

NEW GUIDE-BOOKS

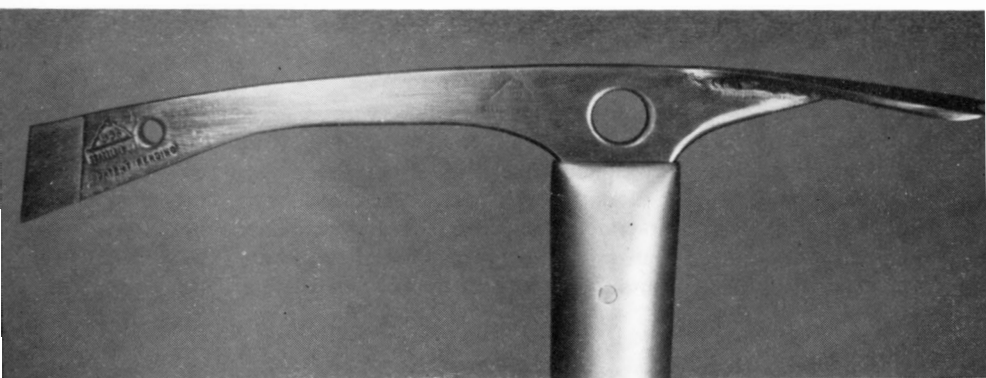
Rock Climbing in the British Isles 1894-1970, A bibliography of Guide-books, by George Bridge (West Col Productions, £0.90).

South Devon Climber's Guide, by P. Littlejohn (West Col Productions, £1.90).

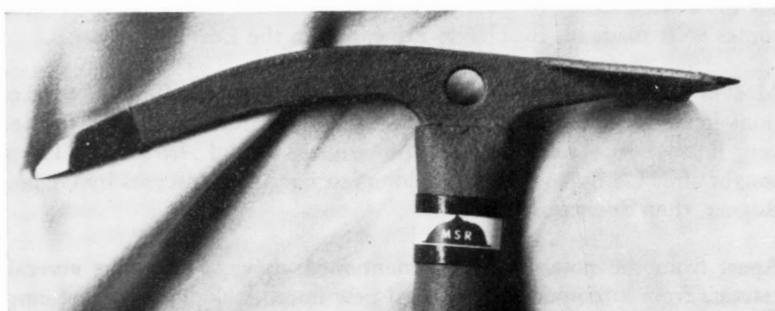
The Islands of Scotland, by N. Tennant (Scottish Mountaineering Trust, £2.50).

Climbers' Guide to the Cairngorms Area, Vol. V: Creag an Dubh Loch, Glen Clova, by A. Fyffe (West Col Productions, £1.30).

Scottish Climbs, by Hamish MacInnes (Constable, 2 vols, £1.75 each). Brief descriptions of selected climbs in the style favoured by S.M.C. guide-books. Vol. 1 deals with south and west, Vol. 2, with north-east. These are not books for the field, as no one will wish to carry with him a series of descriptions of such wide areas, but an interesting addition to the book-case from the pen of an expert.

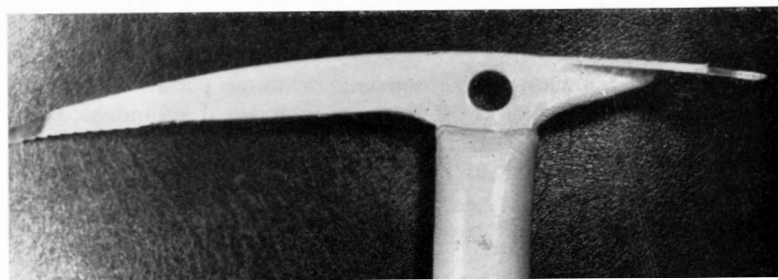


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General Notes and Reports

Equipment and Technique 1971

Derek Ellis

Snow and Ice Gradually, as a result of improved communications through the climbing press, southern-based climbers have become more and more aware that Scotland has something to offer them in the winter months which can, if their holidays are flexible but limited, be a practical alternative to an Alpine holiday.

While the 'week-end climber' may not have either the ability or temperament, let alone the facilities, to practise the techniques discussed by Cunningham and March, he will, if rock-climbing trends are any example, want the best equipment that is available, and the manufacturers have, as they saw the trend, prepared for the event.

Ice-axes This is the field where many of the recent 'advances' have taken place, though it is questionable how many will lead to a general advancement of the sport. Over a decade ago Hamish MacInnes developed the first all-metal ice-axe, but lack of publicity, combined with the weight and the price, compared to conventionally shafted axes, meant that it did not catch on as well as it would today if it still had the market cornered.

It took the publicity machinery of Larry Penberthy and the significant meeting of Cunningham and Chouinard to get the glad tidings over to the public. Furthermore, the market now consisted of climbers who bought protection in lavishly stocked climbing shops rather than seeking it in scrap-yards, as had the market MacInnes tried to capture. At the same time, various people had realised that ice-axes could be improved, and were not far behind when the demand came. MacInnes had been redesigning his axes and producing prototype hammers which, with typical northern canniness, were called Terror-dactyls.

In North Wales three groups were working simultaneously to produce a strong-shafted axe. Joe Brown experimented with a solid, moulded fibre-glass handle which, though proving stronger than wood, was later abandoned. John Brailsford was shaving down existing axe shafts and coating them with fibre-glass, and Denny Moorehouse was making prototypes of a steel-shafted axe. In America, Larry Penberthy had produced the first of his range of alloy-shafted axes.

Prior to this, Continental firms had tried Rexilon for shafting axes. This combination of wood and synthetic material has proved to be about as strong as hickory, which is superior to ash but rather less consistent in its properties

than Rexilon. The present situation is that only one Continental manufacturer is producing a metal-shafted ice-axe, this is Inter-Alp, who also produce an ice-hammer similarly shafted. Various people, for example Jack Street and Jim O'Neill, have produced special individual axes, and the latter's marriage of a Stanley hammer handle to a forged head is particularly interesting.

The type of axe a mountaineer chooses would seem to depend on which school of ice-climbing techniques he decides to follow. It is noticeable among Scottish climbers that those in western Scotland tend to show doubt about the theory and practice of Cairngorm-based climbers, thus their opinion of the sharply angled MacInnes axes is very high.

The Terrordactyl was covered in last year's issue of the *Alpine Journal*, so a brief note should suffice. It comprises a two-piece steel head, the straight pick being angled at 55° to the aluminium alloy shaft, which is coated with a plastic sleeve. The axe is of similar construction, the adze being formed by a sheet-steel pressing. There have been complaints both of cracking of the adze and rivet failure, but these faults have apparently been cured.

The Clog axe has a unique head made from a single sheet-steel pressing, which gives a more or less conventional adze and a channel-section pick. This has caused controversy among the experts, some of whom claim that it is too thick for use in hard ice, while others state that there will be a build-up of ice in the channel. I have used the pick in a wide variety of conditions, and find it no better and no worse than conventional picks. The shaft is made up of a steel tube moulded with fibre-glass and covered by a plastic sleeve.

The Snowdon Mouldings/Brailsford axe is a curved pick model of the Nanga Parbat head, and has a shaft of fibre-glass over a wooden core. This is covered with a plastic sleeve. J. V. Anthoine, the manufacturer, has successfully experimented with a wrapping of tacky insulation tape, which gives fantastic grip to the handle in combination with woollen gloves. He also markets a curved pick hammer of similar construction.

The Inter-Alp Cerro Torre axe has a conventional head and a fibre-glass-coated aluminium alloy shaft. The pick is at a shallow angle and has a slight curve. The hammer model made by the same company is identical in its construction.

Salewa are now producing an ice-hammer based on their metal peg-hammer handle; the Chouinard ice-hammer, while not of high-strength handle design, is also most worthy of note for high-angle ice-climbing. A similar effect to it can be achieved by drawing out the pick of a Stubai peg-hammer and cutting teeth on it, but careful heat treatment is essential. Snowdon Mouldings have been turning out hammers treated in this way and should by the time these notes are published, have a model complete with their high-strength shaft.

Mountain Safety Research Ltd is aiming at a slightly different market with

their Neoprene-sheathed alloy-tube-shafted models, though models do in fact come down to 55 cm shaft length. There is a choice of three head designs, which are of welded two-piece construction. The Thunderbird has a very deep, almost bladed, spike, the Eagle has a curved, toothed spike with a hole in it that seems to serve no purpose other than to look like an eagle's eye.

Crampons In spite of a rumour that a British crampon was being developed, very little has happened in the field since Chouinard developed his model, and this is not generally available. The only new features seem to be in fastening, and to this end Inter-Alp have come up with their 'Universal' crampon, which is the first strapless crampon that I have seen.

This crampon should be ideally suited for expedition work, as once it is adjusted it can be put on and removed while wearing gloves. Furthermore, the lack of straps should reduce the risk of frost-bite. The purpose of the noose is to prevent loss of the crampon in the event of it coming off, a novel feature but one which can surely be bettered.

Ice-screws Clog have brought out a range of tubular and solid ice-screws. By their length they are obviously designed with British conditions in mind, though the longer models should be suitable for Alpine work.

Bivouac equipment Several polythene bivouac bags and 'tents' have come on to the market recently, and most of them provide a good, cheap, safeguard against the risk of a forced bivouac or serve as a marker in the event of an accident. For planned bivouacs, however, they are less than ideal as condensation is a big problem with them.

For the very rich, Vango are marketing the Junex heated vest, which works off a rechargeable six-volt battery. Total weight is just under 2 lb. A single charge lasts up to 5½ hours, and the battery can stand 20° of frost; a temperature of the order of 40°C (104°F) is said to be attainable. At a total cost of £44 including battery and charger, perhaps its best application in the mountains is for rescue teams dealing with exposure cases.

Various forms of space blanket recently developed have been brought to our attention, they are, however, generally too small and rather expensive for the sort of job envisaged for them in mountainous conditions.

British high-altitude boots John Hall of Llanfrothen is making a double boot, at the moment to special order only. Specification depends on individual customers' requirements, and can include refinements such as a 'space blanket' layer between the layers of leather in the outer boot. Cost is about £28, with usual discount for expeditions.

Ropes The B.M.C. recommendations on kermantel ropes in 1970 caused quite a stir, not least among its own ranks. After the initial publicity had lost its impact most climbers seem to have chosen either to ignore the report, or at least to forget it.

Pitons Several leading Peak District climbers have expressed dissatisfaction with the design of modern 'hard' pitons. They point out that by far the greatest number of pegs used are on limestone, whereas the majority of designs are more suited to granite than any other medium. Often, the main requirement of a limestone peg is a sharp point for grouting into calcified cracks, most pegs on the market have square or rounded ends. It does seem, however, that at least one of Britain's equipment manufacturers is studying the requirements of limestone, so a new range of pegs seems likely to emerge.

Harnesses As forecast in *Rocksport* 6/7 1971, climbers are getting away from the use of the potentially lethal waist length and turning to body harnesses. The most successful seem to be thigh harnesses fastened to either chest harnesses or waist belts. The Troll/Whillans harness is probably the most successful. Originally designed for fixed rope work on Annapurna South face, it came back with the tag 'the only piece of expedition gear that Tom Frost would use'; with this publicity backing it was modified for free climbing, and though the post-expedition 'ballyhoo' has died down, it continues to get excellent reports. One of the more interesting uses is on 'bolt ladders', several climbers have, by incorporating two 'cows tails', dispensed with étriers or reduced the number required to one instead of the usual two or three. The Davek and Moac sit-slings are of similar design, though somewhat less sophisticated. The basic advantage of this type of harness is that the stress resulting from a fall is taken on the buttocks or thighs; and even if the faller loses consciousness he will not suffer the risk of suffocation, which has been responsible for many deaths in the past.

Belaying devices In *Rocksport* 6/7 1971, I wrote an article on belaying devices such as the Sticht belay plate, and it has been suggested that the new Clog descendeur would do much the same thing; that is, provide a completely satisfactory static belay. It was, and still is, my opinion that a static belay should not cause injury to a climber using a nylon rope and satisfactory harness, and I have tested this using myself as the guinea-pig. However, Ed Leeper has shown great concern that such a belay could cause injury to a falling leader if these conditions are not completely fulfilled, and as I am not prepared to carry out the test he suggested to prove him wrong, his comments are worthy of note.

A repeat of the figures computed by Ken Donnan of Loughborough should provide a few sobering thoughts. The figures are for a free-falling man of thirteen stone, air resistance has been taken into account, and the figures have been rounded to the nearest whole number.

Distance (ft)	Time (sec)	Speed (mph)	Force (Ft lb/sec)
4	0.5	11	2904
16	1.0	22	5760
36	1.5	32	8526
63	2.0	42	11160
97	2.5	51	13634
184	3.5	68	18015

Descendeurs Clog have at long last made their figure-of-eight descendeur available for general sale. This item, for so long an 'in crowd' status symbol, retails for just under £2.

Sack hauling Ben Campbell Kelly has produced a prototype sack-hauler which seems to solve most of the problems involved in the past in this time-consuming job. Basically, it consists of a prusik-type cam which acts on a pulley. The rope passes over the pulley and the cam releases its hold on the upward pull and clamps on the rope between pulls.

Boots The problems that prevented the injection-moulding process being used for manufacturing climbing boots now seems to be solved. The Brynboot, which was originally aimed at the Outdoor Pursuit Centre market, is now in the shops and cannot be faulted for any lack of torsional rigidity. With a vibram-type sole and rubber band encircling the lower inch or so, it is a light, hard-wearing, waterproof boot and retails for about £9. The main snag appears to be the narrow heel, which makes crampon fitting difficult.

Additional note on fifteenth-century crampons Luciano Serra writes:

In connection with the three notes on the early use of crampons (by B. R. Goodfellow in *A.J.* 73 257, Barbara Harriss in *A.J.* 75 277, and J. Monroe Thorington to T. S. Blakeney in *A.J.* 76 287), I would like to mention an important literary evidence in Luigi Pulci's *Morgante Maggiore*, a mock-heroic poem published in 1483. In fact, the fifth line of the one hundred and forty-third octava rima of the last canto says *I'guarderò in sul ghiaccio ir con buon chiodi*, i.e. I'll try to walk on ice with steady spikes. This sentence about the use of rudimentary crampons was a popular saying in Tuscany, and belongs to tradition. As to Simler's book, the date of its issue is really 1574.

Science Notes 1971

Peter Stubbs

Glaciology The Glacier d'Argentièrè sports a splendid natural laboratory for studying the vagaries of ice streams. Two kilometres upstream of its snout a 1000-m long sub-glacial channel, carved out of the bedrock by glacial action, forms a cave lying beneath more than 80 m of ice. The Institut de Géographie Alpine, at Grenoble, has equipped it with an extensive range of apparatus, including a device which measures the bottom velocity of the glacier directly, giving a detailed record of what is described as its 'heart-beat'. The Glacier d'Argentièrè moves at speeds, varying from nearly zero to over 4.0 cm per hour, with an average of 200 m per year.

Results from the 1970 Italian survey of Alpine glaciers, published recently, show that the percentage of glaciers retreating in Italy rose from 43 per cent in 1969 to 51 per cent in 1970; advancing glaciers fell from 22.4 to 13 per cent; the behaviour of the remainder was uncertain.