

Greg 145.7  
(Potomak)

# THE MOUNTAINEER

VOL. I.

NOS. 1, 2, 3, 4.



SEATTLE, WASHINGTON

1907-1908



# THE MOUNTAINEER

VOL. I.

NOS. 1, 2, 3, 4.



SEATTLE, WASHINGTON

1907-1908

# The Mountaineer

E. L. HAMPTON, Editor.

---

Application made for entry at the Seattle postoffice as mail matter of the second class.

Subscription price, One Dollar the year. Single numbers Twenty-five Cents.

---

VOL. 1.

MARCH, 1907.

NO. 1.

---

## CONTENTS:

FRONTISPIECE. <i>Olympic Mountains.</i>	
FOREWORD BY THE PRESIDENT.....	HENRY LANDES, State Geologist
THE MOUNTAINS OF <del>WASHINGTON</del> .....	
.....	W. D. LYMAN, Professor of History and Political Science, Whitman College
BIRDS OF THE HIGH CASCADES.....	DR. WILLIAM LEON DAWSON
ASCENT OF MT. OLYMPUS.....	G. W. HUMES
ANNALS OF THE HISTORIAN.	
THE MOUNTAINEERS OF 1906-7.	
CONSTITUTION AND BY-LAWS.	
BOARD OF DIRECTORS.	
OFFICERS.	
COMMITTEES.	
CHARTER MEMBERS.	

## OFFICERS.

PRESIDENT.....	HENRY LANDES, <i>Professor of Geology and Mineralogy, University of Washington</i>
VICE-PRESIDENT.....	DR. J. F. SWEENEY, <i>Member Mazamas</i>
SECRETARY.....	DR. CORA SMITH EATON, <i>Member Sierra Club</i>
TREASURER.....	DR. E. F. STEVENS, <i>Member Mazamas</i>
HISTORIAN.....	MARY BANKS, <i>Reference Librarian, Seattle Public Library</i>

## BOARD OF DIRECTORS.

MARY BANKS	HENRY LANDES
ASAHEL CURTIS	W. MONTELIUS PRICE
CORA SMITH EATON	E. F. STEVENS
E. L. HAMPTON	J. P. SWEENEY
	E. WELDON YOUNG

## COMMITTEES.

<i>Program.</i>	<i>Outing.</i>
Prof. Theodore C. Frye	Mr. Asahel Curtis, Chairman
Miss Alida J. Bigelow	Dr. Cora Smith Eaton
	Mr. W. M. Price
<i>House.</i>	<i>Publishing.</i>
Miss Joe I. Kincaid	Mr. E. L. Hampton, Chairman
Mrs. E. F. Stevens	Miss Adelaide L. Pollock
Miss Anna ...a	Miss Mary Banks
Miss Daisy Lane	



**MOUNT RAINIER.**

**Altitude 14,526 feet. First ascended by Geo. H. Stevens and T. E. Van Trump, August, 1870.**

# THE MOUNTAINEER

VOL. 1

MARCH, 1907

No. 1

## Foreword

**T**HE MOUNTAINEERS is an association of kindred spirits who love the out-of-doors and to whom the wildwood, the flowery mead and the mountain fastness afford a rest, a solace, and an inspiration. The mountains contain Nature's mightiest workshop, where there is ever wrought a titanic struggle between the forces of fire and those of water; between vulcanism and upheaval, and the chiseling or sculpturing action of ice and running water. In this workshop there is fashioned our grandest scenery, and we need travel but a day's journey into our mountains to find Nature at her best. After drinking to the full of the pure joy, thorough rest, and good health of the mountains, and we again descend to the plains to begin with hand and brain the old routine of life, we understand better than ever the song of David, "I will lift up mine eyes unto the hills, from whence cometh my help."

The purposes of the organization are set forth in the Constitution of the Mountaineers. It hopes to render a public service in the battle to preserve our natural scenery from wanton destruction, and yet make our spots of supremest beauty accessible to the largest number of mountain lovers. Meetings are held monthly at which addresses are given upon some phase of mountain study; one-day and two-day excursions are taken to the nearest points of interest; it is planned to spend from two to five weeks each summer in an extended study of some little known mountain region; a periodical is published known as the "Mountaineer."

The "Mountaineer" is a quarterly journal devoted to the interests of all devotees of the mountains. It offers no apology for its appearance, since this is the era of printer's ink, and its purpose will be to tell the stories of our journeys afield, the exploration of our unknown mountains, the ascents of our high peaks, the results of our scientific studies, and to preserve in a permanent form our best results in mountain photography. The publication of this journal is undertaken in order that those matters of large interest that pertain to our mountains may be placed in durable form and made accessible to all persons interested in such things. It is in no sense a commercial enterprise and but little advertising matter will be permitted in each issue. It is the plan to devote the first number of the present year to details concerning the organization of the Mountaineers and to general articles; the second number to desirable information regarding the Olympic Mountains, in advance of the summer outing; the third and fourth numbers to stories of the Olympic outing, the results of the geographic and geologic explorations, and the new information concerning the flora and fauna of that little known region.

HENRY LANDES,  
President of the Mountaineers.



**MOUNT ADAMS.**  
**Altitude 12,470 feet. First ascended in 1864.**

# The Mountains of Washington

By W. D. LYMAN

Professor of History and Political Science, Whitman College

“A LAND of old upheaven from the abyss”; a land of deepest depths and highest heights; of richest verdure and barest desolation; of thickest forests and most open prairie; a land of contrasts in contour, in hues, in production, in history;—such is this great state of ours, of whose capacities and attractions we are so well convinced, of whose history we are so proud, and of whose great future we are so certain.

Where all the physical features are remarkable, we may be almost pardoned for falling into the language of extravagance and passing beyond the bounds of seeming sober truth. Particularly when we undertake to encompass in a few pages a general description of the mountains of Washington.

Take a map and you will find the mountain systems of the state reducible to a comparatively simple grouping. There is one great chain, the Cascades, with many spurs, running a north and south course directly through the state, dividing it approximately into a western third, a soft, humid, densely forested region; and an eastern two-thirds, open, dry, clear and breezy. The western side of this great range is almost one bold, continuous rampart facing the ocean. On the eastern side there are many spurs, running east and west and dividing the region between the Columbia River and the Cascade Mountains into valleys through which impetuous rivers take their way. The chief of these spurs are, beginning on the south, the Simcoe, the Peshastin, the Wenatchee, the Chelan, the Methow, and the Okanogan. Besides this great Cascade

chain, the most distinct topographical feature of the state, there are two other great regions of uplift at nearly opposite corners of the state, The Olympics at the northwest and the Blues at the southeast. Both the Olympics and the Blues are great knots or ganglionic bunches of mountains rather than chains.

At the present stage of investigation, the geological history of our mountains cannot be wholly affirmed. It constitutes one of the most interesting problems for the scientific students of our state. In general terms it may be said that the Cascades consist of a core of granite and metamorphic rocks overlaid in places by enormous outflows of volcanic matter. Fire and frost and flood, those great architects, have wrought on a stupendous scale the framework of this somber, mysterious, sublime chain of mountains.

It was a favorite idea with the late lamented Prof. Condon, of Oregon, the most thorough student of our geology, that the Pacific Northwest was a development of “Two Islands.” One of these was the nucleus of the Siskiyou Mountains and thence northward in Oregon, and the other the nucleus of the Blue Mountains in Oregon and Washington. There is reason to believe that to Prof. Condon’s Two Islands we might add a third which was probably in the vicinity of Chelan. From that as a center it would seem that the granite masses of the northern part of the Cascade Range slowly rose from the ancient sea. As its surface expanded with passing eons of time, the internal fires burst forth with elemental fury and stupendous outflows of basalt, andesite, and

## THE MOUNTAINEER.

other forms of volcanic rock covered the earlier formations, rising in places to the magnificent isolated cones which now compose our great snow-peaks, of which it is the main purpose of this article to speak.

After the age of fire there came on an age of ice. The great mountain chain having by successive upheavals assumed essentially its present outlines, the glacial age covered the ragged crests and pinnacles of dis-

there was one of flood. It would seem that the slowly rising Cascade Range imprisoned a vast sea, occupying all the middle parts of the present Columbia Valley. This sea, first salt, then brackish, finally fresh through the influx of rivers, at last cleft the range asunder and made its way to the ocean. The Columbia River now occupies the channel made by the excavation of that great sea. The fantastic Indian myth of Wish-



**SUMMIT OF MOUNT BAKER.**

Altitude 10,827 feet. Summit first reached by E. T. Coleman 1868.

located granite and intruding lava with sheets of ice many times greater than any now in existence here and comparable to those of Greenland in magnitude. Those immense masses of ice moving toward the lowlands planed off the crags and plowed out the valleys, leaving the profound chasms and abysmal lake beds of Methow and Chelan and other marvels of the Cascade range.

Besides the eras of fire and ice

poosh, the great beaver of Lake Kichelos, seems to be based on that idea of a flood and at the same time explains the origin of the Indian tribes. According to that tale the beaver inhabited that lake, now the head of the Yakima River, but a lake vastly larger than now. Enraged by the theft of Speelyi, the coyote god of the Klickitats (though that was before any Indians lived, the world being inhabited solely by

the "Wateetash"). Wishpoosh killed and devoured all the animals in the lake and tore out the lake walls till the accumulated waters flowed down by successive stages to the wide plain now lying about the junction of the Snake and Columbia Rivers. An immense sea was there held in check by the Umatilla highlands, but that was finally gnawed through by the monster, and then the accumulated waters covered all the vast region from the Pasco plains to the vicinity of The Dalles. For a long time the towering ramparts of the Cascades restrained the sea, but the onslaughts of Wishpoosh sufficed at last to part the barrier and the torrents poured through the cleft, never pausing till they lost themselves in the Pacific. But even here the infuriated Wishpoosh still killed and devoured all life, fish and whales and birds. Speelyi seeing that it devolved on him to stay the fury of the monster, flew out on the ocean armed with supernatural weapons, and after a desperate struggle killed Wishpoosh, whose carcass floated up on Clatsop beach, stretched out many yards upon the sand. Out of the carcass Speelyi made the various Indian tribes. Thus was the great Columbia Valley drained, the river taking its way through the pathway of Wishpoosh, and thus were the native tribes started upon life. This and other Indian tales are well confirmed by the present traces of past events.

More interesting to Mazamas and Mountaineers will be a brief panoramic view of the great isolated peaks, which, based upon the broad floor of the ancient granite axis that "in the beginning rose out of chaos," were upheaved by the irresistible energy of internal heat to the stately height where they commune with the stars. Few, indeed it may be questioned whether any elsewhere in the world, have so rich and varied a bestowal of sublimities in mountain scenery as have we in this same good

state of Washington. Easily accessible their tablets of stone the open record of geologic eras, garlanded with flowery meads and parks, offering infinite opportunities to the climber, yet without any serious dangers, these mighty sentinels of rock and ice become to us living beings, primeval deities, gods of the elemental world, each of whom we might imagine to join the sublime song of the Earth-spirit in Faust, which Goethe imagines to sing:

"Thus at Time's humming loom  
'tis my hand prepares  
The garment of light that the  
Deity wears."

If we could fly with the sun, and pass along the entire line in a succession of days without weariness or delay, we might catch the marvelous succession of views round the circumference of each and give perfect descriptions of all. As it is, any attempted description is fragmentary and inadequate. But as may be possible, let us briefly describe each of our Sacred Mountains in location and essential features.

Taking our starting point at the northern boundary, we find ourselves first of all at the foot of Baker or Kulshan. And before saying a word of the peak itself, we cannot forbear a glance at the sad blunder by which the commonplace appellations of a job lot of British sailors and admirals and diplomats became foisted upon the glorious objects of our state, such as Baker, Puget, etc., etc. See how the sonorous and poetical native name Kulshan, the great white watcher, puts to shame the cheap and absolutely insignificant name of Baker.

It is enough to make one with any poetry in him rebel to think that the world will go on forever saying Baker, when the sonorous Kulshan, Great White Watcher, might be rolling off the tongues of coming generations.

Now it is as much as the writer's life is worth to make the suggestion in a Seattle publication, but it is his solemn conviction (it is even a matter of ethics, morality, and religion with him) that the same mistake exists in regard to the name of our great king mountain. Rainier was an insignificant English naval officer and his name was attached to the sublimest object on the American continent by the doughty and self-opinionated Briton Vancouver, with true British conceit. Tacoma, or rather Tahoma, was the Puyallup name from immemorial time, meaning, according to some, the mountain, the Supreme Mountain, and according to others, the breast of the milk-white waters.

We would venture to ask if it would not be a fine thing for the Mountaineers to consider seriously an attempt to restore these beautiful and significant native names thrust aside by the first explorers. Those beautiful names, Seattle, Tacoma, Spokane, Walla Walla, Yakima, Snoqualmie, Chelan, Olequa, Cowlitz, Multnomah! The more of them we can keep the better.

But please pardon this long digression, drawn on by one of the writer's favorite hobbies.

We find ourselves at the foot of Kulshan, the scene of the last climb of the Mazamas. This mountain, though only the third, possibly only the fourth in elevation of our great peaks, is considered the hardest of all to climb. It is certainly one of the most magnificent in appearance, with its peculiar spotlessness of snowy shrouds and its commanding location, within the range of all vision upon the lower Sound. But the dense forests, the craggy and irregular ridges out of which the summit rises, and the almost perpendicular declivities which guard it as a sacred shrine, combine to render it the most difficult and dangerous of the great peaks. As a consequence

the Mazamas made but a partial success of the climb of 1906, and those who did attain the longed-for height describe it as having been a perilous experience. Baker is somewhat remarkable for the great snow-fall, and its appearance from the wide expanses of the Gulf of Georgia or any of the exquisite islands of the San Juan group is striking and magnificent. It seems far in excess of its accepted elevation of 10,600 feet.

Near Baker (Kulshan, I prefer to say), on the east is the bold crag of Shuksan, not equal in height or snow fall, yet one of the steepest and most picturesque of all the wintry brotherhood. So far as we know the first and only ascent of this mountain was made in the summer of 1906 by Ashabel Curtis and W. Montelius Price.

Between Shuksan and Glacier Peak is a perfect wilderness of serrated peaks, more numerous than anywhere else in the entire range. Here, too, are more glaciers than in all the rest of the United States, aside from Alaska, put together. Along Thunder Creek, the Suiattle, the Skagit, the Stehekin, and the Methow, are the mightiest masterpieces of mountain, lake, canyon, river, and cataract scenery in the entire state. Here are Horseshoe Basin, Agnes Canyon, and North Star Park. Here is Chelan, "beautiful water," the diamond setting of the stupendous circlet of the granitic and volcanic hills. Most of the snowy peaks in that vast sweep of mountains are nameless, yet such is their number that I have been told by a miner that from one of the loftiest he had counted two hundred distinct snow mountains. The general elevation is about eight or nine thousand feet.

The finest peaks are Glacier Peak, Mt. Sahale, Bonanza Peak, North Star Mountain, Agnes Mountain and Castle Peak. These are about ten thousand feet high, though Glacier Peak rises eight hundred feet higher.

It is indeed higher in appearance than that. From that thrilling and significant spot, Cloudy Pass, the steep cone of Glacier Peak, girt with glaciers, seems to surpass any other peak of the state, except the great king-peak of all, Rainier-Tacoma, and almost rivals him.

Glacier Peak, with Lake Chelan, North Star Park, Agnes Canyon, and Cloudy Pass, affords the most varied and magnificent outing ground that I have ever seen, and it is to be commended to the Mountaineers as a suitable place for an outing. Glacier Peak has never been climbed so far as I know, except by a party of scientists under Prof. Russell some years ago, by a company of miners whose names I do not know, and by Mr. C. E. Rusk of Chelan with a single companion, last summer.

The next great peak south of the Chelan group is Mt. Stewart, the most conspicuous height of the Peshastin Spur. It presents a superb aiguilleted appearance from Ellensburg and points adjacent, and is nearly 10,000 feet high. It has been ascended, but I can not now state at what dates or by what parties other than by members of the U. S. Geological Survey. With its commanding location, the long line of the great Cascades visible to the west, the Chelan peaks to the north, and the vast plains of the Yakima and the maze of hills and valleys of the Wenatchee to the east and south, with the charming lakes at the head of each of those streams, Mt. Stewart would offer also every mountain attraction to a group of ambitious climbers. It is easily reached from the Great Northern Railway at Leavenworth.

South of Mt. Stewart the character of the mountains undergoes a change. The formation becomes mainly volcanic, with frequent exposures of granite and porphyry, burst asunder by the intrusions of molten matter from below. The general elevation

also is much less, and but rarely there is afforded the spire-like crags and stupendous canons characteristic of stupendous canyons characteristic of gions. As a compensation for this general diminution in height and rugged grandeur, the two greatest and grandest of the peaks of Washington rear their stately and solemn magnificence over this tamer portion of the chain. These are Rainier-Tacoma and Adams. Making with these two a vast triangle is the lesser, but most exquisitely beautiful St. Helens, perhaps for pure beauty the finest specimen of all our unrivalled peaks. Heights have been variously given, but we may probably give the first at 14,520, the second at 12,534, the third at 9,850.

Rainier and Adams have been so many times visited and described as to make extended description unnecessary here, as also language becomes so inadequate to describe their aggregations of charms and attractions of every sort. One who has rounded Gibraltar Rock on Rainier and stood on Columbia's Crest amid the fierce eddies of elemental winds; or one who has stood in front of the awful rampart of snow and ice and rock with which the Klickitat precipice on Adams faces the sunrise, or has gazed down its sheer glistening declivities from above, nearly a mile of almost perpendicular distance, feels almost as though he had participated with the creator in viewing the earth at some time when the "morning stars sang together and all the sons of God shouted for joy." One knows then the glory of the mountaineer, the unappeasable thirst for quaffing from the fountains of grandeur amid the eternal solitudes, the fierce wanderlust of the primeval heart, the gypsy craving for the outdoors, the restless impulse to cast off conventionalities and become a part of those volcanic forces, those thunder gods, that smote the original chaos into form.

Mt. Rainier-Tacoma (I am certain to get into trouble whichever way I pronounce it. Would it not be well to call it the "Nameless One," the "I am" of mountains) is the world's grandest peak. Of course Himalayas and Andes and a few Alpine peaks are absolutely higher, but "globetrotters" tell us that no other single isolated peak with so much elevation immediately above the observer can be seen from sea-level.

What Milton is to poets, what Webster is to orators, what Wagner is to musicians, what Hannibal is to warriors, what St. Peter's is to churches, what the Columbia is to rivers, what Sirius is to the stars,—such is our great king-peak to mountains, the symbol of all that is majestic, elemental, mysterious, sublime.

We might paraphrase Byron's fine verses on Mt. Blanc thus:

"Tahoma is monarch of mountains.  
They crowned him long ago.  
With earthquake shock, on throne  
of rock,  
And diadem of snow."

Though the most elevated, most difficult and dangerous of all our great peaks, (unless we except the special dangers of Kulshan) Rainier has been often ascended and by several large parties. Never but once has there been a serious accident, the time of the lamented death of Prof. McClure.

Mt. Adams is a worthy brother of Mt. Rainier. Though two thousand feet less in height, it has one scene, the great Klickitat glacier and precipice on the east side, which cannot be matched by any one scene on the greater peak. Its parks and ice-caves are marvelous in beauty and interest.

St. Helens is not so easily reached, nor hardly so interesting when reached, its special charm lying in its exquisite symmetry and beauty as seen at many points on the lower Columbia.

The Indian names of Adams and St. Helens are Klickitat and Loowit. The origin of these names is found in a quaint story of the Indians as follows:

Long ago there was a Tomanous bridge where the Cascades of the Columbia now are. There a witch-woman named Loowit kept the sacred fire, commissioned for the purpose by Sahale. Now the Indians of that time had no fire and were so poor and wretched that Loowit greatly pitied them. She besought Sahale that he would let her give them some of the precious fire. He granted the request and they were able to cook and make huts and canoes and bows and arrows and spears; they became happier and richer, and joy reigned through all the land of the Columbia. But Sahale was so pleased with the faithfulness and benevolence of Loowit that he told her she might choose any favor and he would grant it. She therefore chose to be transformed from a wrinkled old witch into a beautiful young girl.

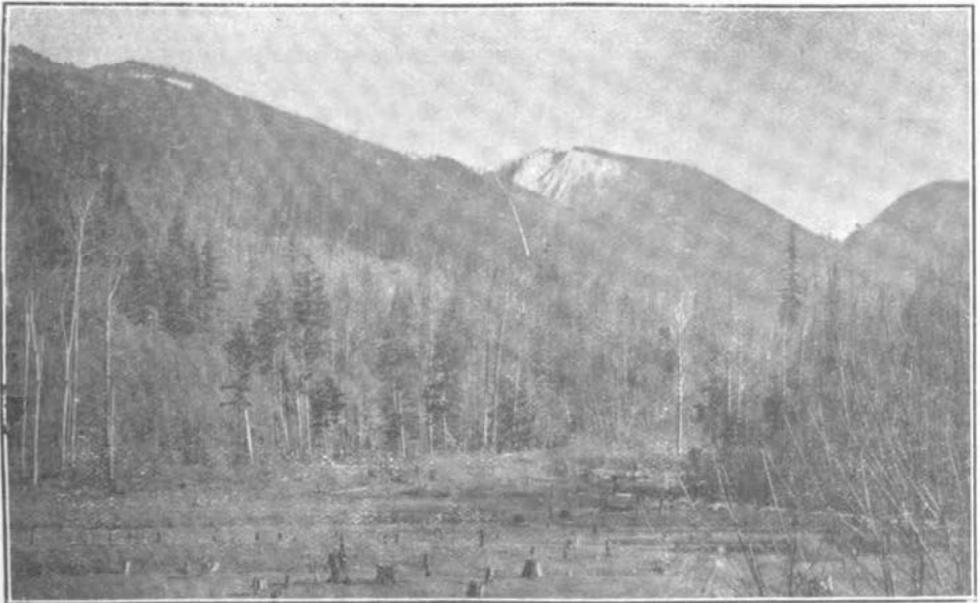
It was done. But now troubles came thick and fast. All the chiefs fell in love with the beautiful Loowit.

Dissensions followed. Loowit cared for none but two, one from the south of the great river named Wiyeast, and the other from the north named Klickitat.

She could not decide between these two. So in angry rivalry they led their warriors to battle and each burned the villages and canoes and forests of the other. Everything was wretched and miserable. Sahale was sorry that he had granted the sacred fire and turned Loowit into a beautiful girl. So he lifted his heavy hand and smote the Tomanous bridge so that it fell into the river, and then he struck dead Loowit and her two lovers. So no longer could one tribe or the other cross the bridge from north to south and the river was

clammed with the great blocks of the bridge. But though Sahale had thus made an end of Loowit and the rival chiefs he still loved them, and where each one fell he reared a mighty peak as a mark; for Loowit what we now call Mt. St. Helens, for Klickitat what we now call Adams, and for Wiyeast what we name Hood. Such

high over all, triple-crowned, lined and ridged with the battles of ages, majestic with the serenity of eternity, glowing in the rich roseate hues of the departing sun, the "great white peak, the fountain-breast of Milk White Waters."—he bows to the earth and involuntarily communes with the immortal and invin-



Camping site of the Mountaineers, during their forthcoming ascent of Mount Olympus.

was the origin of the three peaks.

As from an island in Puget Sound on a clear day just after sunset one gazes eastward and sees the long line of sentinel snow peaks, St. Helens the beautiful dimly on the south, Adams just rising above the forest southeastward, Kulshan clear-cut and glistening white toward the north, a glittering cone in the center showing where Glacier Peak lords it over the wilderness of Borean monarchs, and then right in the center,

cible. One wishes that he might take the wings of the morning and fly from peak to peak and build a shrine on each with the first beams of the sun. But poor slow human creatures that we are, we must slowly and painfully climb, step by step.

But it is well. We touch the sacred heights with our feet, and Antaeus-like draw their might at every step. And there they will wait for us.

For best and grandest about our mountains, they can wait.

# Birds of the High Cascades

By WILLIAM LEON DAWSON

THE shape of a mountain, be it conical or roughly pyramidal, is symbolic of the attitude of men thereto; and as the area of its apex is to its base, so is the number of the elect who dare or care to stand on its summit, to the multitude at the bottom who do not. In like manner we shall scarcely expect to find the birds vying for the honors of the peak, altho the gratification of such a whim would be for them comparatively easy. Rather are their haunts and habits dictated to them by the stern necessities of food-finding, and since few birds may subsist on souvenir flint flakes and scenery alone, they follow the ascending altitudes in rapidly descending ratio.

But to compensate for the decreasing bird-life there is an improvement in quality, which the student of analogies cannot but note with satisfaction. Quality may appear at first thought a vague or presumptuous term to use as a basis of classification in bird life, but the illustration will justify the word. In the matter of song, for example, four of our choicest Washington singers, the Water Ouzel, the Sierra Hermit Thrush, the Slate-colored Sparrow, and the Townsend Solitaire, are to be found exclusively or at their best in the mountains.

In speaking of the high Cascades, one excludes the volcanoes. Rainier, Baker, and the rest, for they are independent members and are each worthy of special study; yet it is but fair to say in passing that each substantially reproduces the conditions which obtain in the higher parts of the main range. In like manner I cannot assume to speak accurately of the southern half of the Cascade

Range in Washington, for the peaks in this section do not attain the heights which prevail in the vicinity of Glacier Peak and in the areas to northward. The northern mountains are therefore the High Cascades par excellence and it is to this region that the bird notes gathered below most strictly apply.

Logically one should begin at the bottom, but because the birds of the valley are legion, and because it is difficult to draw a line of demarcation between lowland and mountain species, we shall follow the reverse order and stop on the descent at about the point where we begin to feel again the bewildering complexity of every-day life.

There is room at the top of every mountain, but some of our Cascade aiguilles, Mt. Sahale, for instance, are sharp enough to recall the moot point of scholastic debate, viz., How many angels can dance on the point of a needle? One man at a time may stand over the pinnacle, but to attain this point he has displaced the presiding genius of all unscaled peaks, the Hepburn Leucosticte (*Leucosticte tephrocotis littoralis*), from his favorite perch. Here is the patron saint of Mountaineers! He alone of all creatures is at home on the heights, and he is not even dependent upon the scanty vegetation which follows the retreating snows, since he is able to wrest a living from the very glaciers. Abysses do not appal him, nor do the flower-strewn meadows of the lesser heights alienate his snow-centered affections.

The Leucosticte, or Rosy Finch, is only a little longer than a Song Sparrow, but appears considerably larger by reason of its full plumage. It is

clad in a warm coat of chocolate-brown, with much edging of rich rose-red upon the wings and hinder parts; while the feathers of the foreparts and back have irregular whitish and grayish edgings (whence the name, rather inapropos, meaning varied by white). Moreover, as an extra precaution, this boreal bird wears an ashy gray hood coming well down on the sides of the head.

Looking out on the chilly wilderness of snow-clad peaks which confronts *Leucosticte* upon an early day in June, one wonders what he sees to justify the assumption of family cares. Save for a few dripping south exposures of inhospitable rock, there is nothing visible which affords promise of food unless it be the snow itself. And when one sees a little company of them moving about demurely upon the face of a choppy snowdrift pecking at the surface here and there, he begins to entertain an uncanny suspicion that the bird does eat snow. Closer examination, however, shows that the surface of all snow banks, not freshly covered, is sprinkled with insects, insects which the spring gales have swept up to uncongenial heights and dropped benumbed or dead with cold. These battered waifs the *Leucostictes* gather with untiring patience, and they are thus able to subsist, as no other species can, up to the very summits.

The nest of the Hepburn *Leucosticte* has not yet been taken, but Mr. D. E. Brown found them scooping hollows under grass tussocks on the middle slopes of Baker, above timber line, on the 7th of June, 1905. On the 20th of July, 1900, Professor Lynds Jones and myself found a thick-walled grass nest settled upon the bare rock on the south slope of the aiguille of Wright's Peak, at an elevation of some 9,000 feet, and within a hundred yards of the summit; and this could hardly have be-

longed to any other species.

When mountain birds are spoken of, doubtless the image of the White-tailed Ptarmigan (*Lagopus leucurus*) comes early to mind. These gentle creatures range by choice somewhat above timber line in summer, but descend far below it, (as do also the *Leucostictes*), in winter. Their winter plumage is pure white, but their



A slope of Mount Baker.



THE OL

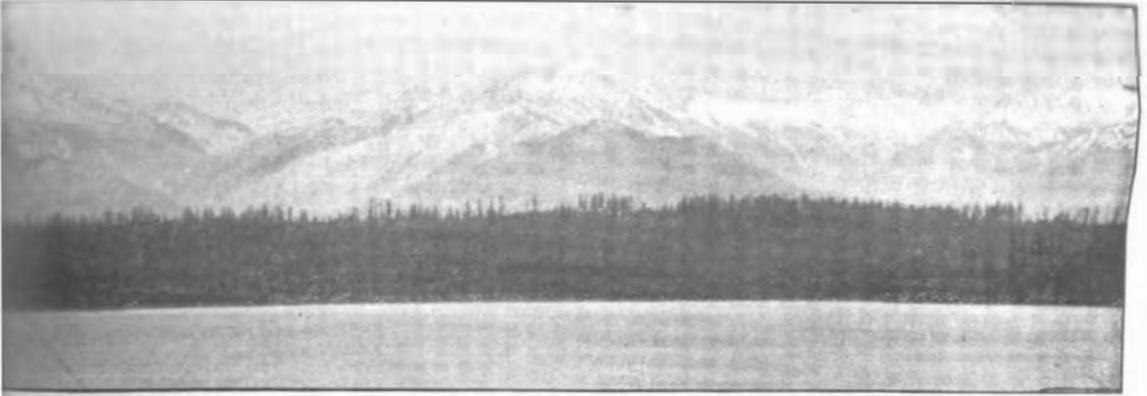
summer garments are intended to harmonize with lichen-covered rocks and heather-beds, and this they do admirably, especially in the case of the female, which is heavily and uniformly clad in neutral browns and grays in a finely mottled pattern.

The guilelessness of the Ptarmigan is proverbial. A sitting female may be handled on the nest, and a company of them one may sometimes drive before him like over-petted hens. The males, being less confident of their protective coloration, are usually somewhat more wary, and are sometimes, to your great astonishment, excessively wild. One sighted upon Wright's Peak at fifty yards squawked in an agony of apprehension and fled for further orders, although it is entirely probable that he had never seen a human being before.

Two broods are raised in one season by these industrious fowls, the care of the first being apparently entrusted to the cock, while the hen busies herself with the second nesting. Once as I was treading the heather of a mile-high spur in a sort of ecstasy of mountain rapture, a mother Ptarmigan dashed up into my face in a most dream-shattering fashion. Good cause for alarm tho. I was near stepping on some of her chicks. Never did a mother conduct

a more gallant retreat, for while brood number one exploded like feathered bombs and reassembled to the father's call, she shrieked her rage from a nearby rock or dashed at my face repeatedly, in very act to consume me, and thus make time for the fledglings of brood number two, just hatched, to scuttle off thru the heather. One of the youngest chicks I caught in my hand, whereupon the mother bird made such a furious onslaught that I was obliged to defend myself with my left. I did not hurt her, but I speedily let the youngster go for fear I should have to. Such spirit I never saw before! Her cause was undoubtedly just; but what if a hen were as big as a man!

The American Pipit (*Anthus pensilvanicus*) keeps to the flower-sprinkled meadows, or follows hard upon the retreating snow. We know him upon the lowlands, a trim little figure not so large as a Song Sparrow, grayish brown above and tawny buff below, with sharp dusky streaks on throat and breast. But the neatness of his figure is compromised by the waywardness and irresolution of his movements. When "at rest" the Pipits keep tilting the body and wagging the tail most inconsequently, while in social flight they straggle out far apart, so as to allow plenty of room for the chronic



RANGE.

St. Vitus dance to jerk them hither or thither or up or down without clashing with their fellows. These birds sweep down upon us in immense numbers in middle autumn and early winter, but it is not generally understood that many individuals find upon our Cascade heights as congenial homes as upon the Barren Grounds of the north.

On the nesting grounds these birds are somewhat better behaved than during migrations, having definite business to perform. The male sings a variety of clinking notes having something the quality of the Rock Wren's (*Salpinctes obsoletus*) more familiar cadences; while the female digs a deep cave in a sunny earth and lines it heavily with dried grasses. In this nest she deposits four or five eggs which are so thickly dotted with dark brown as to appear of an almost uniform chocolate color.

A bird somewhat similar to eye but very different in structure, the Arctic Horned Lark (*Otocoris alpestris arcticola*) was discovered by Mr. Brown on the barren slopes of Mt. Baker in June, 1905, leagues out of its supposed breeding range, which is essentially Arctic. Mountaineers may familiarize themselves with closely related forms, the Streaked Horned Lark (*O. a. strigata*) on the prairies south of Taco-

ma. and the Dusky Horned Lark (*O. a. merrilli*) on the sage brush plains of Eastern Washington, so as to recognize this Arctic lingerer at sight.

When we are allowed to descend among the stunted trees we may investigate the source of the music which has been floating up to us like a sweet and alluring incense. Chiefest among all the feathered bards of Washington stands the Hermit Thrush. The song of the Hermit Thrush (*Ilyocichla guttata sierrae* or *I. g. nana*) is a thing apart. It is sacred music. Having nothing of the dash and abandon of Sage Thrasher or Catbird, least of all the sportive mockery of the Longtailed Chat, it is the pure offering of a shriven soul holding acceptable converse with high heaven. No voice of solemn-pealing organ or cathedral choir at vespers ever hymns the parting day more fittingly than this appointed chorister of the eternal hills. Mounted on the chancel of some low-crowned fir tree, the bird looks calmly at the setting sun, and slowly phrases his worship in such dulcet tones, pure, serene, exalted, as must haunt the corridors of memory forever after.

The Slate-colored Sparrow (*Passerella iliaca schistacea*) is given as a resident of "the Rocky Mountain

district of the United States and British Columbia" and is found commonly in the highlands intervening between the Rockies and the main range of the Cascades. The discovery of a bird of this type, first upon Church Mountain (across the north fork of the Nooksack from Baker) in 1905, and again upon the slopes of Mt. Sahale in 1906, came in the nature of a surprise; and the Cascade bird may prove upon further study to be a distinct form\*. Belonging to the well-known Fox Sparrow group, the bird of the Cascades appears to be pre-eminent in song. The singer is exceedingly modest, and the student may follow thru the stunted growths of the upper reaches of timber for half an hour, without getting a satisfactory view of him, but he will be teased meanwhile by a succession of song snatches, sprightly, varied, and caressing sweet, which will set his expectation on edge.

Townsend's Solitaire (*Myiadestes townsendii*) is another notable songster, and a queer chap he is all around. In size approaching that of the Robin, and in color of a brownish ash, lightening below, and varied by black and white in wings and tail, the Solitaire is like Kipling's cat, in that he flits by himself, and all places are alike to him. Altho the bird sometimes nests at sea level, you are more likely to see him at an elevation of from 5,000 to 8,000 feet, and to hear the song where the singer may have a fair field in the open. The song is an ecstatic hurly-burly of sweet notes, reminding one somewhat of the Sage Thrasher but less impetuous in delivery. The nest, as in the case of so many mountain species, is set into the soil of a steep bank in such fashion as to enjoy protection from rain or unseasonable snows.

But space fails to tell at such

\*The writer means to settle this point during the coming summer.

length of all the characteristic mountain species. Let us then imagine ourselves in camp upon some mile-high divide beside a rock-bound lakelet, and let the birds come to us. The lake is necessary for in that case the Water Ouzels (*Cinclus mexicanus unicolor*) will be among our first visitors. If one has not yet seen one of these slate-colored morsels wade about in water ten times over its head, and icy cold, there is something to live for. Ouzels also are famous singers, but they are more tuneful in March and April than in July and August.

If our camp be in late July strange Sandpipers, such as the Red-backed (*Pelidna alpina sakhalina*) or Baird's (*Actodromas bairdi*) the avant couriers of the southward moving host, will drop down to rest for a day on the floating ice cakes of our lake, or else dabble hungrily in the margins. Of ducks perhaps only the handsome Harlequin (*Histrionicus histrionicus*) will reach such a high point, and its interest is rather in the brawling stream than placid lakes.

When our camp has been well established the Gray Jay (*Perisoreus obscurus griseus*) commonly called Camp Robber, will make his appearance; and altho usually a silent bird the joy of discovery may betray him into strange chucklings of a soft cooing "Whee-ew." Every mountaineer knows the friendly impudence of this bird and boasts of the times when he has been induced to pilfer from the outstretched hand.

The Gray Jay is a little under a foot in length (but please remember that birds are usually much longer than a novice would guess) while the Clarke Nutcracker (*Nucifraga columbiana*) is something over. This bird is of a much lighter gray than the preceding, with black wings and tail strongly contrasting, and he has no interest in the mountaineer's bill of fare, for he subsists chiefly upon

the seeds of the pine and fir cones. It is to him we must attribute the hoarse rrarrk, rrarrk which sometimes fills the air to the momentary exclusion of all other interests.

Juncoes, whether Oregon (*Junco oregonus*), or Shufeldt's (*J. o. shufeldti*), nest in Washington from tidewater to the limit of trees, and the flash of Junco's "banner mark," as the white outer feather of the tail are called, is an integral part of any mountain bird picture.

Wherever flowers are found bees will gather, and likewise the Hummingbirds. The Rufus Hummer (*Selasphorus rufus*) is the abundant species throughout the Northern Cascades and he rises to drain the remotest nectar cup, but Allen's Hummer (*Selasphorus alleni*) and Calliope (*Stellula calliope*) may also be found upon the middle levels.

While encamped upon the summit of Cascade Pass in June of last year we were amazed to see not only Black Cloud Swifts (*Cypseloides niger borealis*) but White-throated Swifts (*Aeronautes melanoleucus*) passing and repassing. The latter species, swifter in motion than a hurled scimitar, has been previously reported in Washington only from the Grand Coulee and the Columbia River gorge, but it begins to look as though it might be found breeding about the high cliffs of the high Cascades. The evidence is inconclusive, however, for a hundred mile flight before breakfast would be a mere appetizer for these birds.

Sooty Grouse (*Dendragapus obscurus fuliginosus*) and the Franklin's Grouse (*Canachites franklinii*) may be found up to the limit of trees, the latter so unaccustomed to the ways of men as to merit the name of "fool hen" which the prospectors apply. Both species nest at lower levels, but having an eye on the ripening berries, migrate skyward

with the advancing season.

Indeed, this habit of taking summer vacations in the mountains is more prevalent among the birds than is generally supposed. The following species are more characteristic of the foothills or mountain valleys during the nesting season; but they also occur up to the tree line and are certain to appear there in numbers during the mid-summer "vacation": Mountain Bluebird (*Sialia arctica*), Varied Thrush (*Ixoreus naevius*) (commonly called Winter Robin, Oregon Robin or Mountain Robin), Western Winter Wren (*Olbiorchilus hiemalis pacificus*) and Red-shafted Flicker (*Colaptes cafer collaris*). The bird "horizon," the total number of species to be seen at a given place and time, thus increases steadily from June to August. For example, while encamped upon the Cascade Summit during the last week in June at an altitude of from 5,000 to 6,000 feet. Mr. Bowles and I listed only seventeen species of birds. On Wright's Peak during the third week of July, 1900 and at an altitude of 8,000 feet Professor Jones and I listed twenty-five species in three days.

And it was to laugh to find among these last a Brewer's Sparrow (*Spizella breweri*), a nondescript morsel of brown feathers, the scion of an undistinguished race, a prosy plainman, a helot of the prostrate soil. What! This peasant a Mazama too! You were begotten, reared and mated in the level sage, and but for this, I wot, you would have died there. But for this! Why, then, your pardon, Little Brother. We had misjudged you. And you are very welcome too. Aspiration is the proof of worth. Not the Leucosticte wins more praise,—for that he started higher. Together then! Excelsior! The Peak! The Peak! And here's to all who love the mountains!

## Annals of the Historian

On the call of a volunteer committee, consisting of Dr. C. S. Eaton, Dr. Weldon Young and Mr. Asahel Curtis, members of the Mazamas and other mountain climbers living in Seattle, met at the residence of Dr. and Mrs. E. S. Stevens on November 6, 1906, for the purpose of arranging for a welcome to Dr. Frederick A. Cook and party, on their return from the first successful ascent of Mt. McKinley.

On motion of Dr. J. P. Sweeney, the temporary committee was made a permanent one, with Dr. Young, chairman and Dr. Eaton secretary. A committee on resolutions was appointed, consisting of Mr. Curtis, Mr. Williams, Dr. Maud Parker, Dr. E. F. Stevens and Miss Hubert. This committee drafted the following resolution, which was adopted: "Resolved, That a committee be appointed to communicate with the Mazama and Sierra Clubs and their representatives in the several cities on the Pacific coast, to learn from them what form of local club we may organize to best promote the interests of the parent clubs, both to foster sentiment and to train candidates for the annual outings, and further, this committee shall arrange for a meeting for those in Seattle interested in mountaineering at some early date, to discuss the formation of a club."

As a result of this resolution, other meetings were held, and a committee of five, consisting of Mr. E. L. Hampton, Dr. Sweeney, Mr. Curtis, Dr. Eaton and Miss Banks was appointed to draft a constitution and by-laws. The constitution prepared by this committee was finally adopted, and a permanent organization effected, although the first regular meeting of the Club was not held until Jan. 18, 1907. Previous to this meeting per-

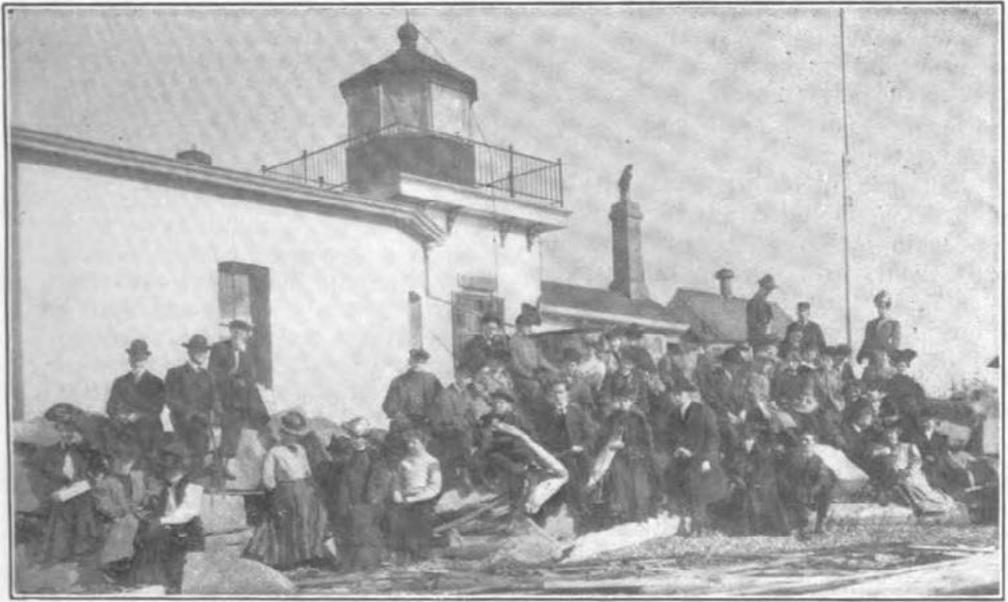
manent quarters had been secured in the Chamber of Commerce rooms, through the courtesy of that organization, and the following officers elected: President, Prof. Henry Landes; Vice-President, Dr. J. P. Sweeney; Secretary, Dr. Cora Smith Eaton; Treasurer, Dr. E. F. Stevens; Historian, Miss Mary Banks.

At this meeting the appointment of the several standing committees was announced by the president, the question of annual and local outings was discussed, and a splendid collection of photographs of Mount Baker, taken by Mr. Curtis, was shown.

It was decided to hold the charter list open until the next meeting, to allow those who had not yet been reached to enter as charter members.

At the February meeting the Chamber of Commerce rooms were crowded, standing room only being accorded the late comers. The occasion was a lecture, accompanied by stereopticon views illustrating the Harriman expedition to Alaska, by Prof. Trevor Kincaid, the entomologist of the party, and a member of the Mountaineers. Those who had anticipated a dry-as-dust scientific treatise were agreeably surprised by the fund of anecdote and quiet humor which enlivened the scientific facts in such a way as to interest the most untechnical.

Sunday, February 17, was the date of The Mountaineers' first local outing. Promptly at 9:30 a. m. forty-eight members and their guests made the start for Fort Lawton. At the fort they were met by Captain H. A. Smith, who gave them a cordial welcome; from there a brief walk through the woods brought the party to the West Point light house, where they were greeted by the light house keeper, Mr. Thomas, and his family. Here a camp-fire was made and



**A TRIP TO THE WEST POINT LIGHT.**  
One of the local walks of the Mountaineers taken in February.



**IN CAMP.**  
Scene at the lunoh hour, during one of the local walks of the Mountaineers.

luncheon eaten. The return was made at low tide by way of the beach to give those interested in marine life an opportunity to gather specimens.

The second outing was on March 3. This included a trip to Lake Washington, from there to Kirkland by boat, with a seven-mile tramp along the belt-line road. The regular March meeting occurred on the 15th, with the rooms again crowded. After the regular business, Prof. John B. Flett, of Tacoma, gave an interesting lecture on "The Botany of the Olympic Mountains." This was followed by an address by Mr. Curtis on "The Mazamas Ascent of Mount Baker," illustrated by over

one hundred slides made by him from photographs taken on the trip. Mr. Flett also exhibited a number of botanical specimens on the screen.

The third local trip, Saturday, March 16, to American Lake, necessitated a start at 6:45 a. m. Fifty members participated in this outing, including more than the usual quota of scientists, with the result that more accurate records were made than on any previous walk. One ornithologist listed thirty-four birds seen in the ten miles traversed, while a botanist from Tacoma reported finding fifty-eight distinct specimens by the way. For those not interested in natural history, stops were made at Steilacoom and Wright Park, the party reaching Seattle about 9:45 p. m.

## The Ascent of Mt. Olympus

Official Announcement of the Outing Committee. Plans for the  
First Annual Outing of The Mountaineers

**T**HE club outing is intended as a co-operative one, arranged to give the greatest pleasure to its members that can be gained from a trip in the mountains, without the burden of cooking and packing supplies. In this the Outing Committee represents the individual members and expects their co-operation in making the outing as successful as possible at a minimum expense.

Written notice should at once be given the Secretary by all those intending to participate in the outing. This notice will not be considered binding but is desired to get some idea of the number who plan on taking the trip. As the number who can be accommodated will be limited, those who desire to go should see

that their names are in early. The first on the list will be given the preference.

This notice should be sent to Dr. Cora Smith Eaton, Secretary The Mountaineers, 482 Arcade Building, Seattle.

The first annual outing of The Mountaineers will be into the Olympics, by way of the Elwha river, to make the ascent of Mt. Olympus. The party will leave Seattle in two detachments, the first one on Wednesday, July 24th, and the second on Thursday, August 1st. Camp will be established at the head of the Elwha river, near the base of Mt. Olympus, and will be maintained during the outing. The outing is intended to last three weeks, but persons who wish to return to Seattle

within two weeks can do so by special arrangement with the Outing Committee.

Mount Olympus is situated in the northwestern part of the Olympic range, and is the highest point in the range, being 8,200 feet high. It is a great bulk of rock and ice, untimbered in its upper regions, and the heavy snows which prevail over this range form here a group of beautiful glaciers, remarkable for so low a peak. These glaciers appear to be moving rapidly and fall over great crags into the head of the Hoh river on the east and northeast, and into the Queets river on the southeast and south.

This mountain and the adjacent country is the least known of the Olympic range and probably of all mountain regions in the United States. Very few of the peaks have been climbed, even by the Forest Reserve parties. Many of these peaks are unnamed and their altitudes are unknown. The club expects to climb a number which are near the main camp. Mount Anderson, pronounced by many more beautiful than Olympus, can be reached easily in a day's trip.

There is no record of anyone having made the ascent of Mount Olympus. Mr. W. R. Delebarre, of Port Angeles, states regarding it:

"I have traced down every report I have heard of an ascent, and have assured myself that the peak is unclimbed."

Mr. Grant Hume, whose home is in Geyser valley on the Elwha river, attempted the ascent in 1906 with two companions, but was driven off the mountain by a storm. They reached a point on the ridge drained by the Elwha, Queets and Hoh rivers, and saw no impassable barriers between them and the summit, which appeared to be not much over a mile away. The summit was a well defined pinnacle, higher than the surrounding crags.

### The Trail.

The party will be taken by stages from Port Angeles to the Elwha at McDonald, a distance of ten miles. At McDonald they will leave the road and "hit the trail" where the walking will begin. The trail for the most part follows the Elwha, starting at a point about 200 feet above sea level and gradually climbing until snow-line is reached at about 5,000 feet. The trail itself is in good condition and will cause no trouble to the average walker. Several days will be required to reach permanent camp, each day's walk not much exceeding ten miles. The way lies through a dense forest of fir, cedar, hemlock, alder and vine maple and should prove one of the attractions of the trip. At the higher altitudes the lowland trees give way to the Alaska cedar, mountain larch and the beautiful silver fir. Above these are the grasses and flowers of the upland meadows, in one of which our permanent camp will be located.

### Fishing.

No other region in the United States can furnish better fishing than the Olympic peninsula. Dolly Varden and Rainbow trout are abundant. The Elwha river and its tributaries are swarming with trout, and most of the pools have never had a fly cast in them. A side trip can be made to Lake Crescent, eight miles from McDonald, where the famous Beardsley trout test the skill of the fisherman.

### Hunting.

Hunting will not be allowed, as the game laws prohibit it during the time the party will be in the mountains. However, large bands of elk have been seen here by several persons, and pictures have been taken, showing 75 animals feeding in one park. It is probable that an opportunity will be had to see and photograph many of them during the outing. In addition to the elk there are

deer, harmless black bears, whistling marmots, blue grouse, ptarmigan and other wild creatures, which will add interest to the outing.

#### **Personnel.**

The outing is arranged for Mountaineers, in good standing, for members of their families over twelve years of age, and for their intimate invited friends.

Nature lovers and mountain climbers, not members of the club, recommended by two members, may apply to the committee for membership in the outing and, if accepted, will pay in addition to the regular deposit an enrollment fee of five dollars (\$5.00).

Invitation to join in the outing is extended to members of all recognized mountain clubs, recommended by their secretaries, who will be enrolled for the outing on the same basis as members of the Mountaineers.

#### **Camping Trip.**

It should be distinctly understood that this excursion is to be a camping trip, and when the party has left Port Angeles there will be no hotels where meals or beds can be obtained. However, it is the purpose of the Committee to lighten, as much as possible, the burdens ordinarily incident to camping and thus leave more time for the enjoyment of the mountains.

Any person possessed of ordinary health and strength, who is an average walker, can make this trip. However, invalids should not attempt it. Though the Committee will do all in its power to make every one comfortable, yet, of necessity, each one will be required to look out for himself. Before attempting this excursion each one should satisfy himself that he has the physical qualifications.

#### **What the Club Provides.**

The Committee will provide a general commissary outfit, including pro-

visions, stove and cooking utensils, general assembly tents, and enough tents to shelter the party in an emergency. It will also provide cooks and dishwashers, a pack-train and packers. It will transport from Seattle to the various camps and return all personal baggage properly enclosed in regulation dunnage bags, weight not to exceed fifty pounds per person.

It will also furnish transportation from Seattle to Port Angeles and return, and meals after the party leaves Port Angeles. Meals and bed on the boat or at Port Angeles will be at the member's expense but will not exceed \$2.50 for the round trip.

#### **Transportation, Pack and Saddle Animals.**

The Committee will exercise general supervision over all transportation of passengers and baggage. All baggage should be delivered at the dock at the time given in the final announcement, which will be sent to all who signify that they are going on the outing. Suit cases, left tagged with the owner's name will be cared for until the return of the party.

The Committee assumes no responsibility for saddle animals. The pack train and the accommodation of walkers is the sole consideration as far as they are concerned. The Committee has no objection to having members of the party procure saddle animals wherever they can, but the care of such animals must be provided for by those who procure them.

During the trip into the mountains, each day an early start will be made to get the pack-train through, and when on the march each person is to prepare his own baggage ready for the pack-train, and to deposit it at the point of departure of the pack-train, at the time arranged by the Committee.

On these tramps a lunch will be carried by each member of the party,

and no effort will be made to serve any meals except breakfast and dinner.

### Rules and Regulations.

Those joining the outing are not required to climb mountains, and do not have to make the ascent of Mount Olympus, nor does the Committee guarantee that they will be permitted to do so unless they have proven capable. Ample opportunity will be given to "try out" on the many short trips taken before the main climb. The Committee plans to have each day, at least one, and on many days two trips to points of interest that can be reached in one day from the main camp. These will be under leaders appointed by the Committee.

(1) Wherever occasion requires, as in the case of climbing mountains, it is to be distinctly understood that whatever arrangements the Committee makes must be implicitly followed. The discipline will not be onerous, but it must be submitted to, and anyone joining the outing, by such act, gives his implied promise to abide by such reasonable regulations as the Committee adopts.

(2) No tips, gratuities or other considerations shall be paid by anyone participating in the outing to any employees.

(3) No personal baggage will be accepted for transportation on the pack-train, unless packed in dunnage bags of dimensions and shape as follows: Cylindrical canvas bags not to exceed, when packed, three feet in length and eighteen inches in diameter, plainly marked with the names and addresses of their owners. The address should be painted on the bag before starting. If the dunnage bag is white use black paint, if of brown use white. This will aid in finding bags quickly when making camp.

Weight of each individual's baggage when packed in bag not to ex-

ceed fifty pounds. Musical instruments need not be included in this, as the Committee desires to encourage members in taking them for campfire entertainment.

### Personal Outfit.

Each member of the party must provide his own personal effects. Take only the things necessary for comfort, as it is annoying to care for a lot of useless articles.

Bedding: Two heavy double blankets, or their equivalent in comforters, with water-proof canvas or rubber poncho; or better still, a regular sleeping bag will be found sufficient.

One tramping suit of some good stout material such as denim, khaki or corduroy. Women should have one durable waist for tramping, and one to wear around camp. The skirt should be short, not much below the knee, and under it should be worn bloomers.

The underclothing should be such as one would wear in winter, and one change should be taken.

Foot-wear is a very important thing. One pair, at least, of stout, well fitting, easy wearing shoes, with soles one-half inch thick, to hold calks and well nailed with hob or Hungarian nails, are essential. These should be well oiled before the outing and some good water-proof oil taken along. It would be a distinct advantage to have these shoes broken in before the outing, for if one's feet are blistered by the first day's walking the whole pleasure of the outing may be spoiled. A lighter pair of shoes, such as tennis shoes, to wear around camp is also good.

Leggings are recommended unless high boots are worn, and women find them desirable to wear around camp with light shoes.

Several pairs of moderately heavy socks or stockings should be taken. Two pairs of medium weight socks will prevent chafing and blistering.

Chamois skin heel protectors, or adhesive plaster applied in strips, will also serve as a protection against chafing.

Any sort of light, broad-brimmed hat can be worn. A fine mesh mosquito head net is needed as there may be mosquitoes in the lower valleys.

Colored glasses will be essential. Women should also carry heavy veils to protect the face from burning when on the snow. Grease paint should also be taken as a protection from snow-burn.

It is recommended that each member of the party take a small haversack to carry the lunch on daily trips. In all rock climbing there is danger of a knapsack swinging from side to side and interfering with one's movement. Therefore the haversack, fitted as a pack on the back, is much the safer.

Each member should also have a good serviceable alpine stock, fitted with a steel point, and should have a full set of screw calks that can be set easily, when necessary for ice work.

Tents are essential, but will seldom be used to sleep in. The Committee will have several at the main camp, but wherever possible the members should arrange to have tents of their own. If three or four could arrange to occupy a tent it would lessen the expense to each one and easily keep their baggage within the limit.

The packing of the above outfit is an important point, and reference is made to section 3 under Rules and Regulations regarding the size and dimensions of the bag required. The weight and size limit given there will have to be rigidly enforced. If the bags are over weight or over size they will have to be left at Port Angeles.

It will add greatly to the enjoyment of the trip if those who possess musical instruments would take

them along, and the Committee will do all it can to aid members in this matter. The evening camp-fire will be one of the attractions of the trip. A special program committee will be in charge each evening.

#### **Expense.**

The expense of the outing will be forty dollars (\$40.00), and this amount will entitle one to participate in its privileges for three weeks, and it will, without doubt, cover all expense, so that no further assessment will have to be levied. Those wishing to return to Seattle within two weeks can do so by making a special arrangement with the Committee.

Since the provisions and outfit must be purchased for cash, and will have to be forwarded several weeks in advance, it will be necessary for each person, who desires to make the trip, to send to the Secretary of The Mountaineers a deposit of twenty dollars, to cover this expense. **THIS MUST BE DONE NOT LATER THAN JUNE 1ST.**

Since the provisions for a definite number will have been purchased weeks in advance and packed into the mountains, the deposits made by people who find themselves unable to join the outing cannot be refunded. However, their places could be filled by some one acceptable to the Committee.

Send money by check or money-order, payable to "The Mountaineers," and mail it to the Secretary, Dr. Cora Smith Eaton, 482 Arcade Building, Seattle.

#### **Mail.**

Mail will be brought to the main camp and sent out once or twice a week. All mail should be addressed.

Care THE MOUNTAINEERS, Port Angeles, Washington.

#### **Outing Committee.**

Asahel Curtis, 627 Colman Building, Chairman.

W. M. Price, 907 First Avenue.

Dr. Cora Smith Eaton, 482 Arcade Building.

# Constitution and By-Laws

## ARTICLE I.

### Name.

The name of this organization shall be The Seattle Mountaineer's Club, Auxiliary to the Mazamas.

## ARTICLE II.

### Objects.

The object of this organization shall be to explore the mountains, forests and water courses of the Pacific Northwest, and to gather into permanent form the history and traditions of this region; to preserve, by protective legislation or otherwise, the natural beauty of the Northwest coast of America; to make frequent or periodical expeditions into these regions in fulfillment of the above purposes. Finally, and above all, to encourage and promote the spirit of good fellowship and comradeship among the lovers of out-door life in the West.

## ARTICLE III.

### Membership.

Section 1. Anyone above the age of seventeen years who is in sympathy with the purposes of the club is eligible for membership.

Sec. 2. There shall be two classes of members—active and honorary.

Sec. 3. Active members shall be elected by a unanimous vote of the board of directors after being recommended by two members.

Sec. 4. Honorary members may be selected by unanimous vote of the board of directors; the limit as to number being 25.

## ARTICLE IV.

### Board of Directors.

Section 1. The affairs of the Club shall be managed by a Board of nine Directors, who shall be elected at the annual meeting. Five Directors shall constitute a quorum.

Sec. 2. A nominating committee, elected by the Club, at the meeting next preceding the annual meeting shall place in nomination eighteen members in good standing from whom the Club shall by ballot elect the nine Directors.

## ARTICLE V.

### Officers.

The Board of Directors immediately after being duly elected shall meet and elect from their number the following officers:

President,  
Vice President,  
Secretary,  
Treasurer,  
Historian.

## ARTICLE VI.

### Duties of Officers.

Section 1. The President shall preside at all meetings of the Board of Directors and of the Club. He shall not be deprived of his vote by reason of his office. He shall appoint, subject to confirmation by the Board of Directors, the following standing committees, consisting of three members each:

1. Outing Committee.
2. House Committee.
3. Program Committee.
4. Publication Committee.

And such other special committees as may be needed.

Sec. 2. The Secretary shall act as such for the Board of Directors and the Club, and shall record the minutes of their meetings, be ex-officio member of the Outing Committee, receive all monies and care for all records and papers belonging to the Club; he shall keep account of and properly turn over to the Treasurer all funds of the Club which may come into his hands; he shall make and keep a correct list of the members of this Club in good standing, noting of each his correct name, address and date of membership, and it shall be his duty to send annually a copy of such lists to the Historian of this Club and to the Secretary of the Mazamas. He shall keep a record of all official outings and in so far as possible the mountaineering achievements of the members of the club.

Sec. 3. The Treasurer shall receive all dues and monies belonging to the club from the hands of the Secretary, giving his receipt for same, and shall keep a correct account of all monies received by him, and shall only pay out the same upon the written order of the Secretary, countersigned by the President of the Club.

## ARTICLE VII.

### Duties of Committees.

Section 1. The Outing Committee shall have entire charge of all outings, including receipt and disbursements of the outing funds.

Sec. 2. The House Committee shall have charge of the Club headquarters, and of such receptions, entertainments or other functions as may be held by the Club.

Sec. 3. The Program Committee shall outline the program for each meeting, giving notice to the members thru the Secretary by mail.

Sec. 4. The Publication Committee shall include the Historian. It shall have full charge of all publications authorized by the Club, and act as the official mouth-

piece to the public press. The chairman of the committee shall be the Club Editor.

#### ARTICLE VIII.

##### Meetings.

Section 1. The annual meetings shall be on the third Friday in November of each year.

Sec. 2. Regular meetings shall be held on the third Friday of the month, October to May inclusive.

Sec. 3. Fifteen members shall constitute a quorum.

Sec. 4. Special meetings may be called by the President, or a quorum of the Board of Directors.

#### ARTICLE IX.

##### Dues.

The annual dues for members shall be

\$2.00, payable in advance.

#### ARTICLE X.

##### Mazama Auxiliary.

This Club shall work as auxiliary to the Mazamas under a constitution acceptable to them.

#### ARTICLE XI.

##### Amendments.

This constitution may be amended at any regular meeting by a four-fifths vote of the members present, written notice having been given at the previous meeting.

#### ARTICLE XII.

##### Rules of Order.

Roberts' Rules of Order shall be authority in all parliamentary matters before the Club.

## Charter Members

Mr. Geo. G. Altnow, 1901 Fifth Ave. (P. O. box 191), Seattle.

Mr. A. W. Archer, 518 Second Ave. (203 Collins Building), Seattle.

Mr. Lyman T. Banks, 707 West Prospect St., Seattle.

Miss Mary Banks, Seattle Public Library, Seattle.

Mr. Elliott C. Barnes, Banff, Alberta, Canada.

Miss Anne Bartel, 1404 Boylston Ave., Seattle.

Miss Margaret W. Bayne, Kirkland, Wash.

Miss Alida J. Bigelow, 1139 Eighteenth Ave. N., Seattle.

Mr. J. Fred Blake, 1809 Harvard Ave., Seattle.

Miss Cassandra A. Boggs, 600 Madison St., Seattle.

Mr. Erastus Brainerd, Post-Intelligencer Bldg., Seattle.

Miss Annie C. Brayton, 1404 Boylston Ave., Seattle.

Mr. D. M. Brosseau, 401 North Forest, Bellingham, Wash.

Prof. Edward E. Bugbee, 5215 Fifteenth Ave. N. E., Seattle.

Miss Ida M. Burnham, 1725 Minor Ave., Seattle.

Miss Ada W. Byers, Parental School, Seattle.

Miss Elsie Carr, 1733 Belmont Ave., Seattle.

Miss Alice M. J. Casey, 502 East Union St., Seattle.

Mr. Eugene A. Childe, 457 Arcade Bldg., Seattle.

Mr. Ernest H. Cherrington, 496 Arcade Bldg., Seattle.

Mrs. Ernest H. Cherrington, 308 Hayes St., Seattle.

Miss Estelle Chopson, 120-A West Thomas St., Seattle.

Mr. J. H. Closson, 122 Occidental Ave., Seattle.

Mr. Wm. E. Colby, 2901 Channing Way, Berkeley, Cal.

Miss Lucy K. Cole, The Fairfield, Seattle.

Miss Emma L. Collins, 702 Minor Ave., Seattle.

Mr. C. P. Constantine, care Miles-Piper Co., Seattle.

Miss Alma B. Covey, 912 East Forty-second St., Seattle.

Dr. Martha G. Covey, 912 East Forty-second St., Seattle.

Mr. Asahel Curtis, 1115 Thirty-sixth Ave., Seattle.

Mrs. Florence Curtis, 1115 Thirty-sixth Ave., Seattle.

Miss Eva Curtis, 1729 Twenty-fifth Ave., Seattle.

Miss Rose Olive Daugherty, 1460 Twentieth Ave., Seattle.

Dr. Wm. Leon Dawson, 5528 Fifteenth Ave. N. E., Seattle.

Miss Katherine DeLand, 4519 Fourteenth Ave. N. E., Seattle.

Mr. Robert DeLand, 1220 Boylston Ave., Seattle.

Mr. J. A. Douglas, 414 Thirteenth Ave. N., Seattle.

Mr. J. A. Dummett, 309 Boylston Ave. N., Seattle.

Dr. Cora Smith Eaton, 482 Arcade Bldg., Seattle.

Miss Bella Edith Fiskens, 1411 Minor Ave., Seattle.

Mr. C. E. Ford, S. W. corner Fourth and Pike, Seattle.

Mrs. Emma Gary Ford, S. W. corner Fourth and Pike, Seattle.

Mr. C. E. Forsyth, Box 105, Castle Rock, Wash.

Prof. Theodore C. Frye, 4229 Brooklyn Ave., Seattle.

Miss Hilda Gaches, 5023 Fifteenth Ave. N. E., Seattle.

Mr. James Gibson, 736 Eleventh Ave. N., Seattle.

Miss Lyda Graham, 804 North Second St., Tacoma.

Miss May Grinnell, 536 North Seventy-sixth St., Seattle.

Mr. E. L. Hampton, 490 Arcade Bldg., Seattle.

Mrs. E. L. Hampton, 927 Seventeenth Ave. N., Seattle.

Miss Ina M. Hanna, 1902 Fifteenth Ave. S., Seattle.

Miss Adelaide Hanscom, People's Bank Bldg., Seattle.

Mr. H. H. A. Hastings, 64 Haller Bldg., Seattle.

Mr. G. Havers, 408 Bell St., Seattle.

Mrs. Florence Hotchkiss, 1423 Second Ave. W., Seattle.

Miss Anna Hubert, 1619 Summit Ave., Seattle.

Mr. Richard G. Hutchinson, 806 New York Block Seattle.

Major E. S. Ingraham, 501 Fifteenth Ave. N., Seattle.

Mr. K. C. Ingraham, 501 Fifteenth Ave. No., Seattle.

Mrs. Myra C. Ingraham, 501 Fifteenth Ave. No., Seattle.

- Miss Gracia L. Jenks, Annandale, Minn.  
Mr. Will T. Johnston, 1809 Harvard Ave., Seattle.  
Mr. Archibald A. Jones, 113 Seneca St., Seattle.  
Miss Nancy Emerson Jones, 708 Belmont Place, Seattle.  
Miss Anna Kelly, 1460 Twentieth Ave., Seattle.  
Dr. Sarah Kendall, 477 Arcade Bldg., Seattle.  
Miss Nellie Kenaga, 1627 Belmont Ave., Seattle.  
Miss Jessie L. Kenyon, 1226 East Madison St., Seattle.  
Miss Florence Ketcham, 1226 East Madison St., Seattle.  
Miss Reka B. Kiler, 600 Madison St., Seattle.  
Prof. Trevor Kincaid, 4526 Brooklyn Ave., Seattle.  
Miss Zoe Kincaid, 4526 Brooklyn Ave., Seattle.  
Mr. F. H. Kiser, 921 East Stark St., Portland, Ore.  
Prof. Charles Landes, 410 South C St., Tacoma, Wash.  
Mrs. Bertha K. Landes, 4503 Brooklyn Ave., Seattle.  
Prof. Henry Landes, 4503 Brooklyn Ave., Seattle.  
Miss Daisy Lane, 4541 Fourteenth Ave. N. E., Seattle.  
Mr. Harry N. Leckenby, Brighton Beach, Seattle.  
Miss Mollie E. Leckenby, Brighton Beach, Seattle.  
Miss Tallulah Le Conte, 427 Forest St., Bellingham, Wash.  
Mr. L. D. Lindsley, 522 Fourth Ave. N., Seattle.  
Miss Margaret L. McCarney, 1113 Terry Ave., Seattle.  
Mr. J. C. McCrary, 334-336 Globe Bldg., Seattle.  
Mrs. Mary L. McDonald, 480 Kensington Place, Pasadena, Cal.  
Miss Elizabeth T. McDonell, 4116 Brooklyn Ave. N. E., Seattle.  
Miss Letitia MacElvaney, 4519 Fourteenth Ave. N. E., Seattle.  
Miss Marie McGill, 4317 Fourteenth Ave. N. E., Seattle.  
Miss Anna A. McGlinch, 502 East Union St., Seattle.  
Mr. P. M. McGregor, 330 Globe Bldg., Seattle.  
Miss M. Ella McGuire, 1102 Ninth Ave., The Glencairn.  
Mr. W. C. McKenzie, care Seattle Hardware Co., Seattle.  
Prof. C. Edward Magnusson, University Station, Seattle.  
Prof. Robert E. Moritz, 4705 Forty-seventh Ave. N. E., Seattle.  
Miss Ethelda Morrison, 762 Bellevue Ave. N., Seattle.  
Prof. F. M. Morrison, 4719 Fifteenth Ave. N. E., Seattle.  
Mr. L. F. Murdock, 1611 Fifteenth Ave., Seattle.  
Miss Anna H. Murray, 1422 Harvard Ave., Seattle.  
Miss Christine Murray, 3955 Fifteenth Ave. N. E., Seattle.  
Mr. W. Edward Newbert, 2910 East Republican St., Seattle.  
Miss Christine Niedergesaess, 1235 Tenth Ave. W., Seattle.  
Miss Gertrude L. Niedergesaess, 1235 Tenth Ave. W., Seattle.  
Prof. F. M. Padelford, 4711 Fifteenth Ave. N. E., Seattle.  
Dr. L. Maud Parker, Lumber Exchange, Seattle.  
Miss Adella M. Parker, 419 Boylston Ave. N., Seattle.  
Mr. E. T. Parsons, 131-133 Second St., San Francisco, Cal.  
Miss Louise Peckenpaugh, 1017 East Thomas St., Seattle.  
Mr. Paul B. Phillips, 523 Alaska Bldg., Seattle.  
Mr. F. H. Plumb, 1729 Minor Ave., Seattle.  
Miss Adelaide L. Pollock, The Fairfield, Seattle.  
Mr. W. Montelius Price, care Seattle Electric Co., Seattle.  
Prof. D. S. Pulford, DeKoven Hall, South Tacoma, Wash.  
Mr. E. E. Richards, 1733 Belmont Ave., Seattle.  
Mrs. E. E. Richards, 1733 Belmont Ave., Seattle.  
Miss Milnora De B. Roberts, 4505 Fifteenth Ave. N. E., Seattle.  
Prof. Milnor Roberts, 4505 Fifteenth Ave. N. E., Seattle.  
Miss Helena Rucker, 907 Boren Ave., The Allendorf, Seattle.  
Miss Lavina C. Rudberg, 4730 Ninth Ave. N. E., Seattle.  
Mr. Chas. W. Russell, 141 North Seventy-fourth St., Seattle.  
Mr. E. L. Skeel, 546 New York Block., Seattle.  
Mr. Will G. Steel, 424 Lumber Exchange, Portland, Ore.  
Dr. B. R. Stevens, 1505 East Madison St., Seattle.  
Dr. E. F. Stevens, 1505 East Madison St., Seattle.  
Mrs. V. E. Stevens, 1505 East Madison St., Seattle.  
Miss Hattie A. Strang, 3903 Eastern Ave., Seattle.  
Dr. John P. Sweeney, 307 Harvard Ave. N., Seattle.  
Mrs. John P. Sweeney, 307 Harvard Ave. N., Seattle.  
Miss Josephine E. Sweeney, 307 Harvard Ave. N., Seattle.  
Miss Mary C. Sweeney, 307 Harvard Ave. N., Seattle.  
Miss Belle Tellier, 913 Eighteenth Ave. N., Seattle.  
Miss Bertha Tellier, 913 Eighteenth Ave. N., Seattle.  
Mr. John F. Tenney, 715 New York Block, Seattle.  
Mr. J. W. Thatcher, 1904 Fourth Ave., Seattle.  
Mr. E. H. Thomas, 1007 Marion St., Seattle.  
Miss Jennie E. Thompson, 510 Ninth Ave., Flat B, Seattle.  
Prof. David Thomson, 4229 Brooklyn Ave., Seattle.  
Mr. Joseph Treadeau, 58 Holyoke Block, Seattle.  
Mr. J. B. Umpleby, Men's Dormitory, U. of W., Seattle.  
Mrs. Emma Comstock Van Wickle, 708 Belmont Place, Seattle.  
Mr. Geo. E. Vincent, 907 Boren Ave., Seattle.  
Mrs. Geo. E. Vincent, 907 Boren Ave., Seattle.  
Mr. Arthur C. Warner, 1013 Belmont Place, Seattle.  
Miss Eva B. Webster, 501 Union St., Olympia, Wash.  
Mr. C. M. Williams, 325 New York Block, Seattle.  
Mr. Geo. S. Wilson, 1216 East Harrison St., Seattle.  
Mr. Jack Wishaar, 2314 Seventh Ave., Seattle.  
Mr. W. Hartwell Woodworth, 1434 Twentieth Ave., Seattle.  
Mr. Frank Wright, 824 Twenty-first Ave., Seattle.  
Mr. Geo. E. Wright, 1227 Thirty-eighth Ave. N., Seattle.  
Mrs. Mary E. Wright, 1227 Thirty-eighth Ave. N., Seattle.  
Mr. Wm. H. Wright, 506 Thirteenth Ave. N., Seattle.  
Dr. E. Weldon Young, 217 Lumber Exchange, Seattle.

## New Members

- Mr. Eric W. Allen, 113 Third Ave. S., Seattle.  
 Mrs. Ida Elliott Allen, 1547 Seventeenth Ave. No., Seattle.  
 Dr. John W. Bailey, 4541 Fourteenth Ave. N. E., Seattle.  
 Miss H. May Baptle, 1921 Third Ave. W., Seattle.  
 Mr. Chas. S. Boyer, 217 Madison St., Seattle.  
 Miss Clara M. Bryan, 1717 Belmont Ave., Seattle.  
 Mr. Samuel Collyer, 322 Bailey Bldg., Seattle.  
 Mr. J. C. Dennis, 807 South G St., Tacoma.  
 Mr. Leslie Everly, 1414 Second Ave., rooms 203-5, Seattle.  
 Dr. Myra L. Everly, 1414 Second Ave., rooms 203-5, Seattle.  
 Mr. J. B. Flett, 221 North Tacoma Ave., Tacoma.  
 Miss Helen R. Gleason, P. O. Box 195, Seattle.  
 Miss Julia M. Grumbling, 613 No. Oakes, Tacoma.  
 Miss Sadie E. Grumbling, 613 North Oakes, Tacoma.  
 Mr. John Hay, 409 People's Savings Bank Bldg., Seattle.  
 Miss Anna B. Howard, 1709 Thirty-ninth Ave., Seattle.  
 Miss Winifred Johnson, 1716 Harvard Ave., Seattle.  
 Miss Elsie G. Judd, 1810 Harvard Ave., Seattle.  
 Mr. W. P. Kendall, 556 Nineteenth Ave., Seattle.  
 Mr. A. Gerald Leeson, Men's Dormitory, University of Washington, Seattle.
- Miss Martha E. McCormick, 116 Roy St., Seattle.  
 Mr. Edmond S. Meany, 4025 Tenth Ave. N. E., Seattle.  
 Mrs. Anna Belle Meyer, 1419½ Second Ave. W., Seattle.  
 Mr. C. A. Meyer, 1419½ Second Ave. W., Seattle.  
 Mrs. Mabel P. Mixson, 1501 Alaska Bldg., Seattle.  
 Mr. F. Ormond Morrill, Sixth Ave. and Madison St., Seattle.  
 Mr. L. A. Nelson, 522 New York Block, Seattle.  
 Miss Lullie Nettleton, 404 West Highland Drive, Seattle.  
 Miss Juliet O'Hearn, 329 Queen Anne Ave., Seattle.  
 Miss Ella O'Leary, 1520 Harvard Ave., Seattle.  
 Miss Stella Pearce, 1733 Belmont Ave., Seattle.  
 Miss Alice Robertson, 914 Thirty-fourth Ave., Seattle.  
 Mrs. Minerva F. Shaw, 1716 Harvard Ave., Seattle.  
 Mr. Theodore H. Shaw, 1716 Harvard Ave., Seattle.  
 Mr. George A. Spencer, 2512 Fourteenth Ave. So., Seattle.  
 Mr. B. A. Strawbridge, 922 Seneca St., Seattle.  
 Mr. A. M. Thomas, 410 West Highland Drive, Seattle.  
 Mrs. A. M. Thomas, 410 West Highland Drive, Seattle.  
 Miss Helen C. Tillman, 410 Bell St., Seattle.  
 Mr. E. B. Webster, Port Angeles, Wash.  
 Miss Kathryn Wilson, 909 Thirty-sixth Ave. No., Seattle.

### LIST OF LOCAL WALKS.

These walks will not be taken in the order given, but at a time that the Committee finds most favorable. Notice will be sent to all members in advance of the walk, giving the number of the walk, the expense and the leader.

No. 1—Charleston and a walk of four miles to Lake Kitsap, returning by way of Bremerton; total distance, ten miles.

No. 2—Renton and Swan Lake.

No. 3—Kent and Lost Lake.

No. 4—Charleston and Union River at the head of Port Orchard Bay, ten miles.

No. 5—Snoqualmie and the ascent of Mount Si. This trip will take two days, probably Saturday and Sunday, and an easier trip will be arranged around the falls for those who do not wish to climb the mountain.

No. 6—Interlaken Boulevard from Eighteenth Avenue and Galer Street to Washington Park, across the Portage to the University grounds and through the campus to Ravenna Park and Pontiac.

No. 7—North Bend and Cedar Lake, a two day's trip, or, if desired, could be arranged as three days, returning by way of Ravensdale on the Northern Pacific.

No. 8—Tacoma and American Lake, for Sunday party.

No. 9—Tacoma and Point Defiance.

No. 10—Ballard cars to Ballard Beach and north along the shore to Meadow Point, then through the woods to the new Everett line and return.

No. 11—Around Bainbridge Island; a two day's trip.

No. 12—Northern Pacific to Martin, just east of the Stampede tunnel, then to Lake Kitchelos and across the Snoqualmie Pass to North Bend. This trip will require four days.



**ELWHA VALLEY FROM THE PASS.**

**Mountaineers' Camp at point of Ridge on the left. Altitude of camp 3,300 feet, of the pass 5,300 feet.**



**THE SEA OF MOUNTAINS TO THE SOUTHWEST OF ELWHA BASIN.**

The basin is located in the valley at the extreme left of the photograph. Very few of these peaks are named and so far as known they are unclimbed.



**MOUNT OLYMPUS AND THE HEAD OF THE QUEETS VALLEY.**  
This is one of the most beautiful mountain meadows in the Olympic mountains.

# The Mountaineer

E. L. HAMPTON, Editor.

---

Application made for entry at the Seattle postoffice as mail matter of the second class.  
Subscription price, One Dollar the year. Single numbers Twenty-five Cents.

---

VOL. I.

JUNE, 1907.

NO. 2.

---

## TABLE OF CONTENTS.

	Page
Expeditions into the Olympic Mountains. Ina M. Hanra .....	29
Notes on the Geography of the Olympics. Henry Landes, <i>State Geologist</i> .....	36
Journey to Mount Olympus. G. W. Humes .....	41
Observations on the Olympics. J. B. Flett .....	43
Mountaineers' Annual Outing, 1907 .....	45
The Mountaineers' Ascent of Mount Si. Alida J. Bigelow .....	49
First Ascent of Mount Shuksan. Asahel Curtis .....	52
Editorial Comment .....	53
Report of the Historian .....	54

## OFFICERS.

**PRESIDENT**.....HENRY LANDES, *Professor of Geology and Mineralogy, University of Washington*  
**VICE-PRESIDENT**.....DR. J. F. SWEENEY, *Member Mazamas*  
**SECRETARY**.....DR. CORA SMITH EATON, *Member Sierra Club*  
**TREASURER**.....DR. E. F. STEVENS, *Member Mazamas*  
**HISTORIAN**.....MARY BANKS, *Reference Librarian, Seattle Public Library*

## BOARD OF DIRECTORS.

MARY BANKS	HENRY LANDES
ASAHEL CURTIS	W. MONTELIUS PRICE
CORA SMITH EATON	E. F. STEVENS
E. L. HAMPTON	J. P. SWEENEY

E. WELDON YOUNG

## COMMITTEES.

*Program*

Prof. Theodore C. Frye  
Miss Alida J. Bigelow  
Miss Joe I. Kincaid

*House*

Mrs. E. F. Stevens  
Miss Anna Hubert  
Miss Daisy Lane

*Outing.*

Mr. Asahel Curtis  
Dr. Cora Smith Eaton  
Mr. W. M. Price

*Publishing.*

Mr. E. L. Hampton, Editor  
Miss Mary Banks, Associate Editor  
Miss Adelaide L. Pollock

# Expeditions Into the Olympic Mountains

By INA M. HANNA

**I**N view of the Mountaineers' proposed trip into the Olympics this summer, interest in former explorations of the region is revived.

**Lieut. O'Neill's Expedition.** In 1885 Lieut. O'Neill, of the regular army, stationed then at Fort Townsend, was detailed by Gen. Miles to make a trip into the country back of Port Angeles. He spent about six weeks with a party of seven men, working southeast toward Hood's Canal. He reached a point about ten miles south and twelve miles west of Mt. Constance, and located the snow field from which the east fork of the Elwha rises.

He writes that though the trip was one of many hardships, the beauty of the scenery and the magnificent hunting amply repaid them.

**Press Expedition.** The most notable attempt to open up the region was that made by the "Press" expedition in 1889-'90. An abstract from the accounts of this trip is given further on.

**Prospectors' Trip.** In June and July of 1890, following the return of the Press expedition, a party of five prospectors started in at the mouth of the Dosewallips. They returned by the Elwha to Port Angeles. On their return trip they struck the Press trail.

Mr. John Conrad, who wrote of the trip for the Seattle Press of July 16, 1890, speaks of the great difficulty in getting through. He says they found some small fertile valleys, none with more than 2,000 or 3,000 acres, only very small patches of good timber, and no evidences of "minerals," the object of the trip. They found an abundance of bear, cougar, elk, deer, woodchucks and grouse.

We find mention of a party organized to explore the source of the Skokomish, cross the summit to the head of the Elwha, and then follow down this to Port Angeles. This was projected for the summer of 1890, but we have no account of the results.

We find also that Lieut. O'Neill in the summer of 1890 took a party in to explore particularly the southeast and northwest corners, which were not touched by the Press party. We have, at hand, no information as to what was accomplished.

**Capt. Barnes' Account of Press Trip.** The following is condensed from the very interesting accounts of the Press expedition given by the leader, Mr. James H. Christie, and by Capt. Charles A. Barnes, the topographer of the party. As far as possible in space available, the account is given just as published in "The Seattle Press" of July 16, 1890.

Very few copies of this number of The Press are in existence, so far as known, but through the kindness of Prof. Meany, of the State University, who was at that time connected with "The Seattle Press," we were allowed to use one of the few copies.

**Purpose.** The Press expedition was fitted out by "The Seattle Press," an evening newspaper, for the purpose of exploring the unknown mountain region lying between Puget Sound and the Pacific Ocean, and extending from the Straits of Juan de Fuca to Lake Quinault.

Aside from legends current among hunters and Indians nothing was known of the geology, of the topography, of the timber and mineral re-

sources, nor of the possibilities for settlement. The government charts contained but one or two elevations of the whole range.

The idea of such an expedition originated with Gov. Ferry, and was taken up by "The Press." The party consisted of six men originally, one of whom was obliged to leave before the end of the trip. They were all experienced in out-of-door hardships and perfectly fitted for such a trip.

**Date of Trip.** They left Seattle December 8, 1889, and were out six months, returning in May. Preparations for the trip were completed at Port Angeles, and by January 13, 1890, they were ready to make the start up the Elwha. They went in the winter in order to be over the first ranges and into the central valley region, reputed to be found toward the headwaters, by spring.

By January 23 they reached the head of possible navigation and transferred their stores from the boat to the shore. They had trouble with the boat in the rapids, but managed to get everything through without mishap to McDonald's clearing. From there supplies were packed by the men or on pack mules.

**Route.** They followed the Elwha on one side or the other to Lake Mary, where the headwaters are. This little lake, about 400 yards across, is separated from a similar one, Lake Margaret, by a rise of not more than fifty feet. From Lake Margaret the Quinault flows to the south.

Mt. Seattle, so named by the party, on their map, lies west and a little north of these two lakes.

Following as they supposed, the Quinault river, they were puzzled for a time by a large westward bend in the river between Mt. Zindorf and Mt. Lawson. After a westward stretch of about five miles it turns back to the southeast until the junction of the Alexander river, where it makes a sharp bend to the southwest, going almost directly to Lake Quinault, which it enters at the upper end; leaving the lake again about the middle of the south side.

**The Press Blaze.** The trail was carefully blazed all the way with three blazes, one above the other. The lower one was made at the surface of the snow, so that in following it again comparison of the depth of snow can be made with the depth in 1890.

**The Trail.** The trail, in brief, runs as follows to the divide:

Port Angeles to Dr. Lull's claim it was old. From there the route led past Mt. Eldridge, the western spur of which they called the Devil's Backbone.

From there it runs through to Goblin Canyon. From the head of Geyser Valley it leads down Lillian River Canyon, crosses Lillian River, leads around Mt. Fitten to a great landslide.

Two miles below Semple Plateau it crosses to the west side. From here they advise running nearer the river than the trail does. A good trail can be found around the base of the Semple Plateau. The trail leads up the Goldie River, but Press Valley should be taken instead. It furnishes a good road to within a mile or so of the sources of the Quinault and Quilliyute rivers.

From the head of the valley one can choose between these two river valleys. The Press trail follows to the south to Lakes Mary and Margaret and the divide.

A few of the notable sights, aside from the grandeur of the scenery

every time an elevation was reached above timber, were Goblin Canyon and signs of an old Indian village on Semple Plateau.

**Goblin Gates.** The so-called Goblin Gates are ledges of projecting slate where the Elwha is crowded through a narrow portal about twelve feet wide into a canyon with rock walls hundreds of feet high, which seems to swallow the river down its gloomy depths.

**Signs of Former Inhabitants.** While exploring for a trail up Elwha Pass the first evidences of old Indian tribes were discovered. This was a spruce, and the blazes were evidently made when it was a sapling. The wood and bark had almost grown over the blaze.

They concluded from the condition of the blazes, the size and rate of growth of the spruce in such a locality, that the blaze must have been made over 200 years ago.

Not far from this tree they found an old wringing post, used by the Indians in dressing skins. After this, while in the Elwha region, other old trails were discovered, also other of the wringing posts.

Capt. Barnes suggests that this region would probably well repay investigation, yielding interesting traces of the old Indian tribes once living here. It lies between Geyser Valley and the entrance of the Lillian River.

A blaze discovered later in the vicinity of Mt. Fitten, had grown with the tree, and was about ten feet long. When cut into, 210 rings of growth were counted covering the edge of the blaze.

**Semple Plateau** lies on the west side of the Elwha and north of the Goldie River.

Capt. Barnes describes it as a level plateau one and one-half miles long and three-quarters of a mile wide, rectangular in form. It is covered with a thin soil over white gravelly sand. The trees are mountain fir, spruce and Douglas pine, all small, in marked contrast with the trees all around the plateau, which are very large.

Upon the plateau great numbers of the trees are blazed and otherwise injured, undoubtedly by the hand of man. All these scars are old. A circular mound, evidently artificial, was found on the plateau. There was no fallen timber.

The conclusion from these signs and from the situation of the plateau, three sides sloping steeply and the fourth an inaccessible mountain side, that it was the site of an ancient Indian village. There was no water on the plateau, but springs on all sides, just below the margin.

**Avalanches.** Avalanches are said to be uncommon except in the Bailey range. The mountains, even where very steep, are heavily timbered, and very few avalanche tracks are seen through the timber.

**Geysers.** Geyser Valley was so called because of noises heard there and believed to be geyser eruptions. The geysers were suspected of being in the canyon below the mouth of Lillian River, but could not be certainly located.

A second geyser, if geysers caused the noise, was heard on the Quinault River between the east fork, or Crumback River, and Lake Quinault.

Capt. Barnes describes the sounds as beginning slowly, like the clicking of a ratchet on a cog-wheel, gradually increasing in rapidity until at the end they are too rapid to be distinguished, and ceasing abruptly at the end of eight seconds. The interval between reports was four seconds. As near as could be determined the intervals between times of activity was three days.



**MT. MEANY FROM THE NORTHEAST.**  
Named in honor of Prof. E. S. Meany, by the Press party in 1890. This peak is near camp and can be climbed easily in a single day.



**MT. SEATTLE FROM ELWHA BASIN.**  
The pass at the head of the valley leads to the Quinault. Altitude of pass 6,400 feet; of Mt. Seattle 7,800. Mountain named by Press party in 1890.

**Glaciers.** Although the snowfall was very heavy, they report that no glaciers were found, even upon Mt. Olympus, and no streams showed glacial origin.

**Topography.** The topographic map of the region prepared by Capt. Barnes locates the principal ranges, peaks and stream valleys. The elevations of some of the prominent peaks are given as follows: Mt. Olympus, 8,550 feet; Mt. Seattle, 7,700 feet; Mount Christie, 7,450 feet.

The Bailey Range forms the backbone of the Olympics, and the other ranges are irregularly grouped about it. This range, with Mt. Seattle and Mt. Christie, form the watershed from which the Elwha flows north, the Quinault south, and the Quilliyute west.

Mt. Olympus is placed southwest of Geyser Valley, about midway between the Elwha and the Quilliyute rivers. No large streams were found flowing from it.

The Burke range divides the waters of the Elwha and its tributaries from the waters of the Skokomish.

**Quinault Valley.** Of those explored, the Quinault is the largest and most important. Beginning at the Alexander River, it extends to the ocean. Above the lake it contains about 15,000 acres of tillable land, and lies right to get the sun. Below the lake there are probably 50,000 acres of tillable land.

....**Press Valley.** The largest valley on the Elwha is Press Valley. It is thirty miles long, and from one to three miles wide, containing about 14,000 acres. It rises from 1,800 feet above sea level at the lower end, to 2,500 feet elevation at the upper end. The timber is large and heavy, the soil good, the surface level at the upper end, at the lower slightly rolling. Small alder bottoms are numerous.

**Quilliyute.** The headwaters of the Quilliyute are in a deep canyon. Between the part shown on the map and the settlements at the mouth, its character is unknown.

**Geyser Valley.** Geyser Valley is about four miles long and one mile broad at the widest part. The river runs broad and deep through it, and it is covered with large timber.

Lake Quinault, on United States land office maps, extends nearly north and south, instead of northeast to southwest, as located by the Press party. The lake is shown on the west side, while the Press party map locates it about the middle of the southern side.

**Names.** About fifty names were given to ranges, peaks, rivers and valleys.

**Geology.** The following concerning the geology of the Olympics is from Capt. Barnes' observations. He says:

"The coast strip and foothills are basaltic formation. Upon the Elwha this formation extends to the base of Olympus. We observed here no rock in place other than basalt or trap. From the base of the Olympics the formation changes abruptly to slate, sandstone, gravel and marl."

"Granite in place was seen but once—on Belle River, high up on the mountain side. The strata are tilted at angles varying from 45° to 90°, 75° and 85°.

being the most common angles. They are seldom found at an angle of 45°. The "strike" is, in most canyons, at right angles to the river's course. The folding is often very complex.

Being set up on edge as they are, the Elwha canyons expose them for examination in ideal position.

These vertical strata give the ranges the remarkably sharp, ragged outline so familiar to us. Sheer precipices of from 1,000 to 2,000 feet of naked rock are common, and everywhere the rugged character of the sides is beyond description.

Weathering and frost effects are noticeably absent. This, with the extreme sharpness of the ranges, the unworn beds of the streams, the canyons where streams have followed fissures, the cascades over soft tilted slate, in fact everything about the mountains, indicates their youth.

Some coarse granite boulders, evidently glacial, are mentioned as found in Goblin Canyon.

White quartz veins of varying thickness are abundant in places.

The crater-like form of many of the peaks was found in every case investigated to be due only to the fantastic breaking of the vertical strata.

**No Lava.** Entire absence of lava or any other volcanic matter except trap is one of the characteristics of the whole region explored.

**Flora.** As a whole, the mountains are well timbered. Hemlock, fir, spruce, cedar and pine are the chief varieties. In the interior of the mountains much cedar of large size was found at an elevation of from 3,000 to 4,000 feet. In general, fir, spruce and balsam are found on the mountain sides below 4,000 feet. Above 4,000 feet the mountains are either bare or the timber is the hardy, close-grained varieties of fir. In Press Valley there is considerable white and yellow pine.

On the Elwha the timber is generally good, and would average four to five million feet to the quarter section. The trees were medium size, tall, straight and perfectly healthy.

On the Quinault the timber is good as far as the Alexander River, but is poor above that. There is almost no grass in the mountains, a little on the lower Elwha. The "bunch-grass country" within the Olympics is a myth. Oregon grape and ground laurel furnish an excellent substitute for the pasturage of pack animals. They are abundant.

Salmon berries, raspberries, blackberries, strawberries and cranberries are very abundant, and in some places also the kinnikinnick berries.

**Fauna.** As to the game, the mountains are full of elk, which are usually quite tame. Deer are plentiful. One goat was seen by the party. Owing to the time of year and the severity of the season, only a few grouse and pheasants were seen. Undoubtedly they are abundant. Beaver were numerous in the Quinault, and black bear are plentiful. One track of a cinnamon bear was seen. Cougars, wild cat and wolves are common.

The party most of the time was abundantly supplied with game, but occasionally there would be several days when nothing was in sight.

**Minerals.** The severity of the weather and the depth of the snow prevented much prospecting. No gold was found in the Elwha, although up-wards of a dozen bars were washed.

Promising looking quartz was found, but without gold. Silver was found in a ledge of rock, and indications of silver were often seen. Silver was found on the upper Quinault, but no gold. The river sand was not prospected, however.

On both sides of the mountain oxide of iron was seen. No coal was found upon either the Elwha or Quinault. Galena was found in the silver rock. No traces of copper or tin were found.

So far as prospected, silver seems to be the principal mineral of the Olympics. The silver bearing rock found in the ledge was four feet thick.



**ELWHA BASIN AND THE WALL THAT FORMS MT. QUEETS.**

**The cleared area, over 600 acres, at the base of the mountain will be the site of The Mountaineers' permanent camp.**

*Copyright 1907 by Romans Photo Co.*

## Notes on the Geography of the Olympics

By HENRY LANDES

**F**ROM British Columbia to Lower California there rises from the sea an almost continuous line of mountains which constitutes the coast ranges. In general they are much lower than the next great mountain bulwark to the east, from which they are separated by a long north-south trough or valley. The winding coastal ranges have different names in different places, and the Washington segment is known as the Olympic mountains. The Olympics extend from the Columbia river to the Straits of Juan de Fuca but it is only north of Gray's Harbor that they represent a conspicuous mountainous area. Between Columbia river and Gray's Harbor the mountains are characterized by low ridges which do not exceed 3000 feet in height. The northern Olympics alone, or that large triangular area bounded by the Pacific ocean, Strait of San Juan de Fuca, and Hood's canal, will be considered in this article.

With the exceptions of some portions of Alaska perhaps, the Olympic mountains represent the least known part of the United States. They are scarcely known at all from the standpoint of geography or geology, and their fauna and flora have been but little studied. They have been penetrated in certain directions by occasional small exploring parties and yearly a few hunters and prospectors make their way into the mountain wilds. The usual routes of entrance are by way of the larger valleys, usually the Elwha, Quilcene, Quiniault, or Soleduck. All the routes of ingress are difficult because of the dense forest growth, the canyons along the streams, and the general ruggedness of the region. When well into the mountains the elk trails are generally followed by the explorer, and these must serve until an increasing interest in this little known region compels the construction of permanent roads.

From Hood's canal and de Fuca strait the Olympics rise abruptly from the sea, with a very narrow lowland margin. The only breaks in the solid rocky wall are the great chasms where the streams come from out the mountain interior to join the sea. Along the course of each stream, canyons alternate with wide valleys, according as the rocks vary from those highly resistant to erosion to those which are worn away with ease. Between the major valleys stand the high ridges which mark the stream divides. Capping the ridges are occasional lofty sentinels, such as Constance and The Brothers, usually in the form of great needles and spires and giving a marked sierra effect. When the interior of the mountains is gained, following up one of the larger valleys, there seems to be a very marked uniformity in the heights of the ridges or divides, indicating a general plateau character. In other words there are large numbers of high ridges and mountain peaks of heights approximately the same, giving in an extended panorama a rather even sky-line. It may be tentatively suggested that the Olympics represent a region once worn down nearly to a base level, and then uplifted to a height of about 8000 feet above the sea and subsequently eroded by streams of water and ice to their present rugged outlines. The higher peaks, such as Olympus, represent more resistant masses which in the former period of erosion did not reach a true base level. The forces of upheaval, it may be said, prepared a mighty block of rock, out of which

the forces of nature, represented by the weathering elements, running water and glaciers, have chiseled the mountains as we now know them.

Very little is now known regarding the nature of the rock formations in the Olympics. Along the ocean shores on the west and north coarse sedimentary rocks are most common. Sandstones and conglomerates predominate, with some shales, but no limestones. The rocks are all folded and faulted and show the work of mountain making forces on a grand scale. In some places seams of coal occur among sediments of the Eocene time showing the existence at that age of coal making swamps. Along the Hood's canal side of the Olympics are many outcrops of igneous rocks, indicating that flows of lava once came from out the mountains. In some places small bits of native copper are scattered through the lava and this discovery has been followed by extensive prospecting for commercial deposits of the copper-bearing rock. The few samples of rock which have been brought out from the heart of the mountains are largely of slate and schist types, indicating that metamorphic rocks prevail. From analogy with the northern Cascades, and with the coast mountains both north and south, a great series of metamorphic rocks with various intrusives would be the type of formation most expected. Prospectors have reported the occurrence of granite boulders in some of the stream beds and it is very likely that this formation occurs at several points. A large variety of metallic minerals have been found by prospectors in the Olympics, but no paying mines have been developed.

The amount of rainfall in the Olympics is notably high. This is to be expected from the fact that the mountains stand immediately facing a great body of water directly in the path of the ocean winds. The air coming from the ocean is heavily laden with moisture; the saturation point is reached the moment the shore is met, and hence the heaviest rainfall is along the coast. At Neah bay the usual rainfall is about 100 inches yearly; farther south at Clearwater it is 120 inches yearly; while at a new established station on Quiniault lake it is 135 inches yearly. The rain occurs mostly in the winter season, the months of the year with minimum rainfall being July and August. In ascending the mountains from the west or ocean side the rainfall continues very heavy until a height of about 4000 feet is attained when it begins to decrease. At this point also the rain gives way largely to snow so that the higher Olympics are clothed each winter with a deep mantle of snow. Upon the highest of the mountain masses the snow fields merge into glaciers, indicating that the summer sun is not equal to the task of wholly removing the winter's snow. On the eastern slope of the Olympics the precipitation rapidly decreases until it amounts to about 25 inches only when the sea-level is reached, as at Port Townsend. The difference in rainfall between Clearwater at the western foot of the mountains, and Port Townsend at the eastern foot, is a classic example of the contrast in precipitation afforded by the windward and the leeward side of highlands which lie in the paths of moisture laden winds.

The forests of the Olympics are among the best to be found along the Pacific coast. The heavy rainfall contributes not only to a great tree growth but leads to an unusual development of shrubs and the smaller plants generally. From sea level to a height of about 2000 feet the plant growth has produced a tangled jungle which is almost wholly impenetrable except where trails have been made. In the heart of the mountains there are con-

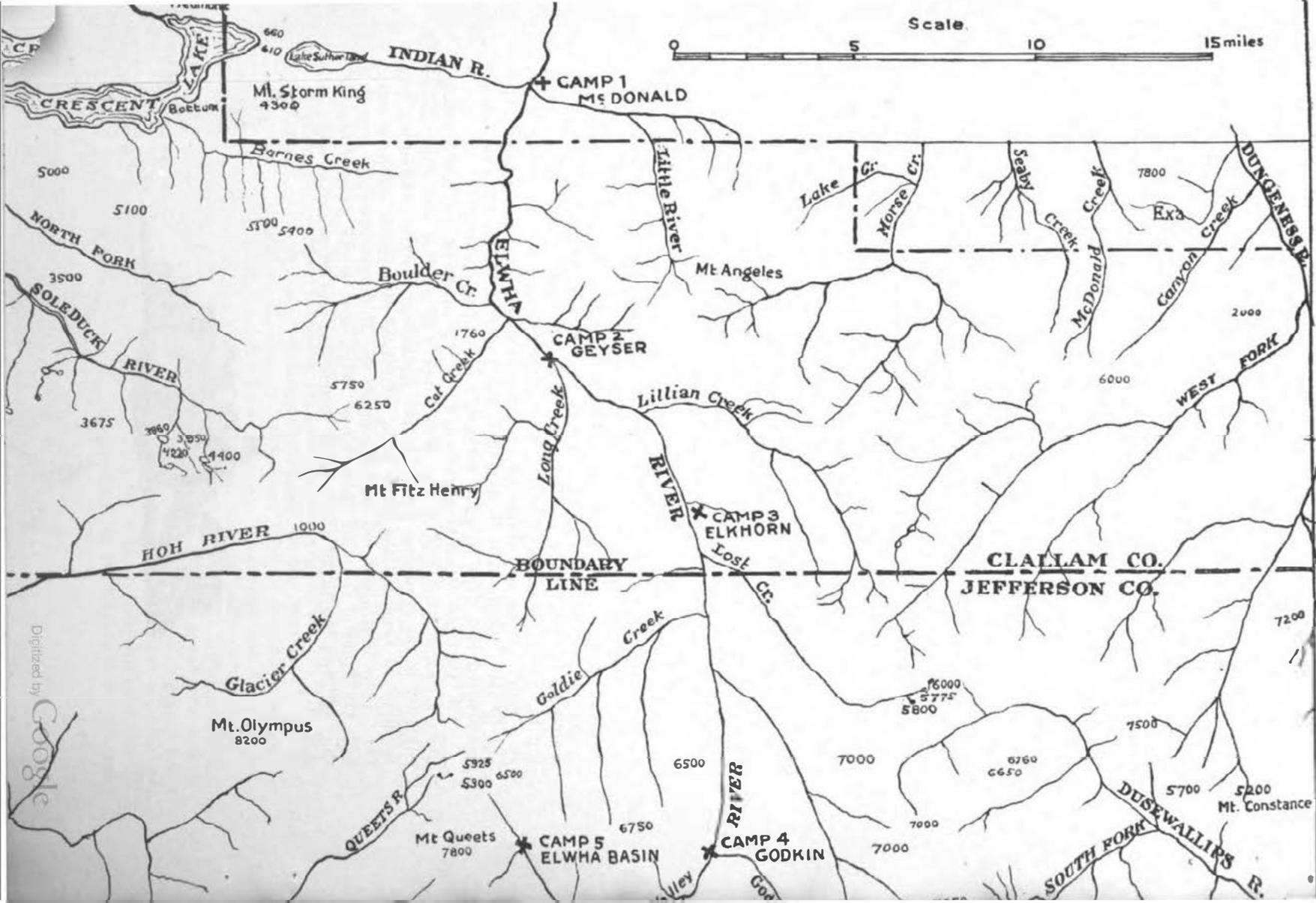
siderable areas without timber where the low temperature and heavy snow-falls have prevented tree growth. Above timber line there are many small meadows and upland pasture is afforded. It has been estimated that the forests of the Olympics will yield on an average not less than 24,000 board feet of lumber per acre. The commercial trees in order of yield from the standpoint of quantity are hemlock, red fir, silver fir, cedar and spruce.

Since the maximum rainfall of the Olympics is on the western slope it is into the Pacific ocean directly that the largest rivers flow. The principal streams are the Soleduck, Hoh, Queets, and the Quiniault. The chief rivers on the north are the Elwha and Dungeness, which empty into the Strait of Fuca. Into Hood's canal flow the Quilcene, Dosewallips, and Skokomish. About Mount Olympus the divides are very sharp and within a small radius are the headwaters of several of the master streams of the mountains. While the heads of all the large streams are torrential and abound in cascades and waterfalls, the lower courses of most have a velocity not so great but what they are navigated by Indians in canoes. Into the mouths of some of the streams the tide enters from the sea, indicating a submergence of the coast in recent times. The large number of independent streams along the northern slopes of the Olympics have evidently all been tributaries of the large westward flowing river which occupied the basin of Juan de Fuca strait previous to the general subsidence which profoundly affected our coastline and which brought into existence Vancouver and the numerous neighboring islands.

The difficulty of traveling through the Olympics is the chief reason why they are not visited by more people. Railway building has just begun upon the outskirts of the mountains, but steam roads must not be expected to ever penetrate them very far. Through the western foothills some wagon roads have been constructed and a state road has been surveyed from Montesano northward to the Strait. Trails must be depended upon by all who would go far into the mountains, and these are always more or less out of repair because no systematic work is done upon them. It is to be hoped that as a result of the expedition of the Mountaineers into the Olympics that one or more good trails leading into the heart of the mountains may be constructed and kept in good condition for future visitors.

The Olympic mountains attracted the attention of all the early explorers to our coast and it was Vancouver who applied the name Mount Olympus to the crowning peak. In the mythology of Greece Olympus was the home of Zeus and the other gods, who lived in a palace upon the summit. Upon and about our own Olympus the Mountaineers expect to find gods the equal of those of olden times. They will be the gods of comradeship, of good health, of the love of mountains, and of peace of mind and soul.





Scale 0 5 10 15 miles

INDIAN R.

CAMP 1  
Mc DONALD

Mt. Storm King  
4300

Barnes Creek

5000

5100

5700 5400

NORTH FORK  
SOLEDUCK RIVER

3500

Boulder Cr.

1760

CAMP 2  
GEYSER

5750

6250

Cat Creek

Long Creek

Lillian Creek

Mt Angeles

Lake Cr.

Morse Cr.

Sealy Creek

McDonald Creek

7800

Exc  
Canyon Creek

2000

WEST FORK  
DUNGENESS R.

6000

Mt Fitz Henry

HOH RIVER

1000

BOUNDARY  
LINE

CLALLAM CO.  
JEFFERSON CO.

Glacier Creek

Mt. Olympus  
8200

Goldie  
Creek

CAMP 3  
ELKHORN

Lost Cr.

7600  
5775  
5800

7200

7500

6750  
6650

5700

5200  
Mt. Constance

QUEETS R.

Mt Queets  
7800

CAMP 5  
ELWHA BASIN

6750

CAMP 4  
GODKIN

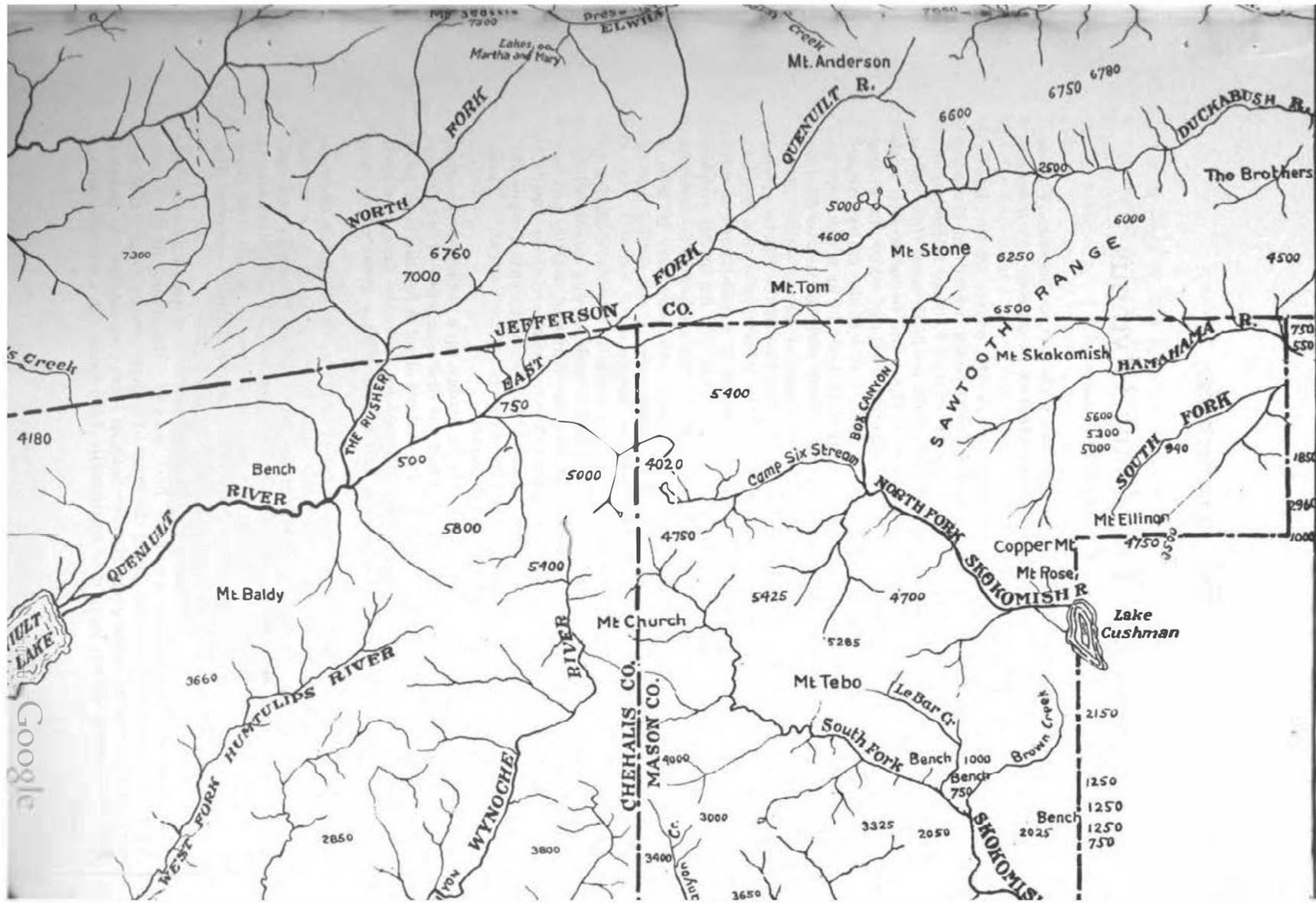
6500

7000

7000

SOUTH FORK  
DUSEWALL'S R.

Digitized by Google



MULT LAKE

Google

Mt Baldy 7300

Zakes, Martha and Mary

Mt Anderson

QUENILT R.

DUCKABUSH R.

The Brothers

NORTH FORK

JEFFERSON CO.

Mt Stone

Mt Tom

SAWTOOTH RANGE

HAMAHAMA R.

BAST FORK

CO.

5400

Mt Skokomish

SOUTH FORK

Bench RIVER

THE RUSHER

Camp Six Stream

NORTH FORK SKOKOMISH R.

Mt Ellinon

Mt Baldy

Mt Church

Copper Mt

Lake Cushman

3660

WEST FORK HUMULIDS RIVER

WYNOCHE

Mt Tebo

South Fork

Le Bar Cr

Bench

## Journey To Mount Olympus

By G. W. HUMES, Port Angeles

**D**URING the latter part of August, 1905, with two companions, I made a trip to Mt. Olympus, it being our intention to scale this little-known but much-talked of peak.

Leaving "Chicago Camp," ten miles below the source of the Elwha, one morning, we passed through the upper Elwha Basin, where the river has three forks, and continued along the most westerly of these, following the same to its extreme source in the Elwha-Queets ice-field, some four miles southeastward of Mt. Olympus. This part of the route being strewn with slippery boulders of all sizes presented difficult travelling, while the young Elwha plunged and foamed among them in its mad race to the valley proper.

The stream would scarcely average more than ten feet in width, but we had to cross and re-cross continually jumping from rock to rock or fording the icy torrent, closely hemmed in by steep slopes or canon-walls. After about two miles of this kind of work we came to the foot of the Elwha glacier which bridged the stream and afforded very good travelling with a few exceptions, where the ice had worn away and broken in, necessitating our return to the stream-bed for a short time. At one place the ice bridge reaches a thickness of perhaps 150 feet, where numerous avalanches have brought thousands of tons of snow from a side canon and where now may be seen a series of waterfalls, very high but not of large volume, reminding one of Bridal Veil falls near the Columbia in Northern Oregon.

At intervals above this occur several pot-holes or "wells"—shafts in the clear, greenish blue ice—as round as if bored with a huge auger, while, at the bottom, 50 or 60 feet below, may be seen the foaming, roaring torrent, rushing along with awe-inspiring fury. From the rim of one of these "wells," one unconsciously shrinks back after a glance into its noisy depths, while the thought of falling in is sufficient to make the average person "crawl." These "wells" are from six to fifteen feet in diameter.

After another mile of travel along this ice bridge, up a rather steep slope, we came to the Elwha-Queets divide, and had our first near view of Mt. Olympus a few miles to the south westward. Its eastern slope is for the most part occupied by the Queets glacier—a huge mass of ice from the face of which huge blocks were breaking at intervals, and falling with a great crash into the canon below.

It being late afternoon, we sought a camping place, and by going about a mile down the Queets, found a favorable spot facing a large rock in the sparsely-timbered park region. While arranging a bed of fir boughs and collecting wood for the camp fire, we sighted two very large black bears about a mile to the southward, and with the aid of a field glass made out that they were "rustling" their supper from blueberries, which literally covered the ground hereabouts, and were deliciously sweet.

Next morning we were up with the sun, and took steps to assault the grand peak in the shade of which we had camped. Returning to the main divide we proceeded westerly along the crest of a sharp, rocky ridge until we could slide down on to the great Hoh ice-field, at least a square mile in extent. This we crossed entire, having to continually turn aside for crevasses, some

of which were 20 feet wide and 60 to 100 feet deep. At the foot of this glacier, great sections of ice were tumbling into the Hoh, making the mountains echo with the almost continual rumbling. Climbing a high-rocky spur at the south side of this ice-field, our progress was interrupted by a sheer cliff, at the foot of which spread out another ice field, also flowing into the Hoh. The summit of Mt. Olympus now appeared scarcely a mile away, its triple crown glistening in the bright sunlight. Up to this time (11:30 a. m.) the day had been an ideal one for mountaineering, but now a dense fog was observed beating up from the ocean side of the peak, which threatened to soon envelope everything; therefore we thought it advisable to retreat, leaving further exploration for a more favorable time.

In returning to our camp of the previous night, we discovered a shortcut, by following the tracks of a bear in the snow through a narrow pass, which saved about two miles of difficult going. During the evening, I made a side-trip to the southward by way of exploring the adjacent park country. There were acres and acres of blue berries on which the bears were feeding, their signs being everywhere present. During this two-hour trip I also saw six or seven deer, which seemed to have very little fear of man, not having, I suppose, ever seen one before.

From the most southerly point reached, I judged the country favorable for an ascent of the peak from that quarter; however, further prospecting would be necessary to determine this, as I merely reached the base of the mountain in that direction.

During the following night, a cold rain set in, and being unprepared for severe weather, we set out at daybreak to retrace our steps down the long glacier. Coming to the rough stream bed, we turned to the left and kept along the steep hillside in the timber, which we decided had many advantages over the canon route that we chose going up. By strenuous travelling, we reached "Chicago Camp," our headquarters, in about four hours.



## Observations On the Olympics

By J. B. FLETT, Tacoma

**I**N the northwest corner of our state lie a nearly circular mass of rugged mountains. Their serrated and jagged forms have defied explorations. True, several parties have invaded the more accessible parts, but the interior is a *terra incognita*. The rivers have cut deep channels often to nearly sea-level.

The mountains often form on their sides talus slopes from base to summit. In climbing many of these peaks the loose stones will start downward, giving the climber a free ride. He has to step lively so as not to get his feet caught between the loose stones.

It does not seem possible that the northern ice sheet ever passed over these mountains. The writer believes that these mountains were raised after the glacial period, but at a time when the climate was still quite cold, and that local glaciers from the summits of these peaks moved down the river valleys for some distance, making their upper courses U shaped. The softness of the rocks makes erosion go forward with great rapidity. These mountains lack the granitic formation so common in the same latitude in the Cascades, hence the time necessary to cut deep river valleys is short. Everything goes to show that these mountains are young.

The precipitation is greater in these mountains than that of any other part of the state. There is every reason to believe that the same conditions existed during the geological periods. This fact together with the softness of the strata would account for eroding deep river channels in a comparatively short period of time. We will leave the geology of these mountains to the geologists and hasten to give a brief account of the plants in the region of Mt. Constance and along the Quilcene and Dungeness rivers.

There is nothing more beautiful than the large areas covered with **Rhododendron Californicum** which grows to the highest perfection about Hood's canal and extends quite a distance up the mountain slopes. Growing with it are many plants characteristic of low altitude, such as salal, psoralea, alder, willows and madrone. The common forest trees extend to about 2500 feet, when the forest becomes mixed with the lovely fir, the noble fir and the white pine. The underbrush is very dense along the lower course of the rivers. The Devil's walking stick is by far the most troublesome. These disappear in the higher altitudes and the forest is covered with the little bramble (**Rubus pedalus**) and other small plants found in corresponding altitudes in the Cascades. The ferns are also abundant growing very tall and beautiful. The sword fern, the maiden hair and the deer fern are the most conspicuous of the family. There are many graceful radiate tufts of the lady fern (**Athyrium cyclosum**) growing in rich moist places. At an altitude of about 4500 feet the plants above mentioned give place to other forms much smaller. The forest becomes more open and distinctly alpine. The principal trees are the Alaska cedar, the alpine hemlock, the alpine fir and on the very summit are a few scrub trees of the black pine.

The deciduous trees in the lower forest are covered with a dense growth of mosses, liverworts and the licorice fern (**Polypodium falcalum**). This gives the forest a semi-tropical appearance. As we approach the alpine trees this green appearance gives place to the dull gray forms of lichens.

Some of these hang down and others form crusts on the trees. We find the trees decorated from sea-level to the summit. Some trees have long streamers waving in the wind. The forms of *Usnea* are the most common of these pendant forms.

As we begin to emerge from the forest region into the parks or meadows we find many herbaceous plants. Perhaps the largest and most characteristic is the Elk Grass (*Xerophyllum tenax*). This plant is called Squaw grass because it is used by the Indians in making baskets. Mountain Lily is another popular name for it. The Sitka valerian and the Mountain dock are always pioneers on the outpost of the open grassy slopes. There are four or more different kinds of huckleberry bushes loaded with fruit in the proper season. The rosy spiraea is quite common along the rills and with it grow several alpine willows. Among the roots of these shrubs grow *Mimulus alpinus* and *Mimulus Lewisii*, popularly known as monkey flowers. Both of these form dense mats—the former of small yellow flowers and the latter of large rose-colored blossoms. The white and yellow deertongues grow among the tall, waiving grass. Two species of Arnica and several mountain dandelions add more yellow to the scene while several species of Asters give a coloring of purple. Under the cliffs are two species of blue bells. The round leaved one, so common on the prairies, is equally well at home at an altitude of nearly 6000 feet. Several members of the lily family grow here together with three or four composite flowers, one of which proved to be new to science and was named from my collection. Near by on a stony slope was a dense mass of a pretty little union also new to science, while on the very highest peaks was a large purple violet also waiting to be christened. Thus were three new plants found near together and neither so far as I know has been found outside of the Olympics. There were three ferns growing on these peaks, namely the lace fern (*Cheilanthes gracillina*), (*Polypodium hesperinum*) and (*Polystichum lonchites*). These are strictly alpine ferns and are not seen about Puget Sound. There were several painted cups or Indian pinks in this region. Some of these were yellow, some red and others purple. The red, white and yellow heathers were also abundant. The most attractive of all, perhaps, was the purple larkspur (*Delphinium bicolor*). There were several members of the mustard family nearly all of which were small. The pea family was well represented both in number and beauty of coloring.

It would be out of place for me in a paper of this kind to name all the plants seen in the region referred to. I have indicated only those which I think are the most conspicuous and which would be observed by tourists. There is a great similarity between the flora here and that in the Cascades. The Olympic mountains seem to have fewer species common to the eastern states than do the Cascades. The Cascades have more common to the Arctic regions. The latter fact is just what might be expected because of the isolation of the Olympics. There is not the opportunity for north and south migration in these that there is in the Cascades. Hence the new and rare species of the Olympics belong more to the ordinary genera.

There is perhaps no other region in the United States that can equal the Olympics for hunting and fishing. The streams and small lakes are well supplied with trout. The large animals are fairly abundant in the interior of these mountains. Bears and cougars are often seen prowling along the well beaten trails.

## The Mountaineers' Annual Outing, 1907

Announcement of Final Plans for the Olympic Expedition



N the heart of the Olympics!

Such will be the Mountaineer's camp in Elwha basin at the head of Elwha river. Four streams unite here and start the main stream that flows sixty miles to the straits. Its valley thus affords a magnificent highway into the center of the range.

The mountains at the head of the valley nearly encircle the basin, leaving only a break to the east, where the river circles around Mt. Dana.

Second only to Mt. Olympus, among the Olympics, these mountains stand 4,000 feet above the camp, itself 3,300 feet, and their peaks are clad in snow and ice. From the mountains directly above camp the panorama of mountains stretches away on all sides in countless hundreds of peaks.

In the distance, to the northward, is the summit of Mt. Angeles, which is the first of the range to be seen to the east of the Elwha as one leaves Port Angeles. Nearer and to the left are the snow clad ridges that divide

Boulder, Cat, Long and Goldie rivers, while winding away to the southwest and south is the long, dark valley of the Elwha. To the eastward is the great wall of the coast range which from the Sound hides all the rest of the range and creates the idea that the Olympics is a long, narrow ridge. Due east is the summit of Constance, seemingly low, compared to the sea of peaks which rise south of the Elwha and at the head of the Queets and Quinault. Directly south is the crag of Mt. Meany with Mt. Seattle at its left. To the right of Mt. Meany the Queets valley cuts a dark channel southeast toward the Pacific. Beyond the Queets and a little north is the massive bulk of Olympus itself. The remnant of a once great plateau, it is separated from the main range by the valleys of the Queets and Hoh rivers, the first in a valley 5,000 feet deep and the second one 7,000 feet. Its only connection with the other peaks is the ridge that leads to the northeast which forms the divide for the Elwha, Queets and Hoh rivers. The Elwha does not reach Olympus, being cut off by the range forming Mt. Queets and Mt. Meany.

From the main plateau a number of pinnacles rise above the field of ice and snow, but one near the center appears considerably higher than the others and this will probably prove to be the summit when we reach the main mountain. The temporary camp for the climb will be at some point along this ridge and the ascent made on either the Queets or Hoh side of the ridge.

The committee did not find it practicable to attempt the ascent of Mt. Olympus on the preliminary trip, because it was impossible to be away

from the pack horses longer than twelve hours. It was not possible to climb the mountain in that time over the soft snows that covered the range. The ascent did not appear to be very difficult and can undoubtedly be made by all who wish to do so. The beautiful meadows east of the mountain at the head of the Queets were covered with snow, but ridges exposed to the warmth of the sun gave promise of the wealth of flowers that would be found later on all the mountain slopes.

This group of mountains, the highest part of the Olympics, is little known, more because it has been inaccessible than because of the real difficulties of traveling through it. The only trails to the upper Elwha have been the elk trails and the few who knew their way among the labyrinth of these to the headwaters did not wish others to share their knowledge, so no trails were blazed. A few hours or days at most, and the calk marks of their horses shoes were stamped out by other bands of elk and the trail lost again.

A slide and some fallen timber blocked even this trail and the only way of reaching the upper Elwha was a trail over the high ridge between Long and Goldie rivers. This crossed the divide at 5,900 feet and the steep grades make it impossible to pack supplies enough to accommodate a party as large as the Mountaineers. Port Angeles came to our aid and opened a trail for ten miles into Press valley and a new one for six miles at the head of the valley into Elwha basin. But for this work it would have been impossible for our club to have reached Mt. Olympus and because of it a permanent way will have been opened into this region, one of the most beautiful in the state.

Comparisons of mountains are impossible, but not one of the camping spots has afforded so many beautiful spots for side trips. There are four peaks that can be climbed in a single day from camp, and from the summit of each the view is magnificent. Rugged mountains are all around one, not distant and dwarfed as they are from the summit of the great volcanoes.

### FINAL PLANS.

The first division will leave Seattle Wednesday morning, July 24th, at 7:30 taking a lunch to eat on the steamer. They will reach Port Angeles about 1:30, where there will be stages to accommodate all who do not wish to walk to McDonald. This stage fare will be \$1.00 each and those who wish to be accommodated should notify the secretary at once, or when making application to go on outing. The change in boat schedule makes berths and meals on the boat unnecessary, and there will be no other expenses on the trip in. The Outing Committee will begin furnishing meals at McDonald. The distance from Port Angeles to McDonald is ten miles and the walking good, so many will undoubtedly prefer to walk.

The first day's tramp on the trail will be from McDonald to Geyser Valley, a distance of eleven miles. The trail is through timber the entire distance and is one of the features of the trip. Springs break out among the rocks and for miles there is a mass of beautiful ferns. Groups of frail maiden hair ferns stand three feet high and they can be seen clinging among crevices in the rocks high up above the trail.

The second camp of the party will be at Geyser Valley and members of the party will have the entire day to walk to this camp and will have only their lunch to carry. This lunch will be issued to them after breakfast

at McDonald. The pack train will accompany the party and each member will be required to pack his own belongings ready to go on the horses and deliver them to the packers. Beyond this he will have no care of his personal effects, as they will be delivered at the next camp early enough to enable all to make camp comfortable for the night.

The third camp will be at Elkhorn Flat between the Lillian and the Lost rivers. The fourth near the mouth of the Godkin and the fifth, the main camp, at Elwha basin.

The trail for the greater part of the distance follows the Elwha Valley through a heavy growth of timber. At some points it is necessary to leave the valley to avoid small canyons or to cross one of the tributaries, but these rises are never more than a few hundred feet.

Beyond the Hayes there are no burns at all. The timber, for the most part hemlock and white fir, stands in one great, unscathed forest, with such a canopy overhead that the sun can scarcely penetrate and undergrowth languishes. This dense growth extends up the valley until the basin is reached, where the growth changes to Alpine within a hundred feet, and one steps across a branch of the Elwha into a mountain meadow surrounded by high mountains.

The second division will leave Seattle Saturday, Aug. 3rd, in charge of Prof. Henry Landes and will follow the same schedule as the first division.

It has been found necessary to make the following additions and changes in rules and regulations for the outing.

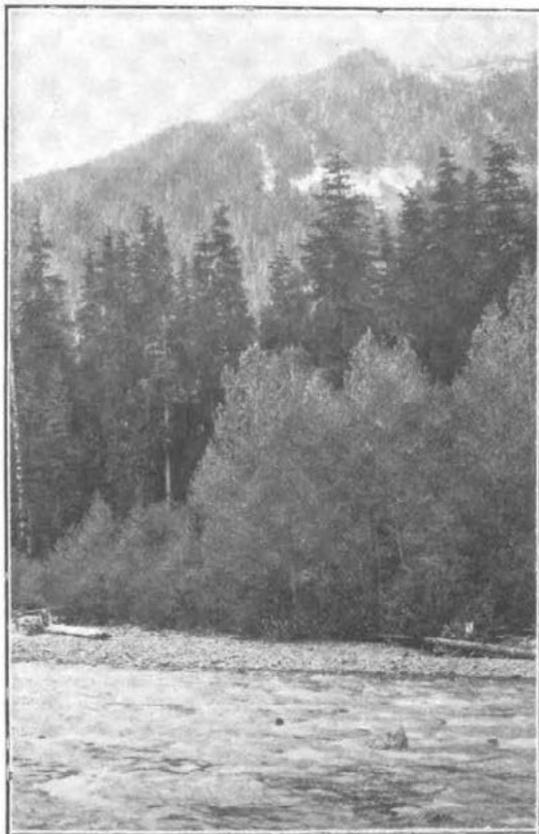
Only 25 pounds of dunnage can be taken with the party, the balance must be delivered to the committee, on July 5th, at the City dock. Two members can arrange to pack their bedding together in one dunnage bag for the trip and can send their other effects in another dunnage bag. This will relieve them of caring for their entire dunnage on the trail and has been found necessary.

Everyone must provide calks enough to reset their shoes at least twice while on the outing. Use No. 7 for the heels and No. 5 for the soles. It will be necessary to have shoes well nailed with cone-headed Hungarian or hob-nails, and these should be in the ball of the foot and extend back nearly to the heel.

The committee requests that no fire arms be carried. There is no game that can be killed at this season and the promiscuous use of fire arms during the outing cannot help but be a menace to other members of the party. Also when bands of elk are sighted, as they so frequently were on the preliminary trip, the temptation to try just one shot would be very great. Should a member of our party wound or kill one of these magnificent animals, in defiance of the U. S. laws, it could be nothing but a disgrace to the club.

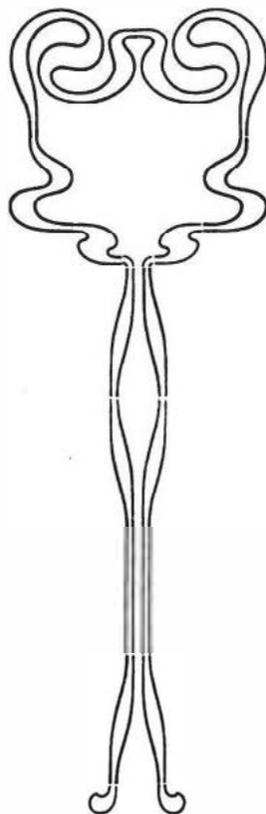
All women of the party who expect to go on side trips or climb any of the peaks, must be prepared to wear bloomers or better still knickerbockers, as on all these trips no skirts will be allowed.

Final payment of outing deposit should be sent to the secretary at the earliest convenience and must be in before July 20th.



**ELWEA RIVER AT THE MOUTH OF THE  
GODKIN.**

**Mt. Dana in the distance. The third camp will  
be located near this point.**



**MOUNT SEATTLE, ALTITUDE 7,800 FEET.  
Named by Press party in 1890.**

*Copyright 1907 by Romans Photo Co*

From the summit of the range can be seen an excellent view of the surrounding country. On the north Port Townsend appeared near at hand, while northwest could be seen the Straits of Juan de Fuca and Vancouver Island with its mountain peaks towering as far as the eye could see. To the east Puget Sound meandered like a broad river until it became lost among the islands toward Olympia. Beyond it in plain sight were Everett, Seattle and Tacoma with the snow covered peaks of the Cascades for a background. To the west lay range after range of mountains with their bases resting upon a plateau.

## The Mountaineers' Ascent of Mount Si.

By ALIDA J. BIGELOW

ON May the tenth a party of twenty-seven left Seattle for the club's first mountain conquest. Everyone was ready with true mountaineer spirit. No seats in the car were attainable and so the baggage car was given us for the trip. This only made it a greater lark and those who haven't traveled widely in such cars don't know what fun it is. The rain on the way made the woodsy smell only the sweeter and upon arriving in Snoqualmie several of the most venturesome still cried to sleep out. However, the women of the party went to the hotels and the men rested on the soft floor of a vacant house offered as our headquarters, during the stay.

Saturday morning we were all assembled from the four corners of Snoqualmie, by a melodious "Chinese" gong, consisting of a circular saw hung on a wire. That camp in the yard of the headquarters was our home for the two days spent in the village. There was abundant supply of kindling wood, right at hand, boxes for tables and chairs, and a well of fine water. Really a fashionable camp we all agreed.

The first day was spent in visiting the falls, with one or two side trips taken by the followers of Isaac Walton. Everyone who had not seen Snoqualmie Falls before was greatly surprised at their beauty. The trail through the woods, through the dense shadows, suddenly ending at the verge of the cliff over which the waters dash two hundred sixty-eight feet is enough to quicken anyone's pulse. Several followed the trail to the base of the cliff and had a little experience in rock scrambling, which came in good play the following trip. No matter where you view the falls they are imposing and the fact that they give away so much of their power, still retaining such beauty makes one appreciate the foamy, tumbling mass the more.

In the evening a huge campfire cracked and sizzled on the river bank down the hill from camp. Dr. Peck and Dr. Eaton were masters of ceremonies and their evening program was certainly a success. Each member of the party contributed a number and when the second party came from the train they were met by flaming torches and lusty yells of welcome, which echoed and re-echoed down the valley. After gathering around again and listening to Professor Landes' plans for the morning trip, the camp fire was abandoned and sleeping-bags sought.

The next morning almost before the first Snoqualmie cock crew, the line-up for Mount Si was ready. Some of the party had to be left behind for which everyone was heartily sorry. Professor Landes was in charge of

the line with Mr. Boyer, Mr. Blake and Mr. Nelson as captains of Companies "A," "B" and "C," Mr. Nye of Snoqualmie acted as guide and Mr. Curtis and Mr. Price as advance guards. The party numbered **thirty** when it started at 5:30. Of this number twenty-four reached the summit.

The first hour of the trip was along the river among the maples and ferns, Mount Si ever looming before us, the pinnacles hidden in a grey, lowering cloud mass. Afterwards the party came out on that almost unending rock slope with which "Old Si" has surrounded its base, during the centuries. Here a cache was made of all unnecessary packs and three of the party left the main line. Our trail led out over the huge slabs and boulders. Ever upward we climbed looking for the pinnacles that were visible only at times, between the clouds. Then reaching the cloud zone, all distance was shut off and with it the trail. Reaching the base of an impassible cliff the party waited for the clouds to clear, while the scouts hunted for the trail. In a short time the clouds parted and we were called to the trail, farther down the slope. Everyone had a good supply of second wind when that was found for the mountain might not be a feather in our caps that night, unless speed was made.

At ten, the first general halt was called for luncheon. Two more decided the mountain was too high and when the line started on they were left with a cheery bonfire to comfort them. Our trail led ever upward not wasting time in winding around the mountain flank, but growing steeper and steeper. Now and then a cry of "look out below" and a rock loosened by the forward companies would fly by. Fortunately the sky was overcast that day. At times as the goal seemed almost impossible, the cheery words of comrades spurred us on, until at last we came to the end of the talus slope and to the narrow chimney or rift through one of the pinnacles, and on up to the summit, reaching it at one ten. We were greeted here by a huge bonfire which Mr. Price and Mr. Curtis had ready for us, and though everyone was hungry and weary, the whole party, inspired by the actual summit, were ready with yells of victory and with energy to enjoy a snow-ball fight in the adjacent field. Then to the dinner in our meadow of princess pines and kinnikinnick with the cloud bank beneath us and here and there an island hill-top or a shimmering band of river showing through the parted cloud masses.

Our time being limited we remained on the summit only for a short time and started on the tedious down hill trail at two. That talus slope will long remain in our minds. It seemed endless as we carefully picked our way to avoid sliding rocks. On the downward trip we were rewarded with a grand view of the country to the west. The Sound shown as a line of glimmering silver and the valley winding in and out on its sea-ward journey was worth all the toil of the morning.

When at last we reached the field at the mountain base, some had almost forgotten how to walk on the level, but as the party came into camp, radiant with its conquest everyone was ready to cheer for Mount Si and ready also to partake of the splendid dinner all prepared, thanks to the home party.

The home coming was interesting especially to those of scholarly tendencies, who planned to reach Seattle that night. But, alas, for plans of mice and men! We will long remember the ride through the dense black forest. This party managed to reach Seattle at 7:30 Monday morning and

the main party, at 10, all sunburned, triumphant and loyal to Mount Si or "Mount Sigh" as some now wish to call it.

### MOUNT SI PARTY.

\*Prof. Henry Landes, leader; \*Mr. Robert Nye, of Snoqualmie, guide. Advance guard—\*Mr. Asahel Curtis, \*Mr. W. Montelius Price.

Company "A"—Mr. Boyer, captain; Mrs. Epler, Mr. Epler, \*Miss Anna Howard, \*Mr. Skeel, \*Miss Nettleton, \*Mr. Chalmers, Miss Brayton and \*Mr. Johnston.

Company "B"—\*Mr. Blake, captain; \*Miss Nellie Johnson, \*Mr. Chalmers, \*Miss Bigelow, \*Miss Hubert, \*Mr. Howard, \*Miss Grace Howard, Dr. Sweeney and \*Mr. Morrill.

Company "C"—\*Mr. Nelson, captain; \*Mrs. Curtis, \*Miss Leckenby, \*Mr. Epler, Mrs. Mixson, \*Mr. E. H. Wells, \*Miss Winnifred Johnson, \*Mr. W. H. Wright and \*Mr. Best.

Those marked \* reached the summit.



**MT. SHUKSAN.**

*Copyright 1907 by Romans Photo Co.*

## The First Ascent of Mount Shuksan

By ASAHEL CURTIS

**M**OUNT SHUKSAN, situated in the northern part of Washington, about sixteen miles northeast of Mount Baker, was, so far as we could learn, never climbed until our ascent made in August, 1906.

The mountain is the highest point left of the primary upheaval and is a beautiful mass of igneous rock with cascade glaciers flowing outward on all sides, except the north, from a central snow field. On the northern side of this, and a thousand feet above the snow, rises a great black pinnacle, forming the main summit.

The ascent was attempted first on August 1st by J. A. Lee, Rodney Glisan, E. G. Grinrod, W. M. Price and myself. We followed the ridge that leads to the mountain from the northwest until we were almost directly under the main pinnacle, but were compelled to turn back by an approaching storm, and the lateness of the hour.

Two days later Mr. Price and I attempted the ascent once more, going this time to the south and climbing along the face of the mountain until we came out on top of the main shoulder to the southwest, at an altitude of about 6500 feet, where we spent the night. By means of a rude brush shelter we were able to keep warm although we had no blankets.

On the following morning we continued up the ridge to the snow plateau above the lower pinnacles finding still, to the north, the black mass of the summit pile. The ascent of this rock pile was a rather difficult piece of rock-work that required over two hours.

On the summit we could find no trace of a previous ascent. No rocks had been disturbed, except where the lightning had struck them, and no record had been left. We left a record of the ascent in a glass jar under the cairn that we built, claiming the ascent in honor of the Sierra and Mazama Clubs of which we were members.

The view from the summit should be particularly fine but at this time was hidden by the smoke of forest fires and we could just make out the summit of Mount Baker and a few of the mountains in the range to the north.



## Editorial Comment

**T**HE proposed ascent of Mount Olympus by The Mountaineers is attracting considerable attention, as being the first attempt of any mountain-climbing club to scale this peak. Several well-known scientists have already asked to join the party, in order to take advantage of the opportunity which the trip offers for exploration and research in a practically untouched field.

\* \* \*

By some inexplicable oversight the "Contents" page and illustrations of the March number of The Mountaineer were not sent to the proof-reader, with the result that several serious errors crept in without detection, much to the mortification of the Publishing Committee.

\* \* \*

The associate editor wishes to absolve the editor of The Mountaineer of any responsibility for this number, including the editorials, as it was agreed that if the editor would secure the advertisements necessary to finance the undertaking, the associate editor would do the rest.

\* \* \*

The Washington branch of the Audubon Society, the first steps toward the organization of which were taken at a "Mountaineers'" meeting, is now well started, with the following officers:

### Officers.

W. Leon Dawson, President.  
 Mrs. Stephen E. Thayer, First Vice-President.  
 J. F. Illingworth, Second Vice President.  
 Clinton T. Cook, Treasurer.  
 H. Rief, Secretary.  
 Mr. L. T. Zanks.

\* \* \*

As an appendix to the article by Miss Ina M. Hanna in this number, it might be of interest to give a brief description of the personnel of the Press Party. Of the seven men in the original party, James Hellbaj Christie, the leader, was a Scotchman, born in Murrayville, Scotland, in 1854, and had spent many years prospecting and hunting in the mountains. Captain Charles Adams Barnes, the historian and topographer of the party, was born in Illinois in 1859. He was appointed cadet in the U. S. revenue marine in 1879, was commissioned a lieutenant in 1883. In 1887 he resigned to enter business, going first to California and later moving to Seattle. Harry Boyle Runnals, M. D., was to have been the photographer and collector of the fauna of the region, but failed to accompany the party. John Henry Crumback was born in Ontario, Canada, in 1856, came West and was in the Rich rebellion under Gen. T. B. Strange. John Williams Simms was born in Essex, England, in 1851. In 1870 joined the British army, in which he served six years. In 1881 went to the Boer war in South Africa, serving under Sir Garnet Wolsey; came to America in 1886. Christopher O'Connell Hayes, great-grandson of the famous Irish patriot, Daniel O'Connell, was the youngest member of the party, being twenty-two years of age at that time.

\* \* \*

The Club continues to grow at an unexpected rate. Its membership list now includes residents of Banff, Alberta, Canada; Los Angeles, Pasadena and Berkeley, California; Minneapolis, Minnesota; Portland, Oregon; North Yakima, Aberdeen, Castle Rock, Davenport, Port Angeles, Tacoma, Walla Walla and Seattle in Washington, its members representing almost every trade and profession, that of teaching being in the lead at present, including eleven members of the faculty of the University of Washington. It now looks as if the second party to start on the annual outing will be made up almost entirely of professors of this and other universities.

\* \* \*

If all authors and editors who are members of The Mountaineers would follow the example of Mr. Sholes and present first editions of their books to the club's library, it would be able to boast books on history, geography, geology, ornithology, botany, entomology, poetry, travel and description, and possibly other subjects.

## Report of the Historian

MARY BANKS

**E**VENTS have crowded upon one another so closely of late, owing to the enthusiasm of the Mountaineers for outings and other activities, that the Historian can attempt little more than the merest mention of each, although the temptation to digress is hard to resist, so many incidents of the various trips seem worth the telling. To avoid this temptation, will hold to a brief chronological outline of the walks in tabulated order, which arrangement will, of itself, preclude any digression.

This list includes all outings so far taken, although the first three have already been noted in a previous number of the quarterly.

### Outings.

No.	Date.	Route or Destination.	Leader.	Number in Party.
1.	Feb. 17, 1907...	Fort Lawton and West Point Lighthouse...	Mr. Curtis	49
2.	March 3	Kirkland and the Belt Line road	Mr. Curtis	47
3.	March 16	Tacoma, American Lake and Stellacoom...	Mr. Charles Landes	50
4.	March 24	Interlaken Boulevard to Pontiac	Miss Anne Hubert	33
5.	April 7	Chico to Lake Kitsap and the Navy Yard...	Miss Peckenbaugh	47
6.	April 20	To Swan Lake and Kent	Dr. B. R. Stevens	
7.	April 27-28...	Port Ludlow, through Chimacum Valley to Port Townsend	Mr. Constantine	15
		Bainbridge Island Trip—		
8.	May 4-5	1st day, Pleasant Beach Country Club, Port Blakely, Ship Yard, Wing Point		26
		2nd day, Wing Point, Eagle Harbor, Crystal Springs and Pleasant Beach	Mr. L. T. Banks	29
9.	May 10-12...	Snoqualmie Falls and Ascent of Mt. Si...	Prof. Henry Landes	36
10.	May 19	Tacoma and American Lake	Prof. J. B. Flett	
11.	May 26	Around Mercer Island	Mr. & Mrs. C. A. Meyers	47
12.	June 2	Bellevue and Juanita	Mr. L. A. Nelson	27
13.	June 15	Clambake and Campfire at Yeomale Point, Bainbridge Island	Dr. C. S. Eaton, hostess.	80

Of these outings many a tale might be told, how on the first over-night trip; of the many feminine members "surely going," all failed to materialize when the time came, except two, but it was a bit early to welcome sleeping on the cold, cold ground.

Then on the Bainbridge Island trip it is whispered that the "sleep-out" members were outnumbered by the "sleep-ins." However, it is said that the latter were prevented from indulging in sweet dreams by the noise of the "outs." This is testified to by the inhabitants who live on that part of the island.

As to the ascent of Mount Si, that is a story of itself, and will be found elsewhere recorded,—with all the most exciting episodes carefully omitted.

But the history of The Mountaineers is not alone that of outings, and that the interest of its members is quite as great along other lines is evidenced by the crowded condition of the Chamber of Commerce rooms at the regular monthly meetings of the club, the usual attendance averaging fully one hundred or more; and the enthusiasm with which all of its lectures are attended. At the lecture given by David Starr Jordan, President of Leland Stanford Junior University, on "The Ascent of the Matterhorn, although being the only lecture for which members were charged admission, the demand for tickets was so great that many failed to secure even standing room, despite the size of the hall secured.

At the regular April meeting a lecture on "Mountain Birds and Other Birds" was given by Mr. William F. Finley, of Portland, Ore., representing the National Audubon Society. The lecture described a boat trip of several weeks spent studying the water birds of Lakes Klamath and Tule in Oregon.

On motion of Mr. William Leon Dawson, the following committee was named to further the organization of a Washington branch of the Audubon Society: Frank J. Cooper, City Superintendent of Schools; H. Rief, game warden; Asahel Curtis,

photographer; Miss Nettie Sawyer, Supervisor of primary grades, Seattle schools; and Miss Mary Banks, Reference librarian, Seattle Public Library.

May 17 a lecture, illustrated by stereopticon views, was given by Prof. Henry Landes on "The Origin of the Scenery in the High Mountains." At the May meeting suggestions for motto and symbol for The Mountaineers were called for. After some discussion of the ones proposed, the decision was finally left to the Program Committee.

On June 15 a special meeting was called in order that the members might learn the result of the preliminary reconnoissance of the Outing Committee, who had just returned from their trip into the Olympics. They brought a favorable report of the trail, and also reported good progress on the work of packing supplies up the mountain side by the pack-train which had been previously purchased by the club.

### LIST OF MEMBERS ADDED SINCE APRIL 1, 1907.

All of Seattle, unless otherwise noted.

Barnes, Dr. S. D.	Kilgour, Miss Bertha F., North Yakima, Wash.
Barnes, Mrs. S. D.	McDaniels, Miss Metta.
Beaver, Mr. Averill.	MacMahon, Mr. Thomas R.
Burdick, Miss Mary.	Miller, Miss Lillian.
Carlock, Mr. Mark A., Aberdeen, Wash.	Peck, Mr. Harcourt, Los Angeles, Cal.
Chalmers, Mr. D. Duncan.	Penney, Mr. Robert L., Minneapolis, Minn.
Chalmers, Mr. Peter C.	Rea, Mr. Richard W.
Crary, Mr. F. W.	Simmons, Miss L. Merle.
Davis, Miss Ruth L.	Southard, Mr. Frank S.
Egardly, Mr. John.	Stearns, Miss Jane.
Epler, Mr. Franklin.	Stevens, Mr. H. C.
Franzelin, Mr. Edward.	Tone, Miss Margaret.
Gordon, Miss Julia.	Turner, Mr. Charles A.
Gray, Mr. Charles H.	Van Horn, Rev. F. J.
Harley, Mr. C. S.	Vevers, Mr. William.
Harley, Mrs. Laura Potter (Mrs. C. S.).	Wardwell, Mr. S. L.
Hartmann, Miss C. E.	Watkins, Mr. Walter H.
Hotelling, Miss May.	Wells, Mr. E. H.
Hotelling, Miss Vera.	Wilhelmsdorfer, Mr. R.
Johnson, Miss Nellie S.	Wright, Miss Mary H.
Kaiser, Mr. George.	



**THE START FOR MOUNT OLYMPUS.**

Photo by Asahel Curtis.

Copyrighted by Roman's Photographic Co.

# The Mountaineer

Published Quarterly.

MARY BANKS, Editor.

---

Application made for entry at the Seattle postoffice as mail matter of the second class.

Subscription price, One Dollar the year. Single numbers Twenty-five Cents.

---

VOL. 1.

SEPTEMBER, 1907.

NO. 3.

---

## TABLE OF CONTENTS.

	Page
Notes on the Bed Rock Geology of the Olympic Peninsula. Charles E. Weaver, Professor of Geology, University of Washington .....	58
A Mountaineer's Reverie (poem). Lulie Nettleton .....	64
The Ascent of Mount Olympus. L. A. Nelson .....	65
Storm Bound on Mount Olympus. Azahel Curtis .....	69
A Day on Mount Vesuvius. Adelaide L. Pollock .....	72
Mountaineers in the Olympics .....	75
First Annual Outing, Members of Party .....	80
Record of Ascents .....	81
Copy of Record Found in Elwha Pass .....	87

Publication of this number has been delayed for two promised articles on the Flora and Fauna of the Olympic region. The identity of certain specimens being still unverified, it was finally decided to go to press without further delay, and include these contributions in the next issue.

## OFFICERS.

PRESIDENT.....	HENRY LANDES, <i>State Geologist, University of Washington</i>
VICE-PRESIDENT.....	DR. J. F. SWEENEY, <i>Hotel Seattle</i>
SECRETARY.....	DR. CORA SMITH EATON, <i>Arcade Building</i>
TREASURER.....	DR. E. F. STEVENS, <i>1505 East Madison Street</i>
HISTORIAN.....	MARY BANKS, <i>Reference Librarian, Seattle Public Library</i>

## BOARD OF DIRECTORS.

MARY BANKS	HENRY LANDES
ASAHEL CURTIS	W. MONTELIUS PRICE
CORA SMITH EATON	E. F. STEVENS
E. L. HAMPTON	J. P. SWEENEY
	E. WELDON YOUNG

## COMMITTEES.

*Program*  
Prof. Theodore C. Frye  
Miss Alida J. Bigelow  
Miss Joe I. Kincaid

*House*  
Mrs. E. F. Stevens  
Miss Anna Hubert  
Miss Daisy Lane

*Outing.*  
Mr. Asahel Curtis  
Dr. Cora Smith Eaton  
Mr. W. M. Price

*Publishing.*  
Miss Mary Banks, Editor  
Miss Adelaide L. Pollock  
Mr. John A. Best, Jr.

## Notes on the Bed Rock Geology of the Olympic Peninsula

By CHARLES E. WEAVER

**P**ROBABLY one of the least known and as yet unexplored areas in the continental portion of the United States lies in the northwestern part of the state of Washington and is known as the Olympic peninsula. The interest in the geology of this region which was aroused during the writer's outing with The Mountaineers has resulted in a few scattered notes, part of which are derived from first hand information in the field, and part from the published investigations of Dr. Ralph Arnold of the United States Geological Survey, who has made a somewhat extended study of the geology along the coast. The results here given are only general and entirely from a popular standpoint and it is only after a detailed scientific study of the whole area has been made that any account even approaching accuracy can be attempted. The region is wild, heavily timbered and in many places difficult of access and as no suitable maps are available, geological work must be carried on under serious difficulties. However, the attractiveness of the field, the grandeur of the scenery and the interesting and varied geological problems to be worked out make the Olympic mountains of especial interest not only to those interested in elucidating the geology of the west coast of North America, but also to those who delight in the enjoyment of a vacation spent in a primeval district which is as yet so little known.

The Olympic peninsula is a rugged land area very nearly surrounded by water. On the east it is bounded by Puget Sound and Hood's Canal, on the north by the Straits of Juan de Fuca, on the west by the Pacific ocean and on the south by Grays Harbor and the Chehalis valley. The counties embraced within this area are Chehalis, Mason, Clallam, Jefferson and Kitsap. The area occupied by this peninsula approaches something like eight thousand square miles. The extent from east to west is about eighty miles and from north to south about one hundred miles.

The topographic features of the Olympic peninsula consist of a central mass composed of high, rugged and serrated mountain ridges which gradually diminish in altitude until they become a very low plateau along the coast with an elevation of less than three hundred feet above sea level. The high central portion of this peninsula, of which Mount Olympus is the culminating point, has a general east to west trend and is perhaps twenty miles long by ten to fifteen in width. The maximum elevation on the highest peak of Mount Olympus is 8,250 feet and the average elevation in the district around the mountain is between five thousand and eight thousand feet. West of this central area the elevation of the mountain ridges decreases and in the vicinity of the Hoh and Soleduck rivers it ranges from four to five thousand feet, and from then on continues to decrease to nearly sea level at the coast. To the northeast and southeast the elevation gradually decreases and finally we have only low foothills along the Straits of Juan de Fuca and Hood's Canal.

The main central mass is drained by a large number of rivers which head in the vicinity of Mount Olympus and from there radiate outward in

all directions. The majority of the streams flowing east are short and have a much steeper grade than those flowing to the west. The latter have much longer courses and near the coast flow across lands comparatively low. There are three important inland bodies of fresh water which lie in the foothills near the coast. They are Lake Crescent, which is inland about sixteen miles southwest from Port Angeles; Quiniault lake, which is inland from the Pacific and about twenty miles to the northeast from the mouth of the Quiniault river; and Ozette lake, which lies inland about three miles from the coast and a little south of Cape Flattery. In addition to these three there is Lake Cushman, which lies in the southwestern portion of the region a short distance inland from Hood's Canal.

On the coast, both to the north along the Straits of Juan de Fuca and to the west along the Pacific ocean, the elevations range from fifty to three hundred feet and there is here what is usually termed a terrace with precipitous cliffs along the shore. This terrace is not absolutely level and in many places has prominent ridges rising upon it. Through the more highly elevated mountainous region in the interior and in the nearly level terraces near the coast the streams have cut canyons which in some places are very narrow and precipitous. Both along the north and west coasts the shore line is fringed by a wave cut platform. The platform is well exposed at low tide and in places is dotted here and there with projecting rock prominences in the form of reefs or ledges. At high tide these are covered and not visible and are a constant source of danger to navigation. The northeastern coast, east of Port Angeles, is of a different nature. Here the bluffs or cliffs along the shore are composed largely of glacial material. Extending out from the bluff in several places are long, curved sand spits forming protected harbors. These may be seen at Port Angeles and at Port Townsend.

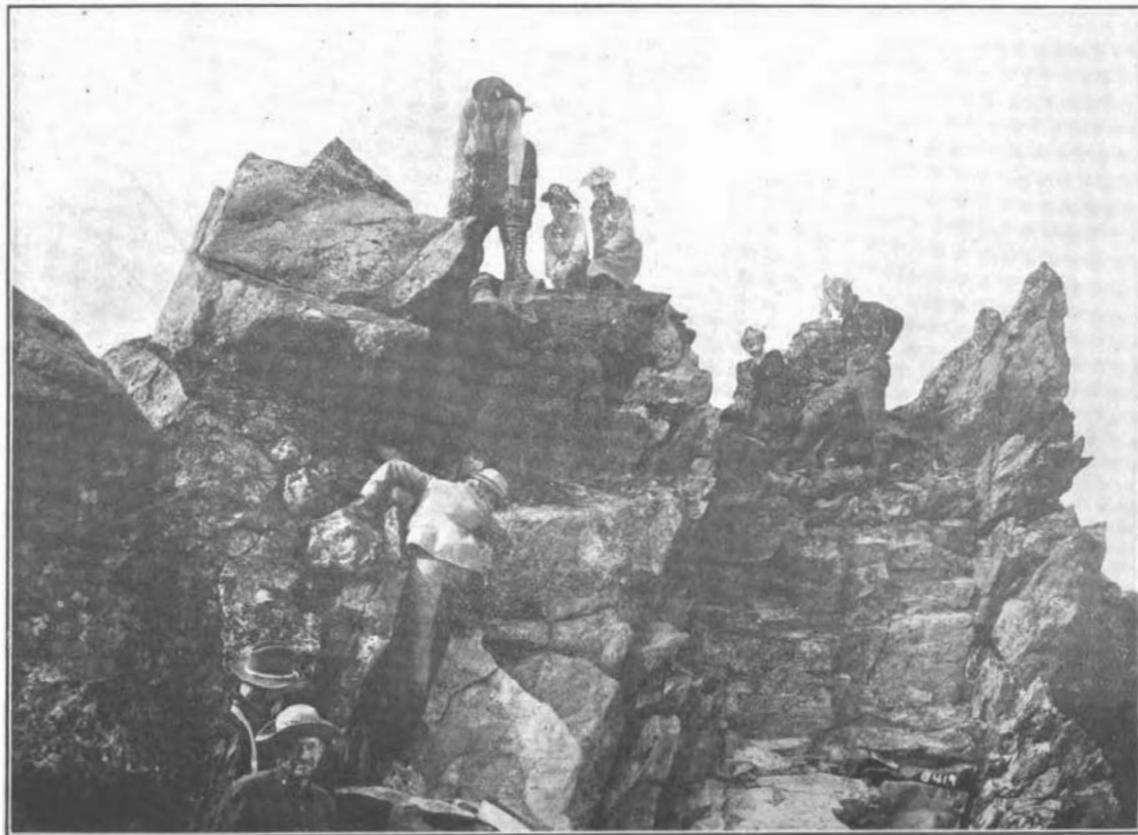
The bed rocks which go to make up the mountains of the Olympic peninsula are represented by the three main divisions which are known to geologists as igneous, sedimentary and metamorphic rocks. Under the igneous division are grouped such rocks as have solidified from a molten condition either in great masses beneath the surface of the earth or else as lava flows upon the surface. Under the division known as sedimentary are included such well known rocks as sandstones, shales, conglomerates limestones, etc. These have nearly all been formed along sea shore or other bodies of water, by the vast accumulation of waste material brought down by streams from the interior, or from the waste of the sea cliffs themselves for long periods of time. After such depositing the beds of sediment were uplifted high above sea level in the form of mountains as we know them today. Under the metamorphic division we have such rocks as slates, schists, quartzites, etc., which are simply sedimentary or igneous rocks which have been altered both in composition and general appearance by the effects of pressure or heat from intruded igneous rocks.

The great central mass of the Olympic mountains is composed of metamorphic rocks. The most conspicuous varieties are schists, slates and quartzites. Around the coastal border of this interior metamorphic area are sedimentary rocks, consisting of sandstones and shales, and associated with these are igneous lava flows. Along the eastern and southern margins of this area are boulders of granite and other rocks which are not found in the bed rock series of the Olympic mountains, but are common in the mountains on the east and north sides of Puget Sound. The granites and similar

rocks were brought into the Olympics and deposited there by great glaciers which at one time came down from the Cascades and from the mountains of British Columbia. The glaciers occupied the Puget Sound basin and filled the broader valley of the Olympics.

In the history of the earth we find many principles which govern the study of human history. A study of the rocks and their fossil contents gives us a history of the geological development of our planet in the same way that a study of records, archives and works of art of former nations and races gives us a history of human civilization. In human history we have periods such as ancient, medieval and modern, and their subdivisions, so have we in geology; the only difference being that in geology we regard time as much longer than in human history. We conceive of geological periods in millions of years rather than in hundreds, the major divisions of geological time ranging from the older to the younger are spoken of as the Archaean, Palaeozoic, Mesozoic, Tertiary and Recent. Within the Olympic peninsula the Archaean and probably the Palaeozoic rocks are not represented.

The hard metamorphic rocks composing the great central portion of the Olympic mountains in all probability belong to Mesozoic time. These rocks are made up for the most part of quartzites and schists, which at one time before they were metamorphosed were sandstones, conglomerates and shales. They have been uplifted into a mountain mass and then folded and crumpled and possibly invaded by great masses of igneous rock from deep down in the earth's crust, but which have never penetrated the surface. The result has been that these intense crustal movements have folded and disturbed the strata so that they no longer lie horizontal, but are tilted up on edge. Such disturbances have caused cracks and fissures to be formed, both large and small, and in these we have deposits of silica, well known as quartz veins. Sandstones, which originally contained pebbles and large boulders, have been squeezed to such a degree by the folding processes that the pebbles which were originally round and nearly spherical have been drawn out into great long elliptical forms, sometimes ten or fifteen times as long as they are wide. The majority of them are all elongated in the same direction and parallel with the strike or general direction in which the layers of the strata extend. A section across the strike of the strata, which in other words represents the character of the materials composing the beds from base to top, is beautifully represented in following up the Elwha river to its headwaters. The Tertiary lavas and sandstones which have been mentioned extend from Port Angeles to a point about four miles above McDonald, on the Elwha. Beyond this the slates and schists are represented. North of this contact the metamorphic rocks probably underlie the Tertiary formation. Between McDonald and Geyser the metamorphic rocks appear to be made up largely of slates with only a small proportion of quartzites and schists. The schist is simply a shale which has undergone much more intense metamorphism than the slates. As one proceeds further along the strike and examines the area along the Elwha between Geyser and Elkhorn, he finds the effects of metamorphism to be much more pronounced, schist and quartzite becoming much more common. The fracturing of the strata is more noticeable and every now and then a quartz vein may be observed. Farther up the valley near the Godstein, and even up to the Elwha basin itself, the effects of metamorphism become much more marked. In the vicinity of the basin bed rock is finely exposed. The recent



**THE SUMMIT OF MOUNT QUEBETS.**  
**First Ascent From the West.**

Photo by Asahel Curtiss.

Copyrighted by Roman's Photographic Co.

disappearance of the glaciers has left to view a vast rock-scoured country. In going up the divide between the Elwha and the Quinault, the section may be studied in detail. The strata are not only tilted, but they are squeezed and contorted and made to fold upon themselves. In areas only a few feet in diameter, the individual strata may be seen folded back and forth and even faulted to a minor degree. Quartz veins are numerous and represent fissures and cracks which have since been filled with silica. In general the veins are nearly parallel to the strike of the strata and lie nearly parallel to the bedding planes. They are not persistent; that is, they do not continue with the same thickness for any great distance, but taper out and either entirely disappear or become merely thin stringers which may or may not coalesce to form again a well-defined vein. One of the most remarkable features in this region of high mountain ridges is the increased proportion of quartzite layers. They generally have a light color and are extremely hard and upon weathering break up into huge blocks. They are much more resistant to weathering than the softer schists and shales, and, as a result, make up the major portion of the ridges and high, rugged peaks. The highest peak of Mount Olympus is for the most part composed of this quartzite. From Mount Olympus to the north, east, south and west the country rock appears to be composed of this same metamorphic material; namely, quartzite, schists, slates, etc. How far to the south it extends is not certain. No attempt has been made to study this region and no accurate data are available. The Tertiary rocks are known to occur on the Humptulips, Wynooche and the Satsop rivers and it is probable that the contact where the Tertiary beds overlie the metamorphic rocks is somewhere near, but to the south of the Jefferson and Chehalis county line. To the east the metamorphic rocks appear to extend at least as far as Mount Constance and the Sawtooth range, and to the west probably far down into the low-lying country near the Pacific ocean. In one place it is known that they extend even to the ocean itself. The general dip of the strata, or the angle which their plane makes with that of the horizon, is about 45 degrees. Where the strata are first exposed near McDonald the dip is lowest, but it gradually increases until in the high Olympics the beds stand nearly vertical or are even reversed. The dip is not constant, however, and at one or two localities near the headwaters of the Quinault repeated folding or possible faulting is suggested. Viewed from Mount Olympus the dip appears to be reversed on the north side of the Hoh river valley, which, if true, means a broad fold or syncline between Mount Olympus and the Hoh valley. To the north the metamorphic formations may be seen nearly to Lake Crescent and to the north side of the canyon of the Soleduck. Beyond this they are covered with strata of Tertiary age.

The rocks belonging to the Tertiary are divided into three periods, known as the Eocene, Miocene and Pliocene. The oldest is the Eocene. They are all represented by sandstones, shales and conglomerates. In these rocks may be found the remains of former marine life, consisting of clam shells, snail shells, sea urchins, etc. Such remains are petrified and are known as fossils. It is by means of the different species of fossils that we know the rock to be of Tertiary age, and by comparing the characteristic species with those of other areas, where the ages of the rocks are well known, we are enabled to divide the Tertiary into the Eocene, Miocene and Pliocene. The main mass of the Olympic mountains is made up of metamorphic rocks, which might be styled the Olympic formation. No rocks of known Tertiary

age are known to occur within the mountain. On the coast we have the Tertiary well represented. The Eocene formation is well exposed north of Lake Crescent and from then westward along the Straits of Juan de Fuca. It is composed of basaltic lava and interbedded tuffs and has an estimated thickness of something over one thousand feet. The hard, dark igneous rock, so well exposed at the bridge across the Elwha river near McDonald, is probably of the same age. Farther to the west and stratigraphically higher in the Tertiary series we have an extensive formation composed of sandstone, conglomerates and shales, which are of Miocene age. They extend from Clallam westward and make up the great bulk of Cape Flattery. The estimated thickness of this formation is in the neighborhood of fifteen thousand feet. At several intervals from the base to the top of the formation bands of conglomerate occur, composed for the most part of pebbles derived from the various members of the metamorphosed Olympic formations. Interbedded with the sandstones are shales and clays which are fossiliferous. In one or two small areas strata of Pliocene age are reported.

The last deposits to be laid down are known as Pleistocene, and they consist partly of marine and partly of glacial material, such as till, sand, clay and gravels. On the Pacific side of the peninsula the deposits consist of sand, clay and gravels of marine origin and have a thickness of over one hundred and twenty-five feet. To the east of Port Angeles, on the Straits of Juan de Fuca and along the arms of Puget Sound, the majority of the Pleistocene deposits are probably of glacial origin. In the interior and high up in the mountains are glacial deposits, but of local origin, and having no connection with the glacial deposits on the coast.

The Olympics may have been submerged during Miocene time and at its close uplifted and then the overlying Miocene rocks removed by erosion, or the central portion may have been a land area during Miocene time and sandstones and shales may have been laid down around its margin and then uplifted at the close of Miocene deposition. At any rate, an uplift at the close of the Miocene seems evident and another one late in Pliocene time. There is evidence that deformation is still in progress, as is shown by the folding and tilting of Pleistocene deposits along the coast.

## A Mountaineer's Reverie

LULIE NETTLETON

**S**ITTING in the rosy firelight, drowsing, dreaming there alone,  
 Banished are the cares of daytime by the thoughts of pleasures gone.  
 As the breath of rose leaves lingers, faintly sweet from faded flowers,  
 So my memories hover round me, in the pleasant twilight hours.

I wander again in the forest, the Elwha sings at my feet,  
 Or perchance in a mountain meadow I gather strange wild flowers sweet,  
 Or I stand on a rocky summit and gaze on a radiant scene,  
 Where in majesty and splendor Nature reigns alone supreme.

Memory is rich in treasures that are buried deep until  
 We may need their inspiration and uncover them at will;  
 So, in the rosy firelight, I will let my thoughts unfold  
 And fondle long buried treasures as a miser counts his gold.

## The Ascent of Mount Olympus

By L. A. NELSON

**T**HE first ascent of the west peak of Mount Olympus made by the Mountaineers, and probably the first made by any one, was accomplished by a party of eleven on August 13, 1907. Although hampered by storms the party reached the summit without great difficulty and were rewarded by one of the grandest views to be had in the American mountains.

At 4:30 on the morning of August 13th, the most despised call of the day was sounded through camp and with a reluctant sigh the company rolled out of their warm blankets only to encounter a cold wet fog that lay like a pall over the valley. With hopes of better weather after sun-up, breakfast preparations were begun and rushed to a finish and at 5 o'clock breakfast was served. In the meantime it was discovered that two of the party had not reported, and a short search revealed them tucked snugly away in their blankets. A vigorous bombardment with tin cans soon drove them out, with the remark that they had no desire to be canned. Visions of at least fourteen hours between breakfast and dinner seemed to be a wonderful appetizer, judging by the way food disappeared.

The call, "Fall in" came at 5:40 and five minutes later the march was begun. The clouds hung low, with every indication of rain and with many an anxious look and comment on the weather the conquerors of Olympus moved onward.

After traveling across the morain of the Humes glacier we turned to the northwest up a snow-slope, which we followed a short distance. Leaving the snow we crossed a talus of rock-slope and descended a precipitous rock cliff to the Humes glacier. A few minutes for adjusting packs and the party started for the head of the glacier. The weather was growing colder and in a short time it began to snow. Nothing daunted we pushed on, and to a question as to the weather, an optimist of the party said, "The sun will be out soon," and sure enough in a few minutes the snow stopped falling and the sun came out in all its splendor.

After traveling two miles up an easy slide, winding in and out among crevasses, that yawned on every side, we climbed a 35 degrees slope to the summit of Blizzard pass. From this point we had our first clear view of Mount Olympus, East peak with its clear-cut profile of a sphinx head being the nearest; to the left of it and a mile further away Middle peak, a massive bulk; and still further away and directly west of East peak was West peak, the main and highest of all. Working our way down a steep snow-slope and a ridge of rock to the Hoh glacier with a loss of elevation of 700 feet we turn to the south toward the head of the glacier on a gradually increasing grade. On reaching the steeper slopes we turn to the westward a trifle and with short rests keep plugging away.

About this time the question arose as to whether we would see Mount Rainier, and, during one of our rests one of the party called out, "There it is," followed by a chorus of, "Where?" and sure enough, there in all its matchless beauty was the greatest of all our mountains. A few stages further, and, "There is Adams!" is heard. On a short distance and as we pause to look again at Rainier and Adams, St. Helens is also seen. By this



**FIRST PARTY TO REACH THE HIGHEST PEAK OF THE OLYMPIC MOUNTAINS.**

Photo by T. C. Frye.



**ON THE TOP OF MOUNT NOYES.**

Photo by John A. Best, Jr.

time we do not know what to expect and when Mount Baker and Mount Hood are seen, the latter over 200 miles away, words fail and we can only gaze in silence at the magnificent panorama spread before us. Upon reaching the top of the slope we find it to be comparatively flat and about one-fourth or one-half mile in extent, seamed here and there with crevasses. To the right, the East and Middle peaks, seemingly within easy reach. A short rest was taken here, during which an anxious lookout was kept to the west for a view of the ocean.

One-half mile further and within one-half hour of the summit of Middle peak we stopped for lunch. No tonic nor appetizer was necessary and the scene of the morning was repeated. The inner man being refreshed, and with spirits corresponding to the altitude, the conquest was resumed. A short distance nearly level, then a long climb up a 40 degree slope. Reaching the end of the snow we stepped over to the rock and after a short climb, reached the summit.

Here we found a cairn with the record of the Parker ascent of July 17, 1907, inclosed in a tin can. While some were busy building a cairn that would stand the weather, others were writing the record and taking pictures. The Parker party thought this was the highest and main peak when they made the ascent, but after seeing the peak to the west they were in doubt and said that from their observations it was possibly higher. They did not like to admit having missed the main summit.

The view from the summit of Middle peak surpassed our expectations. To the westward lay the mighty Pacific; to the north, beyond the dark canyon of the Hoh that scars the northern slope of Olympus, lay the Straits of Juan de Fuca, with Vancouver Island in the background. It was to the eastward, however, that the most wonderful scene was unfolded. Probably the grandest setting of mountain scenery in the world stretched away from our very feet. Close at hand were the rugged summits of Meany, Seattle, Cougar peak, Queets, Noyes, Anderson, Christy, Dana and Barnes, surrounded on the higher levels by large glaciers and snow-fields with beautiful parked valleys below. Beyond this lies the range of the Olympics that is seen from Puget Sound and known as the Coast range, with Mount Angeles, Constance and The Brothers the most prominent peaks, while through a gap in the mountains the Sound itself was visible. As a background for all this rose the great volcanoes of the Cascade range from Mount Baker, "the Great White Watcher," on the north, past Glacier peak, Rainier, Adams, St. Helens and on to the distant spire of Mount Hood, 200 miles away. To the south a vast sea of timbered hills stretched out and out as far as the eye could see, fading away into a blue haze.

The work on this peak being finished, the course of empire was still westward, down the rocky west slope of Middle peak. The first to reach the end of the rock and get out on the snow saw a laughable sight, some of the more timid passing down their alpine stocks and hanging on tooth and nail, making the descent with fear and trembling. Every one being safely down and ready to move the clouds played us a fine trick by coming down and shutting out all of the peaks from our sight, leaving us to travel on the information we had gained from our former view. Going slowly and doing a good deal of prospecting we at last made out what we thought to be the West peak. Three of the party having reached the top, one of them gave a shout that died when half uttered, for just at that moment the clouds parted, and there, one-fourth mile away was our goal. We had climbed one of the

five fingers to the north of West peak. Retracing our steps a short distance we swung around to the north side of the proper peak, up which we made our ascent. There was some real climbing here, every climber having to be extremely careful not only to keep from falling, but also not to loosen and start rock on the people below. Slowly, steadily, surely we moved on, and, at last, we reached the summit that so many have tried for and so many claim to have reached. After a thorough search for traces of former ascents we came to the conclusion that we were the first to reach the summit of the highest peak in the Olympic mountains, West peak, 8,250 feet, as well as the first large party to reach the next in altitude, Middle peak, 8,150 feet. With a mighty cheer and then a song we started our task of cairn building, record writing and picture taking.

The record contains the names of the party, which was comprised of the following: Miss Anna Hubert, the first woman to reach the summit of Mount Olympus, L. A. Nelson, W. Montelius Price, Prof. Henry Landes, Prof. Charles Landes, Prof. T. C. Frye, Prof. F. M. Plumb, Prof. Weaver, Prof. J. B. Flett, E. E. Richards, A. W. Archer.

We were soon on our way back to camp. The descent was a great deal faster than the ascent and we quickly reached the snow, making good time for Middle peak, which we had to climb again to reach the Hoh glacier.

The summit of Middle peak was soon reached and then a glorious coast down the slope that took so much energy to surmount, it taking over twenty minutes to ascend and one of the party coasted it in ten seconds.

From this point it was a case of travel and we surely did that, reaching camp in two and one-half hours, or one-half the time it took to make the same point in the morning. Twelve and one-half hours after leaving camp we were back again and found a warm dinner awaiting us.

The writer found two days later that West peak could be reached by a shorter and easier route without the ascent of Middle peak, leaving an easy trip up Middle peak on the return to camp.



## Storm Bound on Mount Olympus

By ASAHEL CURTIS, Chairman Outing Committee

**T**HE attempt of the first party of Mountaineers to reach the summit of Mount Olympus through a driving rain and snow storm, with the storm clouds sweeping around the peak, was splendid even in its failure. It was the culmination of an outing remarkable for the number of ascents made, and was undertaken in the storm, only because there was no further time in which to do it. No ordinary storm would have prevented the ascent, even then, for the spirit of the party was splendid, but it was impossible to make one's way up the vast snow-fields facing the thirty-mile gale that was blowing, the fury of which can be judged from the fact that it was found later that a foot of snow fell on the summit during the storm.

The ascent was attempted from a temporary camp in the Queets valley, about eight miles from the main camp, to which the party had moved on the 9th of August. At dawn on the 10th clouds were clinging to the summits and often rolled down into the valleys, but a little later the weather appeared to be clearing and the distant summits of Queets, Meany and Noyes came into view. It was determined to make an attempt, at least, and if the storm broke away to push on to the summit. The party moved out from camp in company formation seemingly very cheerful and happy despite the cold raw morning and the poor prospect of success. Passing the base of the Humes glacier and swinging over a point of rock to avoid the broken ice along its face they dropped down on the ice on the right or northern bank. The mist had changed to a rain, a cold wind was blowing and the situation was anything but pleasant. Ahead for two miles, steadily ascending, the Humes glacier stretched away toward the main bulk of the mountain, now lost in the clouds. The ice-field seemed like a great road-way, walled in as it was by cliffs of slate. There was no danger of loosing the way, for all the snow at the base of the cliffs was smooth, unbroken by crevasses, while as a guide, on the left lay the main glacier with its dark, forbidding surface broken and impossible. Over this roadway the party made its way rapidly, the cold being an incentive to action. Only a few were troubled by the altitude, causing a difficulty in breathing, but this delayed the main party, for all must advance together. Because of the rock cliffs in the rear no one could be sent back, and no one could be left along the way.

Half way up the Humes glacier the rain changed to flurries of snow, swept along by a stiff wind. Still hoping against fate, the advance continued. At the head of the glacier the snow-field rose at a steep angle, hiding the mountain beyond. Once out from the protection of this snow-ridge, exposed to the full fury of the gale and everyone's hopes sank. Advancing still in company formation the party came out on the very edge of the snow-field, which here falls away to the great Hoh glacier at such a steep angle that its slope cannot be seen from the crest. Seven hundred feet below, now hidden by the storm, the glacier wound away to the northward. Through the pass at its head a thirty-mile gale was blowing, whirling the snow along as it fell. The distant cliffs of the main mountain were lost to view. The party appeared suspended in the heavens on the edge of some great cloud, with a white desolate world forming out of the chaos.



**ALMOST TO THE TOP OF MOUNT MEANY.**  
Photo by H. Landes.



**SNOW CORNICE ON MOUNT QUEETS.**  
Photo by A. Curtis.

Three members of the party were exhausted, and it seemed folly to risk lives on the glacier in such a storm for the mere bauble of a mountain summit.

Action was necessary, but it must be a retreat. As disappointing as it was to abandon the ascent there was no other reasonable course to be taken, and after a few words of explanation the order was given: "Advance by companies independently."

The long line appeared to melt away as the commands were given simultaneously: "Company A, Company B, Company C, Company D, fall in." Four lines were moving forward instantly where had stood, but a moment before, a shivering group of people. The spirit of the party was still splendid, even in its disappointment, and when the bugler with the general staff sounded the retreat, a faint cheer went up.

The most difficult part of the trip still lay ahead, that of getting a cold, half exhausted party down a mountain safely in a storm such as was then raging. Still moving at almost a double quick with the main party, a small party was ordered from the line and sent on in advance to start fires and prepare for the main party. The girls who were unable to keep up were ordered to the rear with men enough to help them along. Half way down the glacier, two of the general staff went on in advance to place a line up the rock where the party must leave the glacier.

Through all of this the discipline was perfect. Orders were obeyed as quickly as given; no one seemed to misunderstand and everyone appreciated the necessity for haste. When Company A reached the foot of the rock slope the line was in place and, without halting, the party moved along up. Company B followed in the same perfect order and when the two companies were up, the small party of girls, having reached the foot of the slope, were sent up to keep them moving toward camp. The two advance companies were ordered to go to camp without waiting for the others, as the rest of the way was well known and there seemed no possible chance of danger. When the girls, now four in all, reached the top of the slope they were placed under command of one of the lieutenants and also ordered to go to camp. Company C and Company D followed as rapidly as possible and soon the whole party were apparently out of all danger and within but a half mile of the temporary camp. Momentarily losing their way in the mist the small party turned to the right and attempted to go down a steep draw to the snow-field. Here on the slippery, rain-soaked heather one of the girls, Miss Winona Bailey, lost her footing and in a moment slid and fell over the rocks a hundred feet, until she wedged under the snow at the base of the cliff. That the fall was not fatal seemed miraculous. Dr. Stevens, who was acting as rear guard for Company D, was called forward and was working over the girl within five minutes after she fell. A stretcher was hastily improvised from a life line wound around two alpine-stocks and as soon as the worst wounds were dressed she was started for camp, half a mile away along the mountain slope.

The task before the party now was tremendous, that of fitting up a hospital in a driving rain, without even a tent for shelter, and caring for a helpless girl ten miles from the main camp, with that camp sixty miles in the heart of the mountains. That it was possible to dress wounds as severe as her's here in the mountains was due to the foresight of Dr. Stevens, who had brought instruments and supplies, and in the meager shelter afforded by a strip of canvas stretched against a rock, was able to dress her wounds

perfectly, even though one cut alone required eleven stitches. Here in this rude hospital, with the rain still falling, the main party was compelled to leave a small band to watch through the night and for days and nights to come, until it was possible to move her by stages to the main camp. Dr. Stevens was relieved on the second day by Dr. Eaton, who stayed on with the second party.

When at last a report came that the girl was safe the main party fell in line once more and continued the march to the main camp. Reaching the upper Queets valley they turned backward to look long at the two lines of smoke that now rose almost straight to the heavens from the commissary and hospital fires while to the westward the vast bulk of Mount Olympus shrouded in clouds refused even to bid them farewell.

## A Day on Mount Vesuvius

By ADELAIDE L. POLLOCK

**W**HEN I reached the top of Vesuvius, a wish of many years standing was gratified. Looking backward to my childhood I see myself and two brothers playing under great firs in the wooded meadows of a western farm. Tired with following the suggestions of capricious wills we found a shady nook and read the wonderful descriptions of that persistent traveler, Bayard Taylor. His marvelous tales awakened in me a desire to see for myself the great places of the world, and a determination to climb the heights and look out upon the wonders and glories of the earth.

When, last July, I left Rome for Naples it seemed as if the porters were never before so slow in getting the passengers settled, the guards never so deliberate in their saunterings about the platform, but there came a time when the last call of "Napoli" was given and we were off. The day was hot, the train dirty, and the journey over the long volcanic plain was dreary and uneventful, but as we journeyed south the scene changed. Groves of oaks, fig trees, chestnuts and olives appeared and merged into patches of corn, stretches of vineyard, and great fields of hemp, where barefooted men, women and children, all in short garments resembling Mother Hubbards, were at work. At Sparanise dear old Father Baldeker said we should get our first glimpse of Vesuvius. How keen was the disappointment on scanning the southern horizon to find the summer haze too thick to penetrate. The ruined castles and picturesque towers crowning the hilltops or hanging on bluffs were consolations until a mountain did appear. Was that Vesuvius? Could that irregular slope be a volcano? All my previous ideas of the mountain forgotten, we gazed in disappointment. Not another soul in the compartment knew any English and therefore it was not possible for me to express my disenchantment. The luxuriant vegetation attracted my attention while the train made a wide circle, and when I looked again the green slope had apparently rolled northward and a great brown cone stood out boldly against the deep glowing colors of an Italian sunset. But where were the red lava and the black smoke of the Vesuvian postcard? Was this ashy mass of earth a living volcano? What could those irregular white horizontal streaks on the mountain sides be? The threatening feeling of

disappointment fled before the thought that, of course, the brilliant colors of the sunset had hidden the volcanic fires and that night would satisfy all expectations. Dinner served under the electric lights in the shut-in garden of the Hotel de la Riviera perhaps softened my feelings, for when, on going out to the street fringing the bay, I saw Vesuvius grand in the light of a full moon, it did not matter if there were no hints of subterranean fires. The mountain was there and reared its crown above the noisy city and the silent sea keeping watch now as in the days of Pliny.

During the days of delightful sightseeing I planned to visit the volcano under the guidance of Thomas Cook & Sons, and with the help of an obliging hotel clerk I found myself at eight o'clock one morning with a party of my countrymen ready for the ascent. How good it was to hear the American voice, even the slang of four Philadelphia students as they expressed their sentiments against Italian travel, was refreshing. The outskirts of the city were flanked by green fields, and we wondered at the apparent poverty of the cultivators, as shown by the desolate earthen huts and the almost utter nakedness of the peasants. The earth fairly teemed with life; vegetation was so thick that the ground was seldom seen. Groves of orange, lemon, olive and fig supported long branches of grape vines, which reached out tendrils interlocking the trees, and in the squares and oblongs thus formed, corn, tomatoes and other vegetables grew up to the very edge of the lava thrown out by the eruption of last year. A passenger asked, "Do they pick off the leaves to give more room for the grapes?" and we saw there were more bunches of grapes than leaves. It seems this is due to the great amount of plant food in the volcanic ash. It was hard to realize that only a year ago this whole region lay under a blanket of ashes, that what had then caused death and destruction was today a benefactor in producing such abundant growth.

The road gradually ascended and we came to the city of Resina built over Herculaneum. We caught but a glimpse of the shaft-like excavations in the gray ground as we hurried along in a carryall from one electric tram to another. The inhabitants of the stone houses above the ground know that they may suffer the same fate as those in the stone houses below, buried in the year 79, and yet they sing and laugh and live their life with seeming indifference. The car now has the cog system and the country rapidly drops downward while the scene widens until we reach the Observatory. This building stands on a ridge which an ancient tongue of lava piled high on the slope. A quarter of a mile over the lava and we leave the train, as from here on the track was destroyed last year.

We land in a little rectangle of rails where we are assailed by a number of guides. Just outside are chairs and horses for those who do not wish to ascend on foot. Our party of twenty refused the clamors of the guides and started out over the rugged, twisted masses of lava, the guides following, continuing their solicitations. Now we saw that the white streaks were great walls built to keep back the masses of ashes in rain storms from overwhelming the lowlands. The men set a good pace through the sickle-shaped valley that lies between Monte Somma and the observatory ridge on one side and Vesuvius on the other. Monte Somma is the mountain whose green slope hides Vesuvius from the north, and from our valley we see that the abrupt bluff of Monte Somma rises far above our heads. Later I was told by the American volcanologist, who stayed at Vesuvius during the recent great eruption, that the two mountains had the same

base, and that this valley was probably once the old crater, while the present cone had been built up toward the south thousands of feet above its original site. The road now begins to zigzag and the breath of the three women to grow shorter. To add to our afflictions the guides beseech us to let them help, promising to drag us to the top still so far away. Using a part of that breath we voice our intentions to get to the top alone and trudge wearily on until we meet the official guides provided by the commune of Resina. The law compels all tourists to pay these men at least two and one-half lira (fifty cents) although I think the money is really an admission fee to the mountain for I could not see what the guides did for the money. Two of our party refused tribute and we rested while the air was filled with argument. It was pay or go back, and the guides conquered. The path of yielding ashes now went straight up at about forty-five degrees. The sun burned our backs and the ash and lava burned our feet, although there was no visible heat. It seemed as if human endurance could not withstand the soft voices pleading, "Takea holda the ropa, lady, only onea lira." The thought that I was a "mountaineer" gave me a bit more courage and at last, after a climb of one hour and ten minutes, the edge of the crater was under my feet. Even now my expectations of burning lava and clouds of smoke were unrealized, for the only signs of heat were six jets of steam, which I counted as I leaned over the edge. In a second the bracing air made me forget all previous effort and I stood afraid but entranced with my surroundings. There was nothing around to which we might cling. At one side yawned the bottomless crater, stretching east one-third mile, and on the other the steep slope of the cone which looked so smooth and treacherous as we stood forty-two hundred feet above the shining blue Neapolitan bay. Beyond the water the green islands of Capri and Ischia ruggedly outlined the horizon. Here, at our feet, lay Pompeii and we caught glimpses of its walls emerging from the long burial caused by this very mountain. There lies Naples where men and women laugh and sing and children romp and play, as doubtless did the men, women and children of Pompeii and Herculaneum nearly nineteen hundred years ago. Our meditations were stopped by the cry, "It is time to start," and we turned away with visions of beauty stored in soul and brain.

The trip down the cone was uneventful, but I could not leave the mountain immediately and stopped at the inn near the Observatory for a two-o'clock breakfast of figs, omelette and honey cakes, fit for the food of those old gods who lived on that other Italian mountain and were worshipped as real by the ancestors of mine host Vesuvius.

As I sat viewing the bright waters of the bay and the glowing colors of the red-tiled houses of Naples, and turned from the brown cone to look out upon the fertile Campania stretching away from the sea to far beyond my view, I caught a glimpse of kinship between the people and the mountain. I realized that the wonderful fertility of all this region is due to the material thrown out by this mountain in its great convulsions, and I understood why, in spite of their terror, the Neapolitans love their mountain. It is a type of their own volcanic natures, full of warmth, great of depth, capable of terrible deeds which, once committed, are soon forgotten, yet generous, bountiful, loving, beautiful.

## Mountaineers in the Olympics

By MARY BANKS

**I** NTO the heart of the Olympics!

I wonder if it is possible to convey in words, to those who do not know, what that means to one who has spent even a brief space of time within the region. Certain it is that no words of mine can begin to portray the beauty of it all. Since I could but fail in any attempt to describe the country through which we passed, the real part, (for after all it is the view to be had from the mountains, rather than the mere attainment of the summits, which is the real part) of The Mountaineers' trip into the Olympic Mountains, will have to remain untold, and only the unimportant details be chronicled.

Undaunted by the fact that every writer in referring to the Olympic region always dwelt upon the impenetrability of the forests as the reason for its never having been explored, The Mountaineers soon after organization decided upon Mount Olympus as the goal of their first annual outing, with the idea of giving the members an opportunity for original research in a hitherto untouched field.

I should like to tell of the obstacles overcome in accomplishing this idea, for it is a tale well worth the telling. Of the work of Asahel Curtis, aided by W. Montelius Price and L. A. Nelson, and abetted by the Board of Directors of the Club. How, the funds being utterly inadequate to defray the necessary cost of trail-making, Port Angeles, a thriving sea-coast town in the vicinity, was persuaded to undertake the cutting of a way through some sixty miles of forest as a business proposition for itself; how the exorbitant prices demanded by the packers proving prohibitive, the Club purchased its own train, and other like incidents.

In justice to the Club I must tell how, when everything was finally in readiness—provisions enough to last sixty-five people for many weeks safely cached away at the foot of the mountains, full sixty miles from civilization—and when it lacked but a few days of the date set for the start, word came that three men had hired a guide who was in a position to know where the way had been cleared, had quietly made the ascent in advance of the Club, and returning, had hastily published accounts of "The Ascent of Olympus," with no credit given to the Mountaineers who had made the trip possible.

Too much praise cannot be given those who managed the expedition. Never, I am confident, did mountaineers have better or more elaborate meals served them, and better-natured or finer cooks, with an almost uncanny genius for making delicious pies, cakes and other delicacies without many of the most necessary ingredients. When it is considered that tents, beyond one small general awning, were out of the question, even for the women, and that with one small camp oven and a bon-fire, bread was baked every day and meals, often consisting of six courses, or more, were served to from forty to sixty-five persons, the even temper of the cooks will appear no small item. Thanks are due Mr. W. F. Delabarre and many others of Port Angeles, and also to Messrs William and Grant Humes, whose hospitality at their camps, and whose courteous and generous imparting of knowledge of woods and mountain lore, added much to the interest and pleasure of the trip.

But to return to the actual start of The Mountaineers on July 24th,\* whose party of sixty-five counted amongst its number faculty members of three universities, nearly a score of other instructors, a few scientists, with medicine, the law and various other professions and trades represented as well; but which was which was more than one could tell, for the khaki suits in which so many were clad as to give almost the appearance of a uniform, proved quite a disguise to rank. After several days in the woods I by chance discovered that the man in the much-worn khaki suit was a well known author whom I had long wished to meet; that the man with the jolly laugh and the ready wit, was, when at home, a most serious preacher of the gospel in one of Seattle's largest and most conservative churches. The round-faced, mild-looking man proved an autocratic leader with an iron will, to which men almost twice his size meekly yielded—for the time at least. The grave professor of history proved to know more jokes and limericks than a dozen ordinary mortals; the smooth shaven young fellow with city looks and ways was in reality a trapper spending his life in the woods; while the stalwart man, apparently an experienced mountaineer, proved to be a professor of mental science in a prominent university. But enough of the people.

Of the trail pages might be written and much yet be left unsaid. I am tempted to describe in detail every bit of the way; the trees, marvelous not only in height but in peculiarities of growth; the canyons, the mountain torrents with their magnificent water-falls; the evidences all about of wild animals, yet our apparent safety; each night's camp so utterly unlike any other yet each so unutterably beautiful.

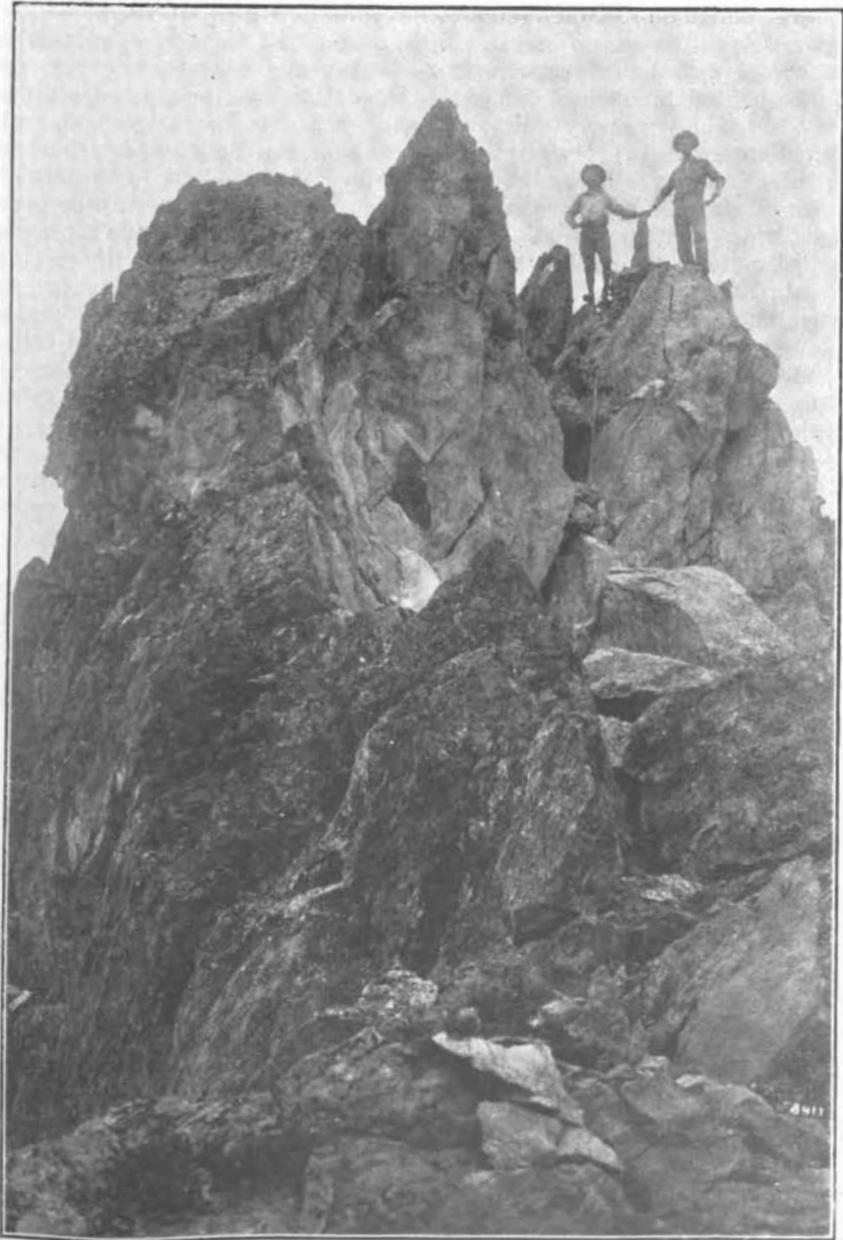
Many an amusing tale might be told of incidents on the trail, especially of the "steerage" committee, appointed anew each day to steer the roast-beef-to-be safely up and down the steep road and through innumerable rivers and streams. The progress of that committee was somewhat in the nature of a continuous performance, with new and unexpected features at irregular intervals.

The numerous bridgeless river crossings also added variety and interest to the program, though appreciation was sometimes woefully lacking in the involuntary performers, amongst whom was one dignified judge who had come from a distance to join the party, and who may be said to have met his Waterloo while crossing the Godkin, resuming his march a wetter, if not a wiser man.

One day allowed in camp for the preliminary settling, and the next, all, save the Outing Committee (who have gone to reconnoitre for the Olympus trip), may be seen wending their way over the nearest snow-field, en route to the top of Noyes, led by Prof. W. D. Lyman, of Whitman college. Pausing to admire the first snow-arch, another delay while a few enter the big snow-cave, then a steady climb over the snow and we see the welcome green of the Divide, which is soon reached. Here we get our first hint of the view to be seen from the top. Then a stiff climb over rock, often but a narrow ledge around some sharp corner, offering but scanty foothold. The summit proves much farther than it looks, but such a view of peaks as one catches long before the summit is reached, impells all but two to continue

---

\*For the convenience of certain University men, whose lectures at the summer session of the University of Washington prevented their leaving in July, a second party of seventeen, under the leadership of the president of the Club, Henry Landes, started ten days later, the others awaiting their arrival before making the ascent of the main peak.



**SUMMIT OF MOUNT SEATTLE.**

Photo by Asahel Curtis.

Copyrighted by Roman's Photographic Co.

to the very top. Then the return—when the first steep snow slope reached proves too great a temptation for our leader to resist, so calling to all to follow, but under no circumstances to let go their alpine stocks, he suddenly disappears down the steep incline; little suspecting to how many this is in the nature of a first performance, until he reaches a stretch of rock, stops, and looks behind him. Such a sight as meets his gaze beggars description! I have coasted down many a mountain side with far larger parties, hailing from Boston to Los Angeles, but never have I dreamed of the variety of ways it might be done until I saw those thirty-nine coming down. Not only were they coming down thirty-nine different ways, but some seemed to be coming down all thirty-nine ways at once—head first, feet first, sidewise, some a whirling tangle of arms, legs and alpine stocks, snow flying; others clutching vainly at the air in a futile effort to retard their lightning progress. Dangerous? Possibly, but so funny that when I had somewhat recovered from laughing I was really alarmed lest the grave professor would collapse from merriment, and it was with difficulty that those below overcame their laughter in time to stop the flying progress of the others ere they reached the rocks.

But the story was too good to keep from our leader, with the result that the next day all were invited, (and our leader's invitations were those of a czar), to go with him to a near-by snow slope, where all the inexperienced were initiated into the many uses of alpine stock, the cutting of ice-steps, etc.

The next day, August 1st, about half of those in camp made the trip to the Queets Valley, twelve of them continuing on to the glacier and up to the summit of Mount Queets; the only party, so far as known, to make the ascent from the west side. After climbing to the extreme top of the rocky pinnacle and leaving the usual records, the descent was made down the opposite side of the mountain.

On Saturday, August 3rd, those who had not gone up Mount Queets on the first trip were taken up the east side by Mr. Asahel Curtis, who had also guided the previous party, this making his fourth ascent to the summit; he and Mr. W. M. Price having made the first known ascent of the mountain earlier in the season.

The following day being the Sabbath, no official trips were made, though several small parties stole away from the services, one party of three going to the top of Mount Seattle, and another of six up Mount Barnes; both leaving the usual records on the summits, and all returning in time for the evening services around the camp-fire, which were conducted by Rev. Van Horn—a most beautiful and impressive service and one long to be remembered. The spirit of the mountains seemed to have impressed all with their solemnity and majesty, as they sat about the camp fire, surrounded by the snowy peaks, which shone out of the surrounding darkness; and it was with a feeling of reverence that all finally wended their way silently to their beds beneath the stars.

Bright and early Monday morning, for reveille was always sounded at 4:30 a. m., or earlier, the Mountaineers shouldered their blankets and rations for their first two days' trip up the mountains, intending to conquer Mounts Christy, Seattle and Cougar Peak before returning to camp. But the "schemes o' men gang aft a-gley" and despite the efforts of the leader to hasten the slower walkers, it was late ere Lakes Mary and Martha were passed and the foot of Christy reached. If the mountain was to be climbed that day as planned, it would have to be at race horse speed, and all but

## THE MOUNTAINEER

the strongest were urged not to make the attempt. The warning was unheeded by many, however, and the start was made on the run. After several delays were caused by one whose ambition was greater than her strength, the girls agreed to drop out and permit the men to go on alone. Eleven men and one woman continued to the top at a speed probably never exceeded in making an ascent; all returning to the main party more or less exhausted, though none admitting it.

Awakening the next morning in a chilly gloom which foreboded a storm, the march toward Seattle was resumed, only to encounter a heavy rain which steadily became heavier, obscuring the way and making footing so slippery and precarious that the attempt to climb Seattle, much less Cougar Peak, was voted out of the question. Drenched to the skin, by noon all were thoroughly chilled, and the water-soaked blankets heavy to carry. But the gloomier the outlook the cheerier the spirit evinced, and camp was finally entered in the midst of cheers, despite the fact that the two days' tramp meant for many not the conquest of a single peak. A candy pull was soon started to cheer up the wet spirits, but it must be confessed that many slept wet that night and continued so next day as well. Indeed, the Landes party which arrived about noon was no wetter, having enjoyed good weather until but a few miles below permanent camp.

July 8th dawned clear and bright and was spent as a drying out day by all but a few who made the ascent of Mount Meany. Only two more days were left before the first comers must return homeward, so although the ninth dawned gloomy and foggy, thirty-seven started bravely for the two days' tramp to the summit of Mount Olympus; each individual, however slight, laden with his or her blankets and ten pounds of provisions. The various trips up Olympus are chronicled elsewhere, so it remains for me merely to outline the return to camp and from thence homeward, leaving the events occurring after our departure to be told by some one fortunate enough to be among the last to leave the scene of the Mountaineers' six-weeks' outing.

But before we retrace our steps I cannot refrain from a brief mention of our camp at the base of Olympus, now known to us as Hospital Camp, because of the accident to Miss Bailey; but even this association cannot obliterate from memory that wonderful canyon, unexpectedly discovered on the eve of our arrival, while in quest of a band of elk. A canyon whose straight walls grew steeper and steeper, extending down to unknown depths, until a glance over the edge made one grow dizzy; while the river, which, but a short distance before, roared beside us, now sounded but an echo at the bottom of the canyon far below us.

Then, too, the glaciers, so temptingly near our camp—how we longed to explore them. Lacking the magnitude of the Muir and Davidson glaciers in Alaska, and the peculiar individuality of the various glaciers of Mt. Rainier, they yet have a charm which makes one resolve to know them some day, even as one knows those others.

But the order to return is given, so reluctantly we leave, rejoining those at the main camp about sundown of the same day as our attempted ascent of Olympus. The next morning we start on our four days' tramp toward home, reaching Port Angeles August 14 and leaving on the steamer Whatcom just as twilight darkens into night. At dawn of the following day we are in Seattle,—and the Mountaineers' first annual outing—probably the most wonderful outing ever taken by any mountain-climbing club—is a thing of the past.

## Olympic Outing

List of members of The Mountaineers who went on First Annual Outing

Archer, A. W.	Kracht, Ida
Bailey, Winona	Krows, Melvin
Banks, Mary	Landes, Prof. Henry
Baptie, H. May	Landes, Prof. Charles. Tacoma
Belt, H. C.	Leckenby, Mollie E.
Belt, Mrs. H. C.	Light, J. P.
Best, John A. Jr.	Lyman, Prof. W. D., Walla Walla
Bigelow, Alida J.	McCarney, Margaret
Blake, J. Fred	McDaniels, Metta
Brown, Sydney	McGregor, P. M.
Casey, Alice M.	Morril, Ormond
Childe, Eugene A.	Nelson, L. A.
Chittenden, Eleanor Mary	Nettleton, Lulie
Craven, A. J., Bellingham	Niedergesaess, Gertrude
Curtis, Asahel	Plumb, Prof. F. H.
Curtis, Mrs. Florence	Price, W. Montelius
Eaton, Dr. Cora Smith	Richards, E. E.
Epler, Frank	Southard, F. S.
Flett, Prof. J. B., Tacoma	Stevens, Dr. B. R.
Frye, Prof. Theodore C.	Stevens, Dr. E. F.
Gleason, Helen R.	Stevens, Mrs. Vesta E.
Hanna, Ina M.	Stevens, Prof. H. C.
Hannaman, Geo. L., Bremerton	Strang, Hattie A.
Howard, Anna	Streator, Gertrude Inez
Howard, Grace	Stuff, Mrs. Josephine
Hubert, Anna	Treadeau, Joseph
Humes, Grant	Van Horn, Rev. F. J.
Jones, Nancy Emerson	Van Horn, Robert
Kaiser, George	Webster, E. B., Port Angeles
Ketcham, Florence	Weaver, Prof. C. E., Berkeley, Cal.
Kracht, Fred G.	Wilson, W. E., Ellensburg
Kracht, Louise	Wright, Wm. H.

# Record of Ascents to the Summits of Peaks of the Olympic Range, Made by Mem- bers of the Mountaineers in 1907

## MOUNT CHRISTIE.

### First Ascent, August 5th, 1907.

Mr. Asahel Curtis	Mr. J. P. Light
Mr. Grant W. Humes	Mr. Eugene A. Childe
Mr. Geo. L. Hannaman	Mr. Fred J. Blake
Mr. John A. Best	Mr. Melvin A. Krows
Mr. P. M. McGregor	Mr. Frank Epler
Mr. F. G. Kracht	Miss Ida Kracht.

Miss Kracht is the first and only woman, so far as known, who has climbed Mt. Christie.

### Second Ascent, August 19th, 1907.

Prof. Henry Landes	Mr. Chas Landes
--------------------	-----------------

## MT. MEANY.

### First Ascent, August 8th, 1907.

Mr. Asahel Curtis	Mr. L. A. Nelson
Mr. P. M. McGregor	

### Second Ascent, August 18th, 1907.

Prof. Henry Landes	Mr. Chas. Landes
--------------------	------------------

## MT. NOYES.

### First Ascent, May 30th, 1907.

Mr. Asahel Curtis	Mr. Grant W. Humes
-------------------	--------------------

### Second Ascent, July 30th, 1907.

Prof. W. D. Lyman, leader

#### Company A.

Rev. F. J. Van Horn, Capt.  
Robert Van Horn  
Mrs. Stevens  
Dr. Stevens  
Miss Jones  
Miss McDaniels  
Mr. Hannaman  
Miss Bigelow  
Miss Bailey  
Mr. Epler

#### Company B.

Mr. Krows, Capt.  
Miss Banks  
Dr. B. R. Stevens  
Mr. Tredeau  
Miss Grace Howard  
Mr. Brown  
Miss Anna Howard  
Mr. Kracht  
Miss Ketchum

## THE MOUNTAINEER

## MOUNT NOYES—Continued

**Company C.**

Mr. Light, Capt.  
 Miss Strang  
 Miss Nettleton  
 Mr. Child  
 Mrs. Curtis  
 Mr. McGregor  
 Miss Streator  
 Miss Leekenby  
 Mrs. Belt  
 Mr. Belt

**Company D.**

Judge Craven, Capt.  
 Miss Ida Kracht  
 Mr. Plumb  
 Louise Kracht  
 Mr. Kaiser  
 Miss Casey  
 Mr. Southern  
 Miss Baptie  
 Mr. Blake

**Company E.**

Mr. Webster

Miss Chittenden

Dr. Eaton



## Mount Olympus, Continued

**MIDDLE PEAK.****First Ascent, August 13th, 1907.**

Prof. Henry Landes, Seattle	Mr. F. H. Plumb, Seattle
Miss Anna Hubert, Seattle	Mr. Chas. Landes, Seattle
Prof. John B. Flett, Seattle.	Mr. W. Montelius Price, Seattle
Mr. A. W. Archer, Seattle	Mr. L. A. Nelson, Seattle
Prof. Theodore C. Frye, Seattle	Mr. Earl E. Richards, Seattle
Prof. C. E. Weaver, Berkeley, Cal.	

**Second Ascent, August 15th, 1907.**

Cora Smith Eaton, M. D., second woman to reach the summit of Middle Peak.

Mr. L. A. Nelson (third ascent in four days).

List of party attempting the ascent of Mount Olympus, August 10, 1907. Severe snow storm prevented the party from reaching the summit:

**General Staff.**

Asahel Curtis  
L. A. Nelson  
Henry Landes

Grant Humes  
F. Bowman

**Company A.**

Geo. L. Hannamau, Captain  
Mary Banks  
H. C. Stevens  
Alida J. Bigelow  
Sydney Brown  
Anna Hubert  
F. H. Plumb  
Mollie E. Leckenby  
Dr. Weaver  
Anna Howard  
Frank Epler, Lieut.

**Company C.**

John A. Best, Jr., Captain  
Lulie Nettleton  
Ormond Morrill  
Gertrude Niedergesaess  
A. W. Archer  
H. May Baptie  
Wm. G. Wright  
Winona Bailey  
Judge A. J. Craven  
J. P. Light, Lieut.

**Company B.**

P. M. McGregor, Captain  
Nancy E. Jones  
Eugene Hilde  
Metta McDaniels  
Chas. Landes  
Ina M. Hanna  
F. J. Kracht  
Mrs. Asahel Curtis  
Robert Carr  
Dr. E. F. Stevens, Lieut.

**Company D.**

Gertrude Krows, Captain  
Prof. W. D. Lyman  
Hattie A. Strang  
Robert Van Horn  
Grace Howard  
Rev. Van Horn  
Margaret McCarney  
E. E. Richards.  
J. F. Blake, Lieut. and rear guard



## MOUNT SEATTLE—Continued.

Third Ascent August 19th, 1907.

Dr. Cora Smith Eaton

Mr. E. W. Humes

## Cougar Peak of Mount Seattle

First Ascent, August 4th, 1907.

Mr. L. A. Nelson

Mr. Grant W. Humes

Mr. Asahel Curtis

Second Ascent, August 11, 1907.

W. M. Price

Third Ascent, August 15th, 1907.

Prof. Henry Landes

Mr. Chas. Landes

Fourth Ascent, August 19th, 1907.

Dr. Cora Smith Eaton, M. D.

Mr. W. E. Humes.

Dr. Eaton was the first woman to climb Cougar Peak.

## Mount Barnes

First Ascent, August 4th, 1907.

Mr. P. M. McGregor

Mr. Geo. L. Hannaman

Miss Lulu Nettleton

Miss Alida J. Bigelow

Mr. F. H. Plumb

Record Found on the Pass Between the  
Elwha and the Queets

**C**OPY of record found on the pass between the Elwha and the Queets, on Aug. 12, 1907, by J. B. Flett and party, consisting of himself, T. C. Frye and F. H. Plumb. The record was in a one-pound Royal Baking Powder can, lying on a knoll on the pass. It was written on page 255 of a magazine, "Travel, Adventure and Sport," no date nor year to be found, on the margin of an article on Japanese wrestling, the theme seeming to be athletics as a means of defense. Written in a good business hand was the following: "**A. M. Godfrey, D. W. Starrett, W. Daggett, on our way to the Pacific from Port Townsend by Dungeness over Docewallups and Elwha Valleys.—Aug. 25, 1894.**"

On opposite margin was written: "**H. B. Herrick, Aug. 15, 1900.**"

Our party of Mountaineers added: "**J. B. Flett, T. C. Frye, F. H. Plumb, three Mountaineers on their way to climb Mt. Olympus, Aug. 12, 1907.**"

On Aug. 17, 1907, when the Hospital Detail crossed the pass on their way with Miss Bailey from Marmot Rock Hospital Camp to the permanent camp in the Elwha, Mr. Plumb produced the can from under the trunks of two crooked dead firs; and Dr. Eaton copied the record. There were old square blazes on trees on the pass and in the Queets Valley, which were taken to be the work of this party in 1894, the blazes seeming to be about that old.

# THE MOUNTAINEER

---

PUBLISHED FOR MEMBERS

ANNUAL DUES, \$3.00

---

## THE OBJECTS AND PURPOSES OF THE CLUB ARE:

To explore the mountains, forests and water courses of the Pacific Northwest, and to gather into permanent form the history and traditions of this region; to preserve, by protective legislation or otherwise, the natural beauty of the Northwest coast of America; to make frequent or periodical expeditions into these regions in fulfillment of the above purposes. Finally, and above all, to encourage and promote the spirit of good fellowship and comradery among the lovers of out-door life in the West.

---

## BOARD OF DIRECTORS

FOR THE YEAR 1908-1909

- PROF. EDMOND S. MEANY ..... *President*  
University of Washington, Seattle
- MR. FRANK S. SOUTHARD ..... *Vice-President*  
55 Haller Building, Seattle
- MR. CHARLES M. FARRER. .... *Secretary*  
522 Pioneer Building, Seattle
- DR. E. F. STEVENS ..... *Treasurer*  
1505 Madison Street, Seattle
- MISS LULIE NETTLETON ..... *Historian*  
1806 Eighth Avenue West, Seattle
- MR. ASAHEL CURTIS..... 627 Colman Building, Seattle
- PROF. J. B. FLETT ..... Tacoma High School, Tacoma
- REV. F. J. VAN HORN ..... 923 James Street, Seattle
- L. A. NELSON ..... 522 New York Block, Seattle
- JOHN A. BEST, JR. .... Bremerton, Washington
- MISS ALIDA J. BIGELOW..... 1139 Eighteenth Ave. N., Seattle
- A. J. CRAVEN, 1120 Garden Street, Bellingham, Washington

## COMMITTEES

1908-1909

### *Outing Committee*

Asahel Curtis  
L. A. Nelson  
Charles M. Farrer

### *House Committee*

Prof. Henry Landes  
Mrs. Vesta E. Stevens  
Dr. E. W. Young

### *Publication Committee*

Miss Lulie Nettleton  
E. A. Childs  
Miss Mary Banks

### *Program Committee*

H. C. Belt  
Geo. E. Wright  
Miss Hattie A. Strang

---

## DIRECTORS

1907-1908

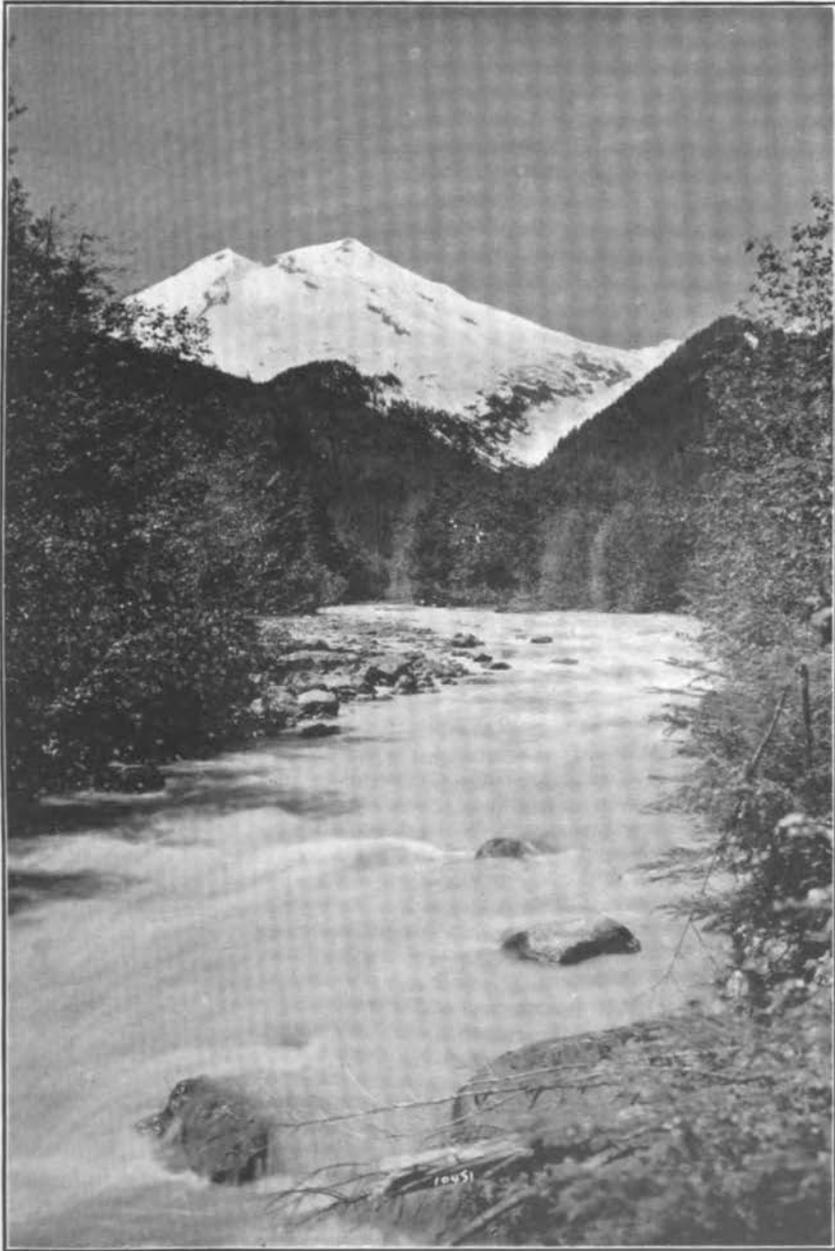
Prof. Henry Landes, President, 4503 Brooklyn Avenue, Seattle  
Rev. F. J. Van Horn, Vice-President, 923 James Street, Seattle  
John A. Best, Jr., Secretary, 1217 Alaska Building, Seattle  
Dr. E. F. Stevens, Treasurer, 1505 E. Madison Street, Seattle  
Miss Lulie Nettleton, Historian, 502 West Highland Drive, Seattle  
Asahel Curtis, 627 Colman Building, Seattle  
L. A. Nelson, 522 New York Block, Seattle  
Miss Alida J. Bigelow, 1139 Eighteenth Avenue North, Seattle  
Frank S. Southard, 55 Haller Building, Seattle

# The Mountains

John Muir

**C**limb the mountains and  
get their good tidings.  
Nature's peace will flow into  
you as sunshine flows into  
trees. The winds will blow  
their own freshness into you,  
and the storms their energy,  
while cares will drop off like  
autumn leaves. [John Muir





**MOUNT BAKER FROM PARK CREEK**

# THE MOUNTAINEER

---

VOL. I SEATTLE, WASHINGTON, NOVEMBER, 1908. No. 4

---

WITH THE MOUNTAINEERS ON MT. BAKER.

LULIE NETTLETON, *Historian.*

"Ho for Mt. Baker!" was the slogan sounding in the hearts of a band of Mountaineers, gathered at the Great Northern station on the afternoon of July 18, 1908.

A brave little army we were, half a hundred strong, bristling with alpenstocks, laden with knapsacks and other paraphernalia necessary for a strenuous two weeks in mountaineering.

We were embarking upon a most ambitious undertaking, for our objective point Mt. Baker, or Kulshan the Great White Watcher of Indian lore, had for years, wrapped its robe of clouds about its majestic head and defied the attempts of climbing clubs to scale its summit. Its difficulty of approach, the number and depth of its crevasses, its treacherous sliding rock, and all convened to discourage ascents.

In May of 1908 the club had sent out the very capable Outing Committee, consisting of Asahel Curtis, L. A. Nelson and John A. Best, Jr., to reconnoiter. They spent ten days in the Baker country, locating the trail, selecting the camp sites, and negotiating for pack animals. They found that by following the old Jo Morovitz trail, the party could easily be taken to Boulder Creek, but there the trail ended. Seven miles of new trail must be built. This was done by Mr. L. A. Nelson, assisted by Mr. Frank Epler.

Therefore, having shifted all responsibility for luggage, tickets, etc., upon the shoulders of the Outing Committee, the merry company started on this memorable trip absolutely care free.

A short railway journey ended at the town of Baker at 9:30 p. m. Our first temporary camp lay two miles beyond, over a muddy road. It was a very dark night and we literally plunged into inky blackness, punctuated by improvised lanterns, called "bugs," constructed of tin cans and candles. In spite of the mud and darkness, a very cheerful company trudged on.

"Why are the people up in front shouting?" we query. In a moment we are shouting too, for a turn in the road brings to our dazzled eyes a glorious camp fire, and good things to eat set out most invitingly, and presiding over all His Royal Highness Our Chef, Mr. Carr.

With a lusty cheer the advancing army surrounded the camp and took possession in the name of "The Mountaineers."

After the invaders had put to rout a host of hot doughnuts, biscuits, a large supply of rice and other good things, we unpacked our dunnage bags. Perhaps a newcomer looked a little anxiously at the grassy meadow that was to be our sleeping quarters. I suspect they were questioning the charm of such a spacious boudoir. However, being very sportsmanlike, nothing was said, and in a short time we were all as snug as dolls in Christmas stockings, and no sound was heard but the occasional snapping of the waning camp fire.

At dawn the bugle call aroused us and in two hours breakfast was eaten, dunnage bags packed ready for the pack train.

Our pack train consisted of thirty-two sturdy, well trained little beasts and we were indebted to the Standard Reduction and Development Company for them.

We spent a charming day in forest, following in a general way the course of the Baker River for fourteen miles.

However, there was a company of three who found this day no time for dreaming. This was the "steering committee." What is that? Let me explain. Following the precedent of the previous year we "took the beef up on the hoof." Thus three prominent people, a strong man, a charming lady, and the secretary, were chosen to guide this valuable part of the commissary. To guide, did I say? The animal made an excellent guide himself and took the whole committee at his own sweet will. It has been stated that the chairman's feet touched the ground three times during the first mile. Eye witnesses deny this. The chairman himself declined to be interviewed.

Many were the streams to be crossed—first Bear Creek, then came Sulphur, Rocky Creek, and Big Sandy, then Little Sandy. One more stream after the latter and we have reached the site selected for actual camp. Joyously we cast aside alpenstocks and threw ourselves down to await the pack train.

We had time to observe this famous Boulder Creek. It certainly was well named, for in its bed lie countless boulders brought down by the stream. Listening, we heard their rumbling and grumbling as they rolled about, protesting against the rough treatment the tyrant stream had showed them. It was a sulphurous stream, but we found it cooling, and soon had selected our sleeping places beside its banks. Hardly had the hungry company staked their claims when we began to build air castles, filled with the delicious viands that Carr would prepare when he arrived.

Alas, for dreams! A messenger arrived with the word that an accident on the trail had delayed the pack train and they could not get beyond Big Sandy. Our air castles with their banquet halls came crashing

down. What did we do? What would any good mountaineer do? We gathered our belongings and philosophically walked back to Big Sandy. When the animals did arrive, we had a meal far superior to that of our dreamings—for it was a reality.

The next day military formation was necessary. Boulder Creek was to be crossed, and a most treacherous stream it is. Fed from Boulder Glacier on Mt. Baker, it must be crossed in the early morning, because the mid-day sun melts the snows so rapidly that the stream reaches formidable proportions later in the day.

The men cut down trees and over them we advanced. Now, crossing a turbulent stream with only an uncertain log for a bridge is decidedly interesting. Kind hands are always ready to help, but you decline them and bravely start alone. How the log topples. Your heart beats to suffocation and the water cries "Come in! Come in! Come in!" A score of cameras leveled at one are disconcerting, too. But in some way you are over safely. Thus the whole company crossed, although great interest was manifested in the crossing of a popular jurist who, in a previous outing, had quite extinguished himself in the waters of a certain Olympic stream.

Here the company enter the United States Forest Reserve. From this point we followed our own trail, planned and constructed by members of the club and financed from "Mountaineer" coffers. This trail is so clearly defined and cleverly planned, a minimum of grade is lost in the ascent. This continued five miles to an altitude of thirty-five hundred feet, and later two more miles were added, taking it to timber line. By its construction, the Mountaineers have opened up the south-east side of the mountain and made it so accessible that hereafter the ascent of Mt. Baker will be a comparatively easy matter.

At the end of the trail we found ourselves in a maze of huckleberry bushes. Here our camp was to be

pitched. Though the strong men valiantly attacked the wiry underbrush with hatchets, and produced a fairly comfortable camp, it was not a satisfactory situation. Our Outing Committee were not the men to let well enough alone, and at dawn scouts were out looking for a better site for permanent camp. They found an ideal spot in a meadow a mile beyond, and armed with knives and axes the men bent to the task of cutting a trail to the meadow. It seemed almost incredible, but in thirty minutes the trail was complete.

Our horses had been sent back for more supplies, and the members of the party trudged back and forth between the old camp and the new, moving baggage and commissary. Any weariness faded in the beauty of the scene of this, our permanent camp. It was a charming alpine pasture bordered by a palisade of pines. No decorated walls of a palace could equal the setting of our new home.

Greater than all else, directly before us, in stupendous grandeur, rose the magnificent heights of Mt. Baker, our destination and our inspiration.

Settled in the new camp, our energetic leader marshalled the company for a practice trip. Three hours were spent in practice in the snow and ice work. In short, Prof. Curtis conducted a class in mountaineering. Special attention was given to manipulation of alpenstocks and use of feet on icy slopes. The class was evidently a great success, for the party returned radiant and exhilarated, but with the appetites of ravening wolves.

On Thursday morning a longer trip was scheduled. Preparations were elaborately made—particularly with grease paint to prevent sunburn. One moment and we are in civilized company. Then, Presto, Change! Are these the same people? No, these are veritable cartoons of men, black-face artists and human totem poles. "Painted like the sky of morning, wildly glaring at each other."

At half past seven, accoutered as for the great climb, with thirty-eight in line and four in the general staff, we started for the mountain. Continual climbing, sometimes over a 45 degree slope, brought us to an altitude of 6000 feet by noon. A halt was called near a great ice gorge. Here we saw magnificent ice sculptures. High turrets and spires arose from the masses of clear ice, shaded from deepest indigo to the most delicate turquoise. Standing in the midst was a magnificent pillar of ice, symmetrical and perfect as though fashioned by the cunning hand of a master. Lack of time prevented the whole party from making the descent into the gorge, but exclamations of wonder, from those who did, showed that only greater wonders were revealed by a more intimate acquaintance.

The bugle sounded retreat, and we slowly descended but reaching a long slope, with no crevasses ahead, the order came to coast. With shouts of glee the women entered the sport with the gusto of children. Clergymen joined them; the doctors, sure of plenty of adhesive plaster in camp, sailed gayly down the slope, and the lawyers broke every law in legal writ concerning "speed limits."

Our next attack was upon Boulder Glacier, which proved "a foeman worthy of our steel." The walking was so difficult, the ice being covered with pulverized rock, that many slips and ignominious falls resulted. (In fact, an observer of one of these complicated falls has immortalized the incident in verse.)

On the morning of July 24, we awakened to find our beautiful world of blue and green and white changed to an ugly gray, our mountain entirely invisible, and a drizzle of rain falling. In the words of Dr. Eaton: "Blessed was he who had brought a poncho into the wilderness, for he was the only one to sleep dry." The unprotected ones gathered their damp possessions and fled to the tents. Fires were built, and

instead of rain making a gloomy day, the spirits of good Mountaineers seemed quite stimulated. With an amateur phrenologist, a palmist, a whist party, and a masquerade, the two days passed rapidly.

The rainy time would not be complete without the mention of the only incident even approaching a tragedy, on the whole trip. The setting for this tragedy must be a gloomy scene. Let the orchestra play pianissimo. Picture a background of dark trees, a tiny white tent in the foreground, dark clouds overhead, and—silence. Suddenly the startled scream of a woman burst upon the air. "Wild cat! Wild cat! Carr! Carr!" Again and again came the cry of anguish. For a terror-stricken moment all were dumb. Then from headquarters Mr. Secretary was ordered to unpack his gun from his dunnage bag, his cartridges from another, and carry them to Mr. Crack Shot. The latter was to pursue the marauder.

But Mr. Crack Shot was not impressed with the danger, and in time the camp calmly went to sleep again.

I suspect a certain old father squirrel on these winter evenings, gathers his little ones around his knees and proudly tells the story of that summer evening, when he was mistaken for a wild cat.

A certain little lady still hears of the time when she forgot her husband's name in her terror, and called upon the cook to protect her.

Rainy days passed and the sun came out, and a cloudless sky promised a fair tomorrow. All preparations were made for the great ascent, and, while all arrangements were as perfect as humanly possible, a clear night was followed by a cloudy morning. Though the company reached an altitude of 8,500 feet, they could not go further on account of the inclemency of the weather.

Time was taken for a side trip to Park Creek Glacier, where we could catch glimpses of the old Mazama Camp, Coleman Peak and Mazama Dome.

Rain seemed imminent, so retreating to permanent camp, we waited for clear weather. During this time the Easton party arrived, having come across the mountain from Bellingham and endured intense sufferings.

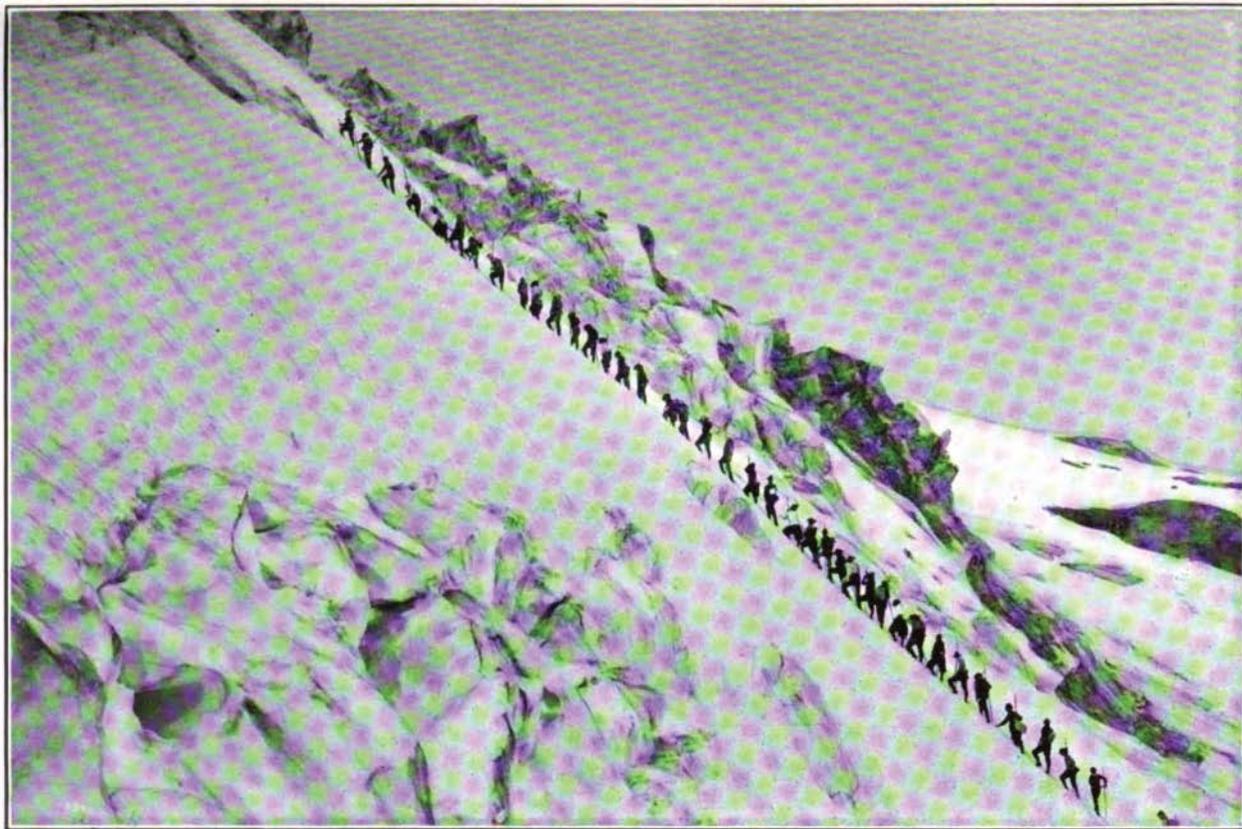
On the afternoon of the second day the weather cleared, and we started for the mountain, each carrying his sleeping bag and a share of commissary supplies. Arriving at temporary camp at timber line, we hurriedly made preparations for the night, in a tiny natural park 5,000 feet in altitude. Here and there were patches of snow, soft green grass between, and clumps of wind-blown fir trees.

Boulder Glacier could be seen at the west, Park Creek Glacier lay northeast, Baker Lake lay to the southeast, and Mt. Shuksan was directly east. Right before us rose Mt. Baker. Anticipating a strenuous tomorrow, we retired early, but not for slumber. For the beautiful clear night proved a most chilly one, and the cold wind blowing over the snow fields pierced straight through sleeping bags. When the bugle sounded at 2 o'clock, there was no reluctance in obeying its summons.

This was just before the dawning of the much anticipated day. We groped for our belongings in the dark. How the lacings of the boots did evade trembling fingers. How awkward you are in your haste. Then you look up at the quiet stars and seem to gather some of their calmness. On the morning in question a huge meteor shot through the heavens, illuminating the whole sky. We took it for a good omen. Breakfast ready, and with canteen and alpenstock, you proceed toward the commissary. What does the scene before you mean? There before the blazing fire is a line of grotesque figures. Beside the fire are three wizards pronouncing incantations over steaming caldrons.

Is this the spirit of the mountains dispensing some magic potion to these uncanny creatures?

Have you, like Rip Van Winkle, fallen asleep on the



**CLIMBING A STEEP ICE SLOPE ON BOULDER GLACIER. MOUNT BAKER**

mountain and awakened to discover gnomes and elves in mystic ceremony?

Not at all. You are quite safe in advancing and joining the weird procession. You have only caught the Mountaineers in the act of breakfasting.

"Fall in!" came the order, and all mystery vanishes, Thirty-nine men and women spring to their places, and we are off—off to conquer Kulshan.

Our quarry rears his head defiantly before us; the unclouded crown seems just a little way beyond.

No artist could paint that dawn. A world of mountains on either side, mysterious in the light from the starlit sky. As the line rose to upper levels the stars faded and the silhouette of Mt. Shuksan stood out against a more brilliant sky. And clearer could we see mountain succeeding mountain in this marvelous panorama. Then a sudden brightness and the exquisite morning is radiant with sunlight. In the dark line, slowly advancing, hearts leap with the joy of being a part of this upper world, and glory in their power to indulge in their chosen sport. As the sun reached its zenith the last icy rampart had yielded and the great white peak is conquered. In an azure world we stand, pulses thrilling with exultation. We realize why Balboa of old, chanted the *Te Deum* when from the heights he first beheld a new-found ocean.

The cloudless sky was purple above us, with paler tints at the horizon. Mt. Rainier and Glacier Peak seemed only a stone's throw apart. A misty spot was pointed out as Puget Sound, and the Nooksack River looked like a tiny silver thread.

We looked down upon the lower peak of Mt. Baker, and between, the crater sent forth sulphurous vapors, showing that the heart of the old volcano was still alive. Reluctantly we began our descent, slowly at first, for in the upper levels there are many crevasses and pit-

falls for unwary feet. Further down we coasted over slopes that had been ascended so slowly.

Reaching our temporary camp, we hurriedly gathered our belongings and left at once for permanent camp.

Early the next morning camp was broken and we were again on the trail toward home. A party of twenty visited Baker Lake as a side trip, joining the rest of the party at Boulder.

Thus ended the Second Annual Outing of the "Mountaineers." To whom are we indebted for its unqualified success? To the management of Mr. Curtis, assisted by Mr. Nelson, and Mr. Best; to the merry band who entertained at the campfires; to the physicians who cared for bodily ills; and to every individual in the company, for each contributed to the general spirit of good fellowship that prevailed.

### MOUNT BAKER

(Dedicated to *The Mountaineers*)

*Near to a mountain top I stood,  
Ambition urging on, all else forgot,  
To win applause for daring and for strength.  
I'd passed great jagged rocks and danger points  
Of deep crevasse or snow-slides swift as death;  
While sleet and storm raged o'er, with icy blast.  
The summit gained, an awful knowledge grew  
Of jostling throngs below, content with ease,  
Who mocked, or jeered, or thought of me no more—  
Oh, dread and bleak the height,  
Alone! Alone!*

*But in the world where folly rules the hour  
Or creed or crime binds fast the inert ones;  
Where clutching hands hold fast to bramble briars,  
Or jibes or taunts sting keen as driving hail,—  
The soul that strives, like toiling mountaineer,  
To rise above Life's mediocrity,  
Stands, breathless, strong, his hard-won victory  
Blazing the way for others who aspire.  
What if he live or die? His work remains,  
And as his soul goes on to other heights  
He's not alone!*

ALICE HARRIMAN.



MOUNT BAKER. FROM THE MOUNTAINEERS' TEMPORARY CAMP. 1908

THE MOUNTAINEERS' FIRST ASCENT OF  
MT. BAKER.—  
ASAHEL CURTIS.  
—

The Mountaineers' ascent of Mount Baker, made on July 29th, with a party of thirty-nine was remarkable only for the ease and safety with which this, the first large party reached the summit. Prior to this ascent, the climb of Baker had been considered very difficult, particularly with a large party, and no such party had succeeded in reaching the summit. The route chosen was not a new one, but it had been used only by small parties, because of the difficulties in transporting supplies to a camp near timber-line. When the Mountaineers had solved this, by building a trail up the ridge between Park and Boulder Creeks to timber-line, the rest of the outing was easy. For this reason the outing and the climb stands as a splendid example of the fulfillment of the purposes of the club; to make the mountains accessible and to make mountain climbing one of the safest and cleanest of sports.

The ascent was made from a temporary camp at timber-line at an altitude of 5,000 feet between Park and Boulder Glaciers. From this point a ridge of broken rock runs up the mountain side for thousands of feet, until it is joined by the arete that makes down from the rocks of the summit. This ridge was snow covered in July this year, because the snows lay on longer than usual, but when the ridge is bare, the ascent is as easy as over the snows. There are no great crevasses that have to be crossed, and the snow slopes are not dangerously steep.

The party left temporary camp at 3:30 in the morning in four companies in command of Captains Mc-

Gregor, Nettleton, Belt and Mills. L. A. Nelson led the party, while a small party known as the General Staff, composed of Curtis, Humes, Epler, Krows and Morrill, went ahead to choose the route and break trail where necessary. This plan worked so well that the main party did not have to pause on the steepest slopes for steps to be cut. For the first few hours of the climb the party advanced steadily, gaining a thousand feet each hour. The total rise in the day's climb was only 6,250 feet, but of course the rare atmosphere at the higher levels would make progress slower. This rise is, however, about the maximum that should be attempted in a single day, by any but the most experienced climbers.

The party was well upon the mountain slopes when the sun rose just back of the steep spire of Mount Shuksan. For some time the snows had been stained red by the reflected light; but the full glory of the morning sun was dazzling here in such a waste of snow and ice. The great valleys that lay all below were in deep shadow and seen from above were dark voids. As the sun rose the lesser hills caught the light, but the haze that lay in the valleys prevented a clear view. In the distance the rosy summit of Rainier rose above the clouds, faint and cloud-like, through one hundred and thirty-five miles of space that intervened.

From timber-line to the arete, the climb was devoid of any incident except the steady ascent over snow fields that gradually grew steeper. Above the rocks, the party crossed over to the slope between the two peaks. Here the snow fields increased in steepness, making fairly difficult climbing, until the snow cornice was encountered, directly below the snow fields of the summit. The snow had broken away from the summit cap and started to slide down the mountain, and the only remaining connection was a snow bridge, two feet wide, but so thin that it was not safe to stand on. Above this the snow stood twenty feet high, and this had to be



**SNOW CORNICE TO THE SOUTHEAST OF SUMMIT OF MOUNT BAKER**

cut away before the party could go up. This was slow and tedious, particularly to those who had to stand in the snow and wait, with nothing to do. An hour's work, the last of the snow slid into the crevasse, a line was made fast above, to prevent anyone slipping into the icy depths and one by one the party passed up. The stay on the summit was very brief, for a bitter wind was blowing. The old Mazama record box, left two years before, was found open and resting on the snow. The party registered as rapidly as possible and left the summit, glad to escape from the bitter cold wind. The descent was handled even more carefully than the ascent, and greater care taken to prevent an accident. The fact that the party reached camp without a single mishap is due to the constant care of Mr. Nelson, who had immediate charge of the party, and Mr. McGregor, Capt. of Co. A, who was with Nelson throughout the climb.

It is a splendid thing to find a party, that in so short a time can be made into a working organization, capable of carrying out such an ascent, and this result could not be accomplished without the hearty co-operation of every member.

## FIRST AID IN THE MOUNTAINS.

CORR SMITH EATON, M. D.

This article could more properly be written by our treasurer, Dr. E. F. Stevens, who has doubtless rendered more first aid to injured mountaineers than all the other mountaineering doctors in the state put together. However, as Dr. Stevens is a man of deeds rather than of words, it falls to me to state the general principles underlying the practice of medicine and surgery in the mountains.

It may be thought that the doctors and the patients work under many disadvantages in camp, or on the mountainside. Yet, while this is true as to conveniences, the reverse is true as to essentials. The essentials for a patient's recovery from accident, or illness are these: Good general health, pure air and outdoor living, freedom from routine, cares of business or family, clean water for drinking and bathing, and inspiring surroundings. These essentials we always have in a group of mountain climbers, and when you can add plenty of good food, well cooked, which we can count on in the Mountaineers' Club, the surgeon is well outfitted, even without the hospital equipment so necessary in the city.

The medical ailments most commonly brought to the doctor in the mountains are headache, indigestion, diarrhoea, constipation, earache and toothache. The first four are usually preventable and are worth mentioning, because the "first aid" should be applied by the patient himself before he becomes ill, that he may avoid the illness altogether.

Headache usually comes from prolonged exertion, coupled with anxiety, as in the leader of a refractory pack train over a bad trail, or in members of the official

staff who conduct a carefree company up to the summit and back, past many dangers, keeping everyone both cheerful and careful till safe in camp again.

Indigestion is seldom heard of except in rainy weather, when exercise is interfered with and the idlers in camp overeat of the goodies our chef comforts us withal, such as beef stew with Spanish sauce, followed by mince pie.

Diarrhoea in the mountains is almost always caused by weariness and worry, and is more apt to occur early in the trip, before the carking cares of city life are quite forgotten, and before the climber is rested from the preparations for the trip.

Constipation is rare in the mountains, when to the active exercise is added generous dishes of stewed fruits, daily.

For earache, the best prevention is to sleep with the head dry and closely covered with wool, as with a stocking cap, or a little shawl pinned snugly. For cure, besides the doctor's internal remedies, glycerine with carbolic acid to sterilize and cocaine to stop the pain, will relieve. Glycerine two teaspoonfuls, carbolic acid two drops, cocaine four and one-half grains, is the proportion, to be warmed and put into the ear on absorbent cotton.

For toothache, half iodine and half aconite tinctures, painted on the gum every two or three hours, will make the sufferer call you blessed. These two preparations I always carry into the wilderness.

The surgical cases are the natural result of life on the trail. First come blistered feet from heavy boots, next blistered faces from the sun's reflection on the snow, then an interesting list of sprained knees, wrists or ankles; bruises, cuts and burns; rarely, frosted feet from long time in the snows and crevasses. The major cases, of broken legs and more serious injuries, we hope to avoid altogether by caution. But if they come,

despite our care, impromptu splints made from the handle of an ice axe, or from pieces of an alpenstock, if above the tree line, and bandages of bandana handkerchiefs will answer every purpose, till the stretcher improvised from the lifeline and two alpenstocks, as made by Mr. J. Fred Blake in the 1907 outing, can bear the patient into camp.

For blistered feet, the best prevention, far superior to adhesive plaster, is a chamois *h el* protector which should be worn next to the skin, not outside the socks, the feet being kept well oiled. These heel protectors can be bought for twenty-five cents a pair at shoe stores.

If the blisters have actually occurred, there is no remedy more soothing and antiseptic than five per cent. salicylic acid in lanoline, without which no "tenderfoot" mountaineer should go into the hills. This also is excellent treatment for frost bite and for sore feet of all degrees.

For the prevention of sunburn, grease paint is all sufficient, put on generously before going on the snows. The color of grease paint used seems to be immaterial. For the cure of sunburn, glycerine and water, 1 to 4, followed by the best cold cream, such as Daggett & Ramsdell's, several times a day.

For sprains or other muscular lameness, a liniment of chloroform, two per cent., in glycerine, rubbed in well and frequently, is a panacea even better than arnica.

For cuts and burns, a mild antiseptic salve, like the campho-phenique, called "Scrofonol," is good. Apply the salve, then cover with a thin layer of absorbent cotton, to prevent the adhesive plaster from coming in contact with the wound, then the adhesive to hold the dressing in place.

If a cut must be sewed together, and a tyro must do it, remember to sew muscle to muscle and skin to skin, and you may do as well as an experienced surgeon. If there is bleeding, as from a severed artery, which

pressure alone will not stop, tie a handkerchief or strip of torn garment *above* the cut, as tightly as necessary to stop the flow of blood, till the artery can be tied with a stitch around it.

To be a good mountaineer is to be good in emergencies, and it is surprising how much a layman can do, whatever the accident, in the way of first aid. Every difficulty yields to common sense and a cool head.

---

## A MOUNTAIN EXPERIENCE.

---

E. H. WELLS.

---

A sixteen-year-old Seattle girl was entombed alive one day last August deep down in a glacier crevasse on Mt. Rainier. She was finally rescued, after four long and terrible hours spent in the dark abyss of ice. Today the heroine of this startling adventure, Marjorie Hellenbrand, is alive and well and attending the Broadway high school.

The story escaped the daily papers. Miss Marjorie is a very modest sort of mountain climber, who seeks no glory in the public prints. So she carefully kept her story and photograph away from the editors and reporters, and by so doing "scooped" them all.

Only by chance recently did the facts reach the ears of the writer, and the latter, after considerable persuasion, finally secured permission to give them to the readers of *THE MOUNTAINEER*.

On Wednesday, August 21, 1907, a party of sixteen persons, under the leadership of Dr. Lauman, started from camp at the foot of Mt. Rainier, to climb the face of the mountain, aiming to reach the point known as Little Tahoma.

In the party were the following, besides Dr. Lauman:

Mrs. Bert Davis, Iola Herren and Marjorie Hellenbrand, all of Seattle; Mrs. McMann, Mrs. Siler, Mr. Siler, Mr. McMann, Will Siler, Clarence McMann, Everett Truesdale, Beverly Coiner, Louise Siler and John McMann, all from the Big Bottom country. There were also several children.

The ascent to Little Tahoma was successfully accomplished by the whole party, the top being reached about five o'clock in the afternoon. A dense fog had interfered with the speed of the climbers to some extent, and they found themselves obliged to hurry back down the mountain, in order to reach camp before dark.

About this time the lack of a proper organization of the party began to make itself manifest. Strict discipline was not enforced by Dr. Lauman, as head of the expedition, and everybody was allowed to scramble down as he or she saw fit. The doctor himself lingered behind with Beverly Coiner, Mrs. Davis and Marjorie Hellenbrand, to take some kodak pictures, and the party formation was thus dissolved.

Most of the members of the expedition continued on down an old trail to the foot of the mountain and reached camp in safety before nightfall.

But with the stragglers it was different. The picture-taking required some time, and it was fast growing late. Finally Dr. Lauman decided to push rapidly down the mountain, taking what appeared to be a short cut across the big glacier which lies just below Gibraltar Rock. He figured that this course would save considerable time, and would probably enable the rear guard to overtake the main party, before the latter reached camp.

The glacier seemed safe and firm at the point where he chose to cross it, so, without hesitation, he took Mrs. Davis on one side and Marjorie on the other, grasping their arms, and with Beverly Coiner following behind, started briskly across.

Hardly had the party proceeded a hundred yards out

on the ice field when they encountered a blind crevasse, completely hidden under a frail bridge of snow. The first warning came when the Doctor, with Mrs. Davis and Marjorie, sank suddenly into the snow. As Mrs. Davis was going down, she clutched desperately at the edge of the crevasse and succeeded in getting hold of a projection, to which she clung with the strength borne of sudden terror. A moment later she made a successful effort to draw herself up out of the snow, in which she was immersed to her neck. In some unexplained manner she also pulled Dr. Lauman out, he being unable to help himself.

But in the meantime Marjorie had disappeared. She had broken completely through the snow bridge and shot down into the dark depths below. For thirty-five feet she descended at a swift pace, rolling, falling and tumbling from side to side, in the narrow crevasse, until finally she brought up with a hard bump upon a projecting ledge of ice, which made the crevasse too narrow for her body to pass through. But the feet and limbs did jam their way down and were immersed in ice water from the glacier.

Had it not been for the ledge on which she so fortunately lodged, just above the surface of the water, Marjorie would probably have been drowned. The water undoubtedly extended for a considerable depth below, as subsequent investigations showed.

All around the prisoner in the ice was a dark green wall, closing in upon her on all sides, while from far above came down the faint rays of light from the outside world.

To say that Marjorie was startled would be putting it very mildly. She was scared, and scared badly, but never for a moment did she lose her presence of mind. Most girls would probably have gone off into a dead swoon, as the result of terror.

But let me now give the story in Marjorie's own language:

"After awhile I got over my fright. I felt that I was secure on the ice ledge, and I knew that my friends up above, would do everything necessary to get me out of the crevasse. All that I had to do was to wait patiently—and keep from freezing. Oh, it *was* cold there! I was thirty-five feet down in the solid ice, with a short-sleeved waist and a calico skirt, and the awful cold coming out from the glacier. I grew numb. But I knew I must not go to sleep. I must keep awake at any cost.

"To make things worse for me, I was sitting in ice water up to my knees!

"I knew there were no ropes in the party, or any other things to work with except one axe.

"Within a few moments I heard Mrs. Davis' voice way up above, calling down to me, and I answered. Then she called again: 'Marjorie, you must not go to sleep. Keep awake until we can get you out of the ice!'

"And I said I would. But it was hard work. I began to sing all of the little pieces I knew, and to recite all of the poems I had learned. Over and over I said these things. Then I sang again. I had to keep awake.

"Within a few minutes I received some clothing. Mrs. Davis took off her own skirt and threw it down to me. It arrived all right. Then a rubber focusing cloth came down, and I got that also. I wrapped them around my bare arms and shoulders, and they helped a whole lot.

"Finally it began to grow dark. Then it got real dark. It was night up above on the glacier. And it was awful dark down below in the ice.

"But I knew they were going for ropes and axes and would get me out. I must wait and keep awake till they got the ropes.

"Mrs. Davis staid up on the mountain to keep me company, while the Doctor and Beverly hurried down to camp for the ropes and other men to help get me out.

"Finally, about ten o'clock in the evening, they returned, bringing ropes, lanterns, axes and candles. They first tried to send Beverly down, to put the rope around me. He made trouble by getting jammed in the ice, and finally brought an avalanche of snow upon my head that buried me almost out of sight. And he had no light..

"So they pulled him back up, and then Will Siler came down on the rope, carrying a candle and an axe. I was so frozen in and snowed in by that time that he had to cut me out.

"At last he got me loose and put the end of a rope around me and tied it fast. My hands were without feeling, and numb. They then pulled me up onto the glacier.

"I was pretty far gone, and could hardly walk. But they made me do the best I could and finally got me down to camp. Then the doctor knew just what to do and he brought me out all right.

"For several weeks my hands felt queer and were without feeling in them, but gradually they came back to life.

"The only bruises I received were on my arms, when they pulled me up through the crevasse. My left arm was barked considerably. But I went down without a scratch."

And so Marjorie's adventure ended. It was one that few mountain climbers would care to experience, and which she herself would certainly never want again. The marvel of it was that she escaped so well.

I asked her if she had any further desire for the mountains.

"I want to go to the Cascades next summer," she replied.

THE SEED PLANTS, FERNS, AND FERN AL-  
LIES, OF THE HIGHER REGIONS OF THE  
OLYMPIC MOUNTAINS.

J. B. FLETT.

This list has been prepared from lists made by Professors Piper and Henderson, also from collections made by the writer, who has made five trips collecting in different parts of this region. The plants of the last expedition are not yet fully determined, hence are only partially included in this list. This last collection was made in the vicinity of Port Angeles and Mount Angeles. This mountain has by far the richest flora. Plants which are considered rare in other localities of the Olympics, are found here in profusion. It is also the most accessible region. An altitude of 6,000 feet can be reached in a day from the city of Port Angeles.

It is conceded by botanists, who have collected in both the Cascade Mountains and the Olympics, that the flora of the two regions is quite similar. The following plants, said to be missing from the Olympic region, were seen in the highly elevated region of Mount Olympus: *Saxifraga tolmiei*, *Lupinus lyallii*, *Gentiana calycosa* and *Eucephalus ledophyllus* with the possible exception of the last.

Few people have ever visited Mount Olympus, which lies back from civilization about seventy miles. No report has been made of its flora. The region has several glaciers. Some of these are mere remnants showing in the best possible manner recent striae, others are five miles or more in length, having quite large moraines, with their characteristic flora. It was near these old moraines that the above plants were seen. A fuller knowledge of the flora of the Olympic region will, doubtless, show a greater similarity. The spruce (*Picea*

*Sitchensis*) so abundant near the west coast, was not seen in the Mount Olympus region, nor was the White Barked Pine (*Pinus albicaulis*). The other coniferous trees common in the Cascades were also common here, forming symmetrical clusters through the beautiful grassy meadows.

Around our camp near the headwaters of the Elwha River was a peculiar blending of plants of low altitude with those of high. *Spiraea donglasii* and *Spiraea densiflora* were growing side by side, as were *Hypericum scouleri* and *Hypericum anagalloides*. *Hypericum scouleri* is not a common mountain plant in the western part of Washington. *Senecio flettii*, a high altitude plant, had found a congenial home in an old orchard, at the base of Mount Angeles. Another example was that of *Luina hypoleuca* growing low down on an old deserted ranch. Many other examples might be given. Professor Piper assigns excessive rainfall as the cause of this strange mixture of low and high altitude plants.

The following plants are known only from the Olympics: *Elymus virescens*, *Allium crenulatum*, *Erysimum arenicola*, *Arabis* sp. new, collected at the base of Mount Olympus, *Viola flettii*, *Synthyris pinnatifida lanuginosa*, *Spiraea hendersoni*, *Epilobium mirabile*, *Polemonium amoenum*, *Mertensia leptophylla*, *Castilleja angustifolia abbreviata*, *Campanula piperi*, *Aster paucicapitatus* and *Arnica betonicaefolia*.

The above list is, doubtless, very incomplete. Some of these, named as peculiar to the Olympics, may be found on some of the high peaks forming the foot hills on the western slope of the Cascades. Many of these peaks have not been thoroughly explored. Vast areas in the Olympics still remain for botanical exploration.

I have followed the order of arrangement and names of plants as given in Professor Piper's *Flora of the State of Washington*:

- Ceropteris triangularis* (Kaulf.) Underw.  
*Polypodium occidentale* (Hook.) Maxon.  
*Polypodium hesperium* Maxon.  
*Phegopteris alpestris* (Hoppe.) Mett.  
*Phegopteris dryopteris* (L.) FLe.  
*Adiantum pedatum aluticum* Rupr.  
*Pteridium aquilinum pubescens* Underw.  
*Pellaea densa* (Brack.) Hook.  
*Cheilanthes gracillima* D. C. Eaton.  
*Cryptogramma acrostichoides* R. Br.  
*Struthiopteris spicant* (L.) Weiss.  
*Asplenium trichomanes* L.  
*Athyrium cyclosorum* Rupr.  
*Polystichum lonchitis* (L.) Roth.  
*Polystichum munitum* (Kaulf.) Presl.  
*Polystichum munitum imbricans* (D. C. E.) Maxon.  
*Polystichum aculeatum lobatum*.  
*Dryopteris spinulosa dilatata* (Hoffm.) Underw.  
*Filix fragilis* (L.) Underw.  
*Botrychium silaifolium* Presl.  
*Botrychium lanceolatum* (G mel.) Angr.  
*Botrychium onondagense* Underw.  
*Equisetum hiemale* L.  
*Equisetum arvense* L.  
*Equisetum telmateia* Ehrh.  
*Equisetum fluviatile* L.  
*Lycopodium selago* L.  
*Lycopodium sitchense* Rupr.  
*Lycopodium clavatum* L.
- Selaginella struthioloides* (Presl.) Underw.  
*Selaginella rupestris* (L.) Spring.  
 Isoetes, this genus is doubtless represented in the many mountain lakes which the writer has not examined.  
*Taxus brevifolia* Nutt.  
*Juniperus communis siberica* (Burgsd.) Rydberg.  
*Juniperus scopulorum* Sargent.  
*Chamaecyparis nootkatensis* (Lamb) Spach.  
*Thuja plicata* Donn.  
*Pinus monticola* Dougl.  
*Pinus contorta* Dougl.  
*Pinus albicaulis* Engelm?  
*Abies nobilis* Lindl.  
*Abies lasiocarpa* (Hook.) Nutt.  
*Abies amabilis* (Dougl.) Forbes.  
*Abies grandis* Lindl.  
*Pseudotsuga micronata* (Raf.) Sndlw.  
*Tsuga heterophylla* (Raf.) Sarg.  
*Tsuga mertensiana* (Bong.) Carr.  
*Picea sitchensis* (Bong.) Trant & Meyer.  
*Sparganium minimum* Fries.  
*Potamogeton lonchites* Tuck.  
*Potamogeton robbinsii* Oakes.  
*Ruppia maritima* L.  
*Stipa minor* (Vasey.) Scribn.  
*Alopecurus geniculatus fulvus* (Smith.) Sonder.  
*Phleum alpinum* L.  
*Polypogon monspeliensis* (L.) Desf.  
*Polypogon littoralis* (With.) Smith.  
*Cinna latifolia* (Trev.) Griseb.



*XEROPHYLLUM TENAX*. COMMONLY CALLED INDIAN BASKET GRASS.  
FOUND IN HIGH ALTITUDES

- Calamagrostis vaseyi* Beal.  
*Calamagrostis aleutica* Trin.  
*West Coast.*  
*Calamagrostis lansdorffii*. Trin.  
*Agrostis humilis* Vasey.  
*Agrostis alba* L.  
*Agrostis pallens* Trin.  
*Agrostis ampla* Hitchcock.  
*Agrostis rossae* Vasey.  
*Agrostis hyemalis* Walt.  
*Aira praecox* L.  
*Merathrepta intermedia cusickii*  
 Williams.  
*Deschampsia caespitosa* (L.)  
 Beanv.  
*Deschampsia atropurpurea*  
 (Wahl.) Scheele.  
*Deschampsia elongata* (Hook.)  
 Munro.  
*Trisetum spicatum* (L.)  
 Richter.  
*Trisetum canescens* Buckl.  
*Trisetum cernuum* Trin.  
*Koeleria cristata* (L.) Pers.  
*Melica subulata* (Griseb)  
 Scribner.  
*Pleuropogon refractum* (Gray.)  
 Vasey.  
*Poa leptocoma* Trin.  
*Poa sandbergii* Vasey.  
*Poa paddensis* Williams.  
*Poa saxatilis* Scrib & Williams.  
*Distichlis spicata* (L.) Greene.  
*Festuca ovina supina* (Schur.)  
 Hack.  
*Festuca subulata* Trin.  
*Panicularia pauciflora* (Presl.)  
 Kuntze.  
*Panicularia nervata* (Wild.)  
*Bromus marginatus seminudus*  
 Shear.  
*Bromus marginatus latior*  
 Shear.  
*Bromus sitehensis* Trin.
- Bromus eximius umbraticus*  
 Piper.  
*Bromus richardsonii pallidus*  
 (Hook.) Shea.  
*Hordeum nodosum* L.  
*Elymus glaucus* Buckl.  
*Elymus borealis* Scribn.  
*Sitanion rigidum* Smith.  
*Sitanion glabrum* Smith.  
*Sitanion planifolium* Smith.  
*Scirpus ceosпитosus* L.  
*Carex ablata* Bailey.  
*Carex amplifolia* Boott.  
*Carex bolanderi* Olyney.  
*Carex circinata* Meyer.  
*Carex festiva horneri* Piper.  
*Carex festiva pachystachya*  
 (Cham.) Bailey.  
*Carex illota* Bailey.  
*Carex kelloggii* Boott.  
*Carex mertensii* Prescott.  
*Carex multimoda* Bailey.  
*Carex phaeocephala* Piper.  
*Carex scirpoidea* Michx.  
*Carex scopulorum* Holm.  
*Carex spectabilis* Dew.  
*Carex stipata* Huhl.  
*Lysichiton camtschatcense* (L.)  
 Schott.  
*Juncus effusus hesperius* Piper.  
*Juncus subtriflorus* (Meyer.)  
 Colville.  
*Juncus parryi* Engelm.  
*Juncus mertensianus* Bong.  
*Juncoides parviflorum* (Ehrh.)  
 Coville.  
*Juncoides piperi* Coville.  
*Allium cernuum* Roth.  
*Allium crenulatum* Wiegand.  
*Allium acuminatum* Hook.  
*Lilium parviflorum* (Hook)  
 Holzinger.  
*Erythronium montanum* Wats.  
*Erythronium parviflorum*

- (Wats) Gooding.  
 Lloydia serotina (L.) Sweet.  
 Veratrum viride Ait.  
 Tofieldia intermedia Rydberg.  
 Stenanthium occidentale Gray.  
 Xerophyllum tenax (Pursh)  
 Nutt.  
 Xygadenus elegans Pursh.  
 Trillium ovatum Pursh.  
 Clintonia uniflora (Schult)  
 Kunth.  
 Vagnera sessilifolia (Baker)  
 Green.  
 Vagnera amplexicaulis (Nutt)  
 Green.  
 Unifolium bifolium kamtschaticum (G mel).  
 Streptopus roseus Michx.  
 Corallorhiza mertensiana Bong.  
 Cytherea bulbosa (L) House.  
 Ophrys caurina (Piper)  
 Rydberg.  
 Ophrys convallarioides (Sw)  
 Wight.  
 Peramium decipiens Hook.  
 Piperia unalaskensis (Spreng.)  
 Rydberg.  
 Piperia elegans (Lindl.)  
 Rydberg.  
 Limnorchis dilatata (Pursh)  
 Rydberg.  
 Limnorchis leucostachys (Lndl)  
 Rydberg.  
 Salix lasiandra Benth.  
 Salix scouleriana Barratt.  
 Salix barclayi Anders.  
 Salix commutata Bebb.  
 Salix sitchensis Sanson.  
 Populus trichocarpa Torr &  
 Gray.  
 Alnus sinuata (Regel) Rydberg.  
 Alnus oregona.  
 Urtica lyallii Wats.  
 Razoumofsky douglasii  
 tsugensis?  
 Asarum caudatum Lindl.  
 Oxyria digyna (L) Hill.  
 Polygonum minimum Wats.  
 Polygonum douglasii Greene.  
 Polygonum nuttallii Small.  
 Polygonum bistortoides Pursh.  
 Polygonum newberryi Small.  
 Eriogonum ovalifolium Nutt.  
 Eriogonum vineum Small.  
 Eriogonum pyrolaefolium  
 coryphaeum Ton & Gr.  
 Lewisia columbiana (Howell)  
 Robinson.  
 Claytonia lanceolata Pursh.  
 Claytonia asarifolia Bong.  
 Claytonia siberica L.  
 Claytonia parviflora Moc.  
 Spraguea multiceps Howell.  
 Silene acaulis L.  
 Silene douglasii Hook.  
 Silene macounii Wats.  
 Cerastium arvense L.  
 Alsine borealis (Bigel.)  
 Britton.  
 Alsine calycantha (Ledeb.)  
 Rydberg.  
 Alsine crispa (Cham &  
 Schlecht.) Holzinger.  
 Alsine washingtoniana  
 Sagina occidentalis Wats.  
 Moehringia macrophylla  
 (Hook.).  
 Arenaria capillaris nardifolia  
 (Ledeb.) Regel.  
 Arenaria verna rubella (Wahl.)  
 Wats.  
 Arenaria nuttallii Pax.  
 Arenaria sajanensis Wild.  
 Anemone hudsoniana (D. C.)  
 Richards.  
 Anemone drummondii Wats.  
 Anemone lyallii Britton.

- Anemone quinquefolia L.  
 Pulsatilla occidentalis Wats.  
     Freyn.  
 Thalictrum occidentale Gray.  
 Trautvetteria grandis Nutt.  
 Ranunculus suksdorfii Gray.  
 Ranunculus eschsholtzii Schleet.  
 Caltha biflora D. C.  
 Trollius laxus Salisb.  
 Actea spicata arguta (Nutt)  
     Tor.  
 Aquilegia formosa Fisch.  
 Delphinium scopulorum  
     glaucum Gray.  
 Delphinium bicolor Nutt.  
 Achlys triphylla (Smith) D. C.  
 Bikukulla formosa.  
 Draba stenoloba Lebed.  
 Draba glacialis Adams.  
 Cardamine kamtschatica  
     (Regel) Schulz.  
 Arabis drummondii Gray.  
 Arabis lyallii Wats.  
 Erysimum asperum (Nutt)  
     D. C.  
 Erysimum arenicola Wats.  
 Smelowskia calycina Meyer.  
 Sedum spathulifolium Hook.  
 Sedum divergens Wats.  
 Sedum douglasii Hook.  
 Sedum stenopetalum Pursh.  
 Leptarrhena amplexifolia  
     Sternb.) Ser.  
 Therofon elatum (Nutt)  
     Greene.  
 Saxifraga tolmiei Torr & Gray.  
 Saxifraga caepitosa L.  
 Saxifraga bronchialis L.  
 Saxifraga mertensiana Bong.  
 Saxifraga odontophylla Piper.  
 Saxifraga nelsoniana D. Don.  
 Saxifraga bongardi Presl.  
 Saxifraga rufidula.  
 Tiarella unifoliata Hook.  
 Tellima parviflora (Pursh)
- Mitella pentendra Hook.  
 Mitella breweri Gray.  
 Mitella trifida Graham.  
 Heuchera racemosa Wats.  
 Heuchera glabra.  
 Parnassia fimbriata Konig.  
 Ribes lacustre (Pres) Poir.  
 Ribes laxiflorum Pursh.  
 Ribes lobii Gray.  
 Ribes howellii Greene.  
 Lutkea pectinata (Pursh)  
     Kuntze.  
 Spiraea hendersoni (Canby.)  
     Piper.  
 Spiraea douglasii Hook.  
 Spiraea densiflora Nutt.  
 Aruncus aruncus L. Karst.  
 Rubus lasiococcus Gray.  
 Rubus pedatus Smith.  
 Rubus nivalis Dougl.  
 Rubus parviflorus Nutt.  
 Rosa gymnocarpa Nutt.  
 Potentilla gracilis Dougl.  
 Potentilla villosa Pall.  
 Potentilla flabellifolia Hook.  
 Potentilla cascadenis Rydberg.  
 Sibbaldia procumbens L.  
 Fragaria sp.  
 Dasiphora fruticosa tenuifolia  
     (Wild.) Rydb.  
 Drymocallis valida (Greene).  
 Drymocallis glandulosa  
     Rydberg.  
 Drymocallis wrangelliana  
     (Fisch & Lall.) Rydberg.  
 Sieversia ciliata (Pursh.).  
 Amelanchier florida Lindl.  
 Pyrus occidentalis.  
 Pyrus sitchensis.  
 Lupinus lyallii Gray.  
 Lupinus subalpinus Piper &  
     Rob.  
 Lupinus sp.

- Hedysarum occidentale Greene.    Angelica genuflexa Nutt.  
 Aragallus gracilis Nelson.        Angelica lyallii Wats.  
 Aragallus monticola Gray.        Lomatium utriculatum (Nutt.)  
 Phaca hookeriana Torr & Gr.      Coult & Rose.  
 Lathyrus nutallii Wats.            Lomatium martindalei angustum  
 Erodium cicutarium L L'Her.      Coult. & Rose.  
 Empetrum nigrum L.                Oenanthe sarmetosa Presl.  
 Pachistima myrsinites (Pursh.)  
     Raf.                                Cornus stolonifera Michx.  
     Cornus canadensis L.  
 Acer macrophyllum Pursh.        Chimaphila umbellata (L.)  
 Acer douglasii Hook                Nutt.  
 Acer circinatum Pursh.            Chimaphila menziesii (R. Br.)  
 Rhamnus purshiana D. C.          Spreng.  
 Ceanothus sanguineus Pursh.      Moneses uniflora Gr. (L.)  
 Hypericum anagaloides Cham.  
     & Schlect.                        Pyrola minor L.  
 Hypericum scouleri Hook.        Pyrola secunda L.  
 Viola sempervirens Greene.        Pyrola picta dentata Smith.  
 Viola howellii Gray (?)            Pterospora andromedea Nutt.  
 Viola flettii Piper.                Monotropa uniflora L.  
 Viola adunca Smith.                Hypopitys hypopitys (L) Small.  
 Viola retroscabra Greene.        Hemitomes congestum Gray.  
 Circaea alpina L.                    Arctostaphylos tomentosa  
 Epilobium. sp.                      (Pursh.) Dougl.  
 Epilobium luteum Pursh. F.        Arctostaphylos uva-ursi (L.)  
 Epilobium brevistylum Barbey.    Spreng.  
 Epilobium anagallidifolium Lam.    Cassiope mertensiana (Bong.)  
 Epilobium oregonense Haussk.      Don.  
 Epilobium hornemanni Reichenb.    Phyllodoce glanduliflora  
 Epilobium fastigiatum Nutt.        (Hook.) Coville.  
 Epilobium clavatum Trelease.      Phyllodoce empetriformis  
 Epilobium lepiocarpum macounii    (Smith.) Don.  
     Trelease.                        Kalmia glauca microphylla  
     Hook.  
 Epilobium mirabile trelease        Rhododendron californicum  
 Epilobium delicatum tenue        Hook.  
     Trelease.                        Rhododendron albiflorum Hook.  
 Hippuris montana Ledeb.            Menziesia ferruginea Smith.  
 Echinopanax horridum (Smith.)  
     Dec. & Planch.                Gaultheria shallon Pursh.  
 Sanicula septentrionalis Greene.    Gaultheria humifusa (Grahm.)  
 Washingtonia leibergeri Coult. &  
     Rose.                                Rydberg.  
 Heracleum lanatum Michx.        Gaultheria ovatifolia Gray.  
     Vaccinium deliciosum Piper.  
     Vaccinium macrophyllum Hook.

- Vaccinium ovalifolium* Smith.      *Thalesia uniflora* (L.) Britton.  
*Vaccinium parvifolium* Smith.      *Thalesia fasciculata* (Nutt.)  
*Dodocatheon jeffreyi* Van      Britton.  
     Houtte.      *Pinguicula vulgaris* L.  
*Douglasia laevigata* Gray.      *Linnaea americana* Forbes.  
*Gentiana calycosa* Greseb.      *Lonicera utahensis* Wats.  
*Menyanthes trifolia* L.      *Sambucus glauca* Nutt.  
*Apocynum androsaemifolium* L.      *Valeriana sitchensis* Bong.  
*Phlox condensata* (Gray.)      *Campanula scouleri* Hook.  
     Nelson.      *Campanula rotundifolia* L.  
*Phlox diffusa* Benth.      *Campanula piperi* Howell.  
*Collomia debilis* (Wats.)      *Agoseris alpestris* (Gray.)  
     Greene.      Greene.  
*Romanzoffia sitchensis* Bong.      *Agoseris aurantiaca* (Hook.)  
*Hydrophyllum albifrons* Heller.      Greene.  
*Phacelia sericea* (Graham)      *Crepis nana* Richards.  
     Gray.      *Crepis occidentalis* Nutt.  
*Mertensia laevigata* Piper,      *Hieracium albiflorum* Hook.  
     Lamb.      *Hieracium gracile* Hook.  
*Stachys ciliata* Dougl.      *Chrysopsis oregana* (Nutt.)  
*Collinsia tenella* Pursh.      Gray.  
*Pentstemon menziesii* Hook.      *Hoorebekia lyallii* Gray.  
*Pentstemon davidsonii*.      *Solidago corymbosa* Nutt.  
*Pentstemon procerus* Dougl.      *Erigeron speciosus* D. C.  
*Pentstemon diffusus* Dougl.      *Erigeron salsuginosus* (Rich-  
*Chelone nemerosa* Dougl.      ards.) Gray.  
*Synthyris pinnatifida lanuginosa*      *Erigeron compositus trifidus*  
     Piper.      (Hook.) Gray.  
*Veronica alpina* L.      *Erigeron aureus* Greene.  
*Veronica cusickii* Gray.      *Erigeron acris debilis* Gray.  
*Mimulus lewisii* Pursh.      *Eucephalus ledophyllus* (Gray)  
*Mimulus alpinus* Gray.      Greene(?)  
*Pedicularis groenlandica*      *Eucephalus paucicapitatus* (Rob-  
     surrecta (Benth.) Piper.      inson.) Greene.  
*Pedicularis bracteosa* Benth.      *Eriophyllum lanatum* (Pursh.)  
*Pedicularis racemosa* Dougl.      Forbes.  
*Castilleja crispula* (?).      *Achillea millefolium lanulosa*  
*Castilleja oreopola* Greenman.      (Nutt.) Piper.  
*Castilleja angustifolia bradburii*      *Artemisia borealis wormskioldis*  
     (Nutt.) Fernald.      Besser.  
*Castilleja angustifolium abbrevi-*      *Artemisia tilesii* Ledeb.  
     ata Fernald.      *Arnica latifolia* Bong.  
*Castilleja miniata* Dougl.      *Arnica mollis* (?).  
*Orthocarpus imbricatus* Torr.      *Arnica parryi* Gray.

Arnica betonicaefolia Greene.	Antennaria racemosa Hook.
Arnica macounii Greene.	Antennaria media Greene.
Petasites frigida (L.) Fries.	Antennaria concinna Nelson.
Luina hypoleuca Benth.	Antennaria rosea angustifolia (Rydberg.) Nelson.
Senecio flettii Wiegand.	Adenocaulon bicolor Hook.
Senecio lugens Richards.	Saussurea americana D. C.
Senecio triangularis Hook.	Eaton
Antennaria howellii Greene.	

## THALLOPHYTES AND BRYOPHYTES

FROM THE  
OLYMPIC MOUNTAINS.—  
T. C. FRYE.  
—

The following is a list of the algae, fungi, lichens, liverworts and mosses collected on a trip with the "Mountaineers" in the summer of 1907. Our party left Port Angeles August 3, reached the Elwha River at MacDonald, and thence followed its right bank up to the mouth of Godkin Creek. From there the trail crossed the river several times, before reaching the junction of the west, middle and north forks, near which was "Mountaineers' Camp." From here side trips were made up the three forks. About five days were spent here in collecting. A trip was then made up the north fork of the Elwha River, through Queets-Elwha Pass into the Queets River valley, to a camp near the base of the rock which splits the Humes Glacier into two roughly equal parts. About here, three days were spent in collecting, one trip extending across Queets River towards Queets Glacier. From here also, a trip was made to the summit of Mt. Olympus, on which several plants were found. On the return, Port Angeles was reached August 19, thus the whole trip was made in sixteen days.

---



---

 ABBREVIATIONS

\*Not before reported from the Olympics. The basis for this is Henderson's account of his and Piper's collections, in *Steel Points*, Vol. 1, No. 4, pp. 160-198, 1907. Portland, Oregon.

E. Elwha River Valley.

Q. Queets River valley.

H. Near the front of Humes Glacier, from its base downward for about 1,000 feet.

‡Not before reported from Washington.

§Not before reported in America.

||Found no place in Washington except in the Olympics.

## ALGAE

## OSCILLATORIACEAE

- \*1. *Phormidium autumnale* (Agardh.) Gomont.  
E, west of Mountaineers' Camp, 4000 feet, in glacial streamlet as slimy threads on rocks.

## VOLVOACEAE

- \*2. *Sphaerella nivalis* (Bauer) Sommerf. Red Snow.  
In Queets-Elwha Pass, on Mt. Noyes and on Mt. Queets. These plants are spherical reddish cells, and apparently find sufficient heat for life on and in the snow; is not uncommon on Mt. Rainier.

## ULVACEAE

- \*3. *Prasiola mexicana*  
On rocks near surface of water in Elwha River, about 4 miles above the mouth of Lillian Creek; forming attached leaf-like expansions up to  $1\frac{1}{2}$  inches long and  $\frac{3}{4}$  inches wide; not slimy like the usual condition common about Seattle.

## CHETOPHORACEAE

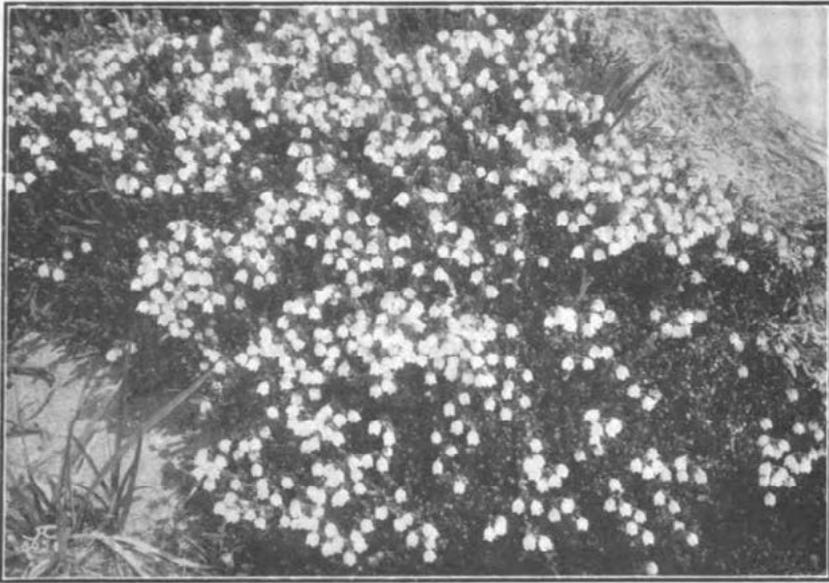
- \*4. *Trentpohlia aurea*  
E, in bottom, 8 miles above Humes, on fork of living *Alnus oregona*. This resembles patches of brown or rusty hairs about  $\frac{1}{8}$  inch long.

## HYDRURACEAE

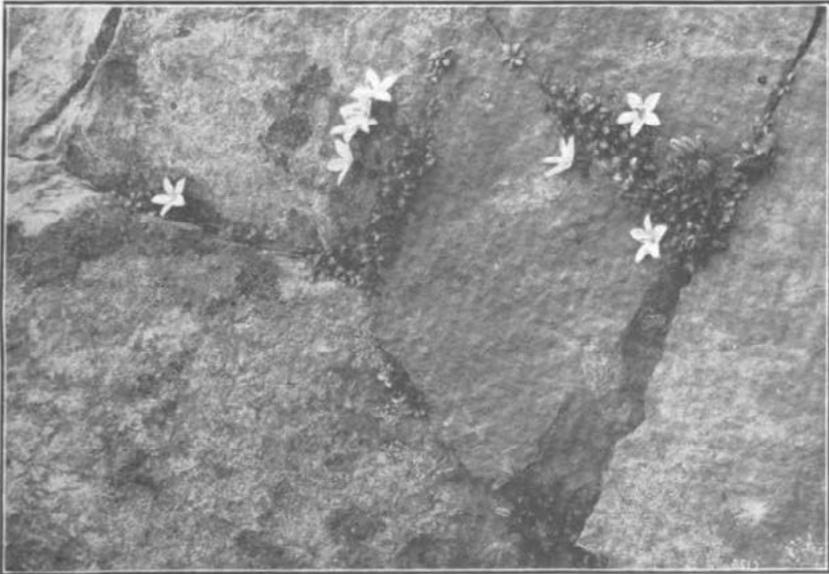
- \*5. *Hydrurus foetidus* (?) (Vill.) Kirchner.  
As slimy covering on rocks in west fork of Elwha River, west of Mountaineers' Camp, 4000 feet.

## FUNGI

- \*6. *Capnodium salicinum* (?) (A. & S.).  
Q, H, 5000 feet, on living *Abies amabilis*, as a black wool on the twigs, (No. 16).



*CASSIOPE MERTENSIANA.* THE WHITE HEATHER COMMON TO THE CASCADES AND THE OLYMPICS



*CAMPANULA PIPERI.* A RARE HARE-BELL FOUND IN THE OLYMPICS

## LICHENS

## CALICIACEAE

7. *Sphaerophorus globiferous* (L.) Tuck.  
E, in bottom 8 miles above Humes, 2000 feet,  
(No. 8).

## CLADONIACEAE

8. *Pilophorus cereolus* var. *hallii* Tuck.  
Q, H, on dry rock, 5000 feet, (No. 26).
9. *Stereocaulon tomentosum* (Fr.) Th. Fr.  
E, near mouth of Godkin Creek, 2300 feet, on  
soil, (No. 83).
10. *Cladonia bellidiflora* (Ach.) Schaer.  
E, near Mountaineers' Camp, on soil, 4000  
feet, (No. 12). Q, H, 5000 feet, on soil,  
(Nos. 80, 82).
11. *Cladonia rangiferina* (L.) Web.  
Specimen with locality label not yet returned,  
(No. 25).
- \*12. *Cladonia pyxidata* var. *prolifera* Arn.  
Q, H, 5000 feet, on soil, (No. 32).
- \*13. *Cladonia pyxidata* var. *chlorophaea* Aigret.  
Q, H, 5000 feet, on soil, (No. 47).
- \*14. *Cladonia fimbriata* (L.) Fr.  
Q, H, 5500 feet, on rocks, (No. 48).
15. *Cladonia pyxidata* (L.) Fr.  
Q, H, on rocks, 5500 feet, (No. 84).
16. *Cladonia gracilis* var. *elongata* Wain.  
Q, H, 5000 feet, on soil, (No. 91).

## LECIDEACEAE

- \*17. *Biatora russula* (Ach.) Mont.  
Q, H, 5000 feet, on trees, (No. 53).
- \*18. *Biatora vernalis* (?) (L.) Fr.  
Q, H, 5000 feet, on trees, (No. 69).
- \*19. *Lecidea enteroleuca* Fr.  
Q, H, 5000 feet, on rocks, (No. 18).

- \*20. *Lecidea atrobrunea* (DC.) Schaer.  
From the summit of Mt. Olympus, 8200 feet,  
on rocks, (No. 46).
- \*21. *Umbilicaria angulata* Tuck.  
Q, H, 5500 feet, on rocks, (No. 42).
- \*22. *Umbilicaria rugifera* Nyl.  
From the summit of Mt. Olympus, 8200 feet,  
on rocks, (No. 44).
- 23. *Rhizocarpon geographicum* (L.) DC. *Buellia*  
*geographica* (L.) Tuck.  
From the summit of Mt. Olympus, 8200 feet,  
on rocks, (No. 72).

## GRAPHIDACEAE

- 24. *Graphis scripta* (L.) Ach.  
E, along Lillian Creek, on bark of living Hem-  
lock, 1500 feet, (No. 22).
- \*25. *Graphis elegans* (Sm.) Ach.  
E, 1200 feet, on bark of living Alder; in bot-  
tom between Anderson's and Humes', (No. 9);  
also 3 miles below Camp Elkhorn, 1800 feet,  
(No. 28).

## PARMELIACEAE

- \*§26. *Lecanora haematomma* Ehrh.  
Q, H, 5500 feet, on rocks, (No. 41).
- \*27. *Lecanora pacifica* Tuck.  
Q, H, 5500 feet, on back of *Alnus oregona*,  
(No. 67).
- \*28. *Lecanora pallescens* var. *tumidula* (Pers.) Schaer.  
E, between Godkin Creek and Mountaineers'  
Camp, 2500 feet, on living Alder, (No. 1).  
Q, H, 5000 feet, on dead branches of trees,  
(No. 36).
- \*29. *Lecanora pallida* (Schreb.) Schaer.  
E, 3 miles below Camp Elkhorn, 1800 feet, on  
bark of living Alder, (No. 52).

- \*30. *Parmelia hyperopta* Ach.  
On trees. E, at Camp Elkhorn, 2000 feet, in damp bottom, (No. 73); also Q, H, 5000 feet, (No. 49).
- \*31. *Parmelia physoides* var. *enteromorpha* (Ach.) Tuck.  
E, at Camp Elkhorn, 1800 feet, on fallen Alder, (No. 11).
- \*31. *Cetraria nitidiuscula* Merrill.  
Q, H, 5000 feet, on Huckleberry bushes, (No. 14).
32. *Cetraria glauca* (L.) Ach.  
E, at Camp Elkhorn, 2000 feet, on trees, (No. 85).
- \*33. *Cetraria glauca* var. *coralloidea* Wallr.  
E, at Camp Elkhorn, 2000 feet, on trees, (No. 21).
- \*34. *Cetraria glauca* var. *stenophylla* Tuck.  
E, at Camp Elkhorn, 1800 feet, on trees, (No. 60).
35. *Alectoria jubata* (L.) Tuck.  
Q, H, 5000 feet, on Lovely Fir, (No. 50).
36. *Alectoria sarmentosa* Nyl.  
Q, H, 5000 feet, on trees, (No. 37).

## VERRUCARIACEAE

- \*37. *Thelotrema lepadinum* Ach.  
E, at Camp Elkhorn, 2000 feet, on trees in damp bottom, (No. 39).
- \*38. *Dermatocarpon miniatum* (L.) Fr.  
Q, H, 5500 feet, on rocks, (No. 71).
- \*39. *Dermatocarpon miniatum* var. *aquaticum* (Weis) Fink. *Endocarpon fluviale* Ach.  
Q, H, 5000 feet, on rocks in streamlet, (No. 13).

## COLLEMACEAE

- \*40. *Hydrothyria venosa* (Russell) Tuck.  
Q, ½ mile from Queets-Elwha Pass, 5000 feet, along streamlet, (No. 15).

## PANNARIACEAE

41. *Peltigera venosa* (L.) Hoffm.  
Q, H, 5000 feet, on soil, (No. 17).
42. *Peltigera aphthosa* (L.) Hoffm.  
E, near Mountaineers' Camp, 4000 feet, on soil,  
(No. 50).
- \*43. *Peltigera canina* (L.) Hoffm.  
On soil. Q, H, 5000 feet, (No. 19); also E,  
near Mountaineers' Camp, 4000 feet, (No. 16).
- \*44. *Peltigera canina* var. *membranacea*  
On soil. E, near mouth of Godkin Creek,  
2500 feet, (No. 33); also Q, H, 5000 feet,  
(No. 10).
- \*45. *Solorina saccata* var. *spongiosa* Nyl.  
Q, H, 5500 feet, on soil, (No. 87).
- \*46. *Solorina crocea* (L.) Ach.  
Q, H, 5000 feet, on soil-covered rocks, (No.  
23).
47. *Sticta pulmonaria* var. *linita* Nyl.  
Q, H, 5000-5500 feet, on rocks more or less  
covered with soil, (Nos. 20, 40).

## LIVERWORTS

## MARCHANTIACEAE

- §48. *Clevia hyalina* (?) (Somm.) S. O. Lindb.  
Along west fork of Elwha River west of  
Mountaineers' Camp, on wet soil, 5500 feet,  
(No. 63).
- ||49. *Cryptomitrium tenerum* Aust.  
E, west of Mountaineers' Camp, 4000 feet, on  
rocky soil under loose boulders of talus slope,  
(No. 33).
- §50. *Asterella lindenbergiana* Corda. *Hypnantron  
lindenbergiana* (N. ab E.) O. Kuntze.  
On wet soil over rocks. Q, H, 4000 feet,  
(Nos. 63, 71); also on wet mossy rock wall of

west fork of Elwha River west of Mountaineers' Camp, 5000 feet, (No. 12).

- \*51. *Asterella gracilis* Underw.  
Q, H, on wet soil-covered rocks, 5500 feet, (No. 53).
52. *Conocephalum conicum* Underw.  
Q, H, on wet rocks, 5000 feet, (No. 27). This is a common form in western Washington in places wet the year round.
- \*||53. *Preissia quadrata* (Scop.) Nees. *Chromiocarpon quadratus* (Scop.) S. O. Lindb.  
Q, H, 5000 feet, on damp soil over rocks, (Nos. 26, 41).
- \*54. *Marchantia polymorpha* L.  
Q, H, on wet soil, 5000 feet, (No. 45); also on wet banks and springy places from MacDonald to Mountaineers' Camp in E.

## METZGERIACEAE

- \*55. *Riccardia latifrons* (Lindb.) Lindb.  
E, on decaying logs in damp woods, about 7 miles above Humes, 1800 feet, (No. 4); and between mouth of Godkin Creek on Mountaineers' Camp, 2200 feet, (No. 1). A common form in lower altitudes west of the Cascade Mountains.
- \*§56. *Pallavicinia blytii* (Moerck) Lindb.  
Q, H, 5000 feet, on wet rocks, (No. 56).
- \*‡57. *Pallavicinia flotowiana* (Nees) Lindb.  
Q, H, on wet rocks, 5000 feet, (No. 20).
- \*58. *Pellia neesiana* (Gott.) Limpr.  
5000 feet, on wet soil and wet rocks; Q, H, (Nos. 20, 25, 64); and in west fork of Elwha River west of Mountaineers' Camp, (Nos. 11, 54); also E, a few miles above mouth of Lillian Creek, in bottom, on soil, 2500 feet, (No. 8).

- \*59. *Pellia endiviaefolia* (Dicks.) Dum.  
E, along middle fork, northwest of Mountaineers' Camp, at base of highest fall, on wet rocks on which clung a thin layer of soil, 4500 feet, (No. 82).

## JUNGERMANNIACEAE

- \*|60. *Gymnomitrium concinnatum* var. *intermedium* Limpr.  
Q, H, 5000 feet, on damp rock wall of canyon, (Nos. 38, 80, 87).
- \*61. *Gymnomitrium obtusum*  
Q, H, 5500 feet, on rocks, (No. 48).
- \*62. *Marsupella emarginata* (Ehrh.) Dum.  
Q, H, 5000 feet, (No. 34); and along middle fork of Elwha River above Mountaineers' Camp, 4500 feet, just at foot of highest cascade, (No. 44).
- \*63. *Nardia hyalina* (Lyell) S. O. Lindb.  
E, along west fork, west of Mountaineers' Camp, 5000 feet, on wet soil, (No. 54).
- \*64. *Nardia scalaris* (Schrad.) Grand Berm.  
Q, H, 5500 feet, on wet clay, (No. 46).
65. *Jungermannia cordifolia* Hook. *Apolosia cordifolia* (Hook.) Dum.  
Above Mountaineers' Camp, along north fork of Elwha River, 4000 feet, on wet rocks in streamlet, (No. 74). Q, H, on wet rocks, 5000 feet, (No. 56); and near Queets Glacier, (No. 15).
- \*|66. *Jungermannia riparia* var. *potamiphia* Muell.  
E, along west fork west of Mountaineers' Camp, 4500 feet, (No. 10); on middle fork, northwest of Mountaineers' Camp, near base of highest cascade, 4000 feet, (No. 67); in Q, H, 5000 feet, (Nos. 28, 59); and near base of Queets Glacier (No. 15).

- \*67. *Jungermannia lanceolata* L.  
E, about 7 miles above Humes, on rotten log,  
1800 feet, (No. 4).
- \*68. *Lophozia alpestris* (Schleich.) Evans.  
E, about 3 miles above the mouth of Godkin  
Creek, on soil, 2500 feet, (No. 9); and along  
north fork of Elwha River, above Moun-  
taineers' Camp, on rock, wet with seepage,  
4000 feet, (No. 84).
- \*69. *Lophozia incisa* (Schrad.) Dum.  
Q, about  $\frac{1}{2}$  mile from Queets-Elwha Pass,  
along alpine rivulet, 5000 feet, (No. 24); also  
E, about 7 miles above Humes', on rotten log,  
1800 feet, (No. 4).
- \*||70. *Lophozia porphyroleuca* (N. ab. E.) Schiffn.  
*Lophozia ventricosa* (Dicks.) Dum.  
E, between mouth of Godkin Creek and Moun-  
taineers' Camp, 2500-3500 feet, on rotten log,  
(Nos. 1, 30); also Q,  $\frac{1}{2}$  mile from Queets-  
Elwha Pass, along alpine rivulet, 5000 feet,  
(No. 24).
- \*||71. *Lophozia floerkei* W. & M.  
E, near Mountaineers' Camp, 3500 feet, on  
soil in woods, (No. 37).
- \*72. *Lophozia minuta* (Crantz) Schiffn.  
Q, H, 5000 feet, on wet rocks, (No. 19).
- \*‡73. *Lophozia Baueriana* Schiffn.  
Q, H, 5500 feet, among rocks, (No. 286).  
This plant was not before known in America  
except from New England.
- \*74. *Plagiochila asplenoides* (L.) Dum.  
E, near mouth of Godkin Creek, 2500 feet, on  
log in woods, (No. 43).
- \*75. *Chilocyphus polyanthus* (L.) Corda.  
E, in streamlets, 3 miles above Humes, 1800  
feet, (No. 23); also at Camp Godkin near  
mouth of Godkin Creek, 2500 feet, (No. 62)

- Q, H, 5000 feet, on wet rocks, (No. 65); also on wet logs, near Queets Glacier, (No. 18).
- \*76. *Cephalozia bicuspidata* (L.) Dum. *Eucephalozia bicuspidata* (L.) Schiffn.  
E, between Humes and Mountaineers' Camp, on rotten logs, 1500-3500 feet, (Nos. 1, 4, 76); also along west fork of Elwha River, 5000 feet, on wet rocks, (No. 54). Q, H, 5000 feet, on wet rocks, (No. 22). A common form in lower altitudes west of the Cascade Mts.
- \*77. *Cephalozia lunulaefolia*  
E, between the mouth of Godkin Creek and Mountaineers' Camp, 2500-3500 feet, on rotten logs, (Nos. 1, 30).
- \*78. *Kantia succica* A. & P.  
E, a few miles above mouth of Godkin Creek, 2500 feet, on rotten log and in damp woods, (No. 1).
79. *Kantia trichomanes* (L.) G. & B.  
E, 7 miles above Humes, 1800 feet, on rotten log in woods, (No. 4).
- \*80. *Lepidozia reptans* (L.) Dum.  
E, on rotten logs in woods, 7 miles above Humes', 1800 feet, (No. 4); and near the mouth of Godkin Creek, 2300 feet, (No. 76).
- \*81. *Blepharostoma trichophyllum* (L.) Dum.  
Q, H, 5000 feet, on wet rocks, (No. 20).
82. *Ptilidium californicum* (Aust.) U. & C.  
E, at Camp Elkhorn, (No. 49), and a few miles below it, (Nos. 21, 4), 2000 feet, on bark of trees in damp river bottom. Q, H, on trees, 5000 feet, (Nos. 39, 75).
- \*83. *Diplophyllum taxifolium* (Wahl.) Dum.  
E, on soil, 2500-4000 feet, (Nos. 9, 31, 57).  
Q, H, on wet rocks, 5000 feet, (Nos. 20, 36).



*PULSATILLA OCCIDENTALE.* THE COMMON  
MOUNTAIN ANEMONE

- \*84. *Diplophyllum albicans* (L.) Dum.  
Q, H, 5000 feet, on wet rocks, (No. 19).
- \*85. *Scapania curta* (Mart.) N. ab E.  
Q, H, 5000 feet, on rocks thinly covered with soil, (Nos. 52, 85).
- \*86. *Scapania subalpina* Dum.  
Along west fork of Elwha River, west of Mountaineers' Camp, 5000 feet, on rocks, (No. 12).
- \*87. *Scapania undulata* (L.)-N. ab E.  
Q, H, 5000 feet, on wet rocks, (Nos. 35, 47).
88. *Scapania bolanderi* Dum.  
E, near mouth of Godkin Creek, 2500 feet, on rotten log, (No. 70); also on soil-covered rocks near Mountaineers' Camp, 4000 feet, (No. 57).
- \*89. *Scapania umbrosa* (Schrad.) Dum.  
E, about 7 miles above Humes, on rotten log in river bottom, 1800 feet, (No. 4).
90. *Scapania* sp.  
Q, H, 5000 feet, on wet rocks, (No. 88).
- \*91. *Radula complanata* (L.) Dum.  
E, between Anderson's and Camp Elkhorn, 1000-2000 feet, on Maples and Alders, (Nos. 17, 50, 61, 89); on soil among rocks, west of Mountaineers' Camp, 5000 feet, (No. 11); Q, H, 5000 feet, on damp rocks, (Nos. 16, 32).
- \*92. *Radula bolanderi* Gottsche.  
E, 7 miles above Humes', 1800 feet, on living *Alnus oregona*, (No. 13); near Mountaineers' Camp, 4000 feet, on soil-covered rocks, (No. 57).
- \*93. *Porella rivularis* (Nees) Trevis.  
E, on trees and damp rocks, at Camp Elkhorn, 2000 feet, (No. 83); near mouth of Godkin Creek, 2500 feet, (No. 86); along north fork of Elwha River above Mountaineers' Camp, 4000 feet, (No. 60).

94. *Porella navicularis* (Lehm. & Lindenb.) Lindb.  
E, at Camp Elkhorn, 2000 feet, on trees,  
(No. 89); along north fork above Mountaineers' Camp, 4000 feet, on wet rocks, (No. 14). This is one of the most conspicuous and common of the liverworts in western Washington, in low altitudes.
- \*95. *Frullania nisquallensis* Sulliv.  
E, bark of trees, in damp places, near Humes' house, 1200 feet; at Camp Elkhorn, 1200-2000 feet.

## ANTHOCEROTACEAE

- \*96. *Anthoceros fusiformis* Aust.  
Along north fork of Elwha River about half mile from Queets-Elwha Pass, 5000 feet, on springy soil, (No. 68); Q, H, 5000-5500 feet, on wet soil, (Nos. 29, 66).

## MOSESSES.

## SPHAGNACEAE (Peat Moss Family).

- \*97. *Sphagnum squarrosum* Pers. A Peat Moss.  
Q, H, 5000 feet, on springy soil in meadow, (No. 589). E, about 4 miles above the mouth of Godkin Creek, in swamp in bottom, 2500 feet, (No. 522).

## ANDREAEACEAE

- \*98. *Andreaea crassinervia* Bruch.  
In Queets-Elwha Pass, 5500 feet, on rocks, (No. 599). Mixed with the following species.
- \*99. *Andreaea blytii* Schimp.  
In Queets-Elwha Pass, 3500 feet, on rocks, (No. 580); also Q, on rocks dividing Humes Glacier at its base, 5500 feet. Smaller than *A. crassinervia*. This is a Greenland species.

## DICRANACEAE

- \*100. *Dicranella cerviculata* Schimp.  
E, along north and middle forks, 4000 feet, in rock crevices, (Nos. 503, 586). Q, H, 5500 feet, on thin soil over rocks, (No. 628).
101. *Dicranum fuscescens* Turn.  
E, between mouth of Godkin Creek and Mountaineers' Camp, 2800 feet, on tree bases and logs, (No. 462). This is quite common to 3000-4000 feet, and is a common low altitude moss in western Washington.
- \*102. *Ceratodon minor*  
E, 2 miles above Humes, on soil in burned woods, 1300 feet, (No. 517).

## POTTIACEAE

- \*103. *Barbula vinealis* Brid.  
E, about 5 miles above the mouth of Lillian Creek, on wet, sandy soil of river bank near water line, 1500 feet, (No. 616).
- \*104. *Tortula ruralis* (L.) Ehrh.  
E, in orchard between Anderson's and Humes', 1000 feet, on rocks, (No. 495).
- \*105. *Tortula aciphylla* B. & S.  
Q, H, 5500 feet, on rocks, (No. 601).
106. *Encalypta ciliata* Hoffm.  
E, between Anderson's and Humes', on log in bottom, 1000 feet, (No. 494); also along west fork of Elwha River, west of Mountaineers' Camp, on soil, 6000 feet, (No. 588). Q, H, 5500 feet, on soil, (No. 607).

## GRIMMIACEAE

107. *Scouleria aquatica* var. *nigrescens* Kindb.  
E, about 5 miles above the mouth of Lillian Creek, 1800 feet, on submerged rocks in the river, (No. 570). This is a coarse black moss rather common in clear water of rapid rocky streams of Washington.

108. *Grimmia apocarpa* var. *rivularis* W. & M.  
E, about 3 miles below Camp Elkhorn, on rocks in river near low water line, 1500 feet, (No. 608). Q, H, on rocks, 5000 feet, (No. 504).
- \*†109. *Grimmia apocarpa* var. *alpicola* (?) H. & T.  
E, about 3 miles below Camp Elkhorn, in flowing water, on rocks, 1500 feet, (No. 519).
- \*110. *Grimmia muehlenbeckii* Schimp.  
E, between Anderson's and Humes' in an old orchard, on rocks, 1000 feet, (No. 584); also 4000 feet along west fork, west of Mountaineers' Camp, on rocky soil of talus slope, (No. 486); and north of Mountaineers' Camp, along north fork, on rocks, (No. 621).
- \*111. *Grimmia montana* B. & S.  
Q, H, 5500 feet, on soil-covered rocks, (No. 618).
112. *Racomitrium aciculare* (L.) Brid.  
E, at Camp Elkhorn, 2000 feet, on rocks near water level along river, (No. 595); near Mountaineers' Camp, 4000 feet, on rocks in streamlet, (No. 560).
113. *Racomitrium varium* (Mitt.) L. & J.  
E, about 5 miles above the mouth of Lillian Creek, 1800 feet, on rocks in river at low water level, (No. 576).
- \*114. *Racomitrium nevi* (Muell.) Wats.  
E, along north fork, north of Mountaineers' Camp, 4500 feet, on dry rocks, (No. 470).
115. *Racomitrium heterostichum* (Hedw.) Brid.  
Q, H, 5500 feet, on dry rock, (No. 530).
- \*116. *Racomitrium sudeticum* B. & S.  
Q, H, on rocks 4500-5500 feet, (Nos. 574, 603, 617?).
117. *Racomitrium canescens*  
E, north of Monutaineers' Camp, 4000 feet, on rather dry soil, (No. 606).

118. *Rhacomitrium canescens* var. *ericoides* B. & S.  
E, observed near mouth of Godkin Creek,  
(No. 506), and about Mountaineers' Camp,  
(Nos. 575, 587, 1906), 2500-5000 feet, on dry  
rocky or sandy soil. Q, H, on rocky soil, 5500  
feet, (No. 600). This is a common form on  
similar soil at low altitudes in the Puget  
Sound region.
- \*119. *Rhacomitrium canescens* var. *lutescens* Brid.  
E, between Anderson's and Humes', in orchard,  
on rocks, 1000 feet, (No. 582).
- \*‡120. *Rhacomitrium canescens* var. *muticum* Kindb.  
E, west of Mountaineers' Camp, on rock talus  
slope, 5000 feet, (No. 605).
- \*121. *Rhacomitrium patens* (Dicks.) Hueb.  
E, at Mountaineers' Camp, on dry rocks, 3500  
feet, (No. 592). Q, H, on rocks, 5500 feet,  
(Nos. 555, 625).

## ORTHOTRICHACEAE

- \*122. *Zygodon lapponicus* B. & S.  
Q, H, 5500 feet, on rocks, (No. 615).
- \*123. *Orthotrichum papillosum* Hampe.  
E, at Camp Elkhorn, 1800 feet, on trees,  
(No. 490).

## FUNARIACEAE

- \*124. *Funaria hygrometrica*  
E, from sea-level to Camp Elkhorn, 2000 feet,  
on dry soil. This is the most common moss  
on soil within a few years after a forest fire.

## MNIACEAE

- \*125. *Mnium subglobosum*  
Q, H, 5000 feet, on wet soil, (No. 562).
- \*126. *Mnium glabrescens*  
E, near mouth of Godkin Creek, 2500 feet, on  
soil near river, (No. 544).

127. *Mnium venustum* Mitt.  
E, sea level to Camp Elkhorn, 2000 feet, on soil and trees in river bottom, (Nos. 577, 596, 598).

## RHIZOGONIACEAE

128. *Rhizogonium menziesii* (Muell.) *Mnium menziesii* Muell.  
E, in bottom, about 5 miles above the mouth of Lilliam Creek, on rotten log, 1800 feet, (No. 488). This is a common moss on logs in very damp woods, in the low altitudes of western Washington. I have heard it popularly called the palm-tree moss.

## AULACOMNIACEAE

129. *Aulacomnium androgynum* (L.) Swaegr.  
E, on logs in woods in drier regions, from Port Angeles to Humes, sea-level to 1000 feet. This is a very common low altitude moss, and is by far the most common bearing gemmae.

## BARTRAMIACEAE

- \*130. *Bartramia ithyphylla* (Hall) Brid.  
E, along west fork west of Mountaineers' Camp, 5500 feet, on soil among rocks of talus slope, (No. 505). Q, H, 5500 feet, on wet rocks, (No. 579).
- \*131. *Philonotis fontana* Brid.  
E, (Nos. 471, 485, 500, 626), and Q, (No. 565); 2500-5500 feet, along borders of alpine riverluts. This is one of the most conspicuous mosses of these altitudes. It is light green, and often marks the course of riverluts by its light color so they can be traced through the grass at a distance of approximately a hundred yards.

## POLYTRICHACEAE

- \*132. *Catharinea undulata* (L.) W. & M.  
E, near the mouth of Godkin Creek, 2300 feet,

- on clay soil, (No. 581). This is a common form on clay of uprooted trees in low altitudes in western Washington.
- \*133. *Oligotrichum incurvum* (Huds.) Broth.  
E, along west fork at base of Mt. Queets, 4000 feet, on soil, (No. 526).
- \*134. *Polytrichadelphus lyallii* Mitt.  
E, near Mountaineers' Camp, 3500-4500 feet, on dry rocky soil of meadows, (Nos. 469, 473, 483, 564). Also on summit of Mt. Olympus, alt. 8200 feet, on rocks, (No. 624). Rather common in the locality, largely taking the place of the *Polytrichums*. It is found only in high altitudes in western Washington.
- \*135. *Pogonatum contortum* (Menz.) Lesq.  
E, about 4 miles above the mouth of Godkin Creek, on rather damp clay soil in bottom, 2600 feet, (No. 525).
- \*136. *Pogonatum capillare* (Rich.) Brid.  
E, along west fork, west of Mountaineers' Camp, 4500 feet, on dry soil of rocky meadow, (No. 611).
137. *Pogonatum alpinum* var. *arcticum*  
E, west of Mountaineers' Camp, 4000 feet, on dry soil of meadow along west fork, (No. 479). Q, H, on wet soil, 5500 feet, (No. 528); and in crevices of damp rocks, 5000 feet, (No. 509).
- \*138. *Polytrichum piliferum* Schreb.  
E, along west fork, 4000 feet, on dry soil of thin meadow, (No. 510). Q, H, 5500 feet, on dry soil, (No. 590). On the summit of Mt. Olympus, 8200 feet, on rocks, (No. 553). Leaves with whitish hair-tips.
139. *Polytrichum juniperinum* Willd.  
This common moss of low altitudes was not noticed above Camp Elkhorn, at 2000 feet, but

occurs from there, (No. 475), down to sea-level at Port Angeles.

## FONTINALACEAE

140. *Fontinalis neo-mexicana*  
E, 4 miles above Godkin Creek, in streamlet, 2600 feet, (No. 585).

## NECKERIACEAE

141. *Neckera douglasii*  
E, from MacDonald's Bridge to Camp Elkhorn, 300-2000 feet, on trees. This is a common low altitude form in very damp ravines in western Washington. Leaves acute.
142. *Neckera menziesii*  
E, near Humes', 1000 feet, on trees. This is common in very damp woods in low altitudes in western Washington. Leaves obtuse.

## LEUCODONTACEAE

143. *Antitrichia curtispindula* Brid.  
E, in the gorge of Lillian Creek near its mouth, on living *Tsuga heterophylla*, about 1400 feet, (No. 515).
- \*144. *Antitrichia californica* Sull.  
E, on trees in bottom between Anderson's and Humes', 1000 feet, (No. 496).
145. *Porotrichum bigelowii* (Sull.)  
E, along north fork, north of Mountaineers' Camp, 4000 feet, on wet rocks, (No. 1876).

## LESKEACEAE

146. *Heterocladium heteropteroides*  
Q, H, 5000 feet, on rocks, (No. 501).
- \*147. *Heterocladium heteropteroides* var. *filescens* Best.  
Q, H, 5000 feet, on rocks, (No. 502).
- \*148. *Claopodium bolanderi* Best.  
E, on dry rocky soil; along north fork, 4000 feet, (No. 630); along west fork, 5000 feet, (No. 563). Q, H, 5000 feet, on rocks, (No. 512).



*PHLOX DIFFUSA.* MOUNTAIN PHLOX, GROWING IN HIGH ALTITUDES

149. *Claopodium crispifolium*  
E, near the mouth of Godkin Creek, on tree trunks, 2300 feet.
- \*150. *Pseudoleskea atrovirens* B. & S.  
E, along north fork, north of Mountaineers' Camp, 4000 feet, on wet rocks, (No. 499).
- \*151. *Pseudoleskea rigescens* Lindb.  
E, along north fork, north of Mountaineers' Camp, 4000 feet, on bark of dead *Alnus oregona*, (No. 480).
- HYPNACEAE
152. *Camptothecium lutescens* B. & S.  
E, on trees near Humes', 1000 feet, (No. 561); also at Camp Elkhorn, 2000 feet, (No. 594); also along west fork west of Mountaineers' Camp, on soil, 2000 feet, (No. 487).
- \*153. *Camptothecium illii* var. *tenuis* Kindb.  
E, at Camp Elkhorn, 2000 feet, on trees, (No. 493).
154. *Camptothecium megaptilum*  
This fine large moss of higher altitudes was seen in E, about 2 miles above Lillian Creek, 1500 feet, on soil. It often grows with *Hylocomium robustum* and so it was here.
- \*155. *Brachythecium albicans* B. & S.  
Q, H, 5000 feet, on wet rocks, (No. 543).
- \*156. *Brachythecium lamprochryseum* Kindb.  
E, at Camp Elkhorn, on soil in dry sandy bayou, 2000 feet, (No. 597).
- \*157. *Brachythecium rutabulum* B. & S. (?)  
E, near the mouth of Godkin Creek, 2500 feet, on soil in bottom, (No. 545).
158. *Eurhynchium oreganum*  
E, near Camp Elkhorn, on soil in bottom, 2000 feet, (No. 518). This is our most common moss at low altitudes in western Washington, growing on ground, logs, and tree bases, its

lateral branches giving it somewhat the appearance of a long narrow feather.

159. *Eurhynchium stoloniferum*  
E, near Camp Elkhorn, on soil in river bottom, 2000 feet, (No. 516).
160. *Plagiothecium denticulatum* B. & S.  
Q, H, 5000 feet, on wet rocks, (No. 513). E, up to 3000 feet, on logs in damp woods.
161. *Plagiothecium undulatum* B. & S.  
E, up to Camp Elkhorn.
162. *Amblystegium filicinum* De Not.  
E, along north fork, north of Mountaineers' Camp, 4000 feet, on gravel in dry streamlet, (No. 542).
163. *Hypnum uncinatum* Hedw.  
E, about 5 miles above the mouth of Lilliam Creek, on wet soil near water level on river bank, about 1500 feet, (No. 520); near mouth of Godkin Creek, 2500 feet, on log, (No. 569).
- \*164. *Hypnum imponens* Hedw.  
Q, H, 5000 feet, on damp soil, (No. 492).
- \*165. *Hypnum subimponens* Lesq.  
E, H, 1000 feet, in bottom on trees, (No. 497).
166. *Hypnum circinale* Hook.  
On logs in woods from near Port Angeles to Camp Elkhorn, sea-level to 2000 feet.
167. *Hypnum ochraceum* Turn.  
E, at Camp Elkhorn, 2000 feet, on soil near water line of river, (No. 532); and along west fork, west of Mountaineers' Camp, 4000 feet, on wet rocks covered with thin soil, (No. 1877). In Q, H, on rocks in damp hollow, 5000 feet, (No. 622).
- \*168. *Hypnum bestii* R. & B.  
E, at Camp Elkhorn, 2000 feet, on soil of river bank near water level, (No. 554).

- \*169. *Hypnum palustre* Huds.  
Q, H, on rocks in damp ravine, 5000 feet,  
(No. 623).
170. *Hylocomium robustum*  
E, along west fork, west of Mountaineers'  
Camp, 5000 feet, on soil, (No. 478); also  
about 2 miles above Lillian Creek, 1500 feet.  
Q, H, 5500 feet, on soil, (No. 567). This  
occurs only in higher altitudes, 1000 feet and  
upwards. It resembles *Hylocomium triquetrum*  
but is less branched, the leaves not so  
much standing out from the stem and more  
secund.
171. *Hylocomium triquetrum* B. & S.  
E, from sea-level to 3500 feet, on ground and  
logs, in very damp shady woods, (Nos. 461,  
529, 572, 591). A common moss in wet  
hollows in western Washington, coarse, large-  
leaved, not much branched.
172. *Hylocomium loreum* B. & S.  
E, from sea-level to 3500 feet, habitat same as  
*Hylocomium triquetrum*, but moss not so  
abundant, and plants only about half as wide,  
(Nos. 459, 489).
173. *Hylocomium splendens*  
E, in damp hollows on ground and logs, from  
sea-level to 3500 feet; broad, much-branched,  
with new years' growths always from the  
upper side of the old stem at about its middle.

## SUMMARY

Of the plants collected, any which may be new are either not yet definitely settled as such, or are not yet named or described; they are therefore not included in the list. Concerning the 173 listed, 114 have not before been reported from the Olympic Mountains; of these,

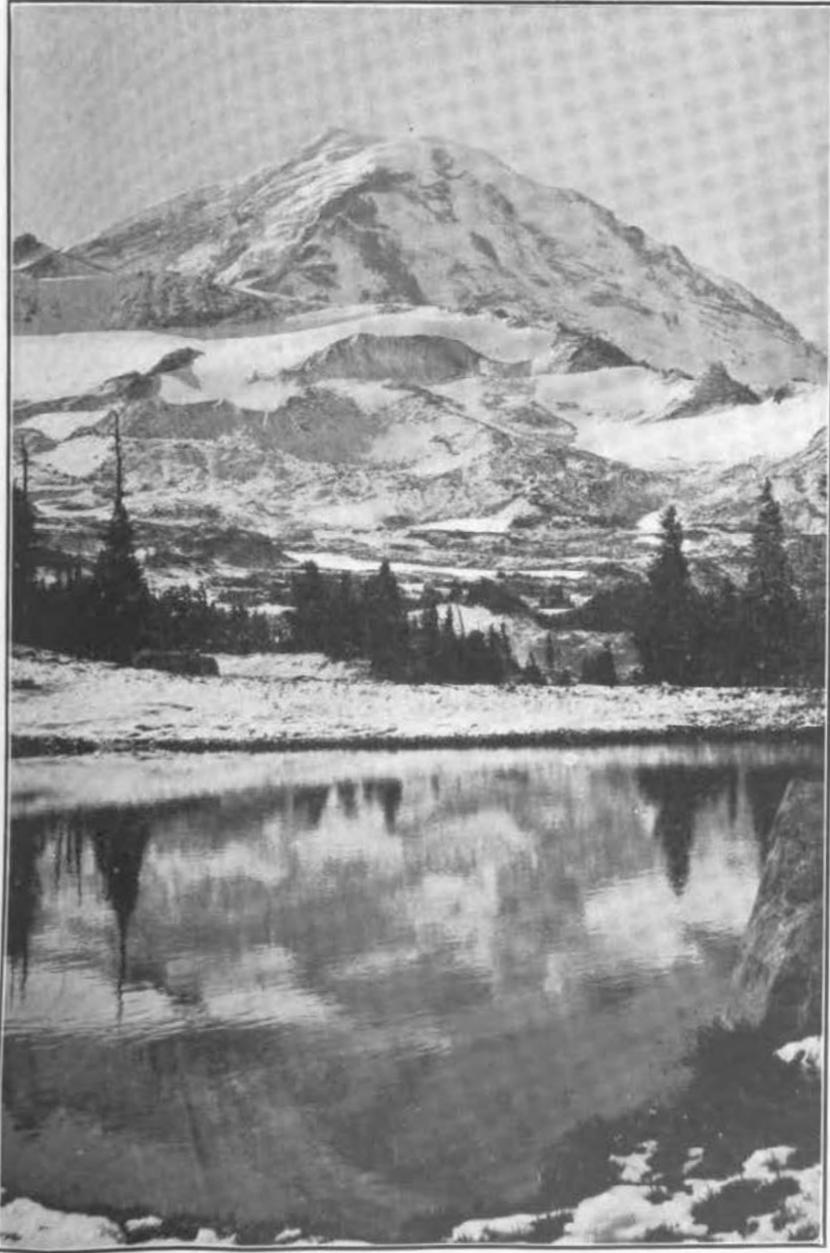
5 are algae, 1 is a fungus, 27 are lichens, 39 liverworts, and 42 mosses; 15 are known from no locality in Washington other than the Olympic Mountains; of these, 1 is a lichen, 12 are liverworts, and 2 are mosses; 9 were not before known to occur in Washington; of these, 1 is a lichen, 6 are liverworts, and 2 are mosses; 4 have not before been found in America; of these, 1 is a lichen, and 3 are liverworts.

---

### THIRD ANNUAL OUTING OF THE MOUNTAINEERS ON MOUNT RAINIER.

The Third annual outing of the Mountaineers, planned for the last two weeks of July and the first week of August, will be to the north side of Mount Rainier. The club will visit Spray Park, Moraine Park and Grand Park, and will make the ascent from the northeast side. The region to be visited is the wildest and grandest part of the Rainier National Park, and the parks are the largest and most beautiful of the many on this mountain. Spray Park alone, contains nearly 20,000 acres and is a great open area of grass and flowers, broken by groves of mountain trees.

Professor Flett, who made the ascent of the northeast slope of the mountain, says that it is far easier than the southern route past Gibraltar. The ascent of Rainier is difficult only because of the altitude reached, 14,363 feet. The mountain is the next to the highest in the United States, and being in the northern part, carries a very heavy mass of snow and ice. This forms the greatest glacial system in the United States. An opportunity will be given to visit three of these great glaciers, the Mowich, Carbon, and the White, while those who wish to join the knapsack trips, will visit nearly every glacier on the mountain. At the close of the outing, a small party will make a knapsack trip from the camp at the base of White Glacier, to Paradise Park and Indian



**MOUNT RAINIER FROM CRATER LAKE**

Henry's Hunting Ground, on the southeast side of the mountain. This will enable those who wish to make the circuit of this great mountain, to do so without any great hardship, as it will be necessary to carry only three days provisions at any one time.

The outing is planned for three weeks, and this time will be crowded, in seeing the many beautiful places, but those who can be away for only two weeks can join, planning to come to the first camp and go out before the outing is over, or they can come to the second camp and stay to make the ascent of the mountain.

The party will leave Seattle about the middle of July, starting at 8 o'clock in the morning over the Northern Pacific to Fairfax. From here the party will walk to camp in the forest, on the bank of Evans creek, a distance of ten miles. At this camp the club will begin furnishing meals, and will continue this throughout the outing. The second day's walk will be ten miles, to the main camp in Spray Park, where the party will stay for one week. From here they will go across Carbon Glacier to some camp near the White Glacier, where the second main camp will be established, and from which the ascent will be made.

The expense of the outing has not been determined as yet, but will probably be \$45.00. Applications have already begun coming in, and while no reservations have been made, the applications will be considered in the order of their receipt. Until further notice, no money deposit is required on applications, and all applicants will be notified when a deposit is necessary.

ASAHEL CURTIS,  
*Chairman Outing Committee.*

LIST OF LOCAL WALKS—1908.

No.	Date.	Objective Point.	Dist.	Leader.	Attendance.
22	Dec. 1, 1907	Fauntleroy to South Park	10	Eugene A. Childe	22
23	Dec. 15, 1907	Green Lake, Wayne, Ravenna	11	Ida Kracht	48
24	Jan. 5, 1908	Lake Sammamish	8	E. L. Skeel	13
25	Jan. 19, 1908	Edmonds	11	Thomas Church	28
26	Feb. 1, 1908	Pt. Washington via. Bremerton	10	Leon W. Dawson	7
27A	Feb. 8, 1908	Bellevue to Lake Sammamish	10	Anna Howard	40
28	Feb. 16, 1908	Fauntleroy to South Park via. Beach	8	Melvin A. Krows	25
29	Mar. 1, 1908	Renton to Swan Lake	13	P. M. McGregor	32
30	Mar. 7, 1908	Boulevard to Madison St. via. lake to Madrona	4	Wm. T. Johnston	18
31	Mar. 15, 1908	Old Military Road to South Park	9	Frank S. Southard	15
32	Mar. 21, 1908	West Seattle to Fauntleroy	4	Grace Howard	18
33	Mar. 27, 1908	Juanita to Bothell	8	Lulle Nettleton	42
34	Apr. 12, 1908	Hall Lake to Lowell	13	Winona Bailey	42
35	Apr. 18, 1908	Rainier Heights to Rainier Beach	4½	Paul B. Phillips	3
36	Apr. 26, 1908	Newport, Newcastle, Coal Creek, Bellevue	9	Eugene A. Childe	32
37	May 10, 1908	Chico, Lake Kitsap, Bremerton	10	Nellie Johnson	54
38	June 7, 1908	Paulsbo to Hood's Canal	10	Melvin Krows	47
39	June 21, 1908	Lake Washington to Sound in boats	20	Mollie Leckenby	23
40	July 6, 1908	Kennydale to Renton	12	J. Fred Blake	32
41	Sept. 12, 1908	Auburn to State Fish Hatchery	9	Melvin A. Krows	19
42	Sept. 19, 1908	Camp on Beach—Davis Station		Nelson, Best, Johnston	50
43	Sept. 27, 1908	Lake Sammamish	10	Anna Howard	37
44	Oct. 11, 1908	Country Club, Pleasant Beach	6	Eugene A. Childe	54
45	Oct. 17, 1908	Youngstown, South Park	8	L. A. Nelson	7
				Total attendance	1708

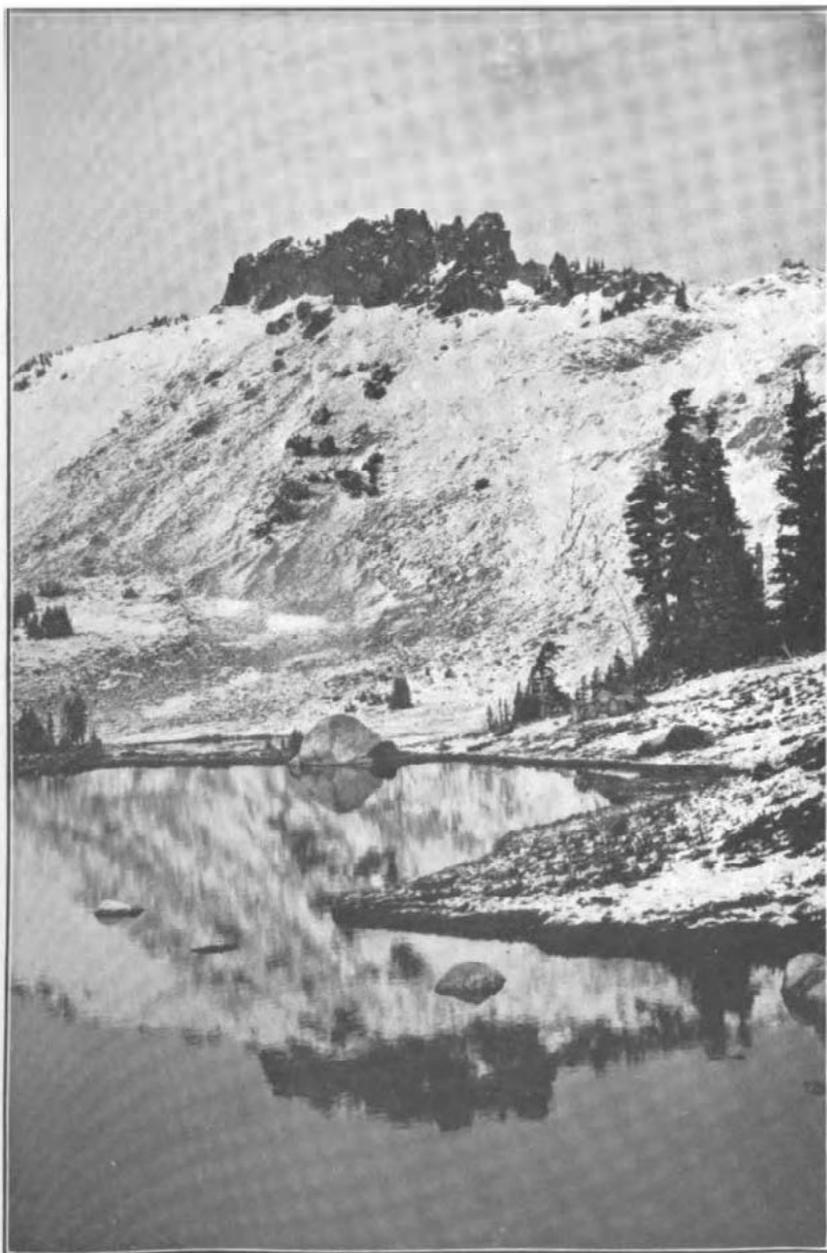
LOCAL WALK COMMITTEE,

L. NELSON, Chairman.  
 MISS ANNA HOWARD,  
 MELVIN A. KROWS,  
 MISS MOLLIE LECKENBY,  
 E. A. CHILDE,  
 S. L. WARDWELL,  
 PROF. H. C. STEVENS,

A LIST OF MOUNTAIN PEAKS AND ALTI-  
TUDES OF THE STATE OF  
WASHINGTON.

Mountain.	County.	Authority.	Elevation.
Abernathy Pk....	Okanogan....	U. S. G. S.....	8,300
Adams .....	Adams.....	U. S. G. S.....	12,470
Aix .....	.....	No. Trans. Surv.....	7,623
Alaska .....	Kittitas.....	U. S. G. S.....	4,489
Alta .....	Kittitas.....	U. S. G. S.....	6,265
Anderson .....	Jefferson.....	U. S. G. S.....	7,650
Annie .....	Okanogan....	U. S. G. S.....	6,056
Angeles .....	Clallam.....	U. S. G. S.....	6,750
Atanum Ridge...	Yakima.....	U. S. G. S.....	3,369
Badger .....	Douglas.....	U. S. G. S.....	4,145
Baker .....	Whatcom....	U. S. C. & G. S.....	10,827
Bald .....	Ferry.....	U. S. G. S.....	6,946
Bald .....	Kittitas.....	U. S. G. S.....	5,737
Bald .....	Snohomish...	U. S. G. S.....	4,773
Bald .....	Yakima.....	U. S. G. S.....	6,100
Baldy .....	Chelan.....	U. S. G. S.....	6,432
Baweriman Ridge	Whatcom....	U. S. G. S.....	8,000 (?)
Bear Creek .....	Yakima.....	U. S. G. S.....	7,335
Bear .....	Yakima.....	U. S. G. S.....	5,482
Bear's Breast...	Kittitas.....	U. S. G. S.....	7,400
Bearpaw Butte..	Kittitas-King..	U. S. G. S.....	5,139
Bearhead Mt....	Pierce.....	U. S. Engineer Corps..	6,400
Big Four.....	Snohomish...	U. S. G. S.....	6,120
Bighorn .....	Whatcom....	U. S. G. S.....	8,250
Big Peak .....	Yakima.....	U. S. G. S.....	5,900
Big Snow .....	King.....	U. S. G. S.....	6,670
Bird .....	Yakima.....	U. S. G. S.....	4,300
Bismark .....	Yakima.....	U. S. G. S.....	7,600
Black .....	Snohomish...	U. S. G. S.....	7,192
Bodie Manhattan.	Okanogan....	U. S. G. S.....	2,713
Bonaparte .....	Okanogan....	U. S. G. S.....	7,280
Booker .....	Chelan.....	U. S. G. S.....	8,200
Boston Pk.....	Skagit.....	U. S. G. S.....	8,850
Brodie .....	Ferry.....	U. S. G. S.....	5,685
Buck .....	Okanogan....	U. S. G. S.....	6,170
Buck .....	Okanogan....	U. S. G. S.....	8,400
Buckhorn .....	Okanogan....	U. S. G. S.....	5,400
Bullgrouse Ridge	Yakima.....	U. S. G. S.....	4,700
Cadet Pk.....	Snohomish...	U. S. G. S.....	7,100
Carlton .....	Spokane.....	U. S. G. S.....	5,808
Carson .....	Spokane.....	U. S. G. S.....	5,200
Castle .....	Pierce.....	U. S. G. S.....	6,700
Castle Rock....	Chelan.....	U. S. G. S.....	8,300
Cathedral Pk...	Whatcom....	U. S. Engineer Corps	8,000 (?)
Cathedral Rock..	Kittitas.....	U. S. G. S.....	6,700

Mountain.	County.	Authority.	Elevation.
Cayuse	Okanogan	U. S. G. S.	2,650
Chair Pk.	King	U. S. G. S.	5,400
Chatham		U. S. C. & G. S.	2,110
Chelan Butte	Chelan	U. S. G. S.	3,892
Chewelak Pk.		N. Trans. Surv.	5,748
Chimney Rock	King-Kittitas	U. S. G. S.	7,727
Chiwawa	Chelan-Sno.	U. S. G. S.	8,300
Chopaka	Okanogan	U. S. G. S.	7,870
Clark Pk.	Okanogan	U. S. G. S.	7,900
Cleman	Yakima	U. S. G. S.	3,497
Cleveland	King	U. S. G. S.	5,301
Coal	Skagit	U. S. G. S.	4,317
Columbia Pk.	Snohomish	U. S. G. S.	7,134
Colville		N. Trans. Surv.	1,917
Constance	Jefferson	U. S. C. & G. S.	7,777
Constitution	Island	U. S. C. & G. S.	2,428
Cooke	Ferry	U. S. G. S.	5,097
Cooper	Okanogan	U. S. G. S.	5,800
Copper	Ferry	U. S. G. S.	4,446
Copper	Jefferson	U. S. G. S.	5,000
Cougar	Chelan	U. S. G. S.	6,700
Cowiche	Yakima	U. S. G. S.	4,300
Cramer	Lewis-Yakima	U. S. G. S.	5,900
Crested Buttes	Snohomish	U. S. G. S.	5,326
Crosby	King	U. S. G. S.	5,533
Crown Pt.	Yakima	U. S. G. S.	6,470
Cumberland	Okanogan	U. S. G. S.	3,846
Dallas	San Juan Isl.	U. S. C. & G. S.	1,086
Deadhorse Hill	Yakima	U. S. G. S.	3,900
Denny	King	U. S. G. S.	5,400
Diamond Butte	Yakima	U. S. G. S.	5,796
Dickerman	Snohomish	U. S. G. S.	5,766
Dirtyface	Chelan	U. S. G. S.	6,200
Dome Pk.	Chelan-Skagit	U. S. G. S.	8,860
Dome Pk.	Yakima	U. S. G. S.	6,586
Douglas	Okanogan	U. S. G. S.	5,240
Drummer	Ferry	U. S. G. S.	3,459
Dumpkey	Chelan	U. S. G. S.	4,000
Dunlap Butte	Whitman	U. S. G. S.	3,850
Eagle Pk.	Pierce	U. S. Engineer Corps.	6,004
Ellemehan	Okanogan	U. S. G. S.	4,770
Ellnor	Jefferson	U. S. C. & G. S.	6,500
Elorka Pk.		N. Trans. Surv.	1,831
Fellow's Divide		N. P. Rwy.	2,551
Fifes	Yakima	U. S. G. S.	5,900
Fir	Okanogan	U. S. G. S.	5,666
Fitche Divide		N. P. Rwy.	2,587
Flag Pk.	Snohomish	U. S. G. S.	6,500
Fralley	Skagit-Sno.	U. S. G. S.	2,795
Frost	Kittitas	U. S. G. S.	5,750
Garfield	King	U. S. G. S.	5,500
Garland	Chelan	U. S. G. S.	7,545
Gibraltar	Ferry	U. S. G. S.	3,783
Gibson's Divide		N. P. Rwy.	2,711



**FAYE PEAK**

Mountain.	County.	Authority.	Elevation.
Glaciate Butte...	Yakima.....	U. S. G. S.....	5,400
Glacier Pk. ....	Snohomish....	U. S. G. S.....	10,436
Goat .....	Kittitas.....	U. S. G. S.....	6,500
Goat .....	Okanogan....	U. S. G. S.....	5,290
Goat Butte.....	Yakima.....	U. S. G. S.....	7,487
Goat Pk.....	Kittitas.....	U. S. G. S.....	5,100
Goat Pk.....	Yakima.....	U. S. G. S.....	6,494
Gold .....	Snohomish....	U. S. G. S.....	3,493
Gold Hill.....	Ferry.....	U. S. G. S.....	3,200
Gold Hill.....	Okanogan....	U. S. G. S.....	4,620
Gold Hill.....	Yakima.....	U. S. G. S.....	6,254
Goose Egg.....	Yakima.....	U. S. G. S.....	4,500
Granite .....	Ferry.....	U. S. G. S.....	5,326
Granite .....	Ferry.....	U. S. G. S.....	5,912
Granite .....	King.....	U. S. G. S.....	5,820
Granite Butte...	Whitman....	U. S. G. S.....	2,930
Gravel Point.....		N. P. Rwy.....	1,931
Green .....	Snohomish....	U. S. G. S.....	5,957
Gunn Pk.....		U. S. G. S.....	6,245
Guye Pk.....	King.....	U. S. G. S.....	4,500
Hall .....	Snohomish....	U. S. G. S.....	5,464
Happy .....	Okanogan....	U. S. G. S.....	2,700
Hardscrabble ....	Ferry.....	U. S. G. S.....	5,326
Harvard .....	Okanogan....	U. S. G. S.....	4,100
Helena Pk.....	Snohomish....	U. S. G. S.....	5,392
Higgins .....	Skagit.....	U. S. G. S.....	5,202
Hogback .....	Pierce-Yak...	U. S. G. S.....	6,700
Horseshoe .....	Ferry.....	U. S. G. S.....	5,414
Horseshoe .....	Okanogan....	U. S. G. S.....	7,500
Hozomeem .....	Whatcom....	N. Trans. Surv.....	9,000(?)
Hubbart Pk.....	Snohomish....	U. S. G. S.....	5,925
Huckleberry ....	Kittitas.....	U. S. G. S.....	6,200
Huckleberry ....	Sno-Skagit...	U. S. G. S.....	5,355
Hull .....	Okanogan....	U. S. G. S.....	5,110
Index .....	Snohomish....	U. S. G. S.....	6,125
Irene .....	Okanogan....	U. S. G. S.....	4,712
Iron .....	Ferry.....	U. S. G. S.....	4,807
Iron .....	Skagit.....	U. S. G. S.....	4,886
Iron .....	Snohomish....	U. S. G. S.....	5,241
Iron .....	Snohomish....	U. S. G. S.....	1,085
Ironstone .....	Yakima.....	U. S. G. S.....	6,900
Jennie's Butte..	Yakima.....	U. S. G. S.....	6,300
John's Butte....	Yakima.....	U. S. G. S.....	5,918
Jumbo .....	Snohomish....	U. S. G. S.....	5,806
Jungle Butte....	Yakima.....	U. S. G. S.....	3,900
Kallispel .....	Spokane....	U. S. G. S.....	6,905
Kelly's Divide ..		N. P. Rwy.....	2,608
Kendall Pk.....	Kittitas.....	U. S. G. S.....	5,300
King .....	Yakima.....	U. S. G. S.....	4,710
Klickton Divide.	Yakima.....	U. S. G. S.....	6,687
Klondike Hill...	Yakima.....	U. S. G. S.....	2,900
Klose Butte....	Yakima.....	U. S. G. S.....	2,800
Kreuger .....	Okanogan....	U. S. G. S.....	2,890
Lemanasky .....	Okanogan....	U. S. G. S.....	5,206

Mountain.	County.	Authority.	Elevation.
Lennox	King	U. S. G. S.	5,800
Lichtenberg	Snohomish	U. S. G. S.	5,920
Little Chief Pk.	Snohomish	U. S. G. S.	5,300
Little Mt. Adams	Yakima	U. S. G. S.	6,185
Long	Snohomish	U. S. G. S.	5,109
Lookout	Kittitas	U. S. G. S.	3,440
Lookout	Okanogan	U. S. G. S.	5,692
Lummi		U. S. C. & G. S.	1,560
Manastash Ridge	Kittitas	U. S. G. S.	3,614
McCoy	Okanogan	U. S. G. S.	7,628
McCoy's Divide		N. P. Rwy.	2,548
McNeil Pk.	Yakima	U. S. G. S.	6,788
Marble Pk.	Snohomish	U. S. G. S.	5,156
Maverick Peak	Chelan	U. S. G. S.	5,308
Meek's Table	Yakima	U. S. G. S.	5,000
Merchant Pk.	Snohomish	U. S. G. S.	5,466
Mica	Spokane	U. S. G. S.	5,200
Miller Pk.		U. S. G. S.	6,460
Mukamuk Hill	Okanogan	U. S. G. S.	5,100
Mulligan Butte	Yakima	U. S. G. S.	5,800
Naff Ridge	Whitman	U. S. G. S.	3,044
North Navarre	Chelan	U. S. G. S.	7,900
North Star	Chelan	U. S. G. S.	9,400
Nelson's Butte	Yakima	U. S. G. S.	7,200
Oak Hill	Yakima	U. S. G. S.	3,113
Old Baldy	Okanogan	U. S. G. S.	5,230
Old Baldy	Okanogan	U. S. G. S.	7,870
Old Scab	Yakima	U. S. G. S.	6,642
Old Snowy	Lewis-Yak	U. S. G. S.	7,900
Olympus	Jefferson	U. S. G. S.	8,250
Oval Pk.	Okanogan	U. S. G. S.	8,800
Palmer	King	U. S. G. S.	5,000
Peacock	Okanogan	U. S. G. S.	4,520
Peavine Ridge	Yakima	U. S. G. S.	4,413
Pick Handle	Yakima	U. S. G. S.	6,390
Pilchuck	Snohomish	U. S. G. S.	5,334
Pinegrass Ridge	Yakima	U. S. G. S.	4,400
Pinnacle Pk.	Pierce	U. S. Engineer Corps.	7,200
Poland Butte	Yakima	U. S. G. S.	3,143
Prairie	Snohomish	U. S. G. S.	5,670
Pugh	Snohomish	U. S. G. S.	7,150
Pyramid	Chelan	U. S. G. S.	8,240
Pyramid Pk.	King-Kittitas	U. S. G. S.	5,723
Quartz	Ferry	U. S. G. S.	4,803
Rainier	Pierce	U. S. G. S.	14,363
Red	Chelan	U. S. G. S.	8,100
Red	Kittitas	U. S. G. S.	5,707
Red	Snohomish	U. S. G. S.	6,930
Red Butte	Yakima	U. S. G. S.	7,203
Red Rock	Yakima	U. S. G. S.	5,000
Red Top	Kittitas	U. S. G. S.	5,200
Rommel	Whatcom	U. S. G. S.	8,500
Rose	Jefferson	U. S. G. S.	5,000
Round	Chelan	U. S. G. S.	4,364

Mountain.	County.	Authority.	Elevation.
Round .....	Yakima.....	U. S. G. S.....	5,900
Ruby Hill.....	Okanogan.....	U. S. G. S.....	4,950
Russell Ridge...	Yakima.....	U. S. G. S.....	6,200
Reynolds Pk....	Chelan-Okan..	U. S. G. S.....	8,200
Sahale .....	Skagit.....	U. S. G. S.....	8,600
Saint Helens....	.....	U. S. G. S.....	10,000
Sawtooth .....	Okanogan.....	U. S. G. S.....	8,400
Scott Pk.....	Snohomish....	U. S. G. S.....	5,300
Sedge Ridge....	Yakima.....	U. S. G. S.....	5,200
Shaw .....	Klickitat....	U. S. G. S.....	3,620
Sheep .....	Snohomish....	U. S. G. S.....	6,120
Sheep .....	Chelan.....	U. S. G. S.....	4,500
Sheep Gap .....	Snohomish....	U. S. G. S.....	5,000
Shell Rock Pk...	Yakima.....	U. S. G. S.....	3,620
Short & D. Rdg.	Yakima.....	U. S. G. S.....	6,700
Signal Pk.....	Yakima.....	U. S. G. S.....	5,111
Silver Pk. ....	King-Kittitas..	U. S. G. S.....	6,000
Silvertop .....	Snohomish....	U. S. G. S.....	4,869
Skokomish .....	Jefferson....	U. S. G. S.....	7,500
Shuksan .....	Whatcom.....	U. S. G. S.....	10,000 (?)
Sloan .....	Snohomish....	U. S. G. S.....	7,790
Siuiskin .....	Pierce.....	U. S. Engineer Corps..	6,800
Snipes .....	Yakima.....	U. S. G. S.....	4,700
Snowpatch Pk....	.....	U. S. G. S.....	5,900
Snowplow .....	Yakima.....	U. S. G. S.....	5,070
Snowshoe Butte	Kittitas.....	U. S. G. S.....	5,139
Snoqualmie ....	King.....	U. S. G. S.....	6,000
Sobriesky .....	King.....	U. S. G. S.....	4,400
South Butte....	Yakima.....	U. S. G. S.....	7,790
So. Navarre Pk..	Chelan.....	U. S. G. S.....	7,800
Spire .....	.....	U. S. G. S.....	6,065
Spire Point.....	Shelan-Ska....	U. S. G. S.....	8,220
Squak .....	King.....	U. S. G. S.....	1,980
Star Pk. ....	Chelan.....	U. S. G. S.....	8,400
Steptoe Butte...	Whitman....	U. S. G. S.....	3,615
Stevens Pk. ....	Spokane.....	U. S. G. S.....	6,900
Stevens .....	Pierce.....	U. S. Engineer Corps..	7,000
Stillaquamish ...	Snohomish....	U. S. G. S.....	5,683
Stone .....	Jefferson....	U. S. G. S.....	7,000 (?)
Stratton Butte...	Whitman....	U. S. G. S.....	3,300
Strawberry .....	Okanogan....	U. S. G. S.....	4,750
Striped Pk. ....	.....	U. S. C. & G. S.....	1,265
Stuart .....	Chelan.....	U. S. G. S.....	9,470
Sugar Loaf Pk..	Chelan.....	U. S. G. S.....	5,840
Sullivan .....	.....	U. S. C. & G. S.....	2,330
Summit Chief ...	King-Kittitas..	U. S. G. S.....	7,300
Sutter .....	Skagit.....	U. S. G. S.....	1,000
Table .....	Kittitas.....	U. S. G. S.....	6,243
Taos .....	Stevens.....	U. S. Engineer Corps..	6,600
Tarheel .....	Okanogan....	U. S. G. S.....	3,190
Tebo .....	Jefferson....	U. S. G. S.....	5,285
Tekoa .....	Whitman-Spo..	U. S. G. S.....	3,954
Temple .....	King.....	U. S. G. S.....	3,570
The Brothers....	Jefferson....	U. S. G. S.....	7,500 (?)

Mountain.	County.	Authority.	Elevation.
Thompson .....	King.....	U. S. G. S.....	6,000
Three Brothers..	Chelan.....	U. S. G. S.....	7,370
Three Fingers..	Snohomish....	U. S. G. S.....	6,845
Tieton Pk.....	Yakima.....	U. S. G. S.....	7,775
Tiffany .....	Okanogan....	U. S. G. S.....	8,275
Timberwolf .....	Yakima.....	U. S. G. S.....	6,435
Tiptop .....	Chelan.....	U. S. G. S.....	4,813
Toroda .....	Okanogan....	U. S. G. S.....	4,621
Townsend .....	.....	U. S. G. S.....	5,405
Tunk .....	Okanogan....	U. S. G. S.....	6,065
Twin Buttes .....	Yakima.....	U. S. G. S.....	2,800
Twin Peaks .....	Snohomish....	U. S. G. S.....	5,995
Tyee .....	Chelan.....	U. S. G. S.....	6,688
Vesper Pk.....	Snohomish....	U. S. G. S.....	6,190
Vulcan .....	Ferry.....	U. S. G. S.....	5,200
Umptanum Ridge.	Yakima.....	U. S. G. S.....	4,217
Whiskey .....	Okanogan....	U. S. G. S.....	2,837
Whitechuck .....	Snohomish....	U. S. G. S.....	6,935
White Horse .....	Snohomish....	U. S. G. S.....	6,820
Whitestone .....	Okanogan....	U. S. G. S.....	2,867
Windy Pk.....	Okanogan....	U. S. G. S.....	8,345
Wingate Hill....	Pierce.....	U. S. G. S.....	1,800

---

#### PROMINENT MOUNTAIN PASSES IN WASHINGTON

Pass.	County.	Authority.	Altitude.
Buck Creek.....	Chelan-Sno....	U. S. G. S.....	5,796
Cady .....	Snohomish....	U. S. G. S.....	4,600
Carlton .....	Lewis-Yak....	U. S. G. S.....	4,100
Cascade .....	Skagit-Chelan.	U. S. G. S.....	5,392
Cowlitz .....	Lewis-Yak....	U. S. G. S.....	5,191
Cispus .....	Lewis-Yak....	U. S. G. S.....	6,473
Dutch Miller Gap.	King-Kittitas..	U. S. G. S.....	5,050
Indian .....	Snohomish....	U. S. G. S.....	5,000
Marble .....	Snohomish....	U. S. G. S.....	4,170
Meadow .....	King-Kittitas..	U. S. G. S.....	3,700
Naches .....	Pierce-Kit....	U. S. G. S.....	4,988
Sentinel Bluffs ..	Yakima.....	N. Trans. Surv.....	2,292
Snoqualmie .....	King-Kittitas..	U. S. G. S.....	3,131
Stampede .....	King-Kittitas..	U. S. G. S.....	3,925
Stevens .....	King-Chelan..	U. S. G. S.....	4,061
Tacoma .....	King-Kittitas..	U. S. G. S.....	3,550
Twisp .....	Okan.-Chelan.	U. S. G. S.....	6,066
White .....	Lewis-Yak....	U. S. G. S.....	4,500
Windy .....	Snohomish....	U. S. G. S.....	4,170
Yakima .....	King-Kittitas..	U. S. G. S.....	3,500

ADDITIONS TO BIBLIOGRAPHY OF THE MOUNTAINS  
OF WASHINGTON.

## IN GENERAL.

- AYRES, H. B. Washington Forest Reserve. 19th An. Rep. U. S. G. S., pp. 283-313.
- BAKER, MARCUS. Survey of the N. W. boundary of U. S., 1857-61. U. S. G. S., Bull. 174.
- BAUERMAN, H. Report on the Geol. of the country near the 49th parallel west of the Rocky Mts., 1859-61. Canada Geol. Surv., 1882-4, pp. B. 1-B. 42.
- BECKER, G. F. Relation of the Cascades to the Sierra and Coast Ranges of California. U. S. G. S., Bull. 19.
- BECKER, G. F. Geol. Sketches of the Pacific Division, 1885. 10th Census, v. 13, pp. 5-59.
- BEYERS, H. G. C. A. Ruddy & R. E. Heine. Water Resources of Washington. Wash. Geol. Surv. An. Rep., 1901, v. 1, pp. 285-319.
- BONNEY, T. G. Volcanoes. Structure and Significance. G. P. Putnam's Sons, 1899.
- BROWN, DR. ROBT. Glacial Scratches near Bellingham Bay, Washington, 1870. Am. Jour. Sci., v. 50 pp. 323.
- COLEMAN, E. T. Glaciation in Oregon and Washington. Alpine Jour. 1877, p. 233.
- DAWSON, G. M. Glaciation in the Northeast part of the Cordillera, 1890. Am. Geologist, v. 6, pp. 153-162. Glacial Phenomena in Okanogan Co., Washington. Am. Geologist, Oct. '98, v. 22, pp. 203-17.
- DAWSON, WM. L. Birds of the High Cascades. The Mountaineer, '07, v. 1, No. 1, pp. 13-17.
- DILLER, J. S. Latest Volcanic Eruptions on the Pacific Coast. Science, 1899, v. 9, pp. 639-40.
- EMMONS, S. F. Volcanoes of the Pacific Coast of the U. S. Jour. Am. Geog. Sci., '77, v. 9, p. 45.
- GANNETT, HENRY. Forests of Washington, Revision of Estimates. Prof. Paper No. 5, U. S. G. S., 1902.
- GIBBS, GEO. Physical Geography of the N. W. Boundary of the U. S., 1872. Jour. Am. Geog. Sci., 1870-71, pp. 134-157.
- GORMAN, M. W. Eastern Washington Forest Reserves. 15th An. Rep. U. S. G. S., pp. 315-349. Historians Rep. 1895. Mazama 1896, v. 1, pp. 49-56. (Ascents of Baker, Rainier, Adams, Hood, Jefferson and Diamond Pk. for heliographing from peak to peak.)
- GREENHOW, ROBT. Cascade Mts., 1845. Geog. of Washington and Oregon, pp. 25-26.
- IDDINGS, J. F. Notes on the Volcanoes of Northern California and Washington Territory, 1883. Am. Jour. Sci., v. 27, pp. 222-35.
- KING, CLARENCE. Glaciers on Mountains on the Pacific Slope, 1871. Am. Jour. of Sci., 3rd Series., v. 1, pp. 157-67.

- LANDES, HENRY. An Outline of the Geology of Washington. Wash. Geol. Surv. An. Rep. 1901, v. 1, pp. 11-35.  
Columbia River and Puget Sound Drainages, U. S. G. S., 1906. Water Supply and Irrig. Paper No. 178.  
Preliminary Report on Underground Waters of Washington. U. S. G. S., 1905. Water Supply and Irrigation Papers, No. 111.
- LE CONTE, JOSEPH. Great Lava Floods of the West and the Structure and Age of the Cascade Mts. Proc. Calif. Acad. Sci, 1875, v. 5, pp. 214-20.
- LYMAN, W. D. The Mountains of Washington. The Mountaineer, 1907, v. 1, No. 1, pp. 6-10.  
Indian Myths. Oregon Teachers' Monthly, Nov. '03, pp. 4-5.
- PLUMMER, F. G. Forest Conditions in the Cascade Range, Washington, between the Washington and Rainier Forest Reserves. Prof. Paper No. 6, U. S. G. S., 1902.
- ROGERS, G. O. Drift Mounds Near Olympia, Wash. Am. Geol., v. 9, pp. 393-99, 1893.
- RUSSELL, I. C. Cascade Mts. in Northern Wash. 20th An. Rep. U. S. G. S., pp. 89-210.  
Cascade Range. Geol. of, in Wash. Am. Geol., 1899, v. 23, p. 96.  
Cascade Range Near 49th Parallel. U. S. G. S., Bull. 235.  
Glaciers of North America, 18th An. Rep. U. S. G. S., v. 2, pp. 355-415.  
Reconnaissance in Central Washington. U. S. G. S. Bull. 108, 1893.  
Reconnaissance in Southeastern Washington. Water Supply and Irrig. Papers No. 4. U. S. G. S., '97.  
Volcanoes of N. A. McMillen & Co., N. Y., 1897.
- SMITH, G. O. Contributions to the Geology and Physiography of Central Washington. Prof. Paper No. 19, U. S. G. S., 1903.
- STEELE POINTS. Cascade Range Forest Reserve. Steele Points, Portland, Oct. 1906, v. 1, No. 1-2.
- UPHAM, WARREN. Glacial Lakes in Washington. Bull. Geol. Soc. America, 1891, v. 2, p. 266.
- WILKES EXPL. EXPED. Notes on Geol. of Washington Territory, 1849. v. 10, pp. 616-658.
- WILLIS, BAILEY. Drift Phenomena in the Puget Sound Region, Wash. Bull. Geol. Soc. Am., v. 9, pp. 112-162.  
Glaciation in the Puget Sound Region, Wash. Am. Geol., 1892, v. 19, pp. 144-5.  
River Courses—Changes in River Courses in Washington, Due to Glaciation, 1887. U. S. G. S. Bull. 40.  
Sierra Structure. Absence of, in Northern Washington Territory. Bull. Wash. Philos. Soc., 1887, v. 9, p. 8.
- MT. ADAMS.
- REID, HARRY FIELDING. Glaciers of Mt. Hood and Adams. Mazama, Dec. 1905, v. 2, pp. 195-200.  
Notes on Mt. Hood and Mt. Adams and Their Glaciers. Geol. Soc. America Bull., 1903, v. 13, p. 536.  
Reconnaissance of Mt. Hood and Mt. Adams. Science, June 6, 1902, v. 15, p. 906.

## MT. BAKER.

- ASCENTS—List of Ascents. Mazama, Mar. '07, v. 3, No. 1, pp. 20-21.
- CANTWELL, G. C. Ascent of Mt. Baker. *Outing*, v. 44, p. 579.
- COLEMAN, E. T. Glaciers on Mt. Baker. *Harper's Monthly*, 1869, v. 39, p. 793.
- CURTIS, ASAHEL. Mazama's Ascent of Mt. Baker. *Overland*, Apr. '07, U. S., 49, pp. 305-15.
- First Ascent of Mt. Baker on the Northeast Slopes. *Washington Mag.*, Sept. '06, pp. 19-23.
- GLISAN, R. L. A Night On the Summit of Mt. Baker. *Mazama*, Mar. '07, v. 3, No. 1, pp. 22-6.
- GORMAN, M. W. Vegetation On the North Slope of Mt. Baker. *Mazama*, Mar. '07, v. 3, No. 1, pp. 31-40.
- GREENE, I. N. Mt. Baker (Poem). *Pac. Mo.*, May '05, v. 13, p. 286.
- LANDES, HENRY. Round About Mt. Baker. *Mazama*, Mar. '09, v. 3, No. 1, pp. 5-8.
- METCALFE GERTRUDE. The Ascent of Mt. Baker. *Mazama*, Mar. '07, v. 3, No. 1, pp. 10-19.
- PROSSER, W. F. Climbing Mt. Baker. *Travel Mag.*, Oct. '06.
- SMITH, GEO. OTIS. Mt. Baker Mining District, Washington. *Engineering and Mining Journal*, Mar. 15, '02, v. 73, pp. 379-80.

## LAKE CHELAN AND MT. SAHALE.

- ANDERSON, ADA WOODRUFF. Lake Chelan and the American Alps. *Pac. Mo.*, May '04, v. 11, pp. 300-308.
- FAIRBANKS, H. W. Lake Chelan. *Sci.*, Mar. 14, '02, v. 15, pp. 412-13.
- GANNETT, HENRY. Lake Chelan, Washington. *Nat'l Geog. Mag.*, 1898, v. 9, pp. 417-428 (Maps).
- Lake Chelan and Its Glacier. *Mazama*, Dec. 1905, v. 2, pp. 185-89.
- LAKES, ARTHUR. Lake Chelan District; An Account of an Undeveloped Mining District. *Mines and Minerals*, 1900, v. 22, pp. 279-80.
- LYMAN, W. D. Lake Chelan, the Leman of the West. *Overland*, Mar. 1899, n. s. v. 33, pp. 195-201.
- PATTULLO, A. S. Lake Chelan and Mt. Sahale. *Mazama*, July, 1903, v. 2, pp. 138-142.
- PIERCE, HENRY H. Rept. of Exped. from Ft. Colville-Puget Sound, Washington Territory, by way of Lake Chelan and Skagit River, during the months of Aug.-Sept., 1882.
- RUSSELL, I. C. Great Terraces of the Columbia and Other Topographical Features in the Neighborhood of Lake Chelan, Wash. *Am. Geol.*, '98, v. 22, pp. 362-9.
- STEFLE, W. G. Lake Chelan and The Valley of the Stehekin. *Oregon Native Son*, '99, v. 1, pp. 407-15.
- WILLIS, BAILEY. Notes On Lake Chelan and Vicinity. *Sci.*, '00, v. 2, p. 384.

WILLIS, BAILEY. *Physiography and Deformation of the Cascade Range in the Wenatchee-Chelan District.* Prof. Paper, No. 19, U. S. G. S., 1903.

#### THE OLYMPICS.

- ASCENTS—Record of Ascents of Peaks of Olympics. *The Mountaineer*, Sept. '07, v. 2, No. 3, pp. 81-86.
- BANKS, MARY. *Mountaineers in the Olympics.* *The Mountaineer*, Sept. '07, v. 1, No. 3, pp. 73-79.
- CURTIS, ASAHEL. *First Ascent of Mt. Olympus.* *World's Work*, May '08, pp. 10261-2.
- Storm Bound On Mt. Olympus. *The Mountaineer*, Sept. '07, v. 1, No. 3, pp. 69-72.
- DODWELL, A., and T. F. RIXON. *Olympic Forest Reserve.* Wash. 21st An. Rep., U. S. G. S., pp. 145-208
- Forest Conditions In the Olympic Forest Reserve. Prof. Paper, No. 7, U. S. G. S., 1902.
- FLETT, J. B. *Observations On the Olympics.* *The Mountaineer*, April, 1907, v. 1, No. 2, pp. 29-34.
- HANNA, INA M. *Expeditions Into the Olympic Mts.* *The Mountaineer*, April, 1907, v. 1, No. 2, pp. 29-34.
- HUMES, G. W. *A Journey to Mt. Olympus.* *The Mountaineer*, April, '07, v. 1, No. 2, pp. 41-42.
- LANDES, HENRY. *Notes On the Geology of the Olympics.* *The Mountaineer*, April, 1907, v. 1, No. 2, pp. 36-38.
- NELSON, L. A. *The Ascent of Mt. Olympus.* *The Mountaineer*, Sept., '07, v. 1, No. 3, pp. 65-8.
- WEAVER, CHAS. E. *Notes On Bed Rock Geology of the Olympic Peninsula.* *The Mountaineer*, Sept., '07, v. 1, No. 3, pp. 58-64.

#### MT. RAINIER.

- BASHFORD, HERBERT. *Mt. Rainier.* *American Arthology*, '00, pp. 736.
- BROOKS, WM. A. *With Sierrans and Mazamas*, July, '05. *Appalachia*, May, '06, v. 11, pp. 114-125.
- BROWN, H. H. *From Surf to Summit.* *Overland Mo.*, Nov., '05, v. 46, pp. 447-455.
- COLBY, W. E. *Sierra Club On Mt. Rainier.* *Mazama*, Dec., '05, v. 2, pp. 212-15.
- COULTER, JOHN M., and ROSE, J. N. *Hesperogenia, a New Genus of Umbelliferae from Mt. Rainier.* U. S. Botany Div. of Contributions from the U. S. Nat'l Herbarium, '99, v. 5, p. 203.
- DORR, J. W. *Mountain.* *Babylon*, '97, pp. 77-8 (Poem).
- EMMONS, S. F. *Glaciers of Mt. Rainier.* *Am. Jour. Sci.* (3rd S.), 1871, v. 1, pp. 161-65.
- EMMONS, S. F. *Ascent of Mt. Rainier, With Sketch of Summit.* *The Nation*, Nov. 25, 1876, p. 313.
- FAY, CHAS. E. *Through Appalachian Eyes.* *Mazama*, Dec., '05, v. 2, pp. 208-11.
- GLASCOCK, RAGLAN. *How We Climbed Rainier.* *Sunset Mag.*, Nov., '05, v. 16, pp. 49-55.

- IDDINGS, J. P. Notes on a Rock From Mt. Rainier. 12th An. Rep. U. S. G. S., '91, P. 1, p. 612.
- LANDES, HENRY. Field Notes on Mt. Rainier. Mazama, Dec., '05, v. 2, pp. 220-222.
- LYMAN, W. D. Rainier Indian Legends. Mazama, Dec., '05, v. 2, pp. 203-207.
- Also, Washington Mag., Aug., '06, v. 1, pp. 449-52.
- McALISTER, E. H. Professor McClure's Report relative to the Altitude of Mt. Rainier. Mazama, Oct., '00, v. 2, pp. 34-40.
- MEEKER, EZRA. Who Named Tacoma? Address Washington Historical Soc., Jan. 22, '04.
- METCALFE, GERTRUDE. The Rainier Climb. Mazama, Dec., '05, v. 2, pp. 224-234.
- MONROE, A. S. Climbing Mt. Tacoma. World Today, Oct., '05, v. 9, pp. 1047-1053.
- MUIR, JOHN. Ascent of Mt. Rainier. Pacific Mo., Nov., '02, v. 8, pp. 197-203.
- ORTMAN, FRANK O. Climbing Mt. Rainier Alone. Washington Mag., Sept., '06, v. 2, pp. 51-54.
- PARSONS, E. T. Rainier. Mazama, Oct., '00, v. 2, pp. 25-34.
- PIPER, C. V. Additions and Corrections to the List of Mt. Rainier Plants. Mazama, Dec., '05, v. 2, pp. 270-71.
- PIPER, C. V. Flora of Mt. Rainier. Mazama, Apr., 1901, v. 2, pp. 93-117.
- PLUMMER, FRED G. Mt. Rainier Forest Reserve, Washington. 22nd An. Rep. U. S. G. S., 1901, v. 5.
- PRATT, LOUIS W. Tacoma's Attraction for the Tourist. Washington Mag., July, 1906, v. 1, pp. 371-78.
- PROSCH, THOS. W. General McCarver Named Tacoma. Address Washington Historical Soc., Oct. 4, '05. Bound pamphlet.
- RANDALL, MARION. Making of a Sierra Camp. Out West, May, '06, v. 24, pp. 396-404.
- REDMAN, W. Ascent of Mt. Rainier by Sierras and Mazamas. Out West, v. 24, p. 365.
- RICE, GEO. S. Mt. Rainier Coal Fields. Engineering and Mining Journal, Apr. 6, '05, v. 79, pp. 660-61.
- ROSS, J. E. Land of the Sun. p. 169.
- RUSSELL, I. C. Glaciers of Mt. Rainier. 18th An. Rep. U. S. G. S., pp. 349-424.
- SHELDON, CAROLINE. To Mt. Rainier. Washington Magazine, Sept., '06, v. 2, p. 34 (Poem).
- SKINNER, C. M. Tamanous of Tacoma—Myths and Legends of Our Own Land, 1896, v. 2, pp. 242-45.
- SMITH, G. O. Rocks of Mt. Rainier, 1898. 18th An. Rep. U. S. G. S., '96-7, P. 2, pp. 416-23.
- STEVENS, HAZARD. Ascents of Mt. Tacoma. Atlantic Mo., v. 38, p. 573 (1876).
- Changes In Mt. Tak-Ho-Ma. Mazama, Dec., '05, v. 2, pp. 201-2.
- WHEELER, OLIN D. Climbing Mt. Rainier, 1895 (?). Reproduced in book form from Wonderland, '95.
- WILLEY, D. A. Lure of the Mountains. Putnam's, July, '07, pp. 447-56.

- WILLIS, BAILEY. Canyons and Glaciers: A Journey to the Ice Fields of Mt. Tacoma, '83. *The Northwest*, v. 1, p. 2, Apr., '83.  
 Mount Rainier and Its Glaciers. *Wash. Philos. Soc. Bull.*, 1888, v. 10, p. 10.

## ST. HELENS.

- DILLER, JOSEPH SILAS. Latest Volcanic Eruption on the Pacific Coast. *Science*, 1899, n. s. v. 9, pp. 639-40. Describe material from Mt. St. Helens, Washington.  
 GILE, KATHERINE. Mount St. Helens. *Il. Mazama*, July 1903, v. 2, pp. 125-129.  
 Lava Caves of St. Helens. *Il. Mazama*, July, 1903, v. 2, pp. 134-135.  
 McALISTER, E. H. Report on the Altitude of St. Helens. *Mazama*, July, 1903, v. 2, pp. 123-124.  
 PARRISH, R. R. M. Mount St. Helens. (see his *Echoes from the Valley*. 1884, p. 114-115). Poem.  
 PLUMMER, FRED G. Diagonal moraine. *American Geologist*, 1893, v. 12, pp. 231-2.  
 Describes a diagonal Moraine occurring on Mt. St. Helens, Wash.  
 ROSS, EMILY LINDSLEY. First White Woman On Mt. St. Helens. *Mazama*, July, 1903, v. 2, pp. 130-133.

## MT. SHUKSAN.

- CURTIS, ASAHEL. The First Ascent of Mt. Shuksan. *Overland*. n. s. No. 50, Aug. '07, pp. 110-118.  
 Ascent of Mt. Shuksan. *Mazama*, Mar. '07, v. 3, No. 1, pp. 27-30.

—*Alida J. Bigelow.*

# THE MOUNTAINEER

VOLUME I—1907-1908

## CONTENTS

	Page.
Altitudes of Mountain Peaks of Washington.....	141
Altitudes of Prominent Mountain Passes of Washington..	146
Ascent of Mount Olympus. L. A. Nelson.....	65
Baker, Mount. See Mount Baker.....	
Banks, Mary. Mountaineers in the Olympics, 1907.....	75
Bibliography of Mountains of Washington. Additions to, Prepared by Alida J. Bigelow.....	147
Bigelow, Alida J. The Mountaineers' Ascent of Mount Si.	49
Birds of the High Cascades. Wm. L. Dawson.....	12
Charter Members, List of.....	26
Constitution and By-Laws.....	25
Curtis, Asahel. Storm Bound on Mount Olympus.....	69
The First Ascent of Mount Shuksan.....	52
The Mountaineers' First Ascent of Mount Baker.....	97
Dawson, William Leon. Birds of the High Cascades.....	12
Day on Mount Vesuvius. A. L. Pollock.....	72
Eaton, Dr. C. S. First Aid in the Mountains.....	100
First Ascent of Mt. Baker. A. Curtis.....	97
First Ascent of Mount Shuksan. A. Curtis.....	52
Flett, J. B. Observations on the Olympics.....	43
The Seed Plants, Ferns, and Fern Allies of the Higher Regions of the Olympic Mountains.....	106
Foreword. H. Landes .....	3
Frye, Theodore C. Thallopites and Bryophytes from the Olympics .....	117
Geology of the Olympic Peninsula. C. E. Weaver.....	58
Hanna, Ina M. Expeditions into the Olympic Mountains..	29
Harriman, Alice. Mount Baker. (Poem).....	96

	Page.
Historian's Reports .....	18, 54, 75, 87
Landes, Henry. Notes on the Geography of the Olympics.	36
Local Walks, List of.....	28
Lyman, W. D. Mountains of Washington.....	5
Members, List of .....	26, 28, 55
Mount Baker. (Poem). Alice Harriman.....	96
The Mountaineers' First Ascent of. A. S. Curtis.....	97
Mount Olympus, Ascent of. L. A. Nelson.....	65
Journey to. G. W. Humes.....	41
Plans for First Annual Outing.....	20
Storm Bound on. A. Curtis.....	69
Mount Shuksan, First Ascent of. A. Curtis.....	52
Mount Si, Mountaineers' Ascent of. A. J. Bigelow.....	49
Mount Vesuvius, A Day on. A. L. Pollock.....	72
Mountain Experience, A. E. H. Wells.....	103
Mountain Passes of Washington, List of Altitudes.....	146
Mountain Peaks of Washington, List of Altitudes.....	141
Mountaineers' Ascent of Mount Si. A. J. Bigelow.....	49
Mountaineers' First Annual Outing, 1907. Announcements	45
Mountaineers' First Ascent of Mount Baker. A. S. Curtis.	97
Mountaineers in the Olympics.....	75
Mountaineer's Revery. (Poem.) L. Nettleton.....	64
Mountains of Washington. W. D. Lyman.....	5
Nelson, L. A. The Ascent of Mount Olympus.....	65
Nettleton, Lullie. Historian's Report for 1908.....	87
A Mountaineer's Revery. (Poem.).....	64
Notes on the Geography of the Olympics. H. Landes....	36
Observations on the Olympics. J. B. Flett.....	43
Olympus, Mount. See Mount Olympus.	
Olympics Mountains. Expeditions Into the. Ina M. Hanna	29
Geology of the Olympic Peninsula. C. E. Weaver.....	58
Map of the Olympic Region.....	39
Mountaineers in .....	75
Notes on the Geography of the. H. Landes.....	36

	Page.
Notes on the Bed Rock Geology of the. C. E. Weaver..	58
Observations on the. J. B. Flett.....	43
Record of Mountaineers' Ascents in 1907—	
Mount Barnes .....	86
Mt. Christie .....	81
Mt. Meany .....	81
Mt. Noyes .....	81
Mt. Olympus .....	83
Mt. Queets .....	85
Mt. Seattle .....	85
Seed Plants, Ferns, and Fern Allies of. J. B. Flett.....	108
Thallophytes and Bryophytes of the. T. C. Frye.....	117
Olympic Outing 1907. Members of Party.....	80
Pollock, Adelaide L. A Day on Mount Vesuvius.....	72
Record found on the Pass Between the Elwha and the Queets Glaciers .....	86
Seed Plants, Ferns and Fern Allies of the Higher Regions of the Olympic Mountains. J. B. Flett.....	108
Shuksan, Mount. See Mount Shuksan.	
Si, Mount. See Mount Si.....	
Storm Bound on Mount Olympus. A. Curtis.....	69
Thallophytes and Bryophytes from the Olympics. T. C. Frye .....	117
Vesuvius, Mount. See Mount Vesuvius.....	
Weaver, Charles E.....	58
Wells, E. H. A Mountain Experience.....	103

## C. C. FILSON

*Manufacturer of*

**Waterproof Khaki, English Gabardine, Hunting  
Coats, Women's Outing Clothing, Sleeping Bags  
Wool Batts, Etc.**

All kinds of Bedding and Clothing used in outdoor life

1011 First Avenue

Seattle, Washington

Open Your Bank Account with

**Dexter Horton & Co.**  
**Bankers**

THE OLDEST BANK IN WASHINGTON

**Capital Stock, \$1,000,000**

**INTEREST PAID ON SAVINGS ACCOUNTS**

**Officers**

**W. M. LADD, President**      **N. H. LATIMER, Manager**  
**R. H. DENNY, Vice-President**      **M. W. PETERSON, Cashier**

**Assistant Cashiers**

**G. F. CLARK**      **C. S. HARLEY**      **H. L. MERRITT**

**New York Building**

**SEATTLE**

---

**Rubber! — You Mountaineers**

**Ⓐ Complete Line of Khaki Clothing, Rubber Blankets and Ponchos, Canvas Leggings and Canvas Hats, Waterproof Shoes and Sweaters, and Rubber Goods of all kinds.**

**The Rubber Store, Inc.**

**714 First Avenue**

**SEATTLE, WASH.**

---

**FAST TIME on the**

**Seattle, Everett & Edmonds Route**

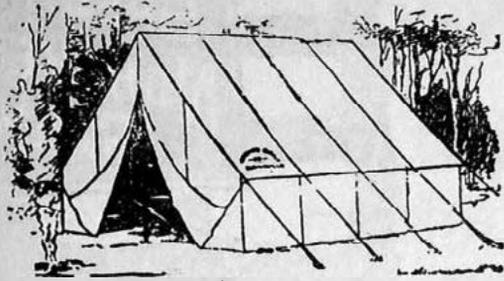
**Steamer CITY OF EVERETT**

**THREE ROUND TRIPS DAILY**

**WEEK-DAY TIME CARD**

**SUNDAY TIME CARD**

**Leave Seattle, 7 A.M., 12 Noon, 5 P.M. Leave Seattle 7:30 A.M., 12 Noon, 5 P.M.**  
**Leave Everett 9:15 A.M., 2:15, 7:15 P.M. Leave Everett ...9:45 A.M. 2:15, 7:15 P.M.**



Here it is!

More Comfort  
Less Weight

That's what you're up against  
when you start out on  
your hike!

Tents and Sleeping Bags Made in Drill  
Blankets and Khaki, Silk

Waterproof  
Clothing

THE LITTLE RED FLAG



BRAND  
WILL INSURE YOU THE BEST

PUGET SOUND TENT & DUCK CO.

Main 219. Ind. L 219

408 Occidental Ave., SEATTLE, WASH.

Do you want *The Spirit o' the  
Mountains and Out-o'-Doors*

*In your Christmas or Souvenir Gifts?*

**L**OOK at these Books by local Writers, on local Sub-  
jects, done into print, illustrated and bound in orig-  
inal designs by local Printers and Artists:

*Pioneer Days on Puget Sound*, ARTHUR A. DENNY.

*Reminiscences of Seattle and the Indian War*, T. S. PHELPS,

*Twelve Steps to Success*, LEWIS JAMES. [U. S. N.]

*Lyrics of Fir and Foam*, ALICE ROLLIT COE. (Ready Dec. 1.)

*The Hired Man*, F. RONEY WEIR. (Humor.)

*Lemon Juice*.

*Songs o' the Sound*, ALICE HARRIMAN.

*Songs o' the Olympics*, ALICE HARRIMAN. (Ready Dec. 10.)

*Tillicum Tales*, SEATTLE WRITERS' CLUB.

*Chaperoning Adrienne Through the Yellowstone*, ALICE HARRI-  
MAN.

For Sale by Booksellers and by

*The Alice Harriman Co.*

PUBLISHERS

*318 Denny Building, Seattle*

When you  
visit the

**GREAT  
NORTHERN  
RAILWAY**

**Alaska-Yukon-  
Pacific Exposition at Seattle**

use the

**Oriental  
Limited**

The Compartment-Observation  
Cars, Standard Sleeping Cars,  
Leather Upholstered Tourist  
Cars, Day Coaches and Dining  
Cars in daily service on this  
train were

**Built for Comfort**

*Leaves St. Paul, 10:30 a.m.*

*Minneapolis, 11:05 a.m.*