

caused by heavy snows, was considerable; and the party was in a critical position more than once before establishing camp on a plateau at about 20,000 ft. The snow was in poor condition; during the unsuccessful attempt to reach the summit from here, two minor slips occurred. On the descent to base camp Harrer and a porter were carried down by a snow slide, but all four reached base camp safely. More than 400 different flowers were collected in the area by a member of the Forest Research Institute in Dehra Dun, who accompanied the party.

Trisul. The third ascent of Trisul (23,260 ft.) was made by R. D. Greenwood and Gurdial Singh of Dehra Dun on 25 June 1951. Greenwood, who is an instructor at the National Defence Academy, later climbed Ratanban (20,000 ft.) and also reached a point only 500 ft. below the summit of Mrigtuni Peak (22,490 ft.). Trisul had been climbed previously in 1897 and 1933.

Mukut Parbat. Anderson Bakewell, S. J., reports that a New Zealand party led by H. E. Riddiford climbed Mukut Parbat (23,760 ft.) in July 1951.

Narayan Parbat. A report from Naini Tal, also in July 1951, tells of a three-month journey by two Swiss mountaineers in the Badrinath area. Bad weather prevented exploration of many high peaks; but the two, who used no porters the entire time, succeeded in climbing Narayan Parbat.

Cosmic Ray Research in the Himalayas. According to a clipping from the *Statesman* of 22 July 1951, an international party consisting of Dr. L. F. Curtiss, of the National Bureau of Standards in Washington, Dr. P. S. Gill, and Mr. Basir Khan, of Aligarh University, have been studying slow neutrons in cosmic rays on 13,600-ft. Mount Apharwat and other high points near Gulmarg.

NEW ZEALAND

A. P. Harper and the New Zealand A. C. The accompanying photograph of Arthur P. Harper, Honorary Member of the A. A. C., was taken by N. E. Odell at The Hermitage, hotel at 2500 ft. in the Southern Alps of New Zealand, on the occasion of the 60th anniversary meeting of the New Zealand Alpine Club, 2 June 1951. Mr. Harper founded the N. Z. A. C. in 1891. He is now 88 years

old, but still very keen and interested in the Club and its members. The other man in the picture is L. V. Bryant, who was a member of the 1935 Mt. Everest "test" expedition. Mt. Sefton (10,360 ft.) rises in the background. Mt. Cook is out of sight to the right, about six miles N.

Mr. Harper's *Pioneer Work in the Alps of New Zealand* (1896) is in our library, as is also a complete set of the excellent journal of the N. Z. A. C. The Club is a strong, vigorous organization of about 800 members. Huts are built, often by the members themselves, and maintained by the various sections. Christchurch and Dunedin are almost within sight of the high mountains. Week-end climbing can be enjoyed from both. New ascents and even exploration have been possible on short vacations until very recently—and may still be. John Pascoe's *Unclimbed New Zealand* (1939) is another fine book in our library.

Mr. Harper is to be heartily congratulated on the splendid club he founded, on the development of the sport of mountaineering in his country, and on his own long span of life. He is a living example to us of the benefits which can accrue from the pursuit of mountaineering as a recreation over a long period of years.

H. S. HALL, JR.

EQUIPMENT

Modified Wide-Angle Pitons. Wide-angle pitons have been used to some extent in cracks up to two inches wide¹—chiefly, owing to defects in design, in places where only minimum strength has been required. These wide-angle pitons were pointed at the end and then tapered out at the butt to a width of one to two inches. Since most wide cracks have approximately parallel surfaces, these pitons, being of very high pitch or slope, would make contact with the rock, on being driven in, only at three points and not on three edges. Obviously, it would take very little force to pivot the driven piton on these points and make it wiggle loose.

Edge-to-rock contact can be obtained if the taper or slope of the wide-angle piton is decreased. The modification results in a blunt-nosed piton. The best slope was found to be about $\frac{1}{4}$ of an inch per five inches in length. Other dimensions: length, five to seven inches;

¹ Cf. Fred Beckey, "New Ascents in the Cashmere Crags," *A.A.J.*, VIII (1951), 173-4.

ROCK ANCHOR (BOLT) SET

Photo, P. K. Schoening