

the rope slowed his fall and he was not injured.

Hansen and Williams had been rock climbing together for about four years, but they were fairly inexperienced ice climbers. (Source: "News and Observer," Raleigh, NC, January 20, 1997).

(Editor's Note: Aram Attarian, who helps collect data from North Carolina, indicates that this is the second fatality from ice climbing in ten years.)

FALL ON SNOW—FAULTY USE OF CRAMPONS

Oregon, Mount Hood, South Side

On April 4, a climber (32) was glissading below Crater Rock when his crampons snagged on hard snow, resulting in a fractured tibia. (Source: Jeff Sheetz, Portland Mountain Rescue)

(Editor's Note: Perhaps we should put New Hampshire guide George Hurley's mantra on all crampons: "There is no good reason for glissading with sharp spikes on our feet.")

FALL ON SNOW, CLIMBING ALONE AND UNROPED

Oregon, Mount Hood

On May 19, Carlos Loria (age unknown) was descending the Coe Glacier after making the summit. He slipped and fell 700 feet, fracturing his neck. He had been reported overdue by his brother. Rescuers found him, noting lacerations on his face, slight hypothermia and the cervical injury. He was helicoptered to Portland.

He had been accompanied by his dog, Buckwheat, but the dog was not in evidence. A month later, the dog appeared at the Cooper Spur Inn. He had apparently survived on snowmelt and berries. As the newspaper reporter said, "Too bad Buckwheat can't fill us in." (Source: Hood River County Sheriff's Office and "The Oregonian," June 25, 1997)

FALL ON ROCK, EQUALIZED SLING FAILURE

Oregon, Smith Rock State Park

On June 7, a climber was being lowered by his partner after climbing the route, Easy Reader (5.6) at the Dihedrals in Smith Rock State Park.

After descending about 15 feet, the anchor sling failed sending the climber free falling approximately 60 feet. He landed on his feet, hip, arm and body in that order, and suffered numerous fractures.

Other climbers in his group provided immediate care until EMT's from the Redmond Fire Department arrived. About 45 minutes after the accident, he was evacuated by helicopter to a Bend, Oregon hospital.

Analysis

After the evacuation, two climbers climbed an adjacent route to inspect the anchor system. A locked carabiner remained in each hanger, and a locked and regular carabiner were on the rope. From this it was concluded that the single, equalized sling failed for some reason. The lead climber had set up the anchor system and then rappelled down to belay the climber. For climbers that had considered an equalizing sling bombproof, the accident came as a shock.

Cause of the failure has not been determined. Two climbers independently inspected the remaining slings in the leader's pack and found all solid water knots. The sling had carried the rappel load, but then failed with approximately 80% more weight. Tensile tests were carried out on slings with knots that were intentionally not dressed (twisted or folded), but these performed surprisingly near to perfectly tied knots.

One possibility was that the knot did not take a set, and slipped through to the melted end on rappel, and continued slipping on the victim. Regardless of reason for failure, it is strongly recommended that setting a single sling, equalized or not, should only be done after careful deliberation as to the risk. It is recommended that any anchor system with bolts or gear be set with two independent, bombproof anchors, or at least three good independent anchors by traditional gear placement. Bombproof means two modern solid anchor bolts with hangers, solid horns or trees.

Independent slings or quickdraws should be clipped to each anchor point to provide sufficient back-up for an individual sling or anchor point failure. If one judges the need for an equalized sling, it should be backed up with the rope or slings slightly longer to allow equalized movement) to each anchor point. (Source: Michael Dianich)

FALL ON HARD SNOW—CRAMPONS ICED UP, UNABLE TO SELF-ARREST

Oregon, Mount Hood, Palmer Glacier

On June 11, Andy March (32) was descending from the summit of Mount Hood about noon when his crampons became "iced up," and he was unable to clear them by tapping them with his ice ax. He slipped and fell 300 feet before he was able to stop his fall.

His partner summoned help at Timberline Lodge, and a rescue team proceeded to help March down the mountain. They returned to the lodge by 7:30 p.m. March was transported to Mount Hood Medical Center for an evaluation of his chief complaint—lower back pain. (Source: Clackamas County Sheriff's Office)

(Editor's Note: The term "iced up" most likely means consolidated snow that did not dislodge using the usual method of tapping—or giving a good whack—with one's ice ax. Experienced climbers like these fellows would not use an anchored belay in this kind of situation, but those with moderate or less experience should.)

FALL ON SNOW, CLIMBING UNROPED, SNOW CONDITIONS—NÉVÉ

Oregon, Mount Hood, Cooper Spur

On September 6, Mark Fraas (40) fell 1500 feet down the Cooper Spur after losing his footing.

Analysis

There have been at least 13 fatalities on the Cooper Spur. All follow a similar scenario: loss of footing, inability to self-arrest, and a long fall over rock cliffs above the Eliot Glacier. Because of the hazardous fall line, this route should only be attempted when snow conditions give firm footing and the party is prepared for immediate self-arrest. These conditions are usually present in the very early hours of spring mornings.

Friends of Mark Fraas indicated that he had climbed Mount Adams and Mount