

Crampons--Either the 10 or 12 point crampons are satisfactory with advantages and disadvantages to each. The major advantage of the 12 point crampons seem to be their ability to toe up steep ice or hard packed snow slopes. Their disadvantage is that special care must be taken to avoid catching the two points that stick out rather precariously in front. Also, 12 point crampons cannot be kicked as far into the step as the 10 point variety. Two members had short pointed crampons (about 1") and these didn't seem to be very desirable. The longer points were able to penetrate the upper and softer layers of ice and bite into the harder ice beneath. Recommend that the pants legs below the knees be wrapped to reduce the possibilities of catching with a crampon point.

(D.M.- I used Eckenstein 10 point with no trouble whatsoever. The 12 point in places would have been better, perhaps, but it seemed that on any slopes that 12 points would have been useful we chopped steps for we would be going up and down a number of times. I used the 12 point on one occasion on King and found the front points got in the way on descending, a fact that could prove rather troublesome. Niendorff, it may be pointed out, did not care for the extra points though he had to wear them all summer.)

Snow-shoes--The long trapper type were used almost exclusively and found satisfactory. During the latter stages of the summer the thongs below the foot position would wear and break. Our repair material, nylon cord, was quite satisfactory. Reinforcing them before they broke saved much time later. The snow-shoes with turned up toes were more desirable in loose and deep snow but we did not run into this condition very often. It is important when picking out a snowshoe to make sure that the heel of the boot does not ride up on the cross board of the snowshoe. Such was the case with several of the members. The continual friction caused by the rubbing of the boot on this cross bar tends to wear out the rawhide.

There always seems to be a controversy between the use of snow-shoes as compared with skis. All in all the snow-shoes seemed more desirable than skis, but we of course did not use the skis very often. The upper glaciers where crevasses and ice-falls are prominent would probably be quite difficult to negotiate with skis. Also heavy packs on skis are harder to handle than heavy packs on snow-shoes.

Sleds--The skis were invaluable in making sleds for hauling supplies and so forth. Sleds are an absolute necessity in this area where there is considerable glacier travel. Due to ignorance, during the first part of the expedition we made a toboggan type sled; that is with the skis side by side. In some sleds there was a metal shield across and around the ski tips to allow the skis to glide up on the snow easier. This arrangement was satisfactory in very hard snow surfaces but was impossible when the snow had softened due to thawing. Later a sled was made whereby two pair of skis were used. One pair acted as the sled runners and was separated about 2 feet. The other pair was inverted and placed directly above the runner skis. This arrangement allowed the baggage to be placed well above the snow and thus no piling up of snow under or in front of the sled. We had an extra pair of snow-shoes and these made an excellent platform for placing the load onto. A good wax job on the skis is helpful. (B.N.-Strongly recommend Glazite brand of base wax for skis used as sled runners).

First Aid Equipment--Plenty good as is. Except for peanut can containers used for personal first aid kits. The containers should be about the size of a peanut can but more solidly constructed. (B.N.- A large bandaid can might be satisfactory).