

## Historical Use of Fixed Anchors

Technical equipment has been a part of ascending mountains and rock formations dating back to Antoine de Ville's 1492 ascent of Mont Inaccessible, a 1,000-foot rock tower south of Grenoble, France, which involved the use of ropes, grappling hooks, ladders and castle-sieging tactics. While the first ascent of Mont Blanc in 1786 is generally referred to as the start of mountaineering's "modern era," it took another century before history documents the use of devices akin to today's fixed anchors: pitons, bolts and rappel slings.

### 1. PITONS



In 1875, George Anderson climbed Yosemite's Half Dome by means of drilling holes in the granite slabs, inserting iron spikes, and using these spikes as footholds to climb over steep terrain. Since his climb took several days, Anderson retreated daily to the base of the route by means of a rope tied to the spikes—the first fixed rope ever reported. When noted climber and wilderness pioneer John Muir ascended the peak shortly after Anderson, he thought, "the skill and courage of Anderson have not been surpassed."

Photo by Lloyd Athearn

Rudimentary metal pitons—often just a metal spike with a ring attached—began to emerge around 1900 in Europe. By 1910, German and Italian climbers had made significant refinements to technical tools, including developing special pitons, carabiners, and rope-handling techniques, and these tools were instrumental in forging ascents of routes that remain classic today. Initially there were ethical debates about the use of fixed pitons as rappel anchors, and some called them "unsporting." Yet, even Geoffrey Winthrop Young, author of the 1920 classic climbing manual, *Mountain Craft*, and a conservative on climbing ethics issues, felt pitons were acceptable in certain instances, such as "...the intentional descent of that which has not or cannot be ascended, the retreats in worse conditions, or over glazed rock, and the races against time." It should be noted that the ethical concerns expressed over piton use were not unique, as many other, widely accepted climbing tools were controversial when first introduced. Crampons initially were condemned because they would "destroy the whole art of step-cutting" a route up a steep snow or ice slope. Use of oxygen to ascend high-altitude peaks was controversial (and remains so among some climbers.) Even the climbing rope was judged in the 1930s to be potentially "unsporting" since it could be used as an aid in allowing an inferior climber to ascend a slope rather than just as a means of limiting risk in the event of a fall.

Pitons made their way across the Atlantic to the United States in 1914, when Albert Ellingwood, an American who had climbed while in England, used them to protect a route later known as the "Ellingwood Ledge" on Greyrock in Garden of the Gods Park near Colorado Springs. Six years later Ellingwood and partner Barton Hoag took their pitons into the high peaks of the Colorado Rocky Mountains to protect their ascent of Lizard Head, a 13,113-foot rock formation presently located in Forest Service wilderness, as well as to establish a fixed anchor from which they rappelled on the descent.

By the 1930s, piton use extended throughout the major American mountain ranges—the Sierra, Cascades, Wind Rivers, and Tetons—as well as to roadside rock formations nationwide. As *The American Alpine Journal* remarked in 1932, "Notwithstanding feeble protests by a few climbers, mostly of the past generation, hammers, pitons and safety snaps have definitely entered into the modern climbing technique." The invention of high-strength steel pitons in 1947 further increased the widespread use of pitons, because it allowed them to be hammered into and out of thin granite cracks.

Two uses of pitons warrant special mention: as "fixed" anchors for a rappel and as "direct aid" (i.e. when the piton is used to assist in ascending a steep or overhanging slope rather than merely as protection in the event of a fall.)

In general American climbers preferred to remove pitons used on an ascent so that subsequent climbers would find the route in relatively untouched conditions. Nevertheless, “fixing” pitons in place for a rappel anchor was commonplace, though it rarely merited mention in climbing journals except to note where a previous party turned back on an attempted first ascent. Writing in the 1932 Canadian Alpine Journal, Robert Underhill, the preeminent American climber and safety expert of the era, remarked that many people found ring pitons suitable for rappelling, known at the time as “roping down.” However, he continued, it “can be carried out just as well with eye-pitons; an intermediate rope-sling may have to be used, but such ought to be used in roping off from any piton, anyway.”

Direct aid—a form of climbing in which the climber actually uses his protection devices to assist in upward advance—was controversial in some circles because it allowed the climber to ascend terrain that could not be done without the assistance of the equipment. Responding to concerns about piton use for direct aid, Morgan Harris wrote in the 1942 Sierra Club Bulletin, “Ordinarily, direct aid by pitons is a last resort when all else fails. In some circles the use of pitons, either for direct aid or for security, is frowned on as ‘unsporting.’ Whether unsporting or not, piton technique makes climbing immeasurably safer, and deserves to be retained on this basis alone.”

By the early 1960s, scarring from repeated placement and removal of pitons had damaged many cracks in popular climbing areas, most notably Yosemite Valley. New, less damaging forms of removable protection were developed and soon became the norm. Today piton use is minimal except in aid climbing or for establishing a secure rappel anchor.

## 2. BOLTS

As with pitons, development and use of the expansion bolt can be traced to Europe early in the 20th century. In 1927, Laurent Grivel, a climbing guide and blacksmith in Chamonix, France, used bolts on the first ascent of Pére Eternal, a 200-foot spire on the north ridge of the Aiguille de la Brenva. Their use continued sporadically in Europe, but was not well documented.

It was not until the well-publicized 1939 ascent of New Mexico’s Shiprock by Sierra Club climbers David Brower, Bestor Robinson, John Dyer and Raffi Bedayan that the expansion bolt really surfaced in the climbing world. The difficult ascent involved the use of 54 pitons, half of them for direct aid, and four expansion bolts “where inadequacy of stance and lack of piton cracks would otherwise have plunged the entire party to their deaths in case of a fall.”

By the late 1940s bolts had become commonplace in American mountaineering, not only as a means of protecting against a fall, but also as a means of facilitating upward progress on flawless rock and as secure rappel anchors. As Richard Leonard and Arnold Wexler wrote in the 1946 Sierra Club Bulletin about the expansion bolt, “It makes the climb no easier—placing one, even on a flat ledge, is a long job—but it permits a lead in safety that might otherwise be quite unjustifiable owing to the belayer’s inability to hold a fall.”

But the ability to place a bolt virtually anywhere made this tool a bit more controversial than pitons, and their permanence offended some. Fred Beckey, arguably America’s most prolific exploratory climber, offered the proponent’s position in a 1949 article in The American Alpine Journal: “I do not believe in blacksmithing a route up a cement wall—that is not climbing—but recently we have met peaks that would be impossible even with aid pitons. The choice remains: to retreat, or to use a few bolts to overcome a flawless pitch.”

The debate over bolt use reached a fevered pitch in 1961, when Yvon Chouinard, a top Yosemite climber and equipment manufacturer, wrote an article in Summit magazine entitled “Are bolts being placed by too many unqualified climbers?” Chouinard commented that, “Due to their low cost and their availability, they have been used far more extensively in the United States than in all other areas combined... [M]any climbers would feel undressed if they approached a rock climb without their ‘bolt kit.’” However, several top climbers wrote letters to the editor opposing Chouinard’s idea that only experienced, technically proficient climbers be allowed to place bolts. The consensus of the opponents was best articulated by Chuck Wilts, a pioneering Sierra climber, who wrote, “I think climbers should accept the general principle ‘to refrain from the use of bolts unless really necessary for the safety of the party if the ascent is to be continued.’”

Though bolts continued to be controversial among climbers, as was reflected in articles and letters in the climbing journals, climbers tended to coalesce around the principle articulated by Wilts. With the exception of sport climbing, an bolt-intensive form of climbing which developed in the late 1980s and is generally practiced at non-wilderness cliffs, climbing has tended to progress

to a point where people attempt to climb with as little use of bolts as possible.

### 3. SLINGS

The sling rappel anchor—initially made of short sections of rope, but now generally a piece of tubular nylon—entered the climbing literature early in this century, though a precise date is not known. Because the sling rappel was (and is) so common, it almost never has been discussed in the climbing journals, save for instructional texts. However, it is probably the most frequently used form of fixed anchor in wilderness climbing.

When Underhill wrote “Use of Rope in Rock Work” in the 1931 Sierra Club Bulletin, he discussed the process of rappelling from a sling anchor that is left behind. “In many cases this will require the use of an auxiliary ropesling, cut to length from a supply of lighter reserve rope and tied in double or treble thickness around the belay. The main rope then runs through this sling—which has of course to be abandoned upon each occasion.”

In the first edition of *Mountaineering: The Freedom of the Hills*, the best-selling instructional book for mountaineering published in 1960, the components of a rappel anchor are discussed. “The ideal anchor is a sturdy tree or a rock projection around which the rope can be looped, and with such smooth surfaces that the rope will run easily and can be retrieved from below simply by pulling on one end. Almost invariably, however, there are various obstructions, and slings must be used to suspend the rope from the anchor and provide it with a free run... Generally slings are left behind, being very inexpensive.”

### 4. CONCLUSION

Removable protection devices (cams, nuts, hexes, etc.) that do essentially no damage to the rock are the primary means today of safeguarding climbs in wilderness, and they have been the norm for almost 40 years. These devices were developed to both limit damage to natural crack systems and to allow quicker, easier placement of secure anchors. Nevertheless, fixed climbing anchors (bolts, fixed pitons and slings) still play a role in technical climbing today. Fixed anchors are used where removable protection cannot be used to safely protect ascents (i.e. on blank rock slabs and crackles rock pinnacles) and to ensure safe rappel anchors. In situations where new fixed anchors may be necessary for safety reasons, the AAC recommends that climbers subscribe to the general ethic of restraint, using fixed anchors only as a last resort when other options are not available.