once you have learned the walk, you are ready for the refinements. In deep, loose snow the feet must be raised unusually high to keep the tips of the snowshoes from catching in the snow. In wet, heavy snow several pounds of snow seem to adhere to the lead man's snowshoes. Small hazards are myriad, such as stepping into hollows where the snow has covered bent-over spruce trees or even western sagebrush.

Take turns breaking trail. In very heavy snow, three to five minutes is usually long enough in the lead. In a party of five or six this allows for quite a bit of rest between stints. After the first two or three snowshoers have passed, the trail becomes pretty smooth and keeping up is no longer a difficulty. Learn to use the mountaineers' "rest-step," pausing briefly between strides. It may slow your pace slightly, but it will greatly extend your range.

There are a number of techniques that are useful for both mountain country and flat terrain.

Try to walk up a slope until it be-

comes too steep to be comfortable, then traverse across the slope as on a trail switchback. If the snow is soft, it is possible to edge your snowshoes so that they are level, although the outside shoe will be slightly lower than the uphill foot. The softer the snow, the higher the uphill shoe must be raised to take a step because of the slope rising on that side.

The turn or switchback itself is a little more complicated. A ski pole or an ice axe with a "basket" attached near the bottom of the shaft is a great aid generally and especially in turning. Either one can be driven into the snow in front of you and used for balance during your turn. (A second ski pole can be placed behind you as support, depending on preference and the grade of your maneuver.) In the East where a good deal of snowshoeing is done below treeline, trees can be held or grappled with an ice axe for assisting in turns or just getting up a steep slope.

In making a turn, the feet present the greatest difficulty. Facing in the direction of movement, the downhill shoe should be planted as firmly as possible so it won't slip. As mentioned above, the ski pole or ice axe is driven into the snow to provide an anchor. The uphill shoe is then reversed so it faces in the new direction and planted firmly so it

won't slip as you complete the turn by shifting your weight to it from the downhill shoe.

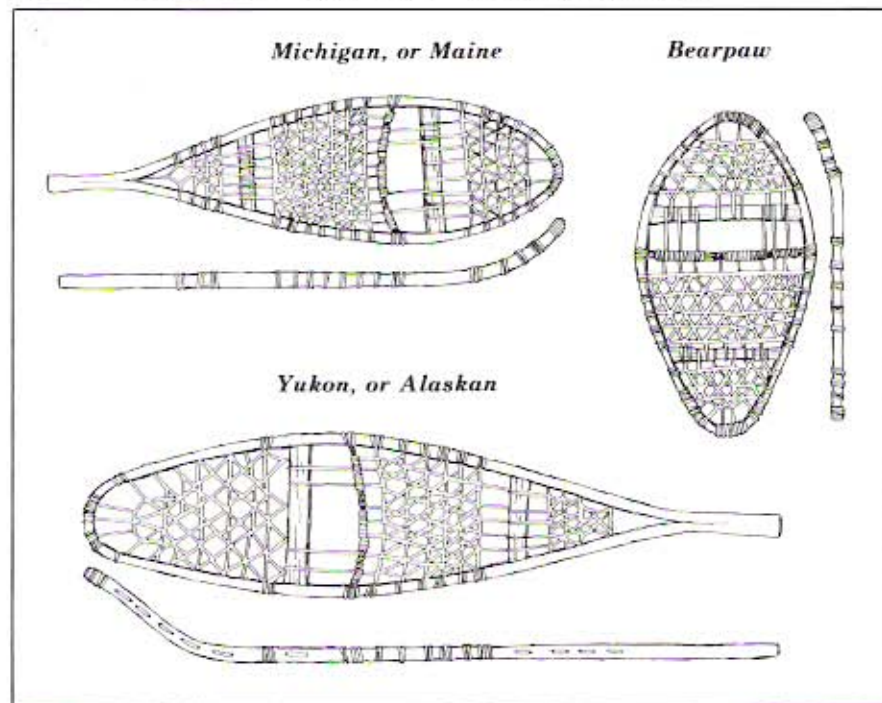
After you have reached a high viewpoint, your options in descending depend pretty much on slope and snow conditions. Where the slope is very steep or has any avalanche hazard, it is best to return on your ascending trail. With the giant webs on your feet this can be a touchy procedure. Switchbacks are tricky to descend. Where the slope is clear and the bottom visible, glissading or "skiing" on your snowshoes is rapid but strenuous. Before attempting it, you should be proficient in performing an ice-axe self-arrest and be familiar with local avalanche conditions.

Traction devices or crampons affixed to the bottom of your snowshoes are a necessity for hill or mountain travel and are useful for any small ascents or descents in generally flat country. The most common device is a six-inch length of 3/4 x 3/4 inch (or larger) aluminum angle bolted to the bottom of the wooden crosspiece in front of your toe or to the webbing under your foot. A lengthwise piece may be employed to prevent sideslipping, and additional angles can be bolted on to suit the wearer. Four- and six-point instep crampons also are available and are

Continued on page 96

Snowshoe types: The bearpaw is for lighter loads and tight turns. Its maneuverability makes it ideal in dense forest and hills where frequent turning is necessary. For flatter trails and fairly open country, the Michigan shoe offers more

stability — and a greater bearing surface, making it more suitable for middleweight loads. For open country, very deep snow and heavy loads, the Yukon design is best, offering still more stability and bearing area than the Michigan.



marmots. Its actions reminded me of the otter — constantly on the move and delightfully mischievous. A discarded backpack represents a tremendous invitation; we saw several marmots investigating colorful packs along the path.

At about the 13,000-foot level, we saw tiny yellow flowers growing next to snowdrifts. They appeared to bloom as soon as the melting snow exposed them to the sun. We also saw a few moths flying at that altitude, and several furtive black spiders among the rocks. Most interesting of all was one tiny grasshopper no more than three-eighths of an inch long. It looked exactly like larger varieties living at low altitudes except for its size and dark gray color. When disturbed, it jumped as its big brothers do — for a distance of four inches . . . Whitney, the giant mountain, harbors a world of life, in miniature.

The final half-mile to the summit was extremely difficult for us because of the rarefied atmosphere. We were fatigued and had headaches. At three o'clock in the afternoon, we made it, exhausted but with the exhilaration of success. The view was simply gorgeous, with all the snow-capped peaks and frozen lakes lying below. Off to the east we saw the burning deserts where we had completed the first leg of our journey seven days earlier.

As we stood there drinking in nature's splendor, a shiny black crow soared effortlessly above us. Then I recalled seeing a crow eight days before, walking on the desert floor near Furnace Creek. I wondered whether it was the same one, and if so, whether it was taunting us for our frailty. ■

Simplicity and Magic

Continued from page 33
easily mounted to most makes of snowshoes. Specially built snowshoes with traction mounted under the binding provide the greatest grip.

As a snowshoer gains experience, his bindings will become the focus of increasing importance in adding to his maneuverability and comfort. A loose, sloppy snowshoe binding is as great a drawback to the snowshoer as is a loose ski binding to a skier. For the casual snowshoer, or if the route is level, almost any kind of binding will work. But if there is any up, down, or sidehill climbing, it is vital to have a heavy-duty binding that provides a positive connection between the boot and the snowshoe. For downhill, it is imperative that the binding "trap" the boot and prevent it from slipping forward.

The binding should be of great enough area to spread the pressure over

as much of the foot as possible, especially if you wear soft-toe shoe-pacs, the old stand-by in the East. Mountaineering boots seem to be standard in the mountainous West. The firm toe and sole of the climbing boot provide a much more solid object to tighten the binding to than does the shoe-pac.

Some bindings are equipped with a metal hinge. These have the advantage of better control of the snowshoe but the drawback of extra weight and expense. Synthetic fabrics are displacing leather for bindings. They are waterproof and so don't become wet or freeze, and they stretch less, as well. The old "H" binding — nicknamed the "Wet Noodle Binding" when it gets soaked and slippery — may be the only variety available in some locations. It leaves a lot to be desired when compared with some of the better-designed newer models.

Finally, footwear should be determined by the amount and type of snowshoeing you actually do. Almost anything warm and comfortable will serve for the once-a-year person. If you intend to do more, you should be a little more concerned with your selection. If you are snowshoeing in mountain country, then you probably will need heavy-duty climbing boots with Vibram soles and laces that won't freeze into a Gordian knot. Gaiters are useful and almost necessary for keeping snow out of the boots and off the laces. Overboots will add welcome warmth, for climbing boots are not especially warm.

For the general or recreational walker, standard hunting or shoe-pac boots perform well where they are available. When ordering them make sure they are large enough to accommodate heavy socks, are lined, and, of course, are waterproof. If you will be snowshoeing in extremely cold conditions, the Korean War, or "Mickey Mouse," insulated boot is a virtual necessity.

Advanced Procedures

As you improve your technique and expand on your travels, you will find yourself encountering a number of potentially hazardous situations. A little foreknowledge may help you avoid a disaster.

In central Canada, Alaska and some of the western states, frozen streams and lakes are main travel routes; walking on them one always runs the risk of breaking through. The possibility of getting wet feet is even greater in the Northeast and Northwest where snowdrifts form bridges over streams moving too rapidly to freeze. In either case, avoiding a mishap is easier than remedying it.

Obviously, streams and lakes should be by-passed after any prolonged thaw or wherever thin ice is apparent. The ice closest to shore is often soft or thin and should only be crossed with care. The same care should be taken at the point where a lake is fed by springs or streams.

Covered stream locations can be determined by watching for extended depressions or sags on the surface of the snow. You should probe any suspicious spot with ice axe or ski pole before walking on it. Open streams are best crossed by finding a foot log and side-stepping across it, since leaping across streams with snowshoes on your feet is not practical.

In areas of tall luxuriant forest, a constant hazard exists of having branches or entire trees collapse on you under the weight of the snow. Great clumps of snow dropping from fir boughs are rarely fatal but are always a nuisance and are well deserving of the name "Idiot Makers."

Snow avalanches, the most spectacular of winter hazards, are also the most dangerous. It is very fortunate that with a little intelligence they are the most easily avoided. The U.S. Forest Service pamphlet "Snowy Torrents" mentions that a slope as gentle as 20 degrees can avalanche, but the real danger to snowshoers is on steeper terrain. In the East, deaths attributable to avalanches are rare and confined to only a few locations such as Mount Washington's Huntington Ravine. In the West, the problem is more widespread. The Rockies and Utah's Wasatch Range are famous for high-speed powder snowslides. Both the Cascades and Olympics, with their warmer climates from Pacific storms, are well known for heavy, wet snowslides, equal to any in destructive power.

It is easy to recognize a steep, treeless slope below a rocky mountaintop as a potential snowslide path. So far, however, no one has been able to pinpoint the time when a given slope will avalanche, although certain weather conditions are known to be prime causes of slides. High winds with heavy snowfalls create large accumulations of drifted snow on the lee side of ridges. Such windblown snow adheres poorly to the underlying surface and can become unstable enough for a slide to be triggered by a person snowshoeing across it. At other times this "wind slab," as it is called, is released spontaneously.

In warm weather following a snowfall, snow crystals begin to melt, losing the spikes that make fresh, moist snow pack so well. As the mass loses its

cohesion with the surface below it, any small disturbance can cause the entire body to slide.

It is worthwhile to know that sliding snow acts like a fluid and tends to "flow" down gullies and depressions. If snow is falling out of trees and off rocky cliffs onto snow slopes below, if snowballs are spontaneously forming and rolling down past your route of march, the wise decision obviously is to turn back in a hurry. To retreat rather than cross a 200-foot-wide, moderately steep slope with only a foot or so of unstable snow may be an unpopular decision, but research has shown that victims of minor slides are equally as dead as those buried by large-scale avalanches. An all-purpose rule to keep in mind is, "If in doubt — don't!"

Safety and Aesthetics

By its very nature the greatest reward of snowshoeing — experiencing the backcountry in winter — creates the greatest dangers. Whereas fatigue or a minor mishap may mean some inconvenience during the summer, in the dead of winter it can mean tragedy. It is a good policy to always do your snowshoeing as part of a group and to always take along basic first-aid and survival equipment. Because this article concerns snowshoeing and not survival, I will merely say that the fundamental skills of lighting a fire, constructing an emergency shelter and treating injuries may save your life or someone else's. That is reason enough to learn them.

Furthermore, as the leader of a group it will be your responsibility not only to see that the route is followed and the trail-breaker position changed frequently but also that when it becomes foolish to push on, you turn back. Lack of judgment in knowing when to abandon an outing is probably the prime contributing factor to the numerous and needless deaths blamed every year on hypothermia.

I hope that my acquainting you with some of snowshoeing's problems and a few solutions will enable you to avoid such difficulties and to enjoy the spectacular beauty and freedom of the winter landscape that much more.

If you have not yet begun snowshoeing, I envy you the first experience of suddenly finding yourself walking on water — frozen, of course, but no less remarkable.

God has blessed us with a wealth of beautiful mountains and backcountry. Snowshoes can be the vehicle for transporting you from a sedentary urban half-life to a continuing rich and vibrant outdoor experience.

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