Equipment Review 1973

Derek Ellis and others

At last it has happened, the threatened no-news situation in climbing equipment. For the last few years I have foreseen the day when I would have nothing to say about genuine new developments in this field but it has come with such a sudden jolt that I am taken somewhat aback.

The last few years have after all changed climbing completely from a high- to a relatively low-risk sport. There are very few climbs now which have the reputation of being 'chop routes', the preserve of that special type of climber with nerves to match his ability. The result has been a bold turn to soloing at the highest levels. The plethora of nuts, wedges, copperheads, smashies, bashies, skyhooks, and so on, which are so freely, if expensively available have opened up the extremes for men who in no way compare with such as Kirkus, Birtwistle and Brown. It is now not only possible to second most routes while being on the theoretically sharp end of a rope but is in fact a regular feature on many of the great classical routes. I have seen Cenotaph Corner climbed by leaders who have never had a runner much below knee level at any point and problems such as Brant Direct murdered with 16 to 20 slings in its meagre 90 ft. Take away the bottom 10 ft and a runner every 4 ft is the result. A parting with the rock would, but for the much vaunted elastic properties of nylon rope, result in an upward movement which would place no strain on the climber wearing one of the new sit-sling harnesses which have become all the rage since Annapurna.

It has been suggested to me that repeated failure on Everest's South West face will have the same effect on climbing as England's exit from the World Cup (which as a Welshman didn't bother me overly) and that high-altitude equipment development might suffer. This is not so for I feel that the mountain under normal conditions has no hope against the Whillan's Box, Chouinard crampons, Terrordactyls, bolts, Damart underwear and Stewart's Cream of the Barley. It may be that down equipment will have to be improved, not because of any defect in its insulating properties but because its users apparently need that which is designed for 20,000 ft+ in the Himalaya to provide insulation to go out for a drink at 500 ft—in the Pennines. Perhaps indeed equipment has developed too far and a reappraisal is needed. I was intrigued to be told at a dinner recently that one supplier is importing a new karabiner mainly designed for artificial climbing, with a 'whole new concept'—'low strength'.

Pitons too seem to have hit a backwater; Chromolly and later Nickel Chromolly changed the pitonage scene from a very dodgy business—remember Dr Griffin's self-extracting piton still available in some shops and less than 20 p each on the Continent—to a scene of thoroughly sound belays and supersafe runners (if you remember to put them in horizontal cracks) with even the tiny rurp, often compared to a boy scout's tin-opener, holding some quite long falls. Perhaps there is no need for new metals but rumour has it that a couple of climbers on the Concorde project expect to make a killing when it is finally scrapped.

Snow Belays or 'Deadmen' seem to have sorted themselves out and reports indicate that they saved many lives last winter. The only amazing thing is that in spite of widespread publicity, shops are selling and climbers are using designs which have been condemned by leading snow and ice climbers who have thoroughly tested them in a wide range of conditions. In several Scottish gullies last winter I saw them used in such a way that they would not have held a slip by the belayer let alone a fall by the leader and occasionally in unsuitable snow close to very safe rock belays—perhaps it is climbers who need testing, not equipment.

A few years ago some of my friends were overtaken on a relatively short Alpine route by a fast moving, lightly equipped German team. One who spoke English asked what was in their large sacks. Amazed, they replied 'bivouac gear', 'Ah' said the German to his partner 'the English carry big sacks because they bivouac and they bivouac because they carry big sacks.' With modern lightweight sacks, sleeping bags and climbing gear this should not necessarily be true but the danger is that we simply pack more to cover every possible situation. The main hope now is that manufacturers will settle down to producing good gear without gimicky 'improvements' at a stable price.

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'Auto' Belay A letter to *Off Belay* (August 1972) draws attention to an unusual method of practising the arrest of a fall. The belayer has to hold the force of the fall which is the product of the weight and the speed of the falling climber. In this method an equal force is generated by a greater weight and a slower speed. 'The belayer attaches himself to his anchor, and the belay rope is attached to the rear of a car. The car starts its run uphill from the belayer, reaches the required speed, and coasts past him maintaining speed and out of gear. The belayer then stops the car with the belay rope. A climber of 175 lb, simulated by a car weighing 1600 lb gives the following 'fall equivalents':

Simulated fall distance (ft)	15	30	65	130
Car speed (mph)	7	10	15	20

The method gives a good idea of the effort involved in stopping a fall; however it should be remembered that in the climbing case the rope would run out 3 times as fast as in the 'auto' practice case.

Emergency oxygen supply An American firm (Life Support Inc) is producing a chemical unit which supplies 180 litres of oxygen at flow rates of 4, 8 or 12 litres/minute. The total weight of the system including three replaceable cartridges is 4·4 lb; the reaction is started by pressing a button. Canisters are safe, inexpensive, have a long shelf life and are easily changed. 'Portability, safety and cost', comments the *Canadian A.J.*, 'make it a valuable part of a first-aid package on serious high-altitude expeditions'.

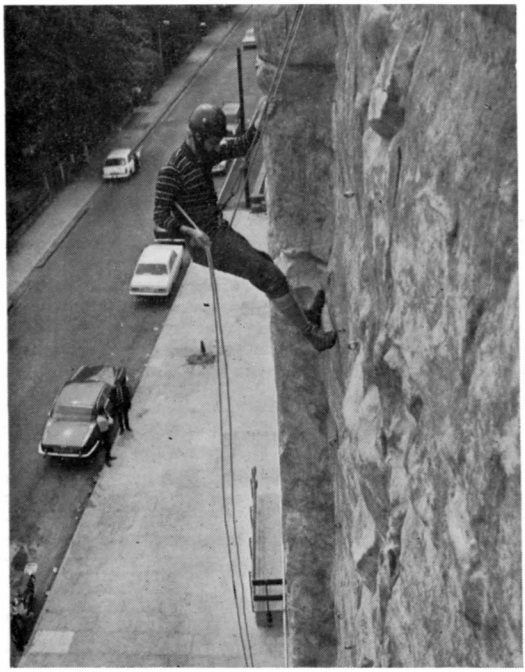
Later came the news of another system available in this country from Easts of Oxford. This weighs 7½ lb and provides 180 litres of oxygen at flow rates of 3 or 6 litres per minute.

Coolite instant light A product of the USA, now marketed in this country at 44 p each, this is a chemical ampoule which when snapped provides light from a chemical reaction. Adequate to illuminate a tent for a period of three hours or more, it is cool, safe, non-toxic, and there is no smoke or danger.

Concrete climbing wall The new sports centre in Sale, Cheshire, opened on 25 July 1973, has a unique climbing wall built of concrete to simulate a rock face. This is authentic because it has been moulded from impressions taken from a series of actual rock faces in Derbyshire. And in addition to its main function the wall provides a strikingly original 'sculptured' facade to the end of the hall fronting on the public road. The efforts of the climbers will prove quite an exciting spectacle for the crowds watching from street level.

94 Photos: Cement and Concrete Assoc.

The rocky surface which is 10 m high by 25 m long, starts from the first floor level of the sports hall and rises through the three upper floors. At roof level the structure is surmounted by a rail carrying a system of pulleys provided for top ropes, an essential safety measure for beginners. The method of construction was as follows; scaffolding was erected at suitably profiled locations in the Peak District and impressions were taken from the rock surfaces using laminations of polyester glass fibre. Portable heater-blowers and quick acting 'promoters' were needed for the plastics and resins during unfavourable temperature conditions. Twenty-four panels of impressions were taken and these were transported to a works at Hyde, where they were fitted into timber frames to form moulds each 3·65 m high by 3 m wide; the complete moulds were reinforced to withstand the weight of the concrete which they would receive. The completed moulds were then taken to Sale and, in turn, erected against the structural wall of the sports centre as framework for the concrete. It was necessary to design the moulds so that they could be lifted away easily when the concrete had 'cured'. After removal special under-cuts had to be chipped from the concrete surface to form hand-holds in appropriate positions; these cannot be seen from below. Metal ties, necessary to secure the shuttering to the structural wall, were subsequently utilized as anchors for permanently fixed stainless steel piton substitutes; these rope-retainers should prove useful for climbers practising artificial techniques. Gritstone aggregate was incorporated in the concrete mix and experienced climbers would naturally expect this to have the rough texture of the same stone found in natural conditions. The texture of the wall is, however, somewhat smoother but, in the course of time, it should weather to a rough texture.



95 Photos: Cement and Concrete Assoc.

The surface of the wall is essentially vertical and, as very few natural climbs are at 90° to the ground, the ascent of Sale sports hall will prove quite a challenge to experienced climbers. Cement and Concrete Association

Fuel economy at high altitudes D. Duffield of Leeds draws attention to a system involving the preheating of water by the daytime sun. The water is contained in a large black polythene bag, enclosed in turn in a clear polythene bag, insulated from the ground by a camping mat. In 2 hours, in a site sheltered from the wind, a gallon of water can be made too hot for the hand. There seem to be many possible applications of this principle among the mountains.