VARIOUS NOTES

Old and New Helps to the Climber

Notwithstanding feeble protests by a few climbers, mostly of the past generation, hammers, pitons and safety snaps have definitely entered into modern climbing technique. More recently they have been used on ice with excellent results. The notes that follow have no pretense to be complete or new; they are simply offered to inform other climbers of the range of these aids that are available and to present a few particulars regarding their employment.

Notes to Figure 1

A1. Piton hammer; measures 24 cm. in length and weighs 370 gms.

A2. Another piton hammer, of German make, measuring 23.5 cm. in length and weighing 397 gms. The second hammer has the advantage of a hard, sharp point, to open small fissures and facilitate the introduction of the piton in the rock. However, it delivers a less effective blow, and it is more difficult to carry. Type A1 can be easily slipped in one's pocket or safely hung to one's belt; it is made of rather soft steel.

B1. Triangular, soft steel piton, measures 18 cm. in length and weighs 167 gms.

B2. Quadrangular, soft steel piton, measures 15 cm. in length and weighs 166 gms. Both B1 and B2 are provided with a ring and are, therefore, suited for roping-off. They are very strong and because of their thickness they fit only rather large cracks. They are of a type very popular years ago in the western Alps, where they were used mostly to secure permanent cables to rocks.

C1. Simple piton of soft steel, measures 16.5 cm. in length and weighs 115 gms.

C2. Same as C1, but measuring 14.5 cm. and weighing 92 gms. C1 and C2 are inexpensive general utility rock pitons, suitable for roping-off, or for use with safety snaps. They are somewhat thin, but if driven in at least two-thirds of the shaft, they are very secure. They can be easily made by any reliable blacksmith from stock material. They should be driven into the rock with the curved portion upward.

D1. Safety snap (carabiner), 11 cm. long and weighing 135 gms.

D2. Safety snap, measures 10 cm. in length and weighs 120 gms. These safety snaps are made of hard steel, have a strong spring, and close in a very secure manner. They are inserted in the eye of pitons, and the rope in turn is passed through, thus obviating the necessity of unroping. The last climber of the party recovers them.

E1. An excellent ice piton, of soft steel, with a hardened cutting edge and ring. It measures 19.5 cm. in length and weighs 192 gms. This ice piton is ideal for hard crystalline ice, into which it should be driven transversally, at an angle of about 45°, and up to its twisted neck. It can occasionally be used in large cracks of soft rock. During the past season I used them in ice by drilling a round hole, in which the piton could freely move. With a flip of the rope from below, the piton was easily recovered. Drilling a hole in which the piton can freely move is safer than forcing it in, if the ice is crystalline, because it avoids formation of dangerous and insidious cracks.

E2. Duraluminum ice piton, with ring. It measure 25 cm. in length and weighs 129 gms. By far the best for hard snow, because of its width and length. It should always be driven in full length, at about a 45° angle.

F1, F2, F3. Are soft steel pitons, for vertical fissures on rocks. F1 measure 14.5 cm. in length and weighs 125 gms.; it is provided with a ring to facilitate roping-off. F2 is 15 cm. in length and weighs 98 gms. F3 is 17 cm. long and weighs 104 gms.

H1, H2, H3. Are soft steel pitons for transverse fissures on rocks. H1 is provided with ring and measures 13.5 cm. in length, weighing 109 gms. H2 measures 15 cm. in length and weighs 94 gms.; H3 measures 17.5 cm. in length and weighs 125 gms. Pitons of the F and H type should be driven into the rock with the curved portion downward, so that they can be utilized as footholds. Pitons F and H are by far the best rock pitons, and an assortment such as the one illustrated would meet all the requirements of any grimpeur.

G. A duraluminum piton for rock, 15.5 cm. in length, weighing 62 gms. only. It is recommended as an emergency piton, to be carried as part of a standard equipment.

Articles A2, D, D2, E2 and G are for sale by Ravelli, Corso Ferruccio 70 Turin, Italy. Articles F1, F2, F3, H1, H2 and H3 are manufactured and for sale by Grivel, Courmayeur (Italy), famous maker of ice axes and crampons.

Notes to Figure 2

A relatively new type of sack, provided with a duraluminum tube frame and an ingenious system of straps that bring the weight of the sack well under the arms, rather than giving the customary pull backwards. It also has a wide strap that keeps the sack away from the back, eliminating perspiration. It is provided with a leather belt for strapping in front, thus eliminating dangerous motion of sack on sideway passages. It has two long side pockets and one large posterior. It is of large capacity and weighs 1,820 gms.

Notes to Figure 3

The best ice crampon yet devised, designed and constructed by Grivel, of Courmayeur. It is of the Eckenstein ten-point variety, with two additional prongs, directed forwards.

The advantages of such addition are at once obvious, and on very steep hard snow their usefulness can hardly be overestimated. The lower prongs, instead of being simple points, are made after the fashion of cutting chisels, properly directed. The weight, with linen straps, for the largest size is 1,354 gms. per pair.

The type of nails illustrated in the same figure has proved very good on rough ground such as one encounters in the Canadian Rockies, although they are heavier and less efficient than an all-triconi boot.

Notes to Figure 4

The best Klettershue are made of stout but light waterproof cloth and light leather. The soles are of soft cloth, closely and securely stitched. They should very closely fit the foot and the soles should not advance outside the foot margin. This type originated and is universally employed in the Dolomites (Scarpette-Scarpa da gatto). Climbing shoes with crepe-rubber soles or rope soles are also good but should be considered second choice.

The ice-axe strap illustrated in Figure 4 is of great utility. It is made of a linen strap, secured to a steel ring which fits loosely around the wooden shaft. An iron nail, of the type used for climbing shoes, is fixed in the shaft, about 30 cm. from the tip. The strap easily running up and down, can be used to carry the ice-axe while rock climbing as well as to secure it to the wrist while step-cutting. Some climbers, instead of the nail, use a leather ring nailed around the shaft; this has the disadvantage of retaining moisture, thus producing in time a weak spot in the shaft.

Notes to Figure 5

This nail is the latest contribution to rock-climbing by a group of Courmayeur guides. It is devised to be used on solid granitic

rock, where no natural cracks are to be found. A hole is first drilled in the rock, using a round chisel (*a*) with a hard-steel point. This chisel is pierced with a hole, so that it may be secured to the wrist of the operator by a stout string.

The hole in the rock should be 5 to 8 cm. in depth, and when finished, the special piton (*b*) is introduced in it, after the wedge (*c*) has been lightly fitted into the cut at the end of the piton. This is then hammered into the hole, where it will be securely retained by the forced expasion of the wedge. This spike, prepared by Grivel, made possible such feats as the ascent of the vertiginous Père Eternel and the S. ridge of the Aiguille Noire de Péteret. The piton measures 15 cm. in length and weighs 110 gms.

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A HIGH-LEVEL GLACIER ROUTE FROM JASPER TO FIELD

One of the features of classical mountaineering in the Alps was the development of the high-level route between Chamonix and Zermatt. As originally laid down by Jacomb,[1] in 1862, this required four days of actual climbing as follows: (1) Lognan to Orsières (Col d'Argentière). Orsières to Burg St. Pierre (the "intermediate link"). (2) Bourg to Chermontane (Col du Sonadon). (3) Chermontane to Arolla (Col de Chermontane). (4) Prarayen to Zermatt (Col de Valpelline). As topographical knowledge increased certain alterations were made and variants became customary.[2]

Believing that it may prove suggestive to outline a comparable line of travel across Canadian snowfields, I present as a possibility a way across névés of the main watershed from the head of Athabaska River to Field. Much of it is over ground already trodden, but short connecting links must still be worked out and may appeal to climbers who are young and active.

From Jasper to the head of Athabaska River four days with horses will be required. Then follows:

(1) *a*. To the Columbia icefield. By the only route through which this has been accomplished from the Athabaska valley, the Columbia glacier and the broken cliffs southeast of The Twins were ascended, a way that has little to recommend it,[3] although possibly it could be improved upon. A more feasible line is opened if a satisfactory route can be found to the col immediately north of Mt. Stutfield (11,880 feet), between this peak and the unnamed peak (10,900 feet) to the north. Once this is attained the northern slopes of Mt. Stutfield may be ascended, the mountain traversed and the Columbia névé attained.

The route to this objective col north of Mt. Stutfield has yet to be worked out. If the valley of Habel Creek is used, the stream,