

glacier, climbed on to the Monciair glacier, and across it and the Moncorvé glacier to the Victor Emmanuel Hut in $7\frac{1}{2}$ hrs. from Pont, exclusive of halts. This was an interesting route, but it would be safer to take it in the reverse way, descending to Pont, as the couloir leading to the Colletto Monciair is, from what we saw of it, quite equal to its evil reputation, and though it is not very steep the stones would require a good deal of dodging on a hot afternoon.

Our doings, as a semi-attached party, between the Victor Emmanuel Hut and Chamonix, have been graphically described by Mr. T. G. Longstaff in the last number of this Journal.

THE FIRST ASCENT OF MOUNT BRYCE.

BY REV. JAMES OUTRAM.

MOUNT BRYCE was named in 1898 by Professor Collie in honour of the then President of the Alpine Club, and is referred to as bearing a resemblance to the Finsteraarhorn. From the N. it is a far more striking mountain than when seen from any other direction, except perhaps from the depths of the Bush River valley. Its long and very narrow ridge juts out westwards from the Divide, between two rapidly descending valleys, the three peaks rising in increasing elevation in the direction of the deepening ravines till the final precipitous cliffs of the main summit tower more than 8,000 ft. above the junction of the converging streams.

Unfortunately, like almost all the mountains of this group, the earliest estimate of altitude has been considerably exaggerated, and instead of its expected 13,000 ft. the peak is only about 11,800 ft. above sea-level. The low elevation of the western valleys, however, gives it an imposing appearance from that side, and the abruptness of its slopes and precipices, together with the sharpness of its triple-peaked arête, renders it hard of access and particularly grand. To me, as to Professor Collie, the first view of the mountain at close range was from the N.E., probably the finest aspect of all. The soaring mass rose in its entirety from the white plains of the Columbia névé, its flanks so sheer as to suggest absolute inaccessibility, and the corniced crest and icy mantle seeming to overhang the dark green depths of the narrow gorge 8,000 ft. beneath the top-most pinnacle.

The geographical position of the peak is about sixty miles N.W. from the point where the continental watershed is

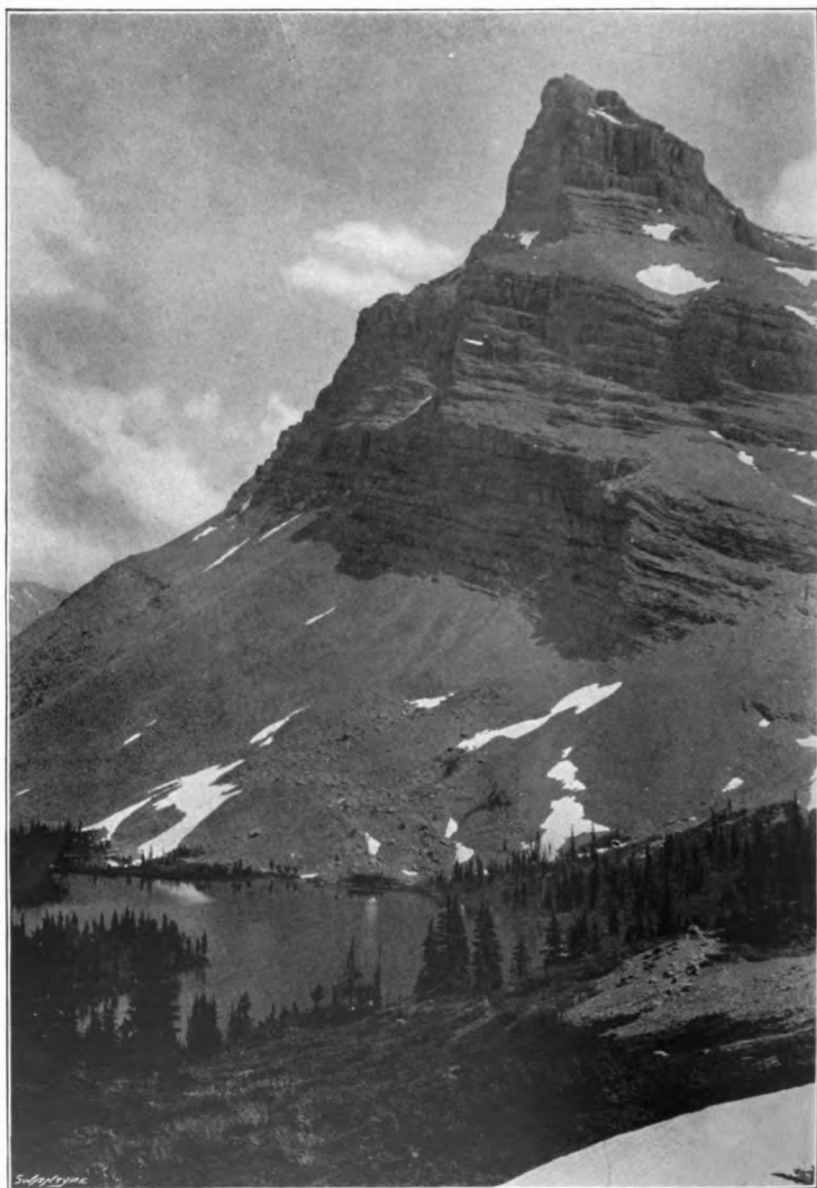


Photo by J. Outram.]

[Swan Electric Engraving Co.

AT THE SUMMIT OF THOMPSON'S PASS.

crossed by the C.P.R. main line, but it requires some 120 miles of journeying from Laggan to reach the base. Our route was by way of the Upper Bow, the S. and N. forks of the Saskatchewan, and finally up the W. branch of the latter to its source in a tongue of the great Columbia ice-field.

Outfitted, as usual, by Bill Peyto, a camp was made close to the head of this valley, and on July 21, two days after our Columbia climb, my trusty companion—Christian Kaufmann—and I ascended to Thompson Pass for a reconnaissance. Crossing the pass, we scrambled up the steep slopes and ledges on the southern side, opposite to Mt. Bryce, and from an altitude of 7,800 ft. obtained a fairly comprehensive view of the mountain and its approaches.* Perhaps, strictly speaking, I should say ‘approach,’ for we could see but one that seemed to offer any prospect of success, and that was an inordinately long and trying one.

Great cliffs girded the base as far as the eye could reach, and from the distance of our point of vision we could detect, even with strong field-glasses, no hopeful line of ascent. In places a considerable overhang was evident, and though perhaps a close inspection may reveal an easy or at any rate a practicable route, we saw nothing that tempted us to wander away down the valley to experiment upon. Should there be a break in the wall of cliffs below the main peak, a rapid and simple tramp across the easy glacier will ensue to the dip between the highest and the second summits. Nothing remained, therefore, but to lay plans for a tremendous ridge climb over the Eastern peak, and, possibly, the second also, though it appeared most probable that the latter could be avoided by descending to the above-mentioned glacier and striking the arete again at the dip beyond.

So much for the line; but its character involved a serious problem besides length. Almost the entire ridge from end to end was corniced heavily. These huge masses hung sometimes on one side, sometimes on the other. The arete was everywhere extremely narrow, and the slopes often hideously steep. Ponderous mantles of snow were resting temporarily upon them, evidently in first-rate condition for avalanching. The season had been a late one, with weeks of almost un-

* The photograph facing page 471 is taken from this point, and the entire line of our route from just above our bivouac to the summit, except a few hundred yards upon the upper glacier, may be traced by means of it.

broken wet weather until after the beginning of July, and practically not an ounce of all this or the winter's snow had fallen yet. Away in the far distance, too, at the head of the final peak, a weird undistinguishable pile of broken séracs and towers of ice, buried in snow, hung beneath the summit, and looked to be a most appalling barrier in its then state.

Remembering that we were but two, these dazzling possibilities of avalanche appealed strongly to our instincts of discretion, not to say self-preservation, so reluctantly but valiantly we came to the conclusion that the better part would be to defer the attempt until some considerable proportion of the fresh snow should have had time to disappear. Whatever lingering desires for an immediate attack remained were quite dispelled a little later in the afternoon by the advent of bad weather. Next day our camp was shifted down the valley, and it was not until August 20 that we were again in quest of victory over the fascinating difficulties of Mt. Bryce.

Having proved quite unequal to the task of persuading Professor Collie's party to share in the interests of the undertaking, Kaufmann and I were once again left to our own devices. On the afternoon of August 20 we wandered leisurely through the trackless forest from our old Columbia camp to bivouac somewhere above Thompson Pass. Skirting the shore of a charming lake, 6,500 ft. up, we clambered up the steep slopes beyond, and, leaving the beautiful summit lake to our left, found a snug spot beneath a clump of spreading balsams, with a clear, sparkling rivulet close at hand. It was an ideal situation, with plenty of spruce boughs and heather for beds, and we looked forward to a roaring fire—for the nights at 7,000 ft. grow cool towards the end of August—an appetising supper and a comfortable night.

Alas for human expectations! Sorrow crowded upon sorrow. We were a matchless pair! Why Christian, a devotee of Nicotine, had failed to bring a single match along I never rightly understood; and as for me, I started with a pocketful (I always carried a quantity on principle and never needed them), but the exercises of the approach or the attacks of the multitudinous stiff fir branches had succeeded in emptying that particular pocket completely, for the first and only time. Every imaginable corner was explored, rucksacks turned inside out, but never a match appeared. The ample pile of brushwood, diligently gathered, was sadly kicked out of sight, and as I sat chill and dejected beside a little heap of tins of soup and bovril bottles, Christian

solemnly placed a 'billy' full of ice-cold water before me and cheerfully announced 'Supper is ready.'

Well, we made the best of it. Bovril made with iced water was certainly a novelty, but likely never to become fashionable as anything else. The only thing really warm about the situation was the reception given us by the tribes of mosquitoes and yellow stinging flies, which *ought* to have departed ere this date, at such an altitude, to another place. They were most attentive, and the combination of adversities drove us to the seclusion of our sleeping-bags before daylight had nearly disappeared.

Next morning we overslept; and, as breakfast had to be cold anyway, we determined to postpone it until we reached the warmth of the sun's rays. The weather prospects were rather gloomy. Clouds hung low on all the more lofty eminences within sight, and all but the lower precipices of Mt. Bryce were invisible. At 4.40 off we tramped across the last undulation of the pass, skirted the shoulder of the minor mass that forms its northern boundary, and traversed long slopes, first of loose scree, then of grass and heather and occasional patches of scrub spruce, brightened by quantities of Alpine flowers, until we passed the end of the small glacier tongue descending from the wide cirque on our right.

Crossing the high lateral moraine, at 5.35 we took to the ice, making for the left corner of the rocks under a subsidiary point separated from the ridge of Mt. Bryce proper by a snowy dip. On gaining these rocks, we halted at once for breakfast at 6.25, and 40 mins. later scrambled up the slabs and snow towards the gap. A small cornice had here to be broken through, just above a yawning schrund, and the first experience was obtained of a clamber up a vertical snow wall of so loose a consistency that it poured down like water. It was only about 10 ft. high fortunately, though the crevasse was most unpleasantly straight below, and eventually enough stability was by patience secured to allow of a couple of treacherous steps, from whence Christian could haul himself by his embedded ice-axe to the firm snow above.

It was now half-past seven, the altitude some 9,500 ft., and we stood on a broad expanse of névé, sloping easily to the N. to join one of the numerous tongues descending from the vast ice plateau of Columbia. On the other side an abrupt drop to the Bryce glacier was topped by a fine cornice. Clouds still veiled the majority of the mountains, but as the sun gained strength the morning mists rolled slowly from the heads of Mt. Columbia and the other giants in the N. till

they gradually emerged from the fleecy drapery that for hours mantled their snowy shoulders. Across the dip, increasingly steep slopes, icy enough to demand steps, led to the rocky ridge by which our route lay to the eastern peak.

The lower portions of this arête proved simple enough. Disintegrated limestone presented a series of ledges large or small, and rapid progress was the rule. The quantities of loose stones and débris, with insecure footing and handhold, caused the only trouble, though every now and then a more awkward little bit of cliff gave occasion for some real climbing, and patches of treacherous snow and icy gullies sometimes intervened, causing variety and requiring added caution and hard work.

As we neared the top of the steep part of the ridge a short but intensely difficult piece of rock-work was encountered. It was not more than 70 ft. in height, but particularly vertical and almost devoid of adequate holds. Such slight projections as existed were mostly rotten, and gave way on the application of the least weight. The higher we got the worse it became, and Kaufmann, splendid rock-climber though he is, nearly counselled a retreat, giving it as his opinion that the descent would probably be too difficult for skill to render safety at all certain. The really critical part lay neither in the perpendicularity nor the absence of holds (both of us had successfully accomplished quite as awkward scrambles in the past), but in the rottenness of the limestone; with granite there would not have been the slightest hesitation. There was a strong cross wind, moreover, that caught Christian's hat and swept it off to the far distant glacier, leaving him to complete the expedition with a picturesque coloured handkerchief bound about his brow. But, as Kaufmann's skill prevailed over the natural problems of undoubtedly a worse bit of climbing than either Mt. Assiniboine or Mt. Forbes provided, so his spirit prevailed over the temptation to turn back, and, after a protracted and anxious scramble of the most exciting order, we hurried up the rest of the steep arête, almost wholly on the sky-line, and at 10.15 halted for a few moments to survey the new conditions of the remainder of the ridge. The rock-work was practically ended, and gave place to snow, and the ascent was very slight. But cornices were enormous and continuous, overhanging the southern precipice. To avoid them it became necessary to keep well down on the steep snow-slopes on the other side.

At first the snow was splendid, firm and at an easy angle, and our spirits rose in expectation of a less tedious rate of progress; but these hopes were not long-lived. The surface hardened and the tilt increased, dipping very rapidly to a 'jump off,' beyond which only the glacier, 7,000 ft. or so below, could be seen. Steps had to be cut right along this face, sometimes by two or three light blows, but for the most part by hard work in solid ice. Several strange lateral crevasses occurred here, running clear to the cornice and offering awkward problems, especially the last. None of them could be turned on the lower side, which was too sheer, and the only place that seemed to offer a possibility of crossing this one was far too close to the cornice for ease of mind. Beyond the chasm, fortunately just not too wide, rose an almost perpendicular wall of hard snow, on which it was most difficult to effect a landing and cut a way up to safety.

Kaufmann, however, was, as always, equal to the emergency, and a few minutes later we were seated on the loose pile of rocks that forms the summit of the eastern peak, rejoicing in our success thus far, the extensive view, now almost clear of clouds, and a well-earned lunch. The altitude was about 11,100 ft., but the time was almost noon, and, although the highest peak was only 700 ft. above our present elevation, a heavy programme lay before us still, and thus early a prospect of a night out on the mountain seemed inevitable, unless we gave up the idea of finishing the climb. This neither of us was prepared to consider for a moment unless an absolutely insuperable difficulty occurred, and after all we had surmounted we certainly meant to do our best to bring the expedition to a satisfactory conclusion.

To our great relief it was found unnecessary to go over the central peak: its arête appeared fully as bad as any met with hitherto, with the same wicked cornices and the sides steeper than ever. Below us, however, lay an easy glacier, and, by descending sharply to the west of the long spur that juts out southwards from the peak on which we stood, this could be gained speedily, traversed without any difficulty, and then by steep snow-slopes a quick ascent was practicable to the dip between the two highest summits. It involved a descent of some 750 ft., but promised an infinitely more rapid method of reaching the desired goal.

Want of time and a chilly wind drove us in half an hour (12.25) towards the lower regions. Down rocks and couloirs, with scarcely any axe-work, we made swift progress, though

going carefully to leave a good substantial staircase for the return. Once on the névé the snow was soft, and we plunged downwards, making several détours to avoid objectionable crevasses, passed along below the precipices of the central peak, and plodded laboriously up again, until in $1\frac{1}{4}$ hr. after leaving the first summit we stood once more on the ridge crest, in a narrow gap 900 ft. below the longed-for goal.

A short knife-edged snow arête, where toes and heels projected over either side, led to the inevitable cornices. The first, a small one, projected towards the N.; but the rest, in contrast to those of the other ridges, turned in the opposite direction, until near the top, where they reversed again. This fact alone prevented the abandonment of the undertaking. Hitherto the side on which the snow traverses had been made was that which rose without a break from the great glacier-laden valley, into which a slip or avalanche would inevitably have hurled us from a height of many thousand feet. As far as the E. peak was concerned, there was, it must be confessed, but little choice, as either precipice would have been equally effective; but the snow had been solid almost everywhere, and the few treacherous places were in gullies or over patches of small extent, with good holds at both extremities.

Now all was changed. The slope, broken at first by a few projecting rocks, later became as steep as would permit of snow remaining, and the spotless curtain swept down for more than 1,000 ft. to the pure glacier below. The angle did not constitute the danger; the other snows had been almost, if not quite, as steep, though not for so great a distance. But the entire character of the snow was altered. The northern side had been in shade and hardened by an icy wind. This southern slope was soft, sun-exposed, and treacherous. At nearly every step the leader took, a slab of crust, no bigger than one's hand, would break away, and, sizzling downward with an ominous hiss, carve in the loose snow a little trench, which scarcely 20 ft. away had grown to 18 in. wide and 6 or 8 in. depth; then, gathering force as ton on ton of powdery snow pours like finest desert sand from the caving sides, the hiss becomes a roar, and wave after wave of foaming avalanche thunders on the glacier below.

These little avalanches were somewhat disquieting. Two on a 60-ft. rope is not the best style of party for such a kind of business; and, had the drop been to the northern side, 8,000 ft. in height, no hesitation would have been shown in beating a prompt retreat. But the cornice-forming powers had been propitious, and opened up a possible way of access



Photo by J. Outram.

MOUNT BRYCE.

[Swan Electric Engraving Co.]

to the well-guarded summit, by reversing them and leaving only a minor slide on to a close and ample glacier as the penalty of any *contretemps*. Moreover, an absolutely impassable series of cliffs had turned us back two days before on another mountain (climbed later by another route), and two defeats in succession were not at all to our taste, particularly as we knew of no alternative approach to the summit of Mt. Bryce, now so close at hand.

So, as in the case of the cliff earlier in the day, we determined to try, so long as there was good reason to believe success was possible. My confidence in Kaufmann's skill and caution was implicit; and though I know he did not think the two of us alone a really strong enough party under such conditions to be free from a certain amount of risk, and, in a moment of confession after we were back in camp, vouchsafed the information that, *à propos* of someone's christening of an arête once traversed in Switzerland, perhaps the name 'Zweieselgrat' might not be inappropriate for the final ridge of Bryce, he *said* it was all right for us, and scouted the idea of danger. Nevertheless, neither of us would tackle it again without at least three first-class climbers and 100 ft. of rope.

Each step was taken with the utmost care, solidly trodden, and then the other foot brought to the same resting-place, and another cat-like advance made, face inwards, and but one axe-hole permitted for the two. It was intensely slow, and rather exciting, progress, but achieved without any approach to a mishap, every possible precaution being taken not only to avoid, but to be ready in the event of a break away. When this style of work came to an end, a few moments on delightfully solid rock prepared us for another of the troublesome bits of snow-wall, which were quite a feature of the mountain. A good solid position for the hinder man obviated all danger, though the difficulty was very great. A tiny soft snow-ledge at the head of an abrupt gully had to be traversed under a dripping cornice; the snow bulged out shoulder-high, and we were forced to crouch low to avoid losing our equilibrium: on the far side a straight up wall confronted us. It was no more than 10 or 12 ft. high, but its consistency was of the loosest, and each attempt to plant a foot upon it caused the snow to pour down like water. Time after time Kaufmann struggled to obtain a footing; but it was long ere a sufficient staircase was by patience and hard work trodden firmly enough to enable him to plant his axe securely at the top and draw himself on to the firmer, more level snow above.

Thenceforward all was easy to the summit. The strange

jumble of broken ice that we had marked with apprehension in our reconnaissance was marvellous, but contained no real obstacle. A mass of glacier clung to the northern flank of the topmost crest, a chaos of séracs, great schrunds, and lofty towers of ice, crowning the precipices that rose in majesty 8,000 ft. above the thickly wooded valley at their base. The snow was hard here, and, threading our way round and across crevasses, we clambered joyfully up the final steep, broke through a little cornice, and emerged at last upon the very summit.

The clouds, that all day long had threatened to obscure the view, thought better of it, and had lifted from our peak, and almost all in the wide sea of mountains stretched around us. From our small platform—a white flattened dome, with tremendous drops in all directions except the ridge of our approach—the panorama was magnificent; but, owing to the lateness of the hour, little time could be permitted for the camera and sextant. Exactly 11 hrs. had been occupied in the ascent of some 4,800 ft., and, the distance traversed being assuredly not excessive, the time gives a fair notion of the difficulties involved, for there were only two on the rope, and those two not specially noted for the slowness of their movements. The altitude I judge to be approximately 11,800 ft., slightly lower than Mt. Lyell and Mt. Athabasca, which appear to me to yield in elevation only to Mt. Columbia, Mt. Forbes, and the White Twin (and possibly Mt. Alberta), amongst the peaks of the great group of mountains of this region.

In about half an hour, having planted a Union Jack on the top, according to my custom, our faces were turned reluctantly (as far as I was concerned) from this vast expanse of splendid mountain scenery, and the return journey was commenced at ten minutes after four. Of necessity the line of route was by the footprints of the ascent; no other gave any prospect of return at all. Fortunately the sun had left the southern slope, the evening chill was every moment hardening the snow, and with these improved conditions the perils were almost wholly obviated. Still, there was no room for any lack of caution until the gap was reached in $1\frac{1}{4}$ hr. Then a welcome release from nerve strain was granted by the glacier, where the snow was deep and some crevasses had to be carefully approached, avoided, or traversed; but the tension was relaxed, in 20 mins. the lowest point was gained, and a strenuous pull up the steep to the E. peak at a good pace landed us on that rocky little summit at 6.20.

Only 5 mins. for breath and a bite of chocolate were here allowed, for the sun had set, and we were still over 11,000 ft. above the sea, with many a difficulty and a considerable distance between us and our forlorn little bivouac on Thompson Pass. The going was now much easier on the snow-slopes, and, of course, no steps had to be cut, so we arrived at the top of the rock section by 7 o'clock, and shortly after stood at the edge of the well and oft remembered 70 ft. of cliff, just as it became properly dark.

Then the problem of procedure was discussed. On the one hand the risk of a descent was considerable; by daylight it had almost sufficed to make us decide against its feasibility; now, though a full moon was in existence, her light was so obscured by heavy clouds that only a faint glimmer resulted, and could be of scarcely any service in the climb. On the other side was the argument of an icy wind, blowing with keen insistence; saturated boots, certain to be frozen solid ere morning, with possibly the feet inside; an altitude of at least 10,000 ft.; not a particle of shelter, for the edge of the arête was all our practicable territory, and any descent even for a few feet upon the southern protected side was utterly impossible; moreover, our food was almost at an end.

I left the verdict to Christian unreservedly, though laying stress rather upon the danger of advance, for all the risk was his. To me, going down first, the moral support of the rope was enormous, and the physical support in the event of a slip or breaking hold would be assured, as it would have been quite possible for Kaufmann to have lowered me down entirely. But for him, even when I got anchored firmly at the base, a fall must have carried him twice the rope's length to cruel broken rocks, and been fatal. He elected, nevertheless, to make the attempt, and in a few moments I was working my way slowly and painfully in the numbing wind, down the smooth and treacherous face. It was an eerie sensation, even though knowing that at the slightest suspicion of anything wrong the rope would instantly tighten in the strong grip of my watchful guide. The remembrance is still vivid of the blind feeling for the scanty holds with chilly fingers, the wildly helpless waving of the feet in the dim depths for something on which to rest for the next search, the agonising hopes and fears as to their stability when found, the sickening 'emptiness' that seemed to come with the 'give' of the treasured footing and the sound of its fall reverberating as it leapt into the blackness of 7,000 ft. of night.

When about 15 ft. from the security of the solid though

tiny platform at the base, the rope gave out, and I had to find as firm a set of holds as possible, whilst awaiting in the darkness the tedious descent of Kaufmann, till he bade me move again. Then on once more to the welcome ledge, where I crouched behind a massive rock and hauled in the ever-lengthening slack, prepared for the sudden crash that might at any moment come, however hoped and prayed against. My heart grew lighter as foot by foot the rope came in and Kaufmann's clinging form appeared through the gloom, clearer and closer, until he stood in safety at my side. A nip of cognac was most valuable to our cold, fatigued, and hungry frames, and on we went, deeming it better to keep poking on in the half light than seek a shelter amongst the rocks.

At 10 o'clock we emerged from the dark cliffs on to the névé at the foot of the mountain proper, and, after a much needed rest for 10 mins., faced the concluding portion of the journey. Rather than descend the slabby rocks to the Bryce glacier, which was badly crevassed under its covering of soft snow, we decided to cross the minor peak up the flank of which we had ascended in the morning, and, swinging round, descend by an easier glacier beyond. Uphill work, even on a small scale, was trying to our wearied limbs, and then we found things worse than we expected. One very steep and narrow ridge of hardened snow, garnished with a cornice, proved very disagreeable in the feeble light; it had to be negotiated face inwards, but fortunately it was just possible by vigorous and repeated kicks to make sufficient steps, and ere long we were hastening over the rough névé of the glacier below, staggering wildly under the combination of uneven surface and exhausted limbs.

Solid earth was reached exactly at midnight, the rope at length cast off, and we stumbled on through heather and dwarf spruce, over boulders, scree, and shale, until the Pass appeared. A few minutes later the little group of trees that sheltered our bivouac was sighted, and soon we flung ourselves down to get a brief rest after about 20½ hrs. of almost constant going.

Nothing but chocolate had been our sustenance since noon, and now, alas! cold water was the only beverage procurable, and our 1 A.M. supper of dry bannock and meat jelly had no better accompaniment. Under the circumstances, we started again at daylight, tramped down to the camp, where we arrived at 6 o'clock, and set to work at once to get a fire and a hot breakfast—soup and tea and other luxuries—which made us forget our toils and trials; and when our packers

came with the horses at 10 to begin the homeward march to civilisation, we were ourselves again, triumphant at the conquest of a splendid peak, ready for the next that called for subjugation, and filled with so great respect for good Mt. Bryce that we shall never tackle him again two on a rope.

A MONTH'S HOLIDAY IN THE MOUNT COOK DISTRICT,
NEW ZEALAND.

BY CLAUDE A. MACDONALD.

I HAD hoped to be in Europe for the season of 1903, but terrible bush fires followed by a disastrous drought made it impossible; and when, after a long period of hard work and mental worry, a holiday was absolutely necessary, my wife and I started to spend a couple of months among the glaciers of New Zealand.

Your readers do not often get articles on these regions, so I send you an account of our holiday, a most enjoyable one, though on my chief expedition I had to turn back when victory seemed well within my grasp.

The Southern Alps are easily reached: a voyage of five days by steamer from Melbourne lands you at Dunedin, and the *Moeraki*, by which we travelled, is as replete with every comfort as any large ocean-going mail steamer. After eight hours by train to Fairlie Creek, the remaining 96 miles have to be negotiated by coach. I engaged a large waggonette, and with three excellent horses we found the two days' trip quite a comfortable one, the roads being by no means bad and the views all the way superb. Lake Tekapo, the first stopping-place for lunch, is a beautiful sheet of water backed by high mountains, and of a lovely turquoise blue colour; while Lake Pukaki, at the end of which the first night is spent, is even grander and wilder. The background here is formed by Mount Cook itself, 50 miles off, at the far end of the lake, and by its surrounding peaks. Next day Lake Pukaki is skirted the whole way, and the panorama as it unfolds itself on approaching the Hermitage is magnificent.

The Hermitage Hotel is well situated, nestling under the snows and cliffs of Mount Sefton (10,359 ft.) and at the junction of three enormous glaciers—the Tasman (about 19 miles), the Hooker and the Mueller (each about 8 miles long). For moderate walkers or first-class mountaineers alike it is a splendid place for a holiday; the great drawback is the distance one's peak is away and the necessity of making