FORESTRY NUMBER

OF

THE KAIMIN

MARCH 11 1915

UNIVERSITY *of* MONTANA

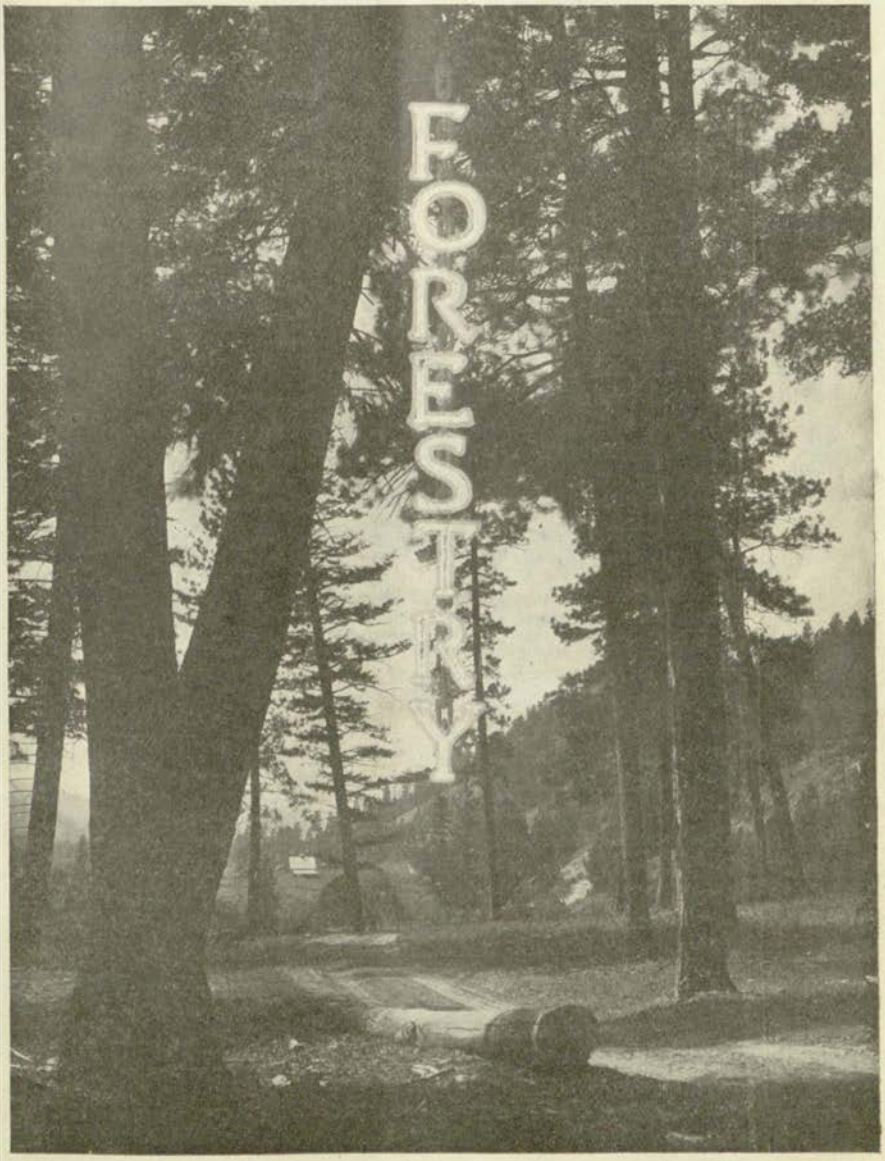
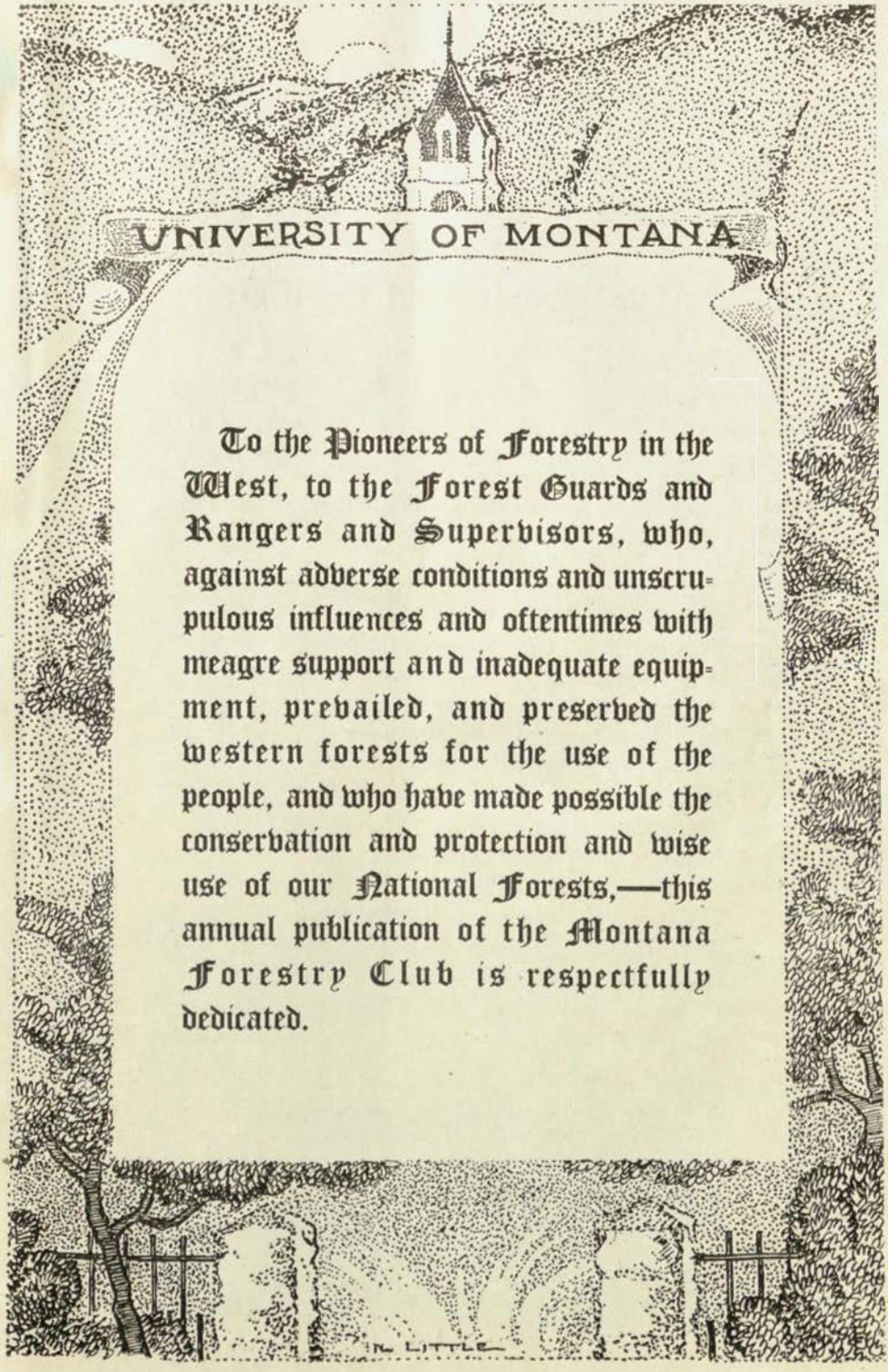

FORESTRY

TABLE OF CONTENTS

	Page
Dedication	3
Prophecy of the Tree	4
Editorial Staff	5
Literary Department	7
Susane	7
Just a-Ridin'	10
Reminiscences of an Old Grad	12
Fable of the School of the Forest	15
The Half-Breed	18
Paul Bunion	24
Why Norman Streit Quit the Forest Service	29
Rules of Thumb for Estimating	31
How to Make a Cruising Stick	33
Plans for a Ranger Station	37
Plans for Trail Bridges	38
Forestry Kaimin—Editorial	44
As the Short Course Sees It	46
Ranger School	47
How the Short Course Benefits the Forest Service Employe	49
Grazing	51
Why the University Ranger School Benefits Government Employes	53
Forestry Athletics	57
Wearers of the M	59
Alumni	60
Organizations	64
Opportunities in Forestry	69
List of Students	73
About the Campus	76
The Forestry Club	78
Exchanges	79
Courses in Forestry	83
Courses in Forest Engineering	84
The Montana Forest School	86
Around the Camp Fire	89
Table Manners for Forestry Students	104



To the Pioneers of Forestry in the West, to the Forest Guards and Rangers and Supervisors, who, against adverse conditions and unscrupulous influences and oftentimes with meagre support and inadequate equipment, prevailed, and preserved the western forests for the use of the people, and who have made possible the conservation and protection and wise use of our National Forests,—this annual publication of the Montana Forestry Club is respectfully dedicated.

The Prophecy of the Tree

O, thou wondrous being
Made in Jehovah's image
Who calleth thyself man!

With a song thou liftest thy brawny arms
And the axe sinks into my heart.
Know thou, O vain and boastful one
Who laugheth as I fall beneath thy stroke
When thy body shall have crumbled into dust,
I will form the threshold of a home
Where tender woman croons a lullaby
To sleeping babes encradled in my arms.
When the waving grass above thy head
Sighs in forgotten desolation,
My sturdy planks will stand between
Thy sons and the horrors of the deep.
When thy very name is banished from men's lips
From altars hewn from me, will incense rise
To the everlasting God.

—Idah McGlone Gibson.

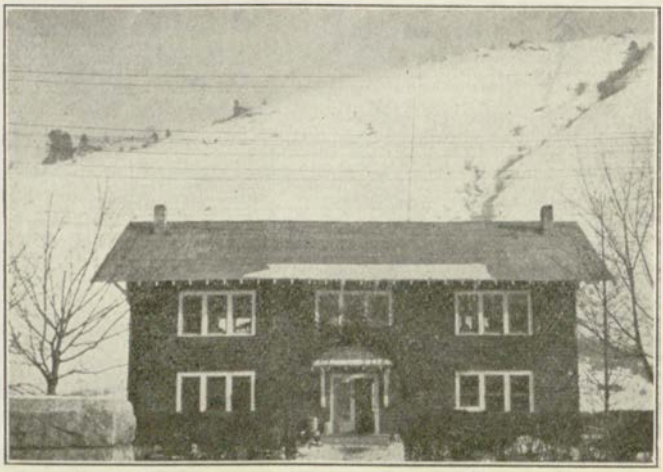
The Forestry Kaimin

Edited and Published by the Students of the Forestry Club
of the University of Montana, Missoula.

HARRY G. ADE, ... "Bull of the Woods."
HAROLD H. LANSING, ... "Straw-push."
HUGH KENT, ... "Time-keeper."
G. WILLARD JONES, ... "Track-foreman"
L. R. DARROW, ... "Bull-cook."
ROBERT BORLAND, ... "The Fertilizer."

CAMP FLUNKIES

"Mud" Townsend, "Wop" Bishoff, "K" Wolf, "Runt" Whisler, "Slippery" Jefferson, "Deacon" Townsend, 'Cock" Roche, "Willie Green, and Wingett.



The Montana Kaimin

Pronounced "Ki-meen." This is a word taken from the language of the Selish tribe and means writing, or something in black and white.

Published on Thursday of every week by the Associated Students of the University of Montana.

Subscription rate, $1.00 in advance.

Entered as second-class mail matter at Missoula, Montana, under Act of Congress, March 3, 1879.

The staff of the Forestry edition of the Kiamin extend sympathy to the regular staff. We have suffered in getting out this one issue the trials and tribulations that you suffer every week. When we realize the magnitude of your task; the difficulties of digging up news; the failure of those on whom you have depended to produce stories; the midnight hours that you spend in writing; that you must listen to the kicks on the last issue while trying to prepare the copy for the next, we are compelled to ask you if you think a career on a college weekly worth while after all.

THE FORESTERS.

Forestry Issue of Montana Kaimin

VOL. XIII MARCH, 1915 NO. 5

"Susane"

Relating one of the many adventures of two Forestry students on their recent canoe trip from Montana to the Gulf of Mexico.

"Susane! O Lord, boys! find her and and your made men; money! Lord! Money, she has all that I made on the big strike, all the big free gold clean up. S-h-e-s, s-h-e s h—s.——"

The trip became a reality after we had stood for hours by the side of old man Williams' deathbed; had listened to his delirious raving, sometimes incoherrent, then clear and distinct with the fair Susane and the fortune she bore ever prevalent. Always raving on of Susane and of her disappearance, of the Missouri with its turbulent currents, on which she had made her home, still raving on of her beauty, of her litheness, and her grace.

That was late in September and by the seventh of October we were on the river. We left the old town of Fort Benton on a cold gray morning with a smell of snow in the air which turned into a reality as we passed the old fort ruins. Then as if not satisfied with the hardship created, turned into a cold freezing rain, which forced us to camp a few miles below.

I shall never forget those two old cottonwoods under which we threw our tarp and made our fire, nor shall I forget the dead leaves which fell silently with the rain that spattered and hissed in the fire. It was a cold, miserable night for a pair to spend in the open, who for the past months had known no other hardship than the clean, white linen of a bed. It was hard that first night, but the God of Slumber overcame the moisture in the blankets and sleep crept silently in upon us with the dying of the embers.

Morning broke clear and cold with a sting of frost in the air. Now and then a puff of wind showered the frost particles in upon us from the naked, bone-like limbs overhead. Perhaps it was because the breaking of a new day never holds that spirit of subtle foreboding which the end of a day is apt to lend to an adventurer of this particular type, that we packed and cooked with a certain degree of

easy joviality rarely found on a trip of this sort. We broke camp about nine A. M., a little late, but canoe packing was a proposition which neither of us had tackled before, at least not as a means of gaining a livelihood. Then, too, it's no cinch to pack three hundred pounds of miscellaneous outfit ranging from a camp axe to spare paddles in a sixteen-foot "old town," in such a manner that the water you ship and the rain from above won't wet it down. "Try it some day and convince yourself."

Toward noon the day became slightly warmer and the wild fowl on the river more numerous. Shooting was good and we took it here and there as we ran into it. Not only were the ducks numerous, but grouse and geese in numbers greater than I shall ever hope to see again were flushed at every bend.

It was the middle of the afternoon that we ran alongside the old Virgille Ferry where our first real inquiries were made regarding the whereabouts of a certain Susane Williams, daughter of the old prospector and river king, Jim Williams. It was a rather absurd question to put to a disinterested group of bystanders and we received our share of curious glances as we asked for some possible information. As far as information goes we got very little from them, and that little which we did receive was vague and meaningless. Virgille was the last of the several little outposts of civilization at which we stopped for some six hundred miles down the river. The small group clustered about the ferry and listened with mild indifference to our seriously-put queries. Susane to all outward appearances disappeared from that locality before they had sought that section of Montana as homestead land.

We camped that night a few miles below Virgille in a small grove of cottonwoods overlooking the river; duck and grouse for supper, with doughgob and brown gravy sure helped out an appetite created by a solid day of paddling.

After supper we kicked the coals together, lit our pipes, and after smoking silently for an hour Wolfe began a monologue on our chance of finding Susane, which consisted chiefly of words, phrases and expressions not found in a standard English dictionary. I smoked on silently for a few minutes and then because I had no argument and was somewhat of the same opinion, shook out my pipe, kicked back the blankets, and after turning my packs upsidedown on a pair of sticks, and throwing a small armful of wood under the tarp for fire in the morning, turned in.

The days that followed were days of forced routine. We rolled out in the clear, frosty mornings before daybreak and were on the river at the first gray streaks of dawn; and once on our way, there was no stop till darkness forced us to camp. We could not waste time stopping for lunch, so a chunk of venison, a cold duck, or a two-quart bucket of baked beans were eaten on the run.

We were now in the badlands on Northeastern Montana—a bleak, desolate, God-forsaken country. The bluffs on both sides of the river were cut and gashed as if a giant plough had run amuck, cleaving and rending the earth's gray surface in its wild meandering.

For days we saw no man; here and there a deserted and dilapi-

dated ranch house with its decayed outbuildings and corral told of an all too unsuccessful attempt to wrench an existence from this waste termed "no man's land."

It was somewhere above the old stage station of Wilder that we saw smoke rising from a rusty stovepipe chimney of a little ranch house. It was the first sign of another man for nearly a week of traveling. We pulled into a creek, yanked the canoe out enough to keep the current from carrying it away, and walked with cramped legs to the little half dugout, half-log shack built into the side hill. The occupant turned out to be a grizzled old bachelor, dirty and unshaven, as is the habit of men who live this lonesome life, yet with a heart as big and warm as a June day. He was a man of some sixty winters, yet as light and active as a youth of twenty. He would have it no other way, we must stop and eat with him, spend the evening about the glowing stove and run on tomorrow.

It was after the last scrap of a huge venison steak had been eaten and as we sat about the rusty stove which glowed cheerfully as the wind whistled outside, that Wolfe and I began to question the old man, first upon his stay in that locality, then his means of livelihood and his acquaintance with the river.

He had been up and down the old Missouri in Montana since '65, had gone through the Indian troubles and the old boom days. At present he was running a small bunch of cattle in the vast area of unoccupied land to the north and to the west. After these questions and answers, there ensued a period in which the three pipes glowed and died in silence, in the semi-darkness of the cabin.

It was some time before I put the next question to the old puncher, asking him if he had known a certain prospector by the name of Williams—Jim Williams. The old puncher turned and looked at me and in the glow of the stove I caught the spark of comprehension in his sunken, yet sharp eyes. He laid his pipe down slowly, tilted his chair squarely upon the floor, and leisurely rose to his feet; then as if in after-thought sat slowly down again. "Yes," he said, "I once knew old Jim Williams; knew him in the spring that he made one of the biggest free gold strikes the country has ever known. Wolfe put the next question so sharply that I jumped. "Where's his daughter?" The effect was surprising. "Hell, Jim Williams, a daughter, why Jim was never married." We were both silent for a moment, then Wolfe spoke between rapid puffs of smoke, told in jerky unnatural snatches the story that old Jim Williams had given us of Susane.

The old puncher reached for his corncob and for my tobacco, re-filled and re-lighted its old-time stained bowl. He took several long puffs at the reed stem and then spoke from a cloud of smoke. "Well, boys, you got old Jim straight, he did make a fortune, and there was a Susane. Yes, and she did have the gold and she was a queen on this river." With this he got up and walked with devilish slowness over to the rough board table and took the top boards off. He laid them end for end on the floor; then while we sat in the semi-darkness and watched him he came back, took a bottle with its stub of a candle from the shelf and lighted it. "Come over here,

boys," and as we looked, there on the floor was the weather-stained but still legible nameboard of a river steamer, and written the full length of the three boards was the single word "Susane." "Yes," came the cracked old voice, "she went down that same spring on the elbow bend just above here. I picked up a few boards after high water; sawed timber is mighty scarce here, you know."

Just a'Ridin'

There is some that likes the city,
  Grass that's curried smooth and green,
Theatres and stranglin' collars,
  Wagons run by gasoline.
But for me a horse and saddle,
  Every day without a change,
And a desert sun a-blazing
  On a hundred miles of range.

Just a-ridin', a-ridin',
Desert riplin' in the sun,
Mountains blue along the sky line,
I don't envy anyone
When I'm ridin'.
When my feet are in the stirrups
And my horse is on the bust,
With its hoofs a flashin' lightnin'
From a golden cloud o' dust,
And the bawlin' o' the cattle
Is a comin' down the wind,
Then a finer life than ridin'
Would be mighty hard to find.

Just a-ridin', a-ridin'
Splitting long cracks thro' the air,
Stirrin' up a baby cyclone,
Rootin' up the prickly pear
As I'm ridin.

I don't need no art exhibits
When the sunset does his best,
Paintin' everlastin' glory
On the mountains to the west.
And your opery looks foolish
When the night bird starts his tune,
And the desert's silver mounted
By the touches of the moon.

Just a-ridin' a-ridin'
I don't envy kings ner czars,
When the coyotes down the valley
Are a singin' to the stars
And I'm a ridin'.

When my earthly trail is ended
And my final bacon curled,
And the last great round-up's finished
At the Home Ranch of the world.
I don't want no harps nor halos,
Robes, nor other dressed-up things;
Let me ride the starry ranges
On a Pinto horse with wings.

Just a-ridin', a-ridin'
Nothing I'd like half so well
As a roundin' up the sinners
That have wandered out of Hell,
And a ridin'.

—C. B. Clark, Jr.
Ranger Apache National Forest.

Reminiscences of an Old Grad.

"Hello, Bill, any mail come up on the stage for me this trip? No? Huh! that's funny; nothin' much has happened around this neck of the woods since you were through last time; that student from the Varsity blew in last Tuesday; that one they sent out for fire guard up Burnt Fork way. And believe me, he's some college kid. They certainly educate them right up to the minute nowadays, everything from pink socks to oratory. You know, Bill, I'm not exactly tongue-tied myself, and you don't notice any medals hanging on my chest from debates I've won; but I'm not bad when it comes to single-handed talking. Well, that kid hadn't been in the Ranger station ten minutes this morning before he had me backed clear off the boards and wondering why I wasn't buried with G. Washington, T. Roosevelt and the rest of the dead ones.

"Remember when you and I were down at the 'U,' Bill? We always traveled just about forty hours ahead of the procession and had them coming out from Paris to see what we were wearing so they would sure be up to date on next year's styles. We were patching inner tubes while the rest of the gang were still riding around with a halter under the seat; we were dress suits at the functions when the other fellows still had sandblisters on their necks from wearing rubber collars. We've been back here in the woods for quite a spell now, but still we've always prided ourselves that we know what was doing in the world. We're wise to the war in Europe and know that Wilson is president; they might lose us on some of those fancy drinks, but we've at least heard the rumor that Johnson has jumped to the Feds.

"And here was this half-baked boy from the old college putting them over on me with breaks that Ty Cobb couldn't reach. I hadn't talked with him two minutes before he slipped me 'sorority' and 'Pan-hellenic.' I blinked my eyes and held out as long as I could, but when I came up for air he confided to me that the students had engaged their tango teacher for the coming season.

"Think of it, Bill! Here you and I just out of the Varsity seven years, but it's eight for you though, isn't it. I remember hearing how you left just ahead of the faculty boot. You were class treasurer or something and they wouldn't give you your sheepskin until you ponied up for that statue that your classmates stole and presented to that dutch saloonkeeper. But I digress. As I was saying, here you and I who used to be the leaders of the 57 varieties of devilment that can be hatched in a co-ed college, sitting around with our jaws drooping while a rah-rah lad with a wide wing collar explains the rudiments of modern co-education.

"Still, I might 'a known that moss was flourishing on my back. Remember when I went in for that Supervisors' meeting winter before last? Well, I took an afternoon off and strolled out to the old U just to see how it was managing to limp since you and I quit assisting the faculty to run it. Of course, I didn't exactly expect the

Prexie to meet me at the gate with a welcome sign on his face, and I didn't strain my ears any listening for brass bands hired for the occasion; but I thought there might be a student or two in the ancient history class who might remember me as the plunging halfback that made that long run against Fort Shaw in the fall of Umpty Umph. Did they weep on my neck and with tears in their voices ask to see that famous right arm that pitched that shut-out game against Bozeman? Yes, they did not. An ex-athlete is about as popular as an ancient egg with an actor. Here was I strolling through the one and original peach orchard, and take it from me, they are just as good looking now, Bill, as when you were in peg tops: but was there a welcome smile for the old grad?—not noticeably. The only queens that noticed me at all gave me the haughty stare for taking up so much room on the walks and for presuming to breathe up perfectly good air. Talk about renewing the days of your youth at Alma Mater—I felt about as youthful and full of life as a corpse at a Fourth of July celebration. An old grad is just about as popular on the old campus as a bottle of whiskey at a W. C. T. U. convention, the odds being in favor of the whiskey.

"And how fondly this new generation of studes remember your valiant deeds on the athletic field. 'Let's see, wasn't it in naughty naught that you won that grilling two-mile race that landed us the Triangular meet or was that the year that Columbus discovered this glorious land of the free and the home of the Jews—it's such a nuisance to remember dates, you know.'

"Honest, Bill, I hadn't been there ten minutes before I caught myself wondering how they come to let an old tottering patriarch such as I, loose without an attendant to guard his faltering footsteps. I was so madly sought over that I ducked into the boiler room and held a reunion with Kessler to keep from dying of lonesomeness."

"The old school was just about as live and full of pepper as a graveyard. That just goes to show what regulating a college does for it. The only regulating it got when we were undergrads was what we gave it; we didn't butt in much on the duplication of studies, but we sure done some regulating after we won a football game. Would you believe it, Bill, this kid tells me that they haven't set off any fireworks in convocation in ten years; a carline goes right by the main gate now, and he admits that no bunch of Sophomores has had spirit enough to steal the street car and pile it on the library steps to prove their loyalty to their class. When they beat Pullman last fall, did they burn down the Methodist church and tip over the county jail? Not them; they first took out a permit from the city council to stay over town until nine and celebrated on animal cookies and quotations in the Palace hotel. Some of the ruffians, I am told, actually smoked cigarettes right in the dining room. Talk about your safe and sane celebrations—why, Bill, if we had ever been able to beat Pullman in football, any Freshman that at least wouldn't have stolen an N. P. locomotive and run it down Higgins avenue would have been hooted out of school for lacking in imagination.

"Imagination is what they lack, Bill; if they only had Shorty Simpson back there for about fifteen minutes—you remember Shorty,

don't you? the finest little student that ever set an alarm clock under Prexie's chair in chapel. He left school the same spring I did, only much sooner; it seems the faculty got jealous of him because he knew more than they did, that is, he knew a lot of things that they couldn't find out, and it was a case of either one or the other leaving school. Shorty always was accommodating. Funny how things turn out: here you were the Latin shark of the school and we were all envying the brilliant career you had ahead of you (which you would of had if the masses had taken a fancy for speaking Latin instead of taking joy rides), here you're buried up here in the jungles, while Shorty who had a superstitution that it was bad luck to open a text-book between the opening of the football season and the closing of the track, has the softest job up at the state house, on account of delivering the vote of that Cow County delegation. Prexie was telling me just last winter, that he had to bribe two office boys and wait three hours to get a five-minute interview with Shorty.

"I can spout by the hour on the cause of the fall of the Roman Empire, but I don't notice any difference in my pay check for running this forest thereby, because anybody that happens to want to know the cause can look in a book and see. Shorty probably don't know whether the Roman Empire is an official at a ball game or a chariot race, but he knows that the Cow Counties are going democratic next election, which is more to the point. Still, he gives the U all of the credit for making him what he is, for if it hadn't been for the U he wouldn't have been in our frat, and that's where he got his political experience, practicing on us. I wonder where my old frat pin is now; I haven't seen it in three years. But I remember what a great help it was in landing me a job; the first week I was turned adrift with my sheepskin in one hand and a bunch of unpaid bills in the other, I wore the old pin boldly on my bosom and pondered deeply on which greedy corporation I should consent to run; after a few brief interviews with famous brothers, I was convinced that the proper place to wear the badge when seeking a job was between the collar buttons and the dress shirt in my bureau drawer. That's how I happened to get this job.

" What's that? You've got to drive on? Why you lop-eared, double-jointed old pill-roller, I don't think you'll drive on. Here I've been up in this damn ranger station for two months, and you're the first one I've met that knows a college yell from a dorm biscuit, except the kid. Say! are you the loafer that spent a whole night putting that free-lunch sign on the library a few years back? You may be, but I doubt it; now you put that old nag of yours in the stable and come in the house and I'll fill you up on Uncle Sam's grub; you'll just sit quiet in the corner and inform me of all that's happened at the U these many years. How'd the appropriation bills go this winter? What's the prospect for baseball this spring? Did the governor have the nerve to veto that Leighton repeal bill? How about Interscholastic—Aw what's the use; you put up that horse while I build the fire and in ten minutes we'll be singing "Old College Chums" over the flapjacks."

The Fable of the School of the Forest and the Stag Shirts, Who Builded Bridges and Made Models in the Shops, Never Seeing the Hills and Dales Where Grew the Trees.

In the Bitter Root Belt there was a university called Montana. It needed Buildings, Paint, Sidewalks, Toothbrushes and Bibles.

Everyone who communed together in the Halls of Learning believed that the Sun rose on the edge of the top of the Station, Lookout, on the Knoll called Sentinel, and set, over on the side of the School in which the Stag-Shirts gathered. While the Shysters, the Pill-Mixers, the Cubs, the Dabblers in Figures and Machines run by Keys, the Cookers and Sewers, the Melbas and Carusos, and the Puny Ones who sat on Straw at the Feet of the Dispensers of Latin, Greek and the Allied Sciences, were sitting around on the Warm Side of the University so as to get shut out of the Daily Chill, the Babes of the Forest would feel sorry for Folks who had to put up with Science Hall and the Basement of the Book Emporium.

Now it happened that the Stag-Shirts had a Bunk-House of their own, built by the Babes and furnished by the Same, who came to glean of the knowledge of the music of the Trees and Hills. As the Trees so was the House created of Wood. Its Lower Floor was the Hang-Out for the Ruffians who listened to the Chatter of those who already had communed with the Pretty Trees. Its Upper Floor was the sanctum where abided the Chatterers and where the Hard and Tough ones who bided in the School of the Forest drew their dainty pictures of the Trees and Roads in the Woodland.

In this Hang-Out were the Rough-Necks who wore Six Hats and had Heads shaped like Egg Plants. None of them had had time

to sit down and absorb Culture. And yet they had to go out and meet the high Mansard Foreheads. Sometimes they found themselves in Front Room where everyone was expected to discuss Literature, Art, Music and the Difficulty of getting good Kitchen Help. At times they had the rare fortune to commingle with the guardians of the Outer Gate, where lived so many of the Fair and some Less Fair. Again they attended the Black Cats, the Keepers of the Keys, and still other times they Dropped the Anchor of an Eventide. The Stag-Shirts might also be Seen wandering about on the Green and Sitting on the Spoony Rocks with the descendants of Vixen Eve. Oh, but these Babes and Ruffians were a versatile Lot.

At times they would meet in the Shack at the Foot of the Hill and munch at Doughnuts, Sip of Cider and Pull at the Sweet Smelling, Brown-Tasting Missouri Meerschaums. Then when the Rassle was over they would adjourn—so they called it, Cultureless as they were—to the Upper Loft and Engage in a little Friendly One. And this is How the Game Went On.

They sat at the Green Baize to Flirt with the Goddess of Fortune for One Hour, No less and no more. The Necessary Tools were brought out and the Comrades squared away. It was a Gentleman's (?) Game. No one at the Table wanted to take money out of a Stag-Comrade's Pocket. They put on an easy limit of 10 cents. They had to make it an object just to keep the Blood in Circulation. (These Ruffians were accustomed to Exposure and Hardship. Yes, they Were!) At the end of One Hour the Cuckoo Clock Hooted but Some of the Comrades stood Loser and the Game was Continued for one more Hour.

The Forester from the City rung in a new Rule that anyone who bet less than 50 cents would be considered a Gazebe. He put in a patent corkscrew for a Buck and said it called for a Jack Pot every time it came out with the Ante. He hoped that all of the Old Ladies and the Safe Players would dust the Cracked Ice out of their laps and Get Busy. He said if they tried Hard they could get Action for their money on something less than Threes.

At Two O'Clock they had come down to their shirt sleeves and got ready for Rough Work. They began to Edge with the Colored Beans and Friendship ceased. It was a Half Dollar per Throw and someone was Thrown every Deal.

At Six O'Clock when the Warm Sunlight fell athwart the Table the room resembled a Roustabout Bar-Room. The Stag-Shirts were Haggard Beings, sitting at Tables, scantily clad, and weakly endeavoring to Bump one another. They Quit the Game with a Hand of Jack Pots and Left, wearily. Some were out a Month's Allowance and the Banker had no Money to redeem his Own checks. They all had Troubles of their Own. When They left they all Agreed that Men who wore Stag-Shirts should Keep Away from the Rounder Element. And Everybody said "Never Again."

These Men were Pin Heads in a good Many Respects; but Wise as the Serpents that crawled below the Timber-Line.

They were what a "Blackfoot Lumberjack" would call a Piker.

A Piker is one who gets into the Game on Small and Lets On to be Holding Back a Huge Reserve.

A Piker, though is usually safe when he sagitates among the Well-Bred because they are too polite to Call a Bluff.

A Piker always shows his entire Stock of Goods in the Show Window.

The Pikers stayed throughout the Numbered Days called a Year, in the Bunkhouse, but the Days were soon begun to be counted when they could get back to Tree-Center again. They were Home-Sick and Hungry. At the Sad Roundup at the Table Dote, where the Wilson Rule was strongly felt, they passed to the Stag-Shirts a lot of Trimmings that he Could neither Pronounce nor Assimiliate. He could not get his Sour-Doughs and Sow-Belly.

For Nine weary Time-Lengths the Rough-Necks abided in the Treeman's Shack and were Crooned to of the Pines and the Pines, and then More Trees. When their Service was over they called on their Tree-Friends from Day to Day, and good old Uncle Samuel aided, in paying the bills, by those who for some Time-Lengths abided in the other Dug-Outs, called them Rangers. They hollered for Help when some one so Care-Freely left a Fire burning, they put on Climbing Stickers so that they Might flip the Zippy-Zip over the Metal Strings, and when the leaves had finished falling, they came back to the Chatterers for more Stuff of Roads and Trees and Bridges.

And thus endeth the Fable of the Babes of the Woods.

MORAL—STAG-SHIRTS MAY LOOK FINE ON A CAMPUS; THE FOREST IS ONE DAMN TREE AFTER ANOTHER.

N. B.—MANY THANKS TO GEORGE'S ADE.

"SHYSTER."

The Half-Breed

By M. Fergus, Clerk in Dean's Office, School of Forestry.

John Craymore sat at the desk in his room. His numb fingers gripped a blunt pencil. His eyes stared at the columns of figures before him. Mechanically he began to count. He stopped and stared blankly at the figures. His hand passed wearily over his forehead; his fingers touched the scar in the edge of his hair, a jagged line cut when he was a child, by a playmate. His thoughts went idly on, back to that day. He could see the Indian teepees. He could see little Dirty Wolf, half naked and wholly contented, sprawling in the bench grass. He lived over again their quarrel concerning the white men. Dirty Wolf had vowed to get back their lands and hunting grounds. But he, Craymore, gloating over the fact that he had a white father, had boasted that he would go out and live with the white men and work with them and have all the ponies and all the tobacco he wanted. Dirty Wolf's anger had been swift. The hatchet was blunt but it cut deep. Craymore smiled and touched again the ugly mark on his forehead. The pencil dropped from his fingers and his eyes fell once more on those long columns of figures.

His head dropped to his hands; he was tired, dead tired. But even with his eyes closed he could see those figures. He forced himself to go over them all again, to count every penny, the proceeds from the corner lot, the furniture from his office, everything. But always the figures were the same. It was hopeless. He was financially ruined, utterly ruined. The figures danced before his eyes in dizzy rows. They would take it all, yes, the creditors would take all he had. Ten years he had worked and struggled and bargained and just for this—the rows of figures which told him there was no hope, that it was gone, all gone. A sheet of figures left to represent the work of ten years. Craymore raised his eyes, looking out the window to get away from the brutally cold statistics before him.

He noted absently that the buds on the trees had broken and were flaunting tiny dabs of green. A wind was blowing and caught the dust, the fragrant dust of spring, and twirled it into little eddies, and beyond it all, at the end of the road, the squatty rimrock glowed yellow and warm in the sunshine. Out on the Reservation the ice on Prior Creek would be melting, and the squaws would be dragging the tepees higher into the mountains. He shrugged his shoulders to dismiss the pictures. Yes, he was tired and he knew a spot out there on the bank of Prior where a man could stretch out on the great flat rock on the edge of the stream. The sun always beat hot there and the waters foamed and splashed about the rock, and you could lie there with a line and wait for the trout to bite while the waters mumbled and growled about you, till you fell asleep with the singsong of their beating. He turned from the window and looked curiously about his room. Everything had memories; the beaded moccasins, the leather jacket, the spurs, the skins, the pipes, a war bonnet, a long carbine, bits of stained leather, blankets,

a treasured scalp. Craymore could not have known why he treasured that scalp, but it had a strange fascination for him. And the lock of hair that clung to it was yellow. From the lower drawer of his desk he pulled out a box of pictures. He looked through them mechanically, taking inventory. There were a few crude snapshots of the Reservation that he had taken; some famous pictures of the old Crow leaders; student pictures from Carlyle. His white father had sent him there. Fool, to think he could make a white man out of an Indian!

Craymore rose uneasily from his chair. Yes, that was what he was, an Indian. He had tried to meet the white man on his own level, he had competed in the business world and lost. The thought brought only numbness. He took his hat and walked out to the street. Habit turned his step toward the office. He walked heavily, his shoulders dropped forward a little. Once in the office he fell to figuring again. Not until it grew too dark to see did he toss the pages aside and turn wearily into the street again. It was all over; he had lost. Once on the Avenue the glare of brilliant lights roused him. It was Saturday night and the streets were crowded. Craymore warmed to the genial crowd a little. McGrath was coming down the street. Here was a friend; here was the man who had supplied him with money. "Hello, Mac," he began. The man merely nodded and stepped behind the ready doors of a convenient cafe. Craymore's eyes narrowed a little, but otherwise his face was expressionless. He met others of the men on the street, men whom he had come in contact with every day. They were all busy, all in a hurry. They had no time to talk. Craymore felt their attitude. He told himself that he ought to expect it. He had always been quick to note the slightest differences in their treatment of him. He understood now. He was a breed and as long as he could live up to the white man's standards, as long as he could make good at their own game, he was entitled to recognition. Afterward——. He had nothing left, nothing. But a man has to live. Vaguely he formed the idea that he would have to find work, he would have to get a job. Perhaps he could get something on the road where he would be always traveling and no one would know or care much if he was a breed. As long as he was agreeable and well dressed. With that thought came the pang of realization that he was shabby.

He entered a clothing store. A young clerk came forward and Craymore selected the things he wanted. "Charge these to R. J. Craymore," he ordered.

"Just a moment, sir, till I get Mr. Bowen's O. K." Craymore waited, idly watching the crowd. On the other side of the store were two young Indians buying blankets. Muscular, lithe, brown, they stood, dressed in white man's apparel save the gaudy silk neckerchief, the beaded ornaments and the moccasined feet. Their black hair hung in scrawny black braids from beneath their wide-brimmed, high-crowned hats. Craymore knew them to be young Crows. One of them turned toward him. Craymore's hands spoke rapidly. The young buck answered him and Craymore learned that they had been trading cayuses, that they had seen a deer in Prior Gap, that they

were riding out to the Reservation that night. A blanket wrapped squaw shuffled up to the two. Several people were watching the group curiously, for the squaw was known to them all as "Crying Bird," one of the most beautiful of Indian girls. A photographer had made a number of studies of her. The little squaw was utterly indifferent to their scrutiny. But once she glanced up and caught Craymore's eyes. Again his hands spoke quickly. She answered him. They had been children together on the Reservation.

The returned clerk interrupted him. "I'm sorry, Mr. Craymore, but we cannot O. K. this charge."

"What?"

"We cannot O. K. this charge. Of course you can have the goods if you want to pay cash for them, but——"

Craymore turned abruptly and walked out of the store. He had been refused credit. Bowen had refused him credit. So they thought he would not pay. His anger flared up, hot and unreasoning. The cowards, the hypocrites. When a man was down they had no use for him. They skulked around in a circle until he should go under. The coyotes.

He pushed through the swinging doors of a bar. "Raw whiskey," he demanded. He drank it in a single gulp. The hot stuff brought the tears to his eyes and bit into his stomach, searing away the numbness. His eyes narrowed and the blind anger fled from his face, leaving it flint like. He straightened his shoulders and his step quickened. So Bowen had kicked him out and McGrath had given him the cold shoulder, and the others had sneered at him. He was an under dog, was he? He had tried to beat the white man at his own game, and had failed and they had kicked him under. His small jet eyes were hard and hot with hate. How did they get their money, anyway. The white man had been his father, the white man had put him in a mission school, the white man had supported him from the government station, the white man had taken him from the Reservation and put him in college, the white man had taught him the civilized mode of living, the white man had given him a trade, then the white man had played the game against him, and laughed and kicked him under. Why did they teach him to live, and feel and play with life as they did, and then take it all away again? He had some claims, he had a white father. But he was a breed and a breed is always an Indian.

The clock in the courthouse struck eleven. The crowds had thinned. Craymore walked irresolutely down the Avenue, past the better stores, into the shabbier districts. The shops were closed, but the lights from the cafes and saloons glared out brazenly. He passed the St. Louis and on down to the corner, Mike's Place, they called it. He stopped outside for a moment, hesitating on the curb. His thoughts were still following the old groove. The white man took his money still they were not satisfied. Yes, he did owe them money, but they had not given him a square deal, and they had taken all he had—all. Well, he was through; they couldn't kick him any longer. Let them suffer. They had taught him a trade, and beaten him at it. An unusually loud burst of hilarity from the

saloon aroused him. He knew the place. It was a general gathering place for the cowboys. Here was always the heaviest drinking, the highest betting and the hottest fighting. He could hear the shouting inside now. Craymore's eyes shifted to the two ponies rein-tied to the curbing. They stood with head down, weary looking little beasts with the bones showing through their shaggy hides. But Craymore well knew the speed and endurance of the vicious little bronchos.

Three men passed down the street. One of them was MacGrath. "Oh, I feel sort of sorry for the poor divil," he was saying, "but he can't expect anything else. He's nothing but a breed."

Craymore stood immovable. An unreasoning hate for MacGrath and all his kind was throbbing in his brain. An insane desire for the cold touch of a knife made him grip his hands. The knife would stick at the clothing, and eat through slowly, but once it touched the flesh it would sink into the body like cutting into soft butter. Craymore's body was taut. From the saloon came the brawl of drunken laughter. Craymore's eyes shifted again to the ponies. It was forty miles to the Reservation. Forty miles straight across the hills the tepees stood, singly and in groups, and the rope hobbled ponies nibbled the rank grass, and the squaws cooked in a huge pot over a smoking fire, and there was a deer in Prior Gap. Again his eyes flashed over the ponies. The pinto was the better of the two. Another shout came from behind the doors of Mike's Place.

Craymore turned and walked swiftly toward his room. His tread was quick and soft and sure, his heels made no clatter on the cement walk. Once in his room he turned the key in the lock. Hat and coat he tossed to one side. From a huge box he hastily drew forth other garments. There was a smell of dust and stale smoke about them. Rapidly he tossed a few possessions into a blanket and bound them deftly into a pack. He stopped at his desk a minute. There lay the pages of figures. Craymore held up the sheets and touched a match to them. He held them until the flame licked at his fingers, then dropped the burning sheets to the desk. The

box of pictures stood open. He added the snapshots and the college pictures to the fire. The varnish on the desk crinkled and blistered with the heat. He tossed in a picture of his father and watched it curl and darken and blaze and pale into ashes. He picked up the last picture. It was one of the art studies of "Crying Bird," the little squaw. When he had seen her in the store she had said she was going out to Prior Gap. His finger followed the line of her bare shoulder. She was a breed, too, but she had been wise. She had known that you cannot make a white man of an Indian.

Stolidly he turned from the burning heap on the desk and picked up his pack from the floor. He snapped off the light and locked the door behind him. He did not turn at once into the brilliantly lighted Avenue, but kept on the darker side of the other street. He walked rapidly, yet stealthily, swinging along with swift, easy strides. His flannel shirt and stained trousers bagged loosely on his lithe form, his moccasined feet padded on as noiselessly as a coyote's. The wide brimmed hat pulled low half hid his dark face, and a stray lock of his black hair slid down across the jagged scar on his forehead. His face was void of all expression save the crafty wrinkles about his narrowed eyes. He skirted the dark side of Mike's Place, then turned into the full glare of lights on the Avenue. The doors of the saloon swung open and a cowboy lurched drunkenly forth. Craymore stepped to the edge of the curb. Carelessly he rolled a cigarette. His clothes hung loose, but underneath every muscle was taut. The two ponies stood with heads down. Stolidly Craymore picked up the loose reins of the pinto. He swung easily into the saddle and dug his heels into the cayuse's flanks. The little beast lunged viciously. Craymore drew the pony in sharply, jerking it back until the bit cut into its mouth. The pavement rang under the cantering hoofs, but the man sat indifferently in the saddle, smoking his cigarette. From the streets of the city he rode, out into the country. The pony settled into the easy swing of a singlefoot. Across the south bridge, over the Yellowstone river, past the sleeping farmhouses he went. The crude road led on, up one hill and down another, curving sharply around steep embankments, twisting between the great pines, and crawling around huge boulders. The little pony still swung along in his easy, tireless gait, and the man swayed loose-jointedly in the saddle, responsive to the moving body beneath him. A wind had risen and had blown a curtain of dark cloud across the sky, and chased all the stars behind it. The road showed only a dim gray in the surrounding darkness. The pony stumbled to a walk, picking its way carefully among the twisted tree roots and sharp rocks. Craymore made no attempt to guide the little beast, but let it find its own way. He slouched contentedly in the saddle. Once up on top the ridge the wind came stronger. Craymore turned back again for a last glimpse of the city. This was the dividing line and he could look back across the hills. Behind him lay the city, the home of the white man; before him lay the Reservation, the home of the Indian. And perhaps it was the memory of the burning papers left on his desk, and the reflection of a fire's hot glow on the cloudy sky, or perhaps it was the weird cry of a

coyote, but a smile crept over the features of the halfbreed. On and on he rode through the night, while the pony stumbled on with his head down and the reins hanging loose. Often the man dozed. He was tired, very tired. He wanted to rest. The weeks of fighting and struggle and endless competition were over. He could sleep now, sleep in the tepees, and the smoke from the fire in the center would sting his eyes and make him drowsy. And there were trout in the Prior River, and a deer in Prior Gap. And the dogs and the scrawny ponies and the painted tepees and the squaws and the children and the gaudy blankets would all be a part of the life. The little horse stumbled forward and fell on its knees. Craymore reined it up skilfully. The wind had quieted. He had reached the government station. The tepees must be near now. He glanced at the sky. Sunrise. He urged the pony on. The road branched off into indistinct trails. Into one of these Craymore turned. It was the one which followed the Prior. Down through the opening in the mountains he went. The bluffs towered on either side, shutting in on the little valley like a protecting wall. The Prior River rushed through it, raging, foaming, growling. The trail widened and turned. A rift of smoke floated low among the pines. The pony quickened a little and the rider leaned forward. Through an opening in the brush they pushed, and the tepees lay before them.

The grass in the crude semicircle was matted with the tramping of feet. Backed against the brush the tepees stood, three of them, stained and grimy, with their rib poles showing gaunt against the tight stretched skin. The flaps of two were open and smoke came from them. Craymore rode slowly into the circle. An old squaw was puttering over a saddle, but she did not look up. From the nearest tepee a young man came out into the morning sunshine. His eyes blinked sleepily and he stretched his perfect muscles slowly. Craymore's hands spoke quickly and the young brave grunted a welcoming answer. Two or three others crowded about him. They all knew him. He was their brother. The camp had quickened to life. Craymore could hear the chattering of the women as they bent over the fires, and the contented gutteral exclamations from the men. A squaw climbed up the steep bank from the Prior with a string of mountain trout in her hand. A young brave squatted in the dirt cleaning his rifle with a scrap of gaudy blanket. The fragrance of cooking and smoke and burning pine boughs wafted to Craymore. He sniffed it hungrily. He had come home. He slid slowly from his pony, stretching luxuriously. The young Indian had crossed to the other side of the camp and was summoning him to a waiting meal. A slim, blanketed figure came swiftly up and took the dropped reins of his pony. "My father says you may share his tepee. I will care for the pony," she said. Craymore grunted. It was Crying Bird, the little squaw.

Paul Bunion

Paul Bunion, the most remarkable of modern men, was born in the town of Clacketagash, on the Canadian boundary. His mother was a full-blood Crow Indian; his father a French Canuck. So it behooves us to remember his remarkable parentage when considering his life works.

In his early life—that is from three to twelve years old—he was camp tinker for the Misfit Lumber Company, following his father's trade. While in this capacity, he was forced to cut wood

Home of Paul Bunion

for the camp. His fertile brain was not idle and he devised a scheme for getting the wood with the least labor.

Immediately behind the cook shack ran a raging mountain torrent. Paul built a flume up the stream for six miles. The wood was sawed in 16-inch lengths in the woods and put in the flume, end first. When they reached the cook house the chunks could barely be discerned in the foam and spray. About one-fourth of a mile from the cook shack Paul rigged his chopping knives in the flume. When a chunk hit the carefully arranged knives, it was split into pieces 4 inches square and 16 inches long. The flying wood was neatly deflected so that it arranged itself in ricks at the cook house door.

At this time the young man's parents were forced to move from their northern home to Dakota. While en route, one of their horses died and they were at a loss to find means of transportation. Here, again, Paul showed he was a genius of the first water. He rigged a caterpillar, out of barrel staves and hay wire. Using the one remaining horse as motive power, they steamed into Dakota, O. T.

For two long years Paul's father tried to raise a crop on his little sand dune. Fates were against him and the family went bankrupt. This was a lasting disgrace to Paul. He took a hasty farewell and started out on his own hook.

He first landed a job in Ireland and worked for St. Patrick several years. During his stay there he dug the River Shannon and aided the good saint in ridding the country of snakes by draining all the swamps. However, he became homesick and left for the United States. His fame had preceded him and he quickly landed a job logging off North and South Dakota. While on this job, he worked with two of the best "tree scouts" in the country, General Custer and General Lee.

The Dakotas did not offer a large enough field, so he started for Montana. While coming to Missoula, his train was delayed a little way out of Helena. Running up to the engine, Paul discovered the engineer dead at the throttle. Leaping into the cab, he started

ESTIMATING.

the train. At Blossburg, they took water and started the downgrade. In a little while, Paul noticed the train was slowing down so he flushed his injector and looked at the water glass. There was the fireman bobbing up and down in his frantic effort to escape.

While in Missoula, Paul heard of the Milwaukee's intention of building through Montana. Hurrying to the superintendent of construction he immediately contracted to make all the ties needed. This may sound like a large proposition but not so for Paul Bunion. He immediately purchased two broadaxes and a new six-pound knife. Taking the handles out of the broadaxes he fastened them to his feet, cutting edges down. He was now ready for operation. Spotting a suitable tree, he would run at it full speed and leap to the lowest limb. Then he would start climbing, cutting the limbs off as he went. After reaching a suitable height, he would start down, hewing the ties with his feet and cutting them off every eight feet with his knife.

This contract netted him several thousand dollars and in true lumberjack style he set out to spend it. His first pleasure jaunt was a hunting trip into the Idaho Clearwater.

Starting out from camp with his trusty rifle one fine morning at four o'clock, he flushed a turkey about one hundred yards from the cabin door. If there was anything Paul liked better than turkey, it was more turkey, so he prepared carefully to get the bird. Just as he was about to shoot, a deer stepped into the clearing. Here was a delicate situation and again his wonderful brain came to his aid. Picking up the rifle he bent the barrel over his knee and took careful aim, killing both turkey and deer. As he walked over to cut the deer's throat, a jackrabbit crossed his trail. He kicked it out of his way and quickly dressed the deer. Starting back to pick up the rabbit and turkey, he startled a grouse that had been wounded by his shot. The grouse fluttered across the creek with Paul hot on its trail. He finally knocked the grouse out of a tree with a club and started back. While he was returning he fell down in the middle of the creek and had a difficult time getting out alive. After he had collected his game, he sat down to pour the water out of his boots. Pulling them off he was surprised to find a peck of trout in each.

He now formed a logging company with Dorr Skeels as his partner, the company being called the Skeels-Bunion Company. The first contract the new company landed was for the Drake Lumber Company on the Ypsen River. This was a very difficult proposition on account of the steep side hills and the scarcity of timber. Skeels favored logging the tract with big wheels, providing the ground could be leveled. Paul easily solved this problem by an ingenious plan taken from his knowledge of geology. The center of gravity of every hill was found and by placing added weight at this point, the forces acting were thrown out of equilibrium, causing the hill to flatten out. The only damage done was due to the water backing up the Ypsen River when the hills spread out and nearly drowning the inhabitants of Bonner.

The company came out so well on their first contract that they

accepted a larger one with the greatest of alacrity and perspicacity. The Grass Valley Irrigation Company gave them the contract of cruising buffalo grass on the Flathead Reservation. Complete maps were required showing stand, topography of the country, plans for cutting and hauling, and an approximate cost.

A Dakota logging firm heard of the Skeels-Bunion Company and wanted them to bid on a logging job near Bismarck. Skeels was called to the University of Montana during the short course, so Paul was left to make the bids himself. He hopped on the Milwaukee and started out with his roll on his back. As his train neared Bismarck it ran into a terrible windstorm. The gale picked up the train, turned it around, and blew it back along the track to Big Timber. Just as Paul was about to alight from the train he was snatched away by a terrible blast and pinned against a nearby barn.

For seven long days he was held against the barn. On the eighth day, the wind abated enough to enable him to catch the train. The Dakota Logging Company awarded him the contract. He built camps and hurried back for a crew and his camp outfit. He was fortunate enough to secure the services of the logging class of the University of Montana and in a few days he and his crew started overland. While crossing the great divide, he was compelled to take one of his big blue oxen over a steep hill, because its horns was so wide it could not get through the tunnel.

The contract called for the felling to be done in three weeks. Hopes of accomplishing this faded when he saw how his crew worked. After a very disgusting day, he determined to have his crew up early and see if they could do a day's work in eighteen hours. Promptly at 3:30 the next morning, he blew a terrific blast on his bugle. The crew were awakened by a terrible roar and came running toward the cook shack. In his effort to get them up he had blown down seven hundred acres of white pine.

While on this job Paul was forced to skin a team of fours while his regular teamster went to town for a hair cut. Although one of his hands was missing Paul was still a skillful teamster. Wrapping the lines around the stub of his arm, he could handle the worst of teams on a 70 per cent grade.

As a top-loader he showed the University men a few pointers. His first word of advice was, "Never get on the load at any time." He used a pike pole instead of a cant hook because he could not reach far enough with the hook.

He always built his load from the center instead of from the sides. Never put his corner binders on the first log, always taking two logs; never loaded his wrapper or looked at the size of a log on the ground to see if it would fit the place he had for it; always placed the logs on a load by a slight push with his pike pole.

In Bunion's camp the swampers did not have to make trails for the teams or pile the brush. Their job was to knock the scabs off the trees and nothing else. However, he did insist on all swampers using a seven to nine-pound broadaxe. With these methods he was able to put through the most economic logging job ever completed.

When last heard of he was running a jammer for "John D. Rockefeller" on the Ohio State Forest. Let every one interested in logging operations model their life after this remarkable man, being careful to have as careful training as he and to be absolutely fearless in accepting contracts and making bids.

IN THE MILLS.

"Why Norman Streit Quit the Forest Service" or "Too Many Bear on Elk Creek."

In the summer of 1911, "Peeker," as he is commonly known, landed a position with a reconnaissance crew. His first job was in the vicinity of Elk Creek on the Cabinet Forest. Just off the unlimited acres of Missouri, where the big game consists of possum and rabbits, he determined to have a try at a Montana bear.

He started for camp with Charlie Farmer and insisted on carrying his 12-pound .30-30, 1820 model, along with a small 60-pound pack. It was only nine miles to camp and "Peeker" told of his hunting ability all the way. They arrived at camp about noon. The brush was so wet that the crew could not work, so "Peeker" asked to go hunting. His request was granted and he started off in the rain to get a bear.

During the afternoon Charlie had told of the young man's hunting ability and the crew had prepared. Each man made a bear-paddle and were primed to give Streit a good chance for game. (Those who do not understand what a "bear-paddle" is will live in ignorance.) It is sufficient to say that it is an ingenious method of whirling a stick to give a very good imitation of a bear.

"Peeker" returned to camp about six o'clock and reported lots of "signs" but no game. After supper the men told bear stories and mentioned the abundance of game on Elk Creek.

At nine o'clock everyone turned in. Just as "Peeker" was about asleep, someone gave his paddle a whir. Woof! Woof! Woof! Streit jumped clear off the bed and yelled for his gun. Farmer admonished him to lay down, telling him the noise he heard was only a bear. Just then someone else let go and "Peeker" dressed in a hurry. Filling his pockets with shells and strapping on his "frog-sticker" he set off up the trail. Burned stumps made a very good representation of a bear in the dark and he "snuck" up the trail like a Siwash.

Woof! Woof! sounded from a clump of brush and someone shot. Yells of "There he goes," "Over there," and "Shoot, Streit," led "Peeker" to empty his gun at a black stump just behind a brush pile. Bushes cracked down the trail and he was off after the "bear."

About a quarter mile down the trail he again emptied his gun at a stump and the bear started up the hill again. This was kept up for an hour or more and they had him primed for the next night.

All the next day Streit kept telling how he would get "that bear" if it ever showed up again. That night he laid his gun across two packing cases and set his shoes near his bed. However well he prepared, the crew prepared better. His boots were filled with water and the men stationed at different parts of the camp. One man had fixed some cans so that they could be rattled from a distance, and at his signal the fun commenced.

Streit heard the cans rattle down by the cook-tent and put on his shoes in a hurry, not noticing that they were damp. Grabbing his

gun, he made a long detour through the brush to surprise the bear. In his walking through the brush, he made more noise than an avalanche. As he neared the cook-tent he heard "Woof! Woof!" and the tent fell down. Scared to death but not wishing to show it, he hurried up, only to hear shots and yells of "Here he goes" farther up the hill. He was undecided which one to take, but thinking that there was safety in numbers, he hurried up the hill.

Until three o'clock that morning, he hunted, trailed and stalked the elusive bear. The crew were tired and the joke was so good that they didn't want to spoil it. All summer "Peeker" toted his 1820 model .30-30 and although he saw all kinds of "signs" he failed to connect. Often times, he walked right around the "bear" who would carefully hide in the brush.

When he came home, "Peeker" told his friends that he could take them into a country where he was certain that there were bear. "Why I heard more bear that summer than I imagined there were in Montana. I was so close to them, at times, that I could hear them go 'Woof! Woof! Woof!' "

Sworn to by
CHARLIE FARMER.

The Rule of Thumb for Estimating the Log Scale of Standing Trees.

Only experienced cruisers are able to estimate without measurement the log scale of a standing tree. Volume tables, based upon diameters and tree heights or number of log lengths are the most accurate method for the inexperienced cruisers, and give quite accurate results for a number of trees, although results will vary widely for single trees.

In the absence of volume tables rules of thumb are very useful for the hasty reckoning of log scale contents of single standing trees, although they must be used with judgment and their results varied to allow for differences of form in various trees.

The following rule is one employed by an experienced Michigan cruiser to give results approximating the Scribner log rule, for trees utilized to a minimum diameter of 8 inches in the top.

"Add 4 to the diameter of the tree inside the bark measured above the root swell (about breast high). Take one-fifth of the square of this sum and multiply by number of 16 ft. logs."

Expressed algebraically as follows: 1-5 $(D+4)^2$ x number 16 ft. logs.

A rough rule of thumb proposed by Dr. Schenck is to multiply the breast high diameter of the tree inside the bark by the number of 16 ft. logs, and multiply the result by the same diameter less twelve. This result approximates the contents of the tree by the Doyle rule, and may be expressed algebraically as follows:

D^2—12 D x number of 16 ft. logs.

Graves' Mensuration mentions, but does not recommend, the following:

"Estimate the length of the merchantable portion of the trees, then estimate its top and base diameters, average these diameters, and determine the contents by the Doyle rule. If the length of the merchantable portion of a tree is 40 feet, the top diameter 6 inches, and the base diameter 14 inches, the average diameter would be assumed to be 10 inches, and the volume of the log would be, by the Doyle rule, 90 board-feet."

Another very rough method to approximate results in terms of any log scale is to find the average log in the tree by dividing the sum of the diameter at the small end of the first and last log by 2, and then multiply the scale of the average log by the number of log lengths in the tree.

In general, all cruisers' methods are based on the careful determination of area of sample; second, determination of stand on sample area; third, determination of area of entire stand; fourth, determination of stand on sample area fairly represents stand on total area in proportion to the area of each, or if a correction factor must be applied.

In estimating large tracts it is usually safe to assume that the stand of sample plots fairly represents the stand on large tracts in proportion to their areas, provided the sample plots are taken at regular intervals, thus including an average of good and poor stands.

The simplest and most accurate method of doing this is usually to determine the stand of timber in strips of known width extending across the tract at regular intervals.

Often, however, when quick results are desired, it is simplest to determine the stand on small plots of known area which can be readily proportioned to the entire area of the tract. These plots should preferably be taken at regular intervals through the tract. This is best accomplished by locating the sample plots at regular distances apart measured along compass lines run parallel to each other across the tract at regular intervals.

Sample plots may be either round or square. Circular plots are easiest laid out. A good method is to leave your Jacob staff standing at the point which is to be the center of your plot (with a hat or handkerchief or some other conspicuous mark on it if the stand or underbrush is dense), and pace out from it in different directions enough lines to locate at several points the outer edge of the circular plot.

1 Acre=circular with radius of 7 rods.
½ Acre=circular with radius of 5 rods.
¼ Acre=circular with radius of 60 feet.

Practical cruisers ordinarily measure distances very accurately by pacing, and find the pocket compass of sufficient accuracy for running lines. A single pace should be the natural step of the cruiser. Ordinarily men step 24, 25 or 26 paces to the chain. The most common single pace is 2.64 feet in length, or 25 paces to the chain. If your natural step, however, is longer or shorter use 24 paces or 26 paces to the chain as the case may be. If you pace 25 paces to the chain, you will count 2,000 paces to the mile. Determine the actual number of paces which you ordinarily pace to the mile, and use that number. Do not try to acquire an arbitrary or unnatural stride for pacing. Try your pacing out on known distances over every sort of "going."

When pacing for measurement in cruising, try to keep your pace to your normal stride, and make each pace as nearly as possible of uniform length over ordinary "going."

In climbing over obstacles, logs, large rock, brush piles, windfalls, etc., don't try to step over or through; rather estimate the distance across in natural paces and resume your paces on the other side.

Learn how to vary your paces going up and down hill. On steep hills, going either up or down, learn how to break your paces so that two short steps will represent one normal pace. That is, learn how to step twice for one pace, you will find this is almost your normal way of easy going on steep ground.

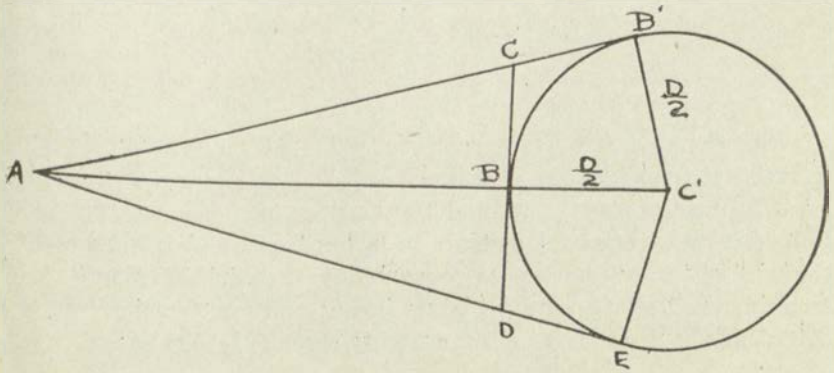
On gradual slopes, learn how to take your normal pace, and develop your judgment as to how often you should count two paces for one.

Go carefully, adjust your count every time that broken ground, dense underbrush, or obstacles in your way interrupt your pace. You can easily learn how to count paces over any ground by a little practice in pacing known distances over different kinds of "going."

How to Make a Cruising Stick for Diameter Measurements.

Ordinary instruments for measurement of diameter are not always easy to use or to carry in the woods. Calipers are decidedly awkward to carry and when swelled and coated with pitch, their manipulation is difficult and slow. The diameter tape requires considerable time for use, especially in large timber. The so-called Biltmore stick is much more easily used and the results are of almost equal accuracy. The form of stick used in the Forest Service differs somewhat from the original Biltmore stick, and is more satisfactory and much simpler to make.

The theory on which the Biltmore stick is based is the relation of the actual diameter of the tree to the interceptions of the lines of sight from a given point to the borders of the visible diameter of the tree read on a stick held in contact with the tree at breast height and at right angles to the line of sight from the eye to the nearest point of the tree. The left hand end of the stick is held to the left hand line of sight; the diameter of the tree is read from the stick at the point where the right hand line of sight crosses it. In Fig. 1, let the circle be the cross section of the tree breast high. A is the point of sight. AB is the line of sight from the eye to the nearest point of the tree. B'C'E is the visible diameter of the tree from the point of vision; and



CBD is the position of the stick. ACB' is the left hand line of sight and ADE is the right hand line of sight.

The triangles ABC and AB'C' are similar, being right triangles with one of the acute angles equal. In these triangles, for simplicity,

let AB=a. $BC=\frac{b}{2}$ of half the distance intercepted on the stick and

B'C' or $BC'=\frac{d}{2}$, or one-half of the diameter.

$$\frac{b}{2} : \frac{d}{2} = A : AB'$$

In the triangle AB'C'

AB'=the square root of $[(AC')^2-(B'C')^2]$

$$=\text{the square root of } \left[\frac{(a+d)^2}{(2)^2}-\frac{(d)^2}{(2)^2}\right]$$

$$=\text{the square root of } [a(a+d)]$$

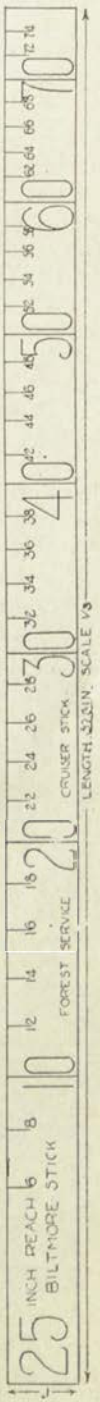
$$\text{Then } \frac{b}{2}=\frac{ad \mid 2}{\text{Square root of } [a(a+d)]}$$

$$\text{and } b=\frac{ad}{\text{Square root of } [a(a+d)]}$$

$$=\text{Square root of } \left[\frac{d^2a}{a+d}\right]$$

The Forest Service cruiser stick is made with the Biltmore formula worked out for a distance of AB or a=25 inches. This distance is too great for men of short arms, and too short for men of long arms. The following table shows the distance in inches from the left hand end of the stick of the graduations to be marked on the stick for diameters of trees in even inches from six to sixty inches, and for "reaches," or the distance from eye to tree, of from twenty-three to twenty-seven inches.

Diameter breast high (d) inches	Distance (a) from eye to tree—Inches				
	23	24	25	26	27
	Actual distances (b) in inches to be marked on stick				
6	5.34	5.37	5.39	5.41	5.43
8	6.89	6.93	6.96	7.00	7.03
10	8.35	8.40	8.45	8.50	8.54
12	9.73	9.80	9.86	9.93	9.99
14	11.03	11.13	11.21	11.29	11.37
16	12.29	12.40	12.50	12.59	12.68
18	13.49	13.61	13.73	13.84	13.95
20	14.63	14.77	14.91	15.04	15.16
22	15.72	15.89	16.05	16.19	16.34
24	16.79	16.97	17.14	17.30	17.46
26	17.81	18.01	18.20	18.38	18.55
28	18.80	19.02	19.23	19.43	19.62
30	19.76	20.00	20.22	20.44	20.65
32	20.69	20.95	21.19	21.42	21.65
34	21.59	21.86	22.13	22.38	22.63
36	22.47	22.76	23.04	23.30	23.56
38	23.32	23.64	23.94	24.23	24.49
40	24.17	24.49	24.80	25.10	25.40
42	24.98	25.32	25.65	25.96	26.27
44	25.78	26.13	26.48	26.81	27.13
46	26.55	26.93	27.29	27.64	27.89
48	27.31	27.71	28.09	28.46	28.80
50	28.07	28.48	28.86	29.24	29.61
52	28.79	29.22	29.63	30.02	30.40
54	29.51	29.95	30.28	30.79	31.18
56	30.22	31.11	31.53	31.94	32.33
58	30.90	31.38	31.83	32.27	32.69
60	31.58	32.07	32.54	33.00	33.42



In making a stick for use, a stick about ½ inch by 1 inch and from three to four and one-half feet long is desirable. This stick should be straight and should be beveled along one edge to an angle of about 45°. From the above table use the column of values or distances of gradations that correspond with your "reach." If you hold the stick 25" from your eye use the figures in that column. Then along the beveled edge of the stick from the left end, measure 5.39 inches (the first value in the column for your reach), and mark a gradation. This is where your right hand line of sight will intercept the stick for a tree six inches in diameter. Mark this gradation 6. Then measuring again from the left end of the stick, mark off 6.96 inches and mark this gradation 8, for this is where your right hand line of sight will intercept the stick when held against a tree 8 inches in diameter. Then measure off from the left end of the stick 8.45 inches and mark this point for 10 inch trees, and so on along the rule until your last gradation for 60 inch trees comes at a point measured 32.54 inches from the left end of this stick.

It is better to place a metal ferrule at each end of the stick in order to prevent wear and tear. It is also a good idea to burn the distances and valuations in. Use a needle and then cover with indelible ink or paint. The stick

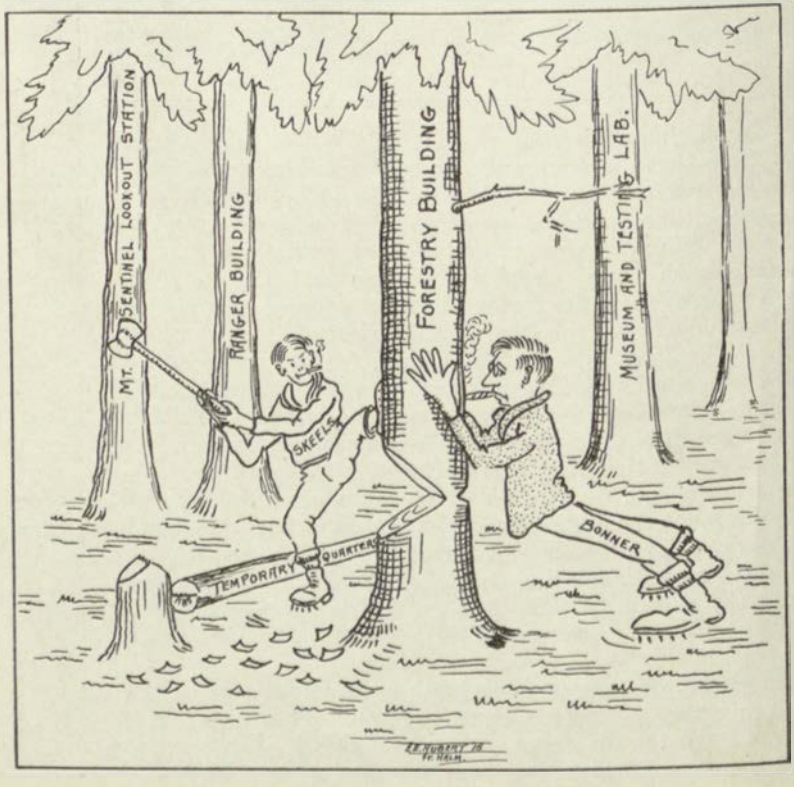
should be given a coat of shellac or waterproof varnish in order to protect it from moisture and wear. It is an excellent idea on the reverse side of the stick to mark off from the end at the left as placed against the tree, the distance AB or a.

The stick should be held against the tree at breast height, or 4½ feet from the ground. The line of sight must be level, that is the eye must also be 4½ feet from the ground. After placing the stick against the tree, move it to the right or left until the line of vision to the left hand side of the tree just cuts the extreme left hand end of the stick. The reading is then taken on the stick at the point where the line of sight to the right hand side of the tree cuts the stick.

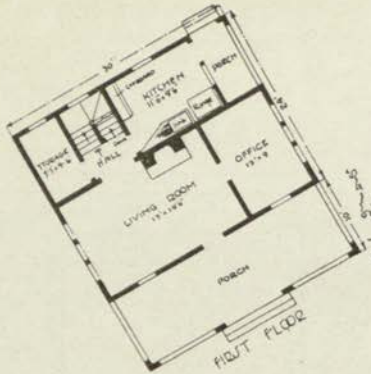
Be careful that the stick is horizontal and is held at a perfect right angle to the line from the eye to the nearest point of the tree, that is, that the stick is held exactly parallel with the diameter of the tree which you are measuring.

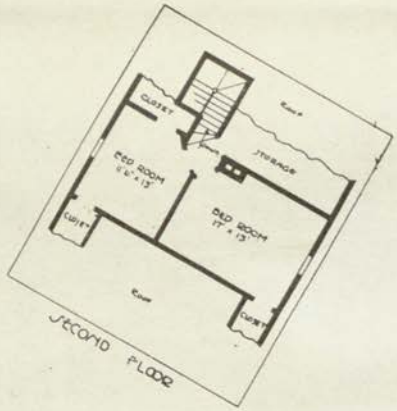
It is even more important for accurate measurement that the distance from the eye to the stick when held against the tree does not exceed or become less than the distance for which the stick is made, that is the length of your "reach." The beveled edge must be in contact with the tree in taking measurements.

With even a little practice measurements may be made quite accurately and much more rapidly than with any other instrument for taking diameters.



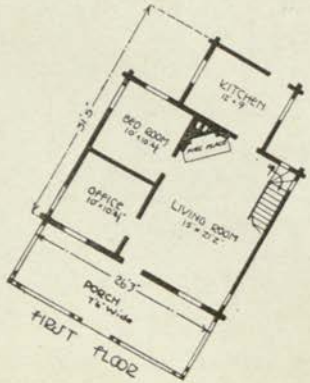
WOODMAN, GET THAT TREE.

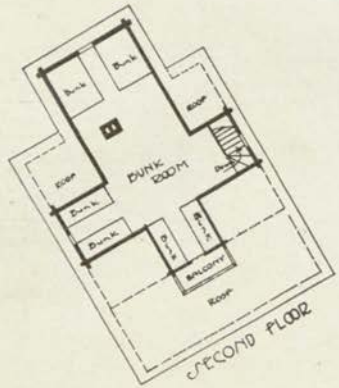




SPECIMEN PLANS
... OF ...
HOUSES FOR RANGER STATIONS

Drawn by James H. Bonner

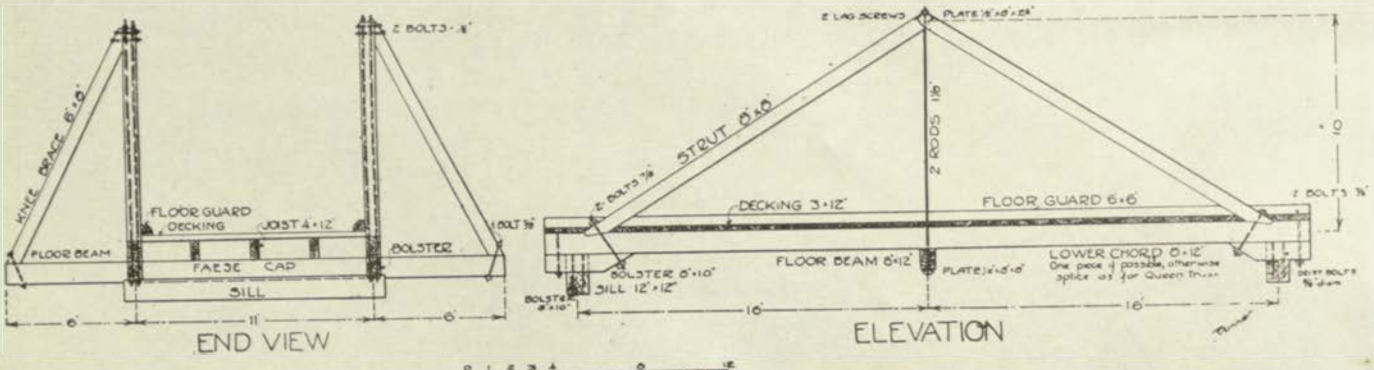




TRAIL BRIDGES

Specimen Plan
KING TRUSS BRIDGE
32 FOOT SPAN

BILL OF MATERIAL					
PART	NO. PIECES	SIZE	PART	NO. PIECES	SIZE
Bottom Chord	2	8"x12"x35'	Rods (not upset)	4	1⅛"x12'9"
Struts	4	8"x8"x18'6"	Bolts	8	⅞"x33"
Floor Beams	1	8"x12"x23'	(with Washers & Nuts)	8	¾"x30"
" Joists	6	4"x12"x18'		2	⅝"x24"
" Guard	4	6"x6"x17'		2	½"x18"
Decking	18	3"x12"x24'		2	½"x15"
Knee Braces	2	6"x8"x12'6"	Plates (drilled)	2	½"x8"x24"
Bolsters	2	8"x10"x17'		2	½"x8"x8"
Sills	1	12"x12"x24'	Drift Bolts, Lag Screws, Nails etc		



SCALE OF FEET

KING TRUSS BRIDGE

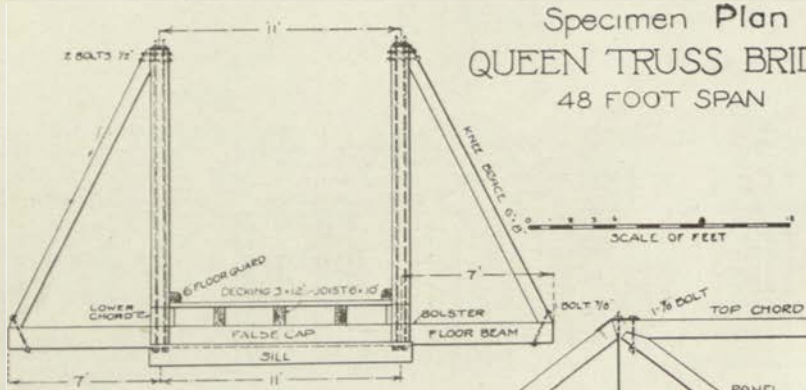
Dimensions of Principal Members of Spans 20 to 36 Feet

Span	Lower Chord		Strut.		Rod	Floor Joists		Floor	Beams	Knee	Brace
	Sawed, bxd. ins.	Round diam. ins.	Sawed bxd. ins.	Round diam. ins.	No. and diam.	Sawed, No. and bxd.	Round, No. and diam.	Sawed bxd. ins.	Round diam. ins.	Sawed bxd. ins.	Round dia. ins.
20	6x 8	8	6x6	7	1-1¼	3-4x 8	2- 8	6x 8	8	4x6	6
22	6x10	10	6x6	7	1-1¼	3-3x10	2-10	6x10	10	4x6	6
24	6x10	10	6x6	7	1-1⅜	3-3x10	2-10	6x10	10	4x6	6
26	7x10	10	7x7	8	1-1⅜	3-4x10	2-10	7x10	10	4x6	6
28	7x10	10	7x7	8	2-1⅛	3-4x10	2-10	7x10	10	4x6	6
30	7x12	11	7x7	8	2-1⅛	3-4x12	2-12	7x12	11	6x6	7
32	8x12	13	8x8	9	2-1⅛	3-4x12	2-12	8x12	13	6x6	7
34	8x12	13	8x8	9	2-1⅛	3-6x12	2-12	8x12	13	6x6	7
36	8x12	13	8x10	10	2-1¼	3-6x12	2-12	8x12	13	6x6	7

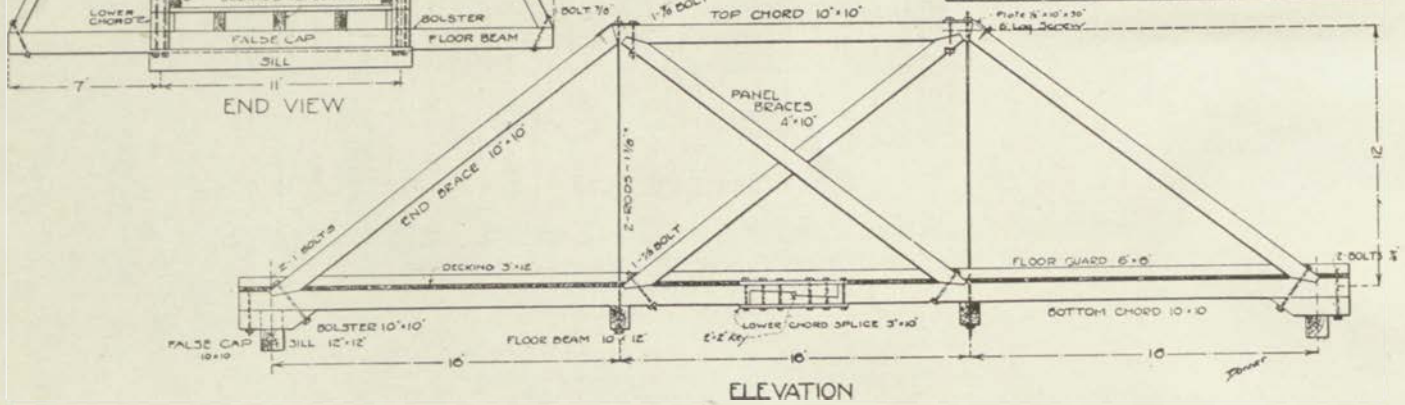
Width—Clear 10 ft. Lead 125 lbs. per sq. ft.
Over all 11 ft. Factor, safety—6.
Floor—3 in. decking or 4" poles.
Floor guard—6"x6". Bolts, nuts, washers, etc., as on specimen plan.

Specimen Plan
QUEEN TRUSS BRIDGE
48 FOOT SPAN

BILL OF MATERIAL					
PART	No. Pieces	SIZE	PART	No. Pieces	SIZE
Bottom Chord	4	10"×10"×25'	Rods (with nuts)	8	1⅜"×14'9"
End Braces	4	10"×10"×20'	Bolts	8	1"×2'8"
Top Chord	2	10"×10"×17'	(With washers & nuts)	8	⅞"×2'1"
Panel Brace	4	4"×10"×20'		4	⅝"×10'
Floor Beams	2	10"×12"×23'		4	⅝"×16'
Joists	9	6"×10"×18'		12	¾"×15'
Guard	6	6"×6"×17'		4	¾"×16'
Decking	26	3"×12"×24'		4	½"×15'
knee Braces	4	6"×6"×16'		4	½"×10'
Bolsters & Cap Pieces	2	10"×10"×16'	Plates	4	½"×10"×20"
Sills	1	12"×12"×24'		4	½"×10"×10"
Miscellaneous	2	3"×12"×10'	Drift bolts, lag screws, nails etc.		



END VIEW



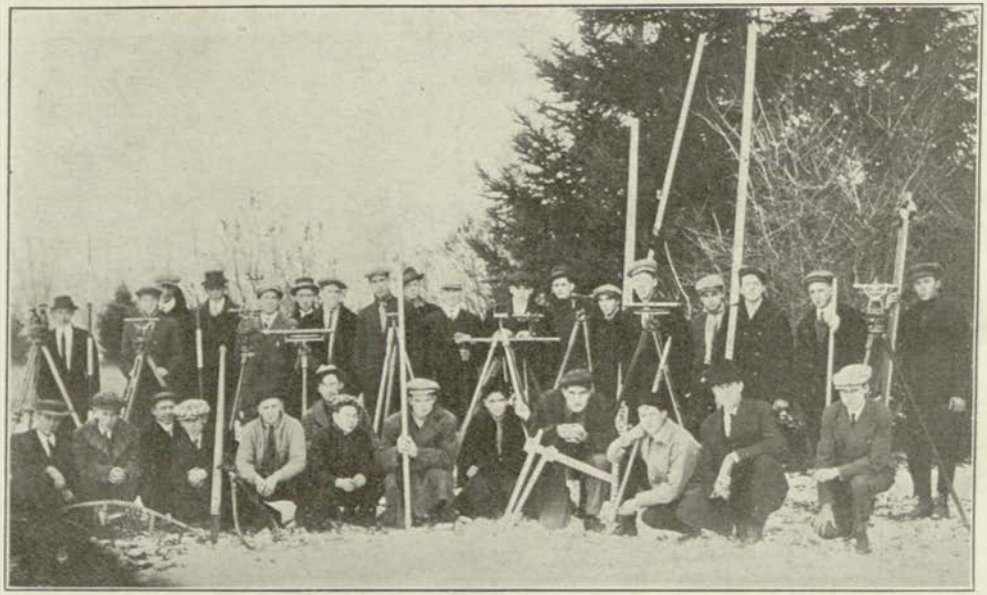
ELEVATION

QUEEN TRUSS BRIDGE

Dimensions of Principal Members for Spans 36 to 60 Feet

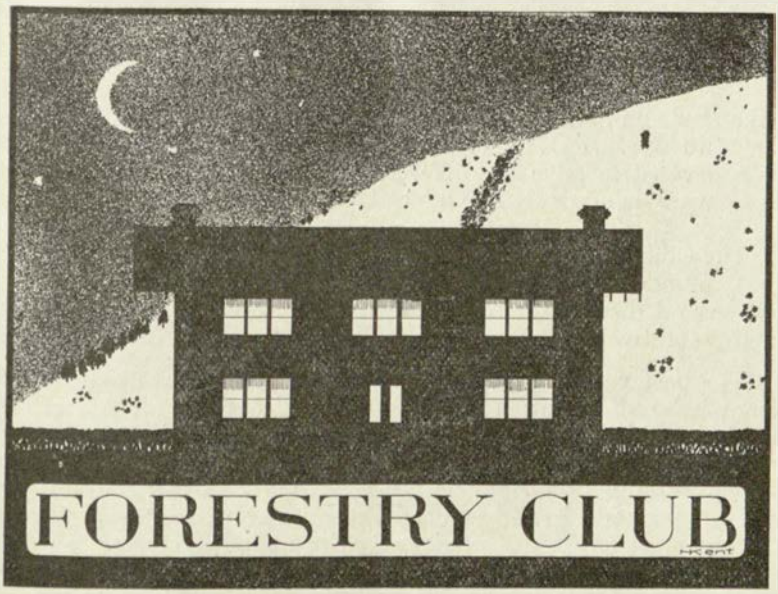
Span in feet	Depth of truss	Length of strut	End Brace		Top Chord		Bottom Chord		Floor Beams		Joists		Panel Brace		Knee brace	Rods, No. and size
			Sawed	Round	Sawed	Round	Sawed	Round	Sawed	Round	Sawed, No. Size	Round, No. Size	Sawed	Round		
	Ft.	Ft.	Bxd. ins.	Dia. ins.	Bxd. ins.	Dia. ins.	Bxd. ins.	Dia. ins.	Bxd. ins.	Dia. ins.	Bxd. ins.	Dia. ins.	Bxd. ins.	Dia. ins.	Bxd. ins.	Dia. ins.
36	10	15.62	8x8	9	8x8	9	8x10	10	8x10	10	3-4x10	2-10	4x6	7	4x6	2-1-⅛"
38	10	16.15	8x8	9	8x8	9	8x10	10	8x10	10	3-4x10	2-10	4x6	7	4x6	2-1-⅛"
40	10	16.67	8x8	9	8x8	9	8x10	10	8x10	11	3-4x10	2-10	4x6	7	4x6	2-1-¼"
42	10	17.20	8x10	10	8x8	10	8x10	10	10x10	11	3-4x10	2-10	4x8	8	4x6	2-1-¼"
44	10	17.75	8x10	10	8x8	10	8x10	11	10x10	12	3-4x10	2-11	4x8	8	4x6	2-1-¼"
46	10	18.30	10x10	11	10x10	10	10x10	12	10x10	12	3-6x10	2-11	4x10	9	4x6	2-1-⅜"
48	12	20.00	10x10	11	10x10	10	10x10	12	10x12	13	3-6x10	2-12	4x10	9	4x6	2-1-⅜"
50	12	20.51	10x10	11	10x10	11	10x12	13	10x12	14	3-6x10	2-13	4x10	9	6x6	2-1-⅜"
52	12	21.09	10x10	12	10x10	11	10x12	14	10x12	14	3-6x12	2-14	4x10	9	6x6	2-1-½"
54	12	21.63	10x10	12	10x10	11	10x12	14	10x12	14	3-6x12	2-14	4x10	9	6x6	2-1-½"
56	12	22.18	10x12	14	10x10	11	10x12	14	12x12	14	3-6x12	2-14	4x12	10	6x6	2-1-½"
58	12	22.76	10x12	14	10x10	11	12x12	14	12x12	14	3-8x12	2-14	4x12	10	6x6	2-1-½"
60	12	23.32	10x12	14	10x10	11	12x12	15	12x12	14	3-8x12	2-15	4x12	10	6x6	2-1-½"

Width—Clear, 10 ft.
Over all, 11 ft.
Load—125 lbs. per sq. ft.
Factor, safety—6.
Floor—3 in. docking or 4 in. poles.
Floor guard—6"x6".
Bolts, nuts, washers, etc., as on plan.



FORESTRY STUDENTS, NOVEMBER, 1914.

Schlegel, Borland, McCarthy, Ade, Bishoff, Thomas, Haines, Kent, Jones, Woods, Hodson, Sanderson, Wingett, Darrow, Vance, Wolfe, Peek, White, Whisler, Bonner, Drake, Toole, Drew, Lansing, Stewart, Clark, Layton, Skeels, Kirkwood, McCarthy.



Harry Ade ..... President
Harold Lansing ..... Vice President
Fred Haines ..... Secretary
Kenneth Wolfe ..... Treasurer

The Forestry Club, which was organized this year, is composed of the students and faculty of the Forest school. Meetings are held every two weeks on Monday evening, and a portion of each meeting is devoted to talks by different men engaged in Forestry work, and by various students having had previous experience in the same line.

The Club is affiliated with the American Association of Forestry Clubs, founded at Cornell. This Association meets once a year to propose and discuss plans for the following year. Each school has a representative at the meeting.

The past year has marked a new era in the growth and development of the University of Montana; new courses and departments have been added, and the university has expanded in every branch and increased wonderfully in efficiency. New students have been attracted not only from practically every county in the state but from nearly every state in the union. The number of students of college rank having enrolled in the university since the doors were opened last fall exceeds 525. The Schools of Law, Journalism and Forestry have already outgrown their quarters and provision will have to be made in the near future for housing the flourishing departments of Commerce and Accounting, Domestic Science and Music. The 1915 legislature generously appropriated $425,000 for the maintenance of the university for the coming two years which will permit greater expansion in all departments than the university has yet been able to enjoy. This growth is directly traceable to the efforts of our president, Doctor Craighead. "Prexie" himself being a tireless worker, manages to inspire all of those with whom he comes in contact; he has surrounded himself with an exceptional faculty which in combination with a student body filled with the spirit of the west has made us realize our dreams of a "Greater University of Montana."

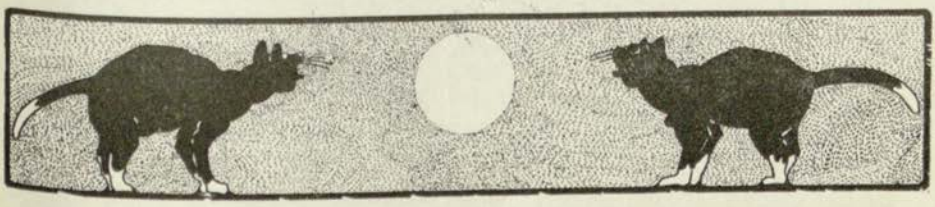
The School of Forestry was established at the university by an act of the Twelfth legislature, in order that men might be trained for Montana's third greatest industry—Forestry. The preliminary work was completed and the school formerly opened to students on September 8th, last. Dorr Skeels, formerly state forester of Michigan, and one of the foremost logging engineers of the country, was selected as dean; James H. Bonner, a civil engineer experienced in the engineering

branch of forestry, was placed in charge of Forest Engineering, and Willard Drake, supervisor of the Coconino National Forest, was elected Professor of Silviculture. The courses in Mathematics, English, Geology, Physics, Botany and Chemistry, necessary to Forestry, were already being offered in the university in well-equipped departments by experts in those subjects.

The first term's enrollment was twenty-five, and owing to there being no available quarters, instruction was given in odd corners, attics and basements of the university; this enrollment has since increased to seventy-three and a building has since been erected on the campus in which the foresters have a real home. It was also found necessary to make additions to the faculty. Professor Evans was engaged to assist Doctor Kirkwood in Botany and Silviculture; L. R. Darrow was placed in charge of Woodworking and Camp Carpentry in the shops; the work in Camp Blacksmithing was turned ove rto Instructor Ray.

The officials of District No. 1 of the United States Forest Service are co-operating, to a large extent, in the work of the school. Among those having lectured either to classes or before the Forestry Club during the past term are Assistant Forester Potter, Washington, D. C.; District Forester Silcox; Assistant Forester Mason; P. R. Hicks, Wood Products Engineer; Chief Geographer Bonner; C. F. Farmer, Civil Engineer, Office of Geography; Supervisor Koch, Lolo National Forest; Grazing Examiner Flemming; R. B. Adams, Superintendent of Telephone Construction, and Supervisor Parker of the Missoula National Forest, and D. B. Conner, in charge of Fire Organization.

The location of Montana's Forest School at Missoula has been described as "Unique"; established in the heart of one of the great timbered regions of the Northwest with forests adjoining the campus; with four large sawmills a short distance away, it is certainly the ideal location for the building up of a great forest school. We undergraduates little appreciate the advantages offered us with the greatest of laboratories for forestry work at our doorstep. The slogan of every instructor must be "make the work practical"; our instruction is given on the log deck as well as in the classroom and in the sawmills as well as in the laboratories; we are taught to use the canthook, as well as the transit and to use the log rule, as well as logarithms. In return we hope to fulfill the expectations of those to whom we owe this wonderful opportunity, and to do our small part in the development of Montana's third greatest industry.



As the Short Courser Sees It

We come to Missoula fresh off the range
To take the short course and strengthen our brains.
We will learn about Forestry and its many deals
And the credit will be given to Dean Dorr Skeels.
We will learn how to survey on our merits and honor,
And in the meanwhile test the patience of Farmer and Bonner.
We will sweat and study over the subject of grazing
And might think it harder than that of trail blazing.
We will go back to the field without raising a rumpus
And take up the work of the chain and the compass.
As for the short course we'll say it's not slack,
There is plenty to learn for an ex-lumberjack.
Now we are through at Missoula and we are going back
To take up the trail with the horses and pack.
And as we ride over the ridges and up creeks
We will always remember these brief fourteen weeks.

SURVEYING.

It will be evident, particularly to the Forest Ranger, that what a Ranger School should be depends upon what a Forest Ranger should be and that to properly carry on the work of a Ranger School, it is necessary that the faculty of the school should know first of all what a Forest Ranger should be, what his duties are, and what training he needs to enable him to most efficiently perform his work.

The Forest Ranger can be spared from his work only a little time for further education and it is necessary that a school for Rangers should divest itself of superfluities and concentrate training in the principles and practices of Forest Ranger work.

The curriculum of the school has been arranged only after extensive consultation with Forester Graves and other officials of the Forester's office, several of the District Foresters, and, particularly, with the District Officers and leading Supervisors and Forest Rangers of District One. Criticisms of a preliminary plan for the school were freely sought and changes and modifications were made to meet the ideas of progressive Forest Service officials.

Every subject in the schedule of courses has been carefully chosen for its importance to the National Forest Ranger and every endeavor is made to make the work as practical as possible and to apply every case of theory and principle to the actual practice of the Ranger.

The faculty of the Ranger School is made up of three Forest Supervisors (or former Supervisors who are of the regular faculty of the Forest School); a Civil Engineer of high technical training, more than ordinary practical ability and an intimate acquaintance with Forest Service work; a Botanist and Silviculturist of thorough training and extensive experience with western forest problems, and a foremost specialist in range stock management and grazing investigations and administrations. In addition to these, the regular faculty of the University are freely called upon for training in the studies of their department.

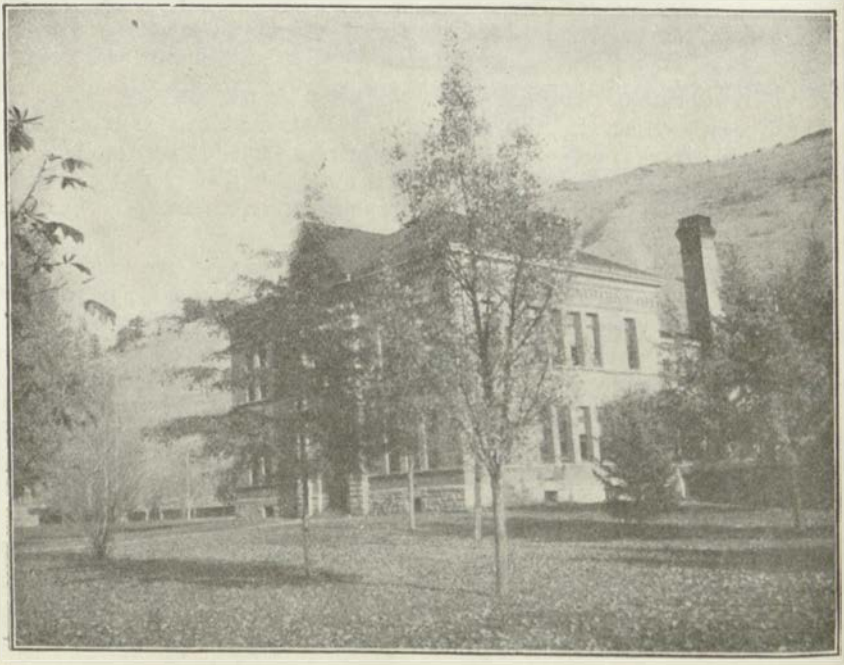
In addition to the regular faculty of the Ranger School and of the other departments of the University, the courses of instruction are strongly supplemented by lectures given on the practical phases of the work and the direction of training which should be pursued

by prominent lumbermen, timber owners, the District Foresters and Assistant District Foresters, and the engineers, specialists and several of the Forester Supervisors of the United States Forest Service and by State officials.

It is the definite aim of the School for Forest Rangers to keep closely in touch with the administrative offices of the National Forests and in the training of its graduates to respond as closely and fully as possible to the requirements for properly trained Rangers in the Forest Service.

The first session of the Ranger School in the University was held in the late winter and early spring of 1910. So thoroughly convinced was the Forest Service at that time of the advantages offered by this school that it undertook to defray the expenses and pay for the time of the Rangers who were assigned to the school. It is a tribute to the ambitions of the men of that first class and to the interest which they took in their work that when it was found that this system could be maintained by the Government, more than half of the class elected to continue on at the school defraying their own expenses and losing their salaries during that time.

Since that time, many men have attended the various sessions of the Ranger School and all of them are ready to testify to the excellence of the training which they received and to the material help which it has been to them in their work. As a direct result of their training for better work a large majority of the graduates from the Ranger School have advanced into positions of higher rank and increased responsibilities, and several have been encouraged to enter into business for themselves as logging contractors and lumbermen.



How the Short Course Benefits the Forest Service Employee

On one of the important National Forests in District No. 1 a condition exists which can well be cited to emphasize the benefits derived by the Rangers—the Short Course in Forestry. On this particular Forest there is but one District Ranger who possesses the knowledge of computing the area of a survey by double meridian distance. The other Rangers depend on him to do their computing for them. No doubt there are other Forests in the District where this condition exists. Exact computation of surveys, especially June 11th claims, is imperative before they will be accepted in the District Office. The most accurate method of arriving at the area of a survey is by the method mentioned above. It is introduced in the Mathematics Department under the instruction of Prof. Lennes at the beginning of the course, and carried out by Prof. Bonner in the Surveying Department. In platting, the different methods of the protractor and scale, tangent, and latitudes and departures are given in a thoroughly efficient manner.

Well prepared maps are always welcome in the Forest Service, and the ranger is being constantly called upon for maps to supplement reports, etc. A higher standard is being set on this work, and in the future those who have had no training in this line cannot expect to handle the work. In the Drafting Department of the new Forestry Building at the University, a novice can learn the art—for it is truly an art—of lettering, plainly to begin with; later, after improvement is shown along this line, he is given other work. This consists of the proper use of those drafting instruments commonly used by the Rangers in their regular work. A plate containing a June 11th claim is next in order, followed by plates containing signs, symbols and colors adopted as standard by the Forest Service. Suitable proficiency being made by the student in these lines, he may then take up more advanced work, consisting of topographic mapping, water-lining, etc. Professor Bonner is ably assisted in this work by Chas. F. Farmer, civil engineer of the District Office located in Missoula.

The Abney hand level method of taking topography, which has made such rapid strides for accuracy and inexpensiveness, compared with other methods commonly used, is introduced in this course to those fitting themselves for work of this character. As far as known this is the only school where this improved method is given.

The care and use of the transit, plane table, level and Forest Service Standard compass are taken up and carried as far as the ability of the Ranger permits. Actual surveys are made and platted, thus familiarizing the student with each step necessary to the production of a legible map of survey. Especial instructions are received for keeping a correct set of notes of a survey. Those who have passed through the experience of attempting to plot a survey from an incor-

rect set of field notes appreciate these instructions to the fullest extent.

Polaris will probably be riddled with holes later on during the course, when weather conditions become more favorable. Professor Bonner has announced that this particular planet will be "shot at" repeatedly—until the Short Course men are familiarized with the method of obtaining declination. It is highly probable that certain other planets of the solar system will suffer to some extent, as a result of inaccuracy of aim. The fact remains that it is important that the Ranger be able to obtain true North by such observations, and in this way always be in a position to carry on a survey, regardless of location. Variation is not always obtainable from any other source.

After one has served as a District Ranger he is brought to a full realization of the benefits derived from the Short Course in Forestry as it is handled under the present efficient management. It being thoroughly practical, he feels that he has happened upon the missing link in assisting him to carry on the surveying connected with the work in his district. More responsibility in this line will be expected of him in the future, and he will be in a better position to redeem that responsibility.—*A Ranger.*

"LET 'ER BUCK"

Grazing

When the National Forests were first created, areas of land chiefly valuable for grazing were included within the boundaries of some of them. A revision of boundaries, has, in some cases, eliminated large areas from under the jurisdiction of the Forest Service. In others, on account of their location, elimination was impossible. The proper administration of these areas rests with the Forest Service. From the standpoint of revenue the grazing resources of the National Forests follow closely on the heels of the timber resources. From the standpoint of use the grazing lands of the National Forests present a big, broad problem.

Ten years ago the stockmen were not so dependent upon these areas for grazing purposes. With the advent of the dry-land farmer, together with the settlement of reclaimed areas of semi-arid lands in the western states by irrigation, the demand became keener each year. The settlement of the public domain has, in other words, forced the stockman into a dependence on National Forest range which must be recognized and handled in such a manner as to bring about the greatest good to the greatest number. This phase of Forestry, as well as others, must be managed in such a manner as to insure continuity of use. A complete utilization is often necessary, and this must be secured without injury to the range from over-grazing, trampling, etc.

Before a complete utilization can be had of grazing areas, it is first necessary to take an inventory in the nature of a grazing reconnaissance. This work is ordinarily considered a task for a specialist. They are few in number, and the urgent demand for range makes it imperative that the Ranger handle the work. Upon the Ranger, then, devolves the responsibility of securing the data for his individual district; and in this way, perform a greater and much-needed public service. Before he can accomplish this task, he must possess a certain knowledge of plant structure, development and identification.

In the grazing course offered at the University under the instruction of Professor Evans, the Ranger is taught the parts and characteristics of the plants found on the mountain ranges of the western states. Particular reference is made to grasses and the identification of poisonous plants, as well as the species most valuable from a forage standpoint. This trains the Ranger to a degree where he can carry on, or assist in carrying on, much-needed range reconnaissance in his district; thus enabling him to build up an efficient working plan for handling the grazing on his district, and to arrive at the carrying capacity in a systematic manner.

Aside from a knowledge of plant life, it is essential that the Ranger know something of the stock industry, the different classes of stock, and their adaptation to certain areas. The subjects of Breeds and Breeding, Range Management, Methods of Conducting Range Reconnaissance, Poisonous Plants and Density of Range Types

are presented in a comprehensive manner by Grazing Examiner C. E. Fleming of the Forest Service. Mendel's Theory of Breeding Livestock is discussed, and the Ranger brought to a better understanding of the improvement brought about by its application. The different breeds of sheep, cattle and horses are taken up in the order named. A history of the different breeds of cattle and sheep, origin, formation and improvement, distribution, size, maturing qualities, grazing and feeding qualities, quality of meat, values in crossing, breeding qualities, wool and meat production, adaptability and general appearance, comparing one breed with another, is discussed in a thorough manner, thus enabling the student to recognize and talk intelligently of the different breeds to permittees of the National Forest ranges, and enable him to make allotments to bring about the best results.

A knowledge of diseases of livestock, common, infectious and contagious, is also desirable in order that the Ranger may be in a position to report intelligently on such disease; and, also, to be able to enforce, upon violation by permittees, regulations requiring clean bills of health for all stock entering the Forest. Lectures in Veterinary Science are given by the State Veterinarian, J. W. Butler, D. V. S. This broadens the Ranger's mind in an essential way.

Taken as a whole, the benefits derived by the Ranger from the Short Course in Forestry are many and manifest—invaluable from an efficient standpoint.—*By a Forest Ranger.*

Why the University Ranger School Benefits Government Employes

During the early days of the Forest Service the duties of a Forest Ranger were very simple in character. During the year he rambled more or less aimlessly over his district looking for fires, cutting trails, issuing Free-Use permits, and occasionally counting a bunch of stock that were permitted on the Forest. The qualifications necessary for this work were three: ability to ride and pack a horse, swing an axe, and read and write. Any work requiring ability higher than this was handled by special men detailed to the Forest. No special responsibility was placed on the Ranger, and he had practically no authority. The salary, also, was low, and offered no attraction to high-class men. Some few, it is true, entered the Service at this time who were of a high class. Some of these entered because they believed that there was a future in the work, some for more or less altruistic reasons. Most of these men rose rapidly to higher positions and several are at present numbered among our Supervisors and Assistant District Foresters.

During recent years there has been a decided change in the handling of the Forests. The people of the nation have awakened to the fact that the National Forests have a great economic value. This has resulted in a change from the old haphazard system of management to a definite, clear-cut plan that treats the Forests as a National resource and seeks to secure as full and complete utilization of their products as their future welfare will allow.

This means that an inventory of the Forest resources must be taken, that working plans be made that will allow their full utilization without reducing their value. In individual cases plans of management have been made that will secure the proper utilization of the Forest products. It is manifestly impossible to secure all of this information by means of specialists on account of the vast areas involved and also on account of the local questions that enter into these plans. Since the ranger is definitely located upon a relatively small area it has devolved upon him to furnish this information for his district. It is very evident, then, that the old qualifications will no longer suffice in carrying on the work of a ranger district. The district ranger must now be something of an expert along several different lines. On the Forests east of the Continental Divide he must be a practical stockman, a practical lumberman, something of an engineer, have a good knowledge of soil values. He must be able to organize and handle crews of men, and last but not least, be able to enforce the National Forest regulations with the users of his district without causing ill feeling.

Besides all this he must be able to go deeper than the actual use of the Forest and determine what effect that use is going to have on

the future productivity of the Forest. If it is a grazing use he must determine whether the area is completely utilized or whether it is over utilized. These same things must be determined for all classes of uses. This shows us that the ranger of today, instead of possessing very simple qualifications, must measure up to a mixed standard that very few men possess without special training. The tendency is to place more and more responsibility upon the ranger. This means that the standard of efficiency that the ranger must meet will be constantly on the increase. As a matter of fact, the average district ranger has at present more responsibility than a supervisor had seven or eight years ago.

The work of a ranger is divided into four general divisions: Administration, Protection, Utilization, and Improvement. His efficiency, unless he is an exceptional man, may be increased in any of these subjects by the short Forestry course at the University of Montana.

Two things are necessary for the successful administration of a ranger district: a knowledge of the basic principles underlying Forest policies, and a knowledge of the proper methods to employ in building up efficient working plans.

An understanding of Forest policies may be secured by close study and reasoning, but this understanding may be increased and completed by explanations and discussions by men who are in close touch with and who have helped to create the present Forest policies. Every National Forest regulation is based on some broad principle of conservation. A good clear-cut explanation of just what that principle is will enable a ranger to apply the regulation with more justice and with less chance for conflict, because he can back up the ruling with a good explanation of just why it was made. This is something that we have all been more or less in doubt about at times. A knowledge of these principles will also aid him in determining just what should be done in his district in order to further these policies. A man should always know why a thing is done rather than doing it just because some one told him to do it.

In the making of working plans there are certain well defined methods of securing the desired results. These are all outlined in the National Forest Manual but, like all subjects covered by textbooks, they are better understood by elaboration and explanation by men who have actually worked them out in practice. This holds good in any line of work, a man who has only the theory of an administrative problem must put in some time in the study of its actual working out in the field before undertaking to solve it. I have in mind one case where a man, a graduate of Yale who led his class in Forest Management and Lumbering, when required to supervise the piling of some brush, could not tell the crew how or where to pile it. Theory and practice must be properly blended in order to produce valuable results.

Protection is the main thing at present on most of our Forests. All other branches of Forest work are dependent on this and it is becoming a more intensive study each year. The old order has changed and every effort is being made to produce a perfect fire

organization. Each ranger is made responsible for the success or failure of the fire plan on his district. Most of us are also responsible for the making of the original fire plan. Most of us have worked out our fire plans but not all of us have been able to criticize them because we had nothing available for comparison. Constructive criticism is the one best method for securing efficiency. In the Short Course we have available the fire plans of various Forests and an explanation of the reasons for adopting that particular plan. This gives us the required basis for comparison. We should, as a result of this course, develop a keener appreciation of the necessity for thorough protection and a better understanding of the intensive methods which it is possible to employ. The "Koch Profile" method of mapping Lookout scene areas is one example of the intensive methods which it is possible to employ in this work.

Utilization has to deal with all the varied resources of the Forest. These may range from a permit for the cutting of a couple of loads of hay to the sale of millions of feet of timber. The latter item is, of course, not within the province of a ranger. The three big resources are lumbering, grazing and water supply. All of these operations call for definite plans of management. The object of a plan of management is to obtain some definite result by the most efficient method.

In the handling of a ranger district, the ranger is called upon to plan the management of his small timber sales, his grazing areas, and any other resource that may lie within his district. On a grazing district, for example, it is necessary to determine: the carrying capacity of the various units, the proper distribution of the stock upon these areas so that the range may not be damaged, the proper season for grazing various types of range, and also how to utilize range that is not now used.

This involves a good many factors, some of them of a more or less technical nature. A thorough range reconnaissance is necessary. This demands a fairly accurate topographic map of the area. If not covered by the United States Geological Survey this map must be made in the field by the reconnaissance crew; it requires an accurate map showing the ground covered by types, this makes a knowledge of plant identification necessary; it requires a plan for the utilization of the various types when their forage value is the highest. Range management, therefore, requires more varied knowledge than the average ranger possesses without special training. If a man takes an active interest in his work and has any desire to be efficient, it is necessary for him to get a working knowledge of these subjects. The University of Montana now offers this opportunity and I feel that a ranger will be a great gainer by taking advantage of it. A man's efficiency is rated upon his ability to produce results. A ranger that is capable of working out all the details in his management plans is certainly more efficient than one who can only half complete it.

Forest Improvement is a work that is intimately connected with all other branches. It involves the construction of roads, trails, bridges, cabins, telephone lines, and many other things. All of these

require engineering ability of some degree. Some require it to a high degree. This is something that it is not possible to acquire without actual practice in the use of instruments, and instruction in the various methods of working out construction problems. A ranger should be able to do all of the field work on the average road or trail survey and work up a complete plan of the project. This is especially true since all trail and road work must reach a certain standard. This makes Mr. Ranger scratch his head and dive into the mysteries of vertical angles, Queen Truss bridges, etc.

It is very evident that the position of ranger has developed from a simple job into one of the broadest professions in the land. Most of us come from a class that have not had the advantages of a college training; we are, however, coming into active competition with college trained men. The result is, that we either have to take a back seat or else develop ourselves into higher class men in the matter of knowledge and ability. We have some advantage due to an intimate knowledge of field conditions, and it is up to us to strengthen this by securing all of the scientific points that we can possibly get. This is made possible for us by the University Short Course and if we desire to make good in our profession we should give it consideration. A further consideration is the satisfaction that a man derives from the ability to complete a difficult task without assistance from others. To my mind this is one of the keenest pleasures of life.

—By a Forest Ranger

Where the West Begins

Out where the sun is a little brighter,
Where the snows that fall are a little whiter,
Where the bonds of home are a wee bit tighter—
That's where the West begins.

Out where the skies are a trifle bluer,
Out where friendship's a little truer—
That's where the West begins.

Out where the handclasp's a little stronger,
Out where the smile dwells a little longer—
That's where the West begins.

Out where the world is in the making,
Where fewer hearts with despair are aching,
That's where the West begins.

Where there's laughter in every streamlet flowing,
Where there's more of reaping and less of sowing,
That's where the West begins.

Where there's more of singing and less of sighing,
Where there's more of giving and less of buying,
And a man makes friends without half trying—
That's where the West begins.

Forestry Athletics

The Foresters will have a strong basketball team in the field this winter; so far we have not done much, but it is practically decided that "Shorty" Schlegel, assisted by four other Foresters, will make up the team.

Vance, Wingett, Borland and Schlegel are fast rounding into form for two-milers in track. Already an increase of two inches in their lung expansion has been noticed—singing is great for the lungs.

A new form of class athletics has been adopted by the Foresters; it is in the form of a game and the winner is determined as the man who can blow the most perfect rings without coughing.

Jones and Kent will not be with us in track this spring, because Prof. Bonner gave them too much side-hill work Christmas vacation. Jones stands on his right foot altogether so as to let his left one stretch out to its old size, but Kent seems to be doing nothing for his.

Professor Bonner has made Stuart Flemming take some of "Musty's" gymnasium work. "Jim" insists on Stuart taking surveying next year and at the same time absolutely refuses to let Stuart carry a soapbox with him, or saw the legs of a transit tripod off.

Have you seen the Short Course men "Tango" on snowshoes yet?

Auto racing seems to be Dean Skeel's chief form of athletics—every morning he thaws out the radiator of his car and after he does get it running he still insists that the batteries won't bat, the carburator won't carb, and she hits on all four lamps and the dash. No doubt he is already a trained mechanic.

Montana State University has been active in athletics since the first days its doors were opened to students. The history of Montana's pioneer days in athletics has almost been forgotten, but records show that there was always something going on.

The biggest athletic activity and the one Montana can best boast of is football. There has been put into the field every fall some sort of a football team to represent the Copper, Silver and Gold. Everyone was not a championship team, but each team gave all it had. Montana's record for the number of state football championships is larger than either of the other state institutions. The Miners in the last few years have taken quite a backslide and hardly give Montana's teams a good scrimmage game when the two teams meet. The Montana State College of Agriculture and Fine Arts is the Varsity's keenest football rival. It has been many seasons since that institution has hung anything on Montana's eleven. Last fall was Montana's banner year. She won every game she played, and she played the best teams in the Northwest. Washington State, Idaho, Utah State, North Dakota, Gonzaga and Montana State all felt the sting of defeat at the hands of the Varsity.

Basketball is at present a thriving young activity within Montana's doors. The first teams to represent the state institution on a basketball floor, were girls' teams. Each and everyone of these teams did themselves credit, and it wasn't until the state board interfered that girls gave up the game. It has only been within the last decade that any men's teams were organized. Montana meets the same colleges in basketball that she does in football, but as records show up to date, with hardly as good luck. It isn't because her basketball teams do not fight, because they do. It is only due to the fact that her men have been light. The quintet now on the floor look to be the best ever and Montana expects big things from them this winter.

Another of Montana's older activities is track. In this branch Montana has made a good showing. She has met some of the best teams in the Northwest and has made them sit up and take notice. Montana has never been able to boast of a world-beater, but she has never been made to feel that she wasn't making a show. There have been numerous championship track squads, and it is only a course of time until Montana grabs the 1915 state championship. With nearly all of last year's men in school, and with the material in the ranks of the new students, Montana's 1915 team ought to go as her last football team did.

It looks to those who have been watching Montana athletics of the past, as compared to those of the last two or three years, that Montana has started on a new athletic career, which is going to surpass everything. This can be accomplished and will be accomplished, if every student gives a hand.

FOOTBALL

1914

Owsley
Burris
Vance
Robertson
Sanderson
Claypool
Clark
Scherck
Sheridan
Bentz
Gurrin
Simpkins
Kunan
Deams
Streit
Gault

ALUMNI

The men who have received their training at the University of Montana are in demand with the officials of the Forest Service, because they always make good. A review of those holding positions of responsibility in District No. 1 shows the University to have men in every branch of the work from engineering to law; some have wandered to other districts and others are in official positions in the Washington office.

Among those prominent in the great work being done by the Forest Service, might be mentioned the following:

FRANK BONNER, ex-'09
City

Perhaps no organization of the nature of the Department of Geography in the Forest Service is so efficient and better equipped than in District No. 1. Its present standard is due entirely to the brain and energy of Mr. Frank Bonner, chief of geography. A year before finishing his engineering course at the University of Montana, Mr. Bonner was offered a position as draftsman in the Forest Service which he accepted. The office of geography then consisted of a few drafting tables and letter files. It now has the largest floor space in the Federal building of any department in the District office. Under Mr. Bonner's direct supervision is the entry surveymen, all road construction work in the District, drafting, filing of all land status and many other features pertaining to the office of geography. Mr. Bonner has made an enviable record and in rapid promotion has not been equaled by many.

B. F. KITT, '09, B. S. IN E.
Denver, Colorado.

Mr. Kitt has been with the Forest Service only since May, 1914. After graduating he went to Arizona where he held a responsible position with the Calumet & Arizona Mining Co., at Bisbee, Arizona, for two years. He then took the position as superintendent of the Plains Light & Water Company which he held for a year, after which he was given the position of assistant city engineer for Missoula. Mr. Kitt left Missoula in May to begin on the work for the Forest Service in Denver, Colo., District No. 2, as civil engineer and draftsman where he is at the present time.

DONALD B. McGREGOR, 09, B. S.

Mr. McGregor began work in the Forest Service of this District as assistant ranger on the Lolo Forest with headquarters at Frenchtown, immediately after graduation. He has proven to be an indispensable man with Supervisor Koch on the Lolo and is now District Ranger. Mr. McGregor has been with the Service since 1909.

ELMER R. JOHNSON, '06, B. S.
City

As surveyor, Mr. Johnson has been in the Forest Service since the spring of 1914. On June 11, claims Mr. Johnson has made a good record as surveyor. Before entering the Service he had been with railroad surveying crews nearly all the time since graduation.

ORAL J. BERRY, '08, B. S.

Mr. Berry was Ranger on the Missoula Forest for a number of years when he resigned to accept a position as superintendent of the Saphire Mine, Saphire, Montana. While in the Service, Mr. Berry was an efficient Ranger.

JAMES B. YULE, ex-'12

Mr. Yule received all his college training at the University of Montana, and in July, 1911, left there to take a position with the Forest Service on June 11, surveys, where he stayed until May, 1912, when he was appointed Assistant Ranger. He then took up regular Ranger work until the spring of 1913, when he was assigned to a reconnaissance crew as topographer. In 1914 he was made chief topographer on the Deer Lodge reconnaissance crew, where he made a record in mapping and handling his topographic crews. As do all field men in winter, Mr. Yule is now compiling field work in the District Office.

E. E. HUBERT, '12, B. S. IN F.
City

Since graduation Mr. Hubert has been directly or indirectly connected with the Forest Service in the study of Forest Disease investigation, with Dr. Weir in charge of the office of Forest Pathology bureau of Plant Industry, located in Missoula. Mr. Hubert has been an able assistant in both laboratory and field work. He graduated from the University in the Forestry Department, specializing in tree diseases. In 1914 Mr. Hubert was with the Deer Lodge reconnaissance crew as topographer, which position he filled ably. Recently he received permanent appointment as Field Assistant to the local laboratory under Dr. Weir. This phase of Forestry work is a broad one and Mr. Hubert has a good opportunity before him.

JOE STREIT, '07, B. S.
City

Mr. Streit went directly into the Forest Service after graduating from the University of Montana. He began on Settlements in the Department of Lands where he has been ever since. Mr. Streit has charge of all the listing of June 11th Forest homestead applications, a most difficult position to fill, and is a credit to the Forest Service in his diplomatic method of handling homesteads and homesteaders.

CHAS. F. FARMER, '09, B. S. IN E.
City

The office of Geography is especially fortunate in having a man like Mr. Farmer. In the drafting and printing department, of which Mr. Farmer is indirectly in charge, a voluminous amount of work is turned out. Many of his new ideas have been tried out and found to be most helpful in increasing the efficiency of the office work.

Mr. Farmer began work in the Forest Service, June 3, 1910, as Topographic Draftsman and has now risen to the rank of Civil Engineer. He does field inspection work of the topographic crews during the summer.

D. M. CONNER, '12

Since graduating from the engineering department of the University, Dan Conner has lost little time in climbing the ladder of fame; starting as temporary draftsman during the summer of 1912, he has successively filled the positions of Forest Guard, Assistant Ranger, Ranger and Forest Examiner; recently he was promoted to the position of Forest Examiner in charge of Fire Organization in the Office of Operation. This is an office recently created and has for its purpose the systematizing and standardizing of fire-fighting equipment and supplies.

JOHN D. JONES, '06

After graduating from the University in the spring of '06, Jones desired to secure a degree in law; there being no school of law in Montana at that time, he went to the University of Michigan, securing his sheepskin in 1910. He immediately returned to his home in Missoula and was offered a position in the Forest Service in the office of law. By reason of steady application and natural ability, his worth became invaluable to the service and in 1914 he was called to the Washington Office. He is now Examiner in the Office of Lands and handles questions of settlement of agricultural lands within the Forests.

THOMAS C. SPAULDING, '06

"Claude" Spaulding entered the Forest Service immediately after graduation as Forest Guard on the Lolo National Forest. He was the first graduate of the University to enter that branch of

government work and his rise has been most rapid. He was promoted to Ranger in 1907, to Deputy Supervisor in 1910 and to Supervisor of the St. Joe National Forest in 1911; he was transferred to Montana in 1912, when he took a position as Supervisor of the Lewis and Clarke National Forest. Spaulding has been detailed as special lecturer in Forestry work on two different occasions at the University of Montana. During his connection with the department he has been in charge of considerable responsible work and is considered an authority on Forest Management.

FRED THIEME, '12

Fred Theime graduated from the engineering department of the University in the spring of 1912 and immediately secured a position with the office of Geography. He has been detailed as field assistant during the summer months and last year was engaged in making final surveys for homestead patents. Thieme is one of the youngest University graduates in the Service and has already made an enviable record.

The Ranger

In the morning I get up at eight,
I light the fire and then I wait
Until the clock has time to go
Around the dial a time or two.

Then when the fire is going good,
I go and chop a little wood.
Not much, you know, it wouldn't pay
To chop it all up in a day.

Then I put the coffee on to boil,
And other stuff so it won't spoil;
I mix the dough gobs in a pan
Presented to me by "The Old Man."

Then when I've had my fill of food,
(I call it that, it's pretty good),
I wash what dishes there may be,
A pan, a pot, and a cup, by gee.

Then I saddle up old Kit,
Go out and look around a bit,
Up to the lookout, an awful climb,
Come back down, and it's supper time.

After supper I go to bed,
Had a hard day's work and I'm nearly dead,
And I dream of a song which now is rifle,
I think it's entitled, "This is the life."

Organizations

DELTA GAMMA

At the beginning of the school year, many girls wanted a refund in their board bills. When asked why, they said that the Delta Gamma's were feeding them. "Bill," the Dorm cook, wanted to quit, so they were forbidden to eat with the D. G.'s more than six times a week. However, on November 17, they were all treated to a very filling meal.

Troughs were laid for forty and several hashers were imported from Bonner to do the honors. The first course was canned corn and the next fried "weinies." After this repast, the guests helped with the dishes and cleaned up the house. About eight o'clock everyone wanted to go home, so the entertainment committee brought forth the games: "Old Maid," "Tiddledewinks" and "Who has the dressfastener?" Cots were supplied for those wishing to sleep until a polite time to leave. At 9:30 drays were at the door and the "dear things" were transported home in style.

KAPPA KAPPA GAMMA

Some time last spring the Kappa's gave a formal dance at the pavilion. Sweeny and his police force were stationed at the door and those holding regular 10c tickets were not admitted. At the request of the hosts no one came in taxies and for that reason all were fresh and full of pep.

As the guests filed in they were presented with a plumber's candle and a number. At the signal, someone yelled "Light up and stand on your number." The result was a confused congestion, and to save the party, the orchestra opened up. Wrapping paper was quickly distributed and the programs filled out. The floor was carefully rosined and all was ready for the Virginia reel.

The exercise continued until two o'clock when the hackdrivers refused to remain longer. A stampede ensued in which some dear

thing lost the buckle off her pump. Some weakminded sister sent out an S. O. S. and the ambulance came after all had left.

On the whole, it was the best party since the "United Order of Swedish River Drivers" held their first annual ball in the Elks' Hall.

SIGMA CHI

During the fall season of entertainments, the Sigma Chi's decided to give a dance. Missoula's favorite dancing floor, the Elite Hall, was selected. The hall was decorated to the odor of pine boughs (mostly). The walls were hung with signs of all sorts to give it a home-like look. At one end, all the borrowed furniture was placed in a room-like arrangement with fitting stage scenery borrowed from Shakespeare's Romeo and Juliet.

Dress suits were borrowed indiscriminately and all the invited guests were present. The grand march resembled a Jewish wedding march and small dance cards were distributed during its course. The one-piece orchestra hit up "Home, Sweet Home" and the dance was on. During the short intermission, while the dancers got their wind, the Elks' Agonizers sang several little ditties. The punch lasted a short time and at eleven o'clock everyone was dry. Electrical effects were cut loose and the maddening thirst was forgotten.

At one o'clock everyone had enough and a motion for adjournment was in order. The motion carried 210 to 200 and proceedings stopped. Those not accustomed to the midnight air were carted home in taxies; the rest wended their painful way on Shank's horses.

SIGMA NU

The letters Sigma Nu, when translated from the Bulgarian, means "Such Numbskulls." This is absolutely secret and the meaning is known only to one man in the Fraternity, the Hi-Beenix-Ka-Needle-Woppe. This bunch live in a big white house, and though very primitive and ignorant, are sometimes almost human.

The Sigma Nus gave a "barbecue" up the Bitter Root not long ago. About seventy people were present; all the cars that could be begged, borrowed or stolen were taken in order to convey the motley crowd they were rushing to the famous farming community. A log fire had been built along the driveway of the ranch, and for several hours everyone went around trying to get acquainted and attempted to make himself think he was enjoying it. After a while they had a feed. A winter of '76, sheep, cake, etc. As the evening became more monotonous some of the Fraternity talent tried to queer itself by giving selections of a weird nature. One recited a poem which begins: "A bunch of the boys were whooping it up in an Oberlin saloon," and a quartette tried to sing "My Darling Nellie Grey," but the lead was flat and it ended with a wail that several barnyard cats took up, and with more success than the quartette. About eleven o'clock everyone rushed for a back seat in some borrowed machine, and attempted to enjoy the ride back to Missoula. Some reported a fine return ride, while others went home in disgust as some of the brethren would persist in coming up close behind and throwing the headlight on the brethren and cistern in the back seats.

IOTA NU

Iota Nu is in reality pronounced "I Oughta Know." This name, however, is never spoken except when the members convene in their dank dismal chapter room. This Fraternity has a ritual that is the jealousy of every other organization in school. It is so elaborate that at initiation the ceremony lasts six hours. In fact, it becomes monotonous, so that a recess has to be called when they get into the heaviest stuff, and then they all adjourn to the lounging room and open a keg of bridge bolts.

KAPPA ALPHA THETA

The Kappa Alpha Theta Sorority in shorthand means "eat." The Theta brethren and cistern gave a dance about a month ago in the Elks' Temple, which was considered a howling success. They were attempting to make a hit with their rushees. They had a Christmas tree and during the course of the slow and tiresome evening presents were given out. The people they were rushing got nice little trinkets, while the others got——you know. The only distinguishing feature of their lawn party was that there were not quite so many borrowed and broken-down dress suits and gowns as were noticed at the Sigma Chi formal.

CHAPTER MEETING.

Merle: Now, girls, cut out this gabbing and let's get down to business; we'll omit the reading of the minutes as Alpha has lost the books, as usual. Ethel, come away from that phone, you know Hugh's at the Forestry Club meeting and won't call you up tonight. We'll have to finish early, too, because Jenkins generally gets here before we get through. Now, girls, what shall we consider first?"

Alpha: I move that we appropriate $200 from our treasury to send a delegate to the Theta convention at Podunk, Oregon, next spring and I hereby nominate as delegate that amiable young lady who has heretofore sacrificed herself so nobly for the good of the chapter, Miss Buse.

Donna: "I object to the motion as out of order, though I favor the $200 part. I think that the delegate should be a girl who has had experience in some other chapter; now at Seattle—"

Diana: "Merle is a Senior eligible for delegate?"

Merle: "No."

Diana: "Well, I never have been in favor of spending good money on a delegate; here we had to send them $100 already, and we've got to pay the balance for that piano pretty soon. Mr. Jenkins says——

Gladys: "Oh, dry up!

Merle: "Now, mamma, you quit peeking in here; I've told you before that our meetings are secret."

Toots: "I move that we don't take this house next year unless Beck takes up that linoleum in the dining room. Mrs. Wilcox won't loan us her rugs any more and I was so ashamed the other night when the Donohues were over."

Isabel: "Yes, and this furnace is fierce, Kay Wolfe says he don't come over here evenings to shovel coal."

Merle: "Girls, quit crabbing, we've got to take a final vote on these Freshmen tonight; what do you think of Esther Dinkelspiel."

Corrine: "She's not much, but she has such handsome clothes, and her folks have that big auto; I move we take her."

The name passed without a dissenting voice. Just then Bess announced that a Frat boy was passing, so the meeting adjourned to rubber.

PENTRALIA

This is the most secret organization since the time of the Black Friars. It is rumored that it is affiliated with the Modern Woodmen, having for its insignia a dear little pine shrub. This organization has a stormy history, part of which will be given.

To be eligible for membership in this society, one must be a model in every way. To cut campus, to go fussing, to fail to have all A's, or to say darn, will bar any candidate from admission.

It is the custom of the Pentralia to plant a tree each spring, signifying their undying love of nature. The first tree was planted in 1906. Under the four-inch sapling was buried the secret mottoes and ideals of the society. The next day Max, the gardener, cut the grass and accidentally slew the sapling. Records, ideals, mottos, all lost by the action of the ravaging horde.

Next year as the maidens emerged from the dorm, clad in their white gowns, a youthful figure was seen marching away with the tree. No tree, nothing to plant. The poor maidens repaired again to their domicile and catched a little shut eye.

The next tree-planting escapade was done in the regime of Chief Forester Harry Ade. The planting was left to him and, lo and behold the tree grew. It stands now, proudly waving a few scattered branches to the wind, a sight for young co-eds to lamp off with apprehension. Remember, girls, there is always a chance for any of us, so let's be good and hope for the best.

GLEE CLUB

About four months ago Professor De Loss Smith decided that our Alma Mater should have a Glee Club, and thereupon issued a lusty call for song birds. About twenty-five would-be theatrical performers responded. The first meeting was devoted to testing voices, which certainly should have been, but was not a discouragement to Professor Smith's smallest hopes. However, after the club started in to sing "Thou Art My Own Love" and when the cracked and squeaky voices got together it didn't go bad. Smith's hopes began to rise and he hinted to the club one evening that a trip to Bonner, DeSmet and Philipsburg might be arranged. This communication so heartened the "Songsters" that the next four rehearsals were like the cheering at a football game, everybody singing lustily and trying to be heard above the rest in order that his special powers along harmony lines might be recognized and applauded by the director.

The Associated Songsters gave their maiden performance at Convocation a short time ago. Everyone started out fine, and after the first song should have retired. The audience applauded feebly out of pure sympathy for the poor sufferers, and the common mistake was made of giving an encore. The main feature of the encore was that the tenors were about five bars ahead of the basses, the tenors were as flat as Joe Tope's in a quartette, and the basses were pitched so low that Borland's voice broke and ended in a mournful rumble when about half way through the song. It was rumored that several of the "Song Fest Aspirants" get out of tune and time, because they were trying to pick out some certain fair face in the audience in hopes of receiving a winning smile, et cettery.

Below are a few of the Glee Club celebrities:

Joseph Tope—10 or 11.

Ade—Who has a voice like a fog horn and tries to sing second tenor.

Horst—Who should be singing bass.

Molchoir—Who could not carry a tune unless Powell sang alongside him.

A Field Trip

Ten Forestry studes hit for the pines,
They passed a saloon, and then there were nine.
Nine timber willies thought it was great,
Ade lost his dog and then there were eight.
Eight worried Foresters, climbing toward heaven,
Skeels lost the makin's, then there were seven.
Seven weary students, crossing the creeks,
Then the log broke, so that only left six.
Six hobnailed roughnecks, barely alive,
Wolfe saw a coyote, then there were five.
Five hungry climbers, worn out and sore,
Kent crossed a stubble field, then there were four.
Four trailblazers stood by a tree,
It started to bark and then there were three.
Three would-be Foresters came to a yew,
It bared its limbs and then there were two.
Two trembling remnants gazed at the sun,
Skeels showed up and then there was one.
One lonely student took to his heels,
So all that was left was old Dorr Skeels.

Opportunities in Forestry

By Dorr Skeels, Dean of the School of Forestry

What opportunities are there for me in Forestry?

What are the probabilities of my success in the profession?

What are the chances for advancement and promotion? Such as these are the inquiries received in every mail at the Forest School.

Answer must be made frankly for the individual that there are as many failures in the practice of forestry as in any other profession. The same room for failure and the same openings for success may be found as in the profession of medicine or law or civil engineering.

Perhaps more than in any other profession success in the practice of forestry depends not alone on education and training, but rather more on good health, keen intelligence, agressiveness, and a willingness to work. In this day of many good forest schools, all foresters may be well trained; then achievement will be measured by personality, greatness of character, agressiveness, energy, alertness, willingness to earn and deserve, strength of mind and strength of body.

In National Forest work, where every forester is part of a vast public service, and the welfare of individuals, families, and communities depends in varying measure upon the Forest Officer, there must be willingness to serve, a desire for fairness, a keen discernment of justice, and moral courage to oppose the wrong and urge the right regardless of current popular opinion or variable public sentiment.

Perhaps no more valuable personal trait is found in the Forest Officer of the rank and file than courage to urge his knowledge and judgment gained as the "man on the ground" against the opinions and oftentimes the official policies of his superiors in rank.

Proper education and training are of course necessary, and are the first essentials to the young forester just entering a profession whose practitioners it must be assumed are skillful and properly equipped for their work. Work in the many branches of Forestry is today well defined and the prospective forester may pursue his training with more certainty as to what his practice will be than was the case in the Forest Schools of a few years ago.

Training should be had in the work which the foresters will be called upon to do and less time need be devoted to useless refinements

of training for work which will never be done in the present generation of foresters. It follows, then, that the school must know and understand the real work and duties for which it is training. Its teachers must have a close, intimate knowledge of the work which the forester actually does and of the real problems to be encountered, for if the teacher of forestry does not know the difficulties and problems of the profession as well as its opportunities, how then may he equip his pupil for a practice which must overcome difficulties as well as welcome opportunities.

Forestry is not alone the propagation and culture of trees nor protection and guidance of stands of trees to a fruitful maturity. Even as the agriculturalist is concerned with the harvest and marketing of crops as well as with sowing and cultivation, so must the forester also deal with the harvest of forests, the utilization and marketing of the products of the forest. Already at hand are forests not only of merchantable timber, but of timber not yet mature, and young stands, and young growth, and seedlings, and woodlands capable of improvement and development; more than sufficient to our present needs, provided we protect and develop and use wisely and without unnecessary waste.

Dr. Schenck stated before the Logging Congress in Spokane, Washington, that 98 per cent of forestry was lumbering or use of the forest. However, much of this statement may have been exaggeration, we know our biggest problems in western forestry to be protection and utilization; and, in the National Forests, the third great problem of administration, peculiarly important because of the public service responsibilities which attend the regulation and control of vast public domains.

These three important branches of Forestry practice open great opportunities to the new forester.

The lumbering industry finds more and more need for engineering science and methods in the handling, removal and transportation of logs, the construction of transportation facilities, and the modification and application of power equipment to various methods of forest exploitations. Probably no larger field is open today for engineers than is offered in the lumbering industry to young men with basic training in engineering methods, and a knowledge of logging methods, as well as a comprehensive understanding of all the branches of Forestry.

Another field in the lumbering industry lies in the utilization of wood for other products than lumber. With the margin of profit becoming less and less in an industry fraught with more than ordinary risks and hazards, there is urgent need for every possible economy of production costs and material, and every possible use or recovery of

waste is called for that can be secured with profit to the operator. The chain of operations that finds the material of the tree finally a finished useful product in the hands of the consumer, begins in remote forests of wild regions and may end in any most civilized part of the world. Only the broadest training will produce a man properly equipped to entirely grasp the problems of by-product manufacture, marketing, and utilization, and work them out to the most complete solutions.

The protection of existing forests is, within the generation of any present forester, a much greater problem than any question of cultural or regeneration methods. The determinations of present commercial values, stumpage appraisals, land classifications, and determinations of highest uses, and the attending problems of taxation, timber bonds, insurance, interest expenses, carrying costs and the like, are of as much immediate concern to the owners of 2,500 billion feet of merchantable timber as the more abtruse, even if admittedly important, questions, phases and problems of forest management, forest finances, forest statistics and other speculations and expectations of the future values.

Protection of the forests from fire is a task of principal importance and presents difficulties equal to the skill of the most highly trained forester. It raises problems of methods of fire control, of silviculture treatment, of methods of utilization, of administration and of forest improvements, as well as a host of smaller and more immediate problems.

The one phase alone of improving the forests to provide for better methods of fire control calls for more engineering training and constructive ability than is possessed by all the foresters in the United States today, or for more knowledge of forestry than is possessed by all the civil engineers.

Forest Administration, or the handling of the business of the National Forests, and the fulfillment to the utmost of the obligations and responsibilities of public service that devolve upon the management and operation of nearly 200 million acres of public domain for the most good to the most people, and the putting of this area to the highest use of the Nation, is a huge responsibility and a vast work, greater than which has never been undertaken in any branch of any government in the world.

It is to the credit of all American foresters that the undertaking has been carried so far and so satisfactorily by so few trained men and with so little support and such meagre equipment.

We must realize, however, that the work is only just commenced. Our forests are used to only a small portion of their actual produc-

tivity and such little use as we have is wasteful; unavoidable waste as yet, it is true; but nevertheless an indication of the economy and more complete utilization which may be accomplished.

Many other uses of our forests than those of timber supply are yet to be developed for the enjoyment and benefit of the people of the Nation as well as for the local committees that now sometimes benefit and sometimes suffer by administration of National Forests.

Not even one per cent of our waterpower; which embodies heat and light and power, and perhaps undreamed of benefits; is yet utilized on our National Forests. Not even one thousandth part of one per cent of their potential value for pleasure and recreation is yet developed so as to be available to the Nation. A thousandth part even of their beauties of lake and mountain and forest and stream are as yet unrevealed and inaccessible.

Development and modification of social and economic conditions, the changing requirements of people, disturbances in standards of values and varying ratios of value between the common needs of life, improved standards of living, better educational opportunities, increase of population and shifting of population centers, changes in American racial characteristics with continued immigration, scarcity of land and increased monopolistic control or the triumph of individualism or commonism over the power of wealth or corporate organization; all of these kaledioscope flashes of American stir and growth and development lead to a future use of National Forests and needs in their administration of which the present gives little indication.

The forester of this generation will stand to the lumbering industry and forests and forestry as the agriculturalist does to farming and farms and agricultural science, or as the graduate of the mining school stands to mining and mines and metallurgy.

His horizon will be a wide one, his opportunities are great if he be man enough to seize them. At least his usefulness and the value of his services will be as great as those of any profession, and as honored.

Students in Forestry

1914-1915

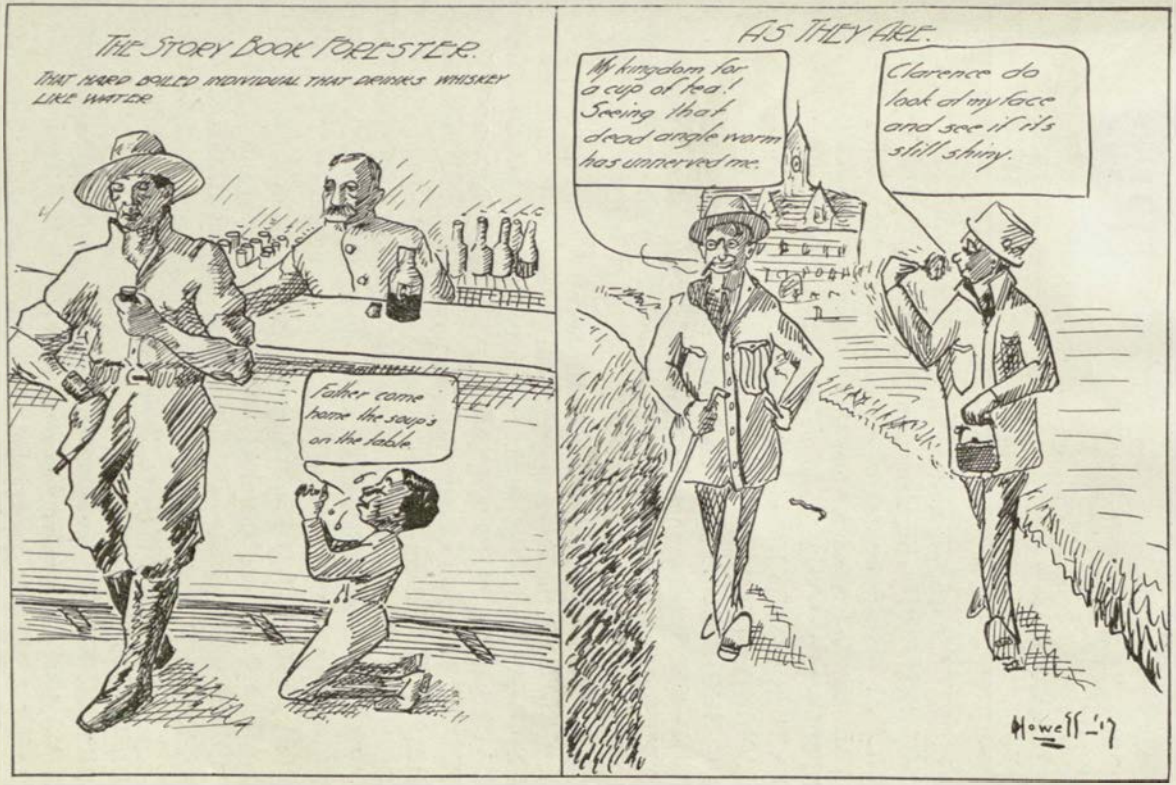
Ade, H. G.	Washington
Bischoff, P. A.	Ohio
Borland R.	Montana
Butzerin, A. J.	Montana
Cassidy, F. J.	Montana
Clark, E. F.	Washington
Darrow, L. R.	Montana
Drew, A. E.	Montana
Dunlop, L. F.	Montana
Dwyer, M. D.	Montana*
Ector, J. J.	Montana
Finklenburg, A. N.	Montana
Haines, F. S.	Montana
Hayes, H. D.	Montana
Higbee, L. L.	Montana*
Higgins, G. C.	Montana*
Hodson, L. R.	Montana
Jones, W.	Montana
Kent, H.	Illinois
King, J. A.	Montana*
Lansing, H.	Montana
Layton, J. J.	Oregon
McCarthy, J. J.	New York
Nuckolls, S. F.	Montana
Owsley, M. M.	Montana*
Robertson, J. S.	Missouri
Ross, S.	Montana
Sanderson, L. H.	Washington
Schlegel, F. H.	Montana
Simpkins, E.	Montana
Stewart, F. K.	North Dakota
Stone, E.	Montana*
Thomas, W. J.	Montana
Toole, W. B.	Montana*
Vance, C. F.	Washington
Whisler, F. H.	Montana
White, W. I.	Montana
Wilson, L.	Idaho
Wingett, C. V.	Kansas
Wolfe, K.	Montana
Woods, M. L.	Montana
Wright, A. W.	Montana

*Special, Major in other departments of University.

Ranger School

1915

Alexander, R. L. ..... Salt Lake, Utah
Field Engineer, United States Reclamation Service
Bosworth, F. L. ..... Jocko, Montana
Forest Guard, Flathead Indian Reservation, Bureau Indian Affairs
Bosworth, J. ..... Missoula, Montana
Forest Guard, Lolo National Forest
Brandenburg, G. ..... Chouteau, Montana
Forest Ranger, Lewis and Clark National Forest
Capponi, J. ..... Wallace, Idaho
Forest Guard, Coeur d'Alene National Forest
Carroll, F. J. ..... Jackson, Montana
Assistant Forest Ranger, Beaverhead National Forest
Christiansen, A. P. ..... Mayfield, Utah
Forest Guard, Fillmore National Forest
DeStaffany, J. B. ..... Kalispell, Montana
Forest Guard, Blackfeet National Forest
Douglas, V. ..... Polson, Montana
Dyar, J. W. ..... Coeur d'Alene, Idaho
Forest Guard, Coeur d'Alene National Forest
Edwards, R. P. ..... Wallace, Idaho
Ferris, R. C. ..... Chouteau, Montana
Forest Guard, Jefferson National Forest
Green, J. W. ..... Glenwood Springs, Colorado
Public Lands Survey, Department of the Interior
Hash, C. J. ..... Billings, Montana
Hughes, J. L. ..... Winston, Arizona
Forest Ranger, Sitgreaves National Forest
Jefferson, F. ..... Choteau, Montana
Forest Ranger, Lewis and Clark National Forest
Jones, Dexter ..... Hemet, California
Forest Guard, Cleveland National Forest
McGillivary, C. F. ..... Avery, Idaho
Assistant Forest Ranger, St. Joe National Forest
McLean, L. H. ..... Stevensville, Montana
Forest Guard, Bitter Root National Forest
Owen, G. E. ..... Troy, Montana
Forest Guard, Kootenai National Forest
Pauley, A. E. ..... Sand Point, Idaho
Forest Guard, Pend Oreille National Forest
Plummer, S. W. ..... Denver, Colorado
Forest Guard, Sitgreaves National Forest
Roche, A. ..... St. Maries, Idaho
Forest Ranger, St. Joe National Forest
Standiford, A. R. ..... Polson, Montana
Townsend, C. ..... Chouteau, Montana
Forest Ranger, Lewis and Clark National Forest
Townsend, P. ..... Chouteau Montana
Forest Ranger, Lewis and Clark National Forest


THE STORY BOOK FORESTER.
THAT HARD BOILED INDIVIDUAL THAT DRINKS WHISKEY LIKE WATER
Father come home the soup's on the table
AS THEY ARE.
My kingdom for a cup of tea! Seeing that dead angle worm has unnerved me.
Clarence do look at my face and see if it's still shiny.
Howell '17

SAY, BOYS, have you noticed all of the
ENGAGED COUPLES about the campus this
SPRING? AND speaking of
CARL GETZ, I wonder when that
METLIN-ADE match is coming off, and
JENKINS WAS in Kohn's the other day, looking at
DIAMOND RINGS, and
DOC HEILMAN was with him, but
HUGH KENT tells me there is nothing
TO HIS match because she
MOVED AWAY. I saw
PUNK OWSLEY and Ed Craighead down
AT KELLEYS the other evening, but
PUNK WAS broke, too, so
GLADYS McCARTHY will have to wait a long time
BEFORE SHE gets a better dancing partner
THAN BOB Borland, who is
ENGAGED TO that girl in Kalispell; and
I SEE Irene Murray is still
PEGGING ALONG, so
PROF. LEAPHART didn't have the only
HEART LEAP; and that little Gilbert girl is
A PERFECT
WOLFE AFTER the men, but
DICK HOWELL and Brice Toole are
DOING PRETTY well for
FRESHMEN; BUT speaking of
SIGMA CHIS, I wonder why none of the
BOYS HAVE any money this year.
AND THE girls!
HAVEN'T THEY celebrated with
THEIR FORMALS and dinners, but

I HOPE that they won't
GIVE MANY more because I can't have
FATHER'S DRESS suit again because its
LENT, AND anyway, the Thetas have called theirs off since the
COAL BILLS came in and besides
THEY HAVE had several alumni to
BOARD THIS winter, and sleeping
FOUR IN a room does not cut
EXPENSES MUCH, but now that Jenkins is
HOUSE MOTHER, we can smoke cigarettes in
THE PARLOR; the Kappas keep a real
MAID, AND are hard up, too, and after they pay for that
NEW DAVENPORT, the Delta Gams can afford another
FORMAL: THIRTEEN initiation fees will make them
FLUSH, ANYHOW; that pretty little
JORDAN GIRL will be paying dues soon, and
HELEN McCARTHY would be getting a taste of
SORORITY LIFE only Phil Sheridan won't
GIVE HER a chance. I hated to see Clara Robinson leave
FOR SEATTLE wearing a Sigma Nu badge because
FLOYD HARDENBURGH always looks so glum when
HIS PIN is out of town. I see our actor,
CECIL VANCE, is watching his kettle well and
THAT BEULAH has thrown herself away on
CLARK, WHICH is pretty lucky for a
FOOTBALL PLAYER; it is rumored that the
IOTA NUS will have a man or two on
THE TEAM next fall, and that Will Long has been
PLEDGED TO Penetralia. Spring has came; I know
BECAUSE ED Craighead was out giving the tennis courts the
ONCE OVER last week, also Prexie's squirrel is out
AND TAMER than ever; he followed me to the
FORESTRY BUILDING yesterday, and I asked him
WAS HE looking for me, and he said "No, I was
LOOKING FOR another
NUT!

(Apologies to that poor wop in Seattle that has to write this sort of bunk for a living).

The Forestry Club

The Forestry Club was called to order by a survivor of a previous meeting. The reading of the minutes was dispensed with, owing to the absence of the secretary. At this time Dr. Bonner presented the club with a historic gavel, used by the Engineer's Club in the time of prosperity. The president failed to respond and hammered offensively on the table.

One of our meetings was held at the home of Dean Skeels. The club slept fitfully through interesting talks by Mr. Silcox and Mr. Mason. However, at the call of "grub pile," every one came alive. After devouring everything in sight the meeting adjourned for two weeks to the home of Dr. Bonner.

The meeting at Bonner's was very enjoyable. Charlie Farmer lectured on "How to make the best Abney level in the country," and told how he invented the machine. After this interesting talk, Mrs. Bonner called "Come and get it." Sausage and doughnuts comprised the feast and everyone satisfied his capacity. Now came the most enjoyable part of the entertainment (except the eating). The Bonner family displayed their musical talent. The only regretable part being that the Dr. broke a button off'en his suspenders while rendering a trombone solo. Dean Skeels responded to a clamorous howl and clogged for one minute. The meeting came to a fitting end when the quartette started to sing.

With the completion of the new building, the Forestry club held its sixth bi-weekly meeting. At this meeting Prexie Craighead welcomed the short course students and predicted a brilliant future for the Forest School. The "Short-Horns" were extended an invitation to join the club and all promptly paid their dues. Coffee, doughnuts and Carrol cigars were the refreshments. The Forestry quartette made its first official appearance and the meeting adjourned.

Since our new home has been conpleted, all of the meetings of the club have been held in the Forestry Building. We have been fortunate in having at each meeting officials from the Forest Service, who are always willing to address the meeting.

On March 2, R. H. Rutledge addressed the assembled Foresters, taking for his subject "Public Service." At the conclusion of the open discussion cider and sandwiches were served by the Freshmen.

During the month of February, the Foresters were particularly honored by having as their guest Albert F. Potter of Washington, D. C. Mr. Potter addressed the club at length on the bearing of the Forest Service work to the development of the nation. A "camp fire" supper concluded the evening's festivities.

Exchanges

A "new thought" person defines hell as "destructive energy generated in one's own thoughts." This is annoying, also cumbersome. Think of saying: "Get the destructive energy generated in one's own thoughts out of here!"—Puck.

* * *

A column of Russian troops in Asia Minor was halted by mud in the slopes of Mount Ararat. We had supposed the mud had dried out there years ago. Some flood, Noah; some flood.—Puck.

* * *

"Gimme three cigars," says Drake.

"Strong or mild?"

Gimme the strong wans. The weak wans break in me pocket.—Ex.

* * *

A charming young singer named Anna
Got mixed up in a flood in Montana;
So she floated away,
And her sister, they say,
Accompanied her on the piano.

—Ex.

* * *

She (at dance)—"I was just vaccinated and it hurts horribly."

He (looking at her spotless arm)—"Where were you vaccinated?"

She (with lowered eyes)—"In New York."

* * *

He—"At a football dinner, a man got up and left the table because some one told a story he didn't approve of."

She—"Oh, how noble of him! What was the story?"—Yale Record.

* * *

"When a bit of sunshine hits ye
After passing of a cloud,
When a bit of laughter gits ye
An' ye'r spine is feeling proud,
Don't forgit to keep and fling it
At a soul that's feeling blue,
For the minit that ye sling it
It's a boomerang to you."

—Hoo Hoo Bulletin.

A veteran talking to his great-grandson, a little lad of eight or nine years, remarked:

"Nearly a generation and a half ago, my head was grazed by a bullet at the battle of Chickamauga."

The little boy looked at the old man's head thoughtfully, and said:

"There isn't much grazing now, is there, sir?"—Chicago Record-Herald.

* * *

A little boy had been punished by his mother one day, and that night at bed time he prayed thus:

"Dear Lord, bless Papa and Sister Lucy and Brother Frank and Uncle Fred and Nora, and make me a good boy. Amen."

Then, looking up into his mother's face, he said:

"I suppose you noticed that you wern't in it."—Ex.

* * *

Foresters Poem

We now forego the bowls that flow
And flag the flagon.
For a brief run, we climb upon
The water-wagon.

* * *

"The vacuum system seems to be applied to everything."

"Quite so. I know a number of people who even think with it."—Baltimore American.

* * *

She—"George, dear, here's a scientist who says the earth is wabbling on its axis. What do you suppose they can do about it?"

George (absently)—"Open up the muffler, reverse the lever, shut off the power, lubricate the bearings and tighten the wheel cap."—Cleveland Plain Dealer.

* * *

A bridegroom's absence from his own wedding attracts more attention than his presence.—Life.

* * *

"What is it they mane by virgin soil, Pat?" queried McCarthy.

"Virgin soil, is it? Shure, it's just soil where the hand of man has never set foot."—Ex.

* * *

"Dad, I was simply great in the relay events," boasted the boy from college.

"That's fine, son! We'll make use of them thar talents. Your ma will soon be ready to relay the carpets."—Penn State Froth.

* * *

"Kiss me yet again!" she cried, her voice quivering with earnestness—a burning, eager light in her eyes—the savor of his last kiss lingering on her lips. But Fido turned his head from side to side, and refused to go throu' the ordeal again.

A Kansas farmer, returning home late at night, saw a light moving about the farmyard. When he investigated, he found a neighbor's farmhand carrying a lantern.

"What are you doing here?" demanded the farmer.

"Courtin', sir."

"Courtin'? Courtin' with a lantern? Huh, you fool, I never used a lantern when I went courtin'.

"No, sir," replied the farmhand, as he backed off, "we can all see you didn't."—Ex.

* * *

There was a young lady from Erskine
Who had a remarkably fair skin,
Some one said to her: "Mabel
You look sweet in your sable."
She replied: "I look better in bearskin."
—Book of Smiles.

* * *

When Rastus Johnsing's son arrived,
He looked just like his poppy.
In fact, the doctah done declare
He was a carbon copy.
—Cornell Widow.

* * *

At the Shore

Serious Student—"Do you like Browning?"
Frivolous Co-ed—"Yes, so long as it doesn't freckle."

* * *

The successful man is the one who can keep his mind on his work without keeping his work on his mind.—Puck.

* * *

She—"You are absorbed."

He—"Yes. I am watching that professor over there; he has just eaten his favor and is now trying to put his refreshments through his button hole!"—Puck.

* * *

Eve for the first time in their married life was telling Adam just what she thought of him.

"This is the original rib-roast," chuckled Adam.

And that was the beginning of the saving grace of humor.—Judge.

* * *

She—"Why do authors always speak of a smile creeping over the heroine's face?"

He—"Perhaps they're afraid that if it went faster it would kick up a dust."—Penn. State Froth.

* * *

Record poor—feeling punk,
Yellow note—fear a flunk.

"What are they moving the church for?"

"Well, stranger, I'm the mayor of these diggin's, an' I'm fer law enforcements. We've got an ordenance what says no saloons shall be nearer than 300 feet from a church. I gave 'em three days to move the church."—The Glassworker.

* * *

Reporter—So you managed to swim ashore without even a life-preserver.

Survivor—Sure, I have a floating kidney.

* * *

Worried look—rumpled hair,
Poor exam—vacant chair.

* * *

"Little marks of Physics,
Little marks of French,
Make the football players
Sit upon the bench.

* * *

"I heard him behind the door pleading for just one. They must be engaged."

"Naw, they're married. It was a dollar he was pleading for."

* * *

"If ever perfect manners were,
The Boston lady had 'em;
She wouldn't say chrysanthemum,
She said chrysanthe "madam."

* * *

"My love," said the beaver passionately, "come and live in my newly built house on the stream."

For a moment the beaver maid was silent, then coyly slapping her tail on the bank, she whispered, "Then you do give a dam for me after all."

THE STUDENT LAWYER'S VERSION.

Have you dug your grass? said the student lawyer to the staring ranger man,
For he thought he would not crush the swain beneath his legal ban.
How was your grass, when you dug your crops, did the weevils hurt your peas?
Or did the canker worm destroy your young chrysanthemum trees?
I fain would be a forestry man, I'd drive my yoke of cows,
And at night I'd rest my head beneath the rutabaga boughs.
At six P. M. I'd rise and go about my pleasant task,
Without the worry of the world or superiors to ask.
At noon I'd seek the sandy shores of some pleasant babbling brook,
And neath the bending cabbage there my clams I'm cook.
This barrister biz is not the life that lures like your's, you see,
Of all the professions in this world a forester's life for me.

Courses in Forestry

FRESHMAN YEAR

First Semester	No. of Course	Credits*	Second Semester	No. of Course	Credits
General Forestry	F 11	2	General Forestry	F 12	2
Geology	F 51	3	Geology	F 52	3
Surveying	F 41a	2	Surveying	F 42a	2
Drawing	F 41b	2	Drawing	F 42b	2
Trigonometry	F 71	3	College Algebra	F 72	3
English		3	English		3
Botany, General	B 11	3	Botany, General	B 12	3
Shop Work, Wood	F 41c	1	Shop Work, Forge	F 43c	1
Physical Culture		½	Physical Culture		½
			Spring Camp, Surveying and Forestry		

SOPHOMORE YEAR

First Semester.	No. of Course	Credits	Second Semester.	No. of Course	Credits
Lumbering	F 31	2	Lumbering	F 32	2
Forest Measurements	F 13	2	Forest Measurements	F 14	2
Topographic Surveying	F 43a	2	Topographic Surveying	F 44a	2
Topographic Mapping	F 43b	2	Topographic Mapping	F 44b	2
Biology	B 27	3	Biology	B 28	3
Physics	P 10	3	Physics	P 11	3
Botany, Plant Histology	B 15	3	Botany, Plant Physiology	B 16	3
Spring Camp, Forest Measurements and Lumbering.			English or German		2
English or German		2			

JUNIOR YEAR

First Semester.	No. of Course	Credits	Second Semester.	No. of Course	Credits
Lumbering, Logging	F 33	3	Lumbering, Mills and Markets	F 34	3
Fire Protection	F 15	3	Fire Protection	F 16	3
Forest Reconnaissance	F 45a	2	Highways and Bridges	F 46a	2
Forest Mapping	F 45b	2	Improvement Construction	F 46b	2
Botany, Dendrology	B 21a	3	Botany, Dendrology	B 21b	3
Silviculture	F 21	2	Silviculture	F 22	2
Forest Policy	F 83	1			
Forest Policy	F 84	1			

Electives—		Electives—	
Biology	3	Biology	3
Physics	3	Physics	3
Geology, Physiography	3	Geology, Physiography	3
Chemistry	3	Chemistry	3
English or German	3	English or German	3
Mathematics	3	Mathematics	3

SENIOR YEAR

First Semester.	No. of Course	Credits	Second Semester.	No. of Course	Credits
Forest Management	F 25	3	Forest Management	F 26	3
Forest Administration	F 17	3	Forest Administration	F 18	3
Improvement Construction	F 47b	2	Improvement Construction	F 48b	2
Silviculture	F 23	3	Silviculture	F 24	3
Botany, Forest Pathology	B 25	3	Botany, Forest Ecology	B 23	3
Forest Appraisals	F 55	2	Forest Appraisals	F 56	2
Electives—			**Electives—**		
Silvics, Review		3	Silvics, Review		3
Forest Geography		3	Systematic Botany, Review		3
Physics		3	Physics		3
Forest Policy		3	Forest Policy		3
Wood Technology		3	Wood Technology		3
Logging Engineering	F 35	3	Logging Engineering	F 36	3

Note.

*Credits: One hundred and fifty credits required for graduation and degree of Bachelor of Science in Forestry. One credit represents from eighteen to twenty-four hours of class work, or from thirty-six to fifty-four hours of laboratory, shop or field work.

Courses in Forest Engineering.

FRESHMAN YEAR

First Semester.	No. of Course	Credits	Second Semester.	No. of Course	Credits
General Forestry	F 11	2	General Forestry	F 12	2
Geology	F 51	3	Geology	F 52	3
Surveying	F 41a	2	Surveying	F 42a	2
Drawing	F 41b	2	Drawing	F 42b	2
Trigonometry	F 71	3	College Algebra	F 72	3
English		3	English		3
Botany, General	B 13	3	Botany, General	B 14	3
Shop Work, Wood	F 41c	1	Shop Work, Wood	F 42c	1
Physical Culture		½	Physical Culture		½
			Spring Camp, Surveying and Forestry		

SOPHOMORE YEAR

First Semester.	No. of Course	Credits	Second Semester.	No. of Course	Credits
Lumbering	F 31	2	Lumbering	F 32	2
Log Scaling	FE 13	2	Cruising	FE 13	2
Topographic Surveying	F 43a	2	Railroad Surveying	F 44a	2
Topographic Mapping	F 43b	2	Railroad Drafting	F 44b	2
Analytic Geometry	F 73	3	Advanced Trigonometry	F 74	3
Physics	P 10	3	Physics	P 11	3
Plant Histology and Physiology	B 17	3	Dendrology	B 18	3
Shop Work, Forge	F 43c	1	Shop Work, Machine	F 44c	1
			Spring Camp, Scaling, Cruising and Lumbering		
Elective—			**Elective—**		
Descriptive Geometry	FE 43d	2	Shades, Shadows and Perspective	FE 44c	2

JUNIOR YEAR

First Semester.	No. of Course	Credits
Lumbering, Logging	FE 33	3
Fire Protection	F 15	3
Forest Reconnaissance	F 45a	2
Forest Mapping	F 45b	2
Differential Calculus	F 75	3
Applied Mechanics	F 77	2
Electives—		
Chemistry		4
Forest Management		3
Silviculture		2
Geology, Mineralogy		3
Hydraulics		2

Second Semester.	No. of Course	Credits
Lumbering, Logging	FE 34	3
Fire Protection	F 16	3
Highways and Bridges	F 46a	2
Improvement Construction	F 46b	2
Integral Calculus	F 76	3
Graphic Statics	F 78	2
Electives—		
Chemistry		4
Forest Management		3
Silviculture		2
Geology, Economics		3
Water Supply and Irrigation		2

SENIOR YEAR

First Semester.	No. of Course	Credits
Logging Engineering	F 35	3
Forest Administration	F 17	3
Forest Engineering	F 47a	2
Improvement Construction	F 47b	2
Motive Powers	F 67	3
Forest Appraisals	F 55	2
Electives—		
Mechanics of Materials		2
Concrete Construction		2
Thermodynamics		2
Telephone Engineering		2
Electrical Laboratory		2
Geology, Petrology		3
Analytic Mechanics	FE 77	3

Second Semester.	No. of Course	Credits
Logging Engineering	F 36	3
Forest Administration	F 18	3
Forest Engineering	F 48a	2
Improvement Construction	F 48b	2
Motive Powers	F 68	3
Forest Appraisals	F 56	2
Electives—		
Highway Materials, Lab.		2
Contracts and Specifications		2
Thesis		2
Dynamos and Motors		2
Electrical Laboratory		2
Practical Geology		3
Differential Equations	FE 78	3

Note.

Credits: One hundred and forty-four credit hours required for graduation with degree of Bachelor of Science in Forest Engineering. One credit hour is equivalent to from eighteen to twenty-four hours of actual class attendance, or from thirty-six to fifty-four hours of laboratory, shop, or field work.

The Montana Forest School

The Forest School of the University of Montana is organized with three broad general departments of training, offering courses of four years of thorough training in Applied Forestry and in Forest Engineering, and a special course of training for fourteen weeks of each winter for forest rangers, the employes of other field branches of government works, and the employes of lumber companies.

Opportunity is also given for special training for work in the public lands survey branch of the Department of the Interior, and work with the Indian service and the Reclamation service, or for special training in scaling and cruising, lumbering and logging, and the like, as well as in all branches of the works of the United States Forest Service.

The course in Applied Forestry, which covers four years of work, trains men particularly for employment in the United States Forest Service in such positions as those of forest rangers, forest assistants, forest examiners, grazing experts, and the like, and for advancement and promotion to all the other administrative and technical ranks of that service.

The four years of training offered in the courses in Forest Engineering, prepare students for service as logging engineers, in the lumbering industry, work in surveying and civil engineering in the different branches of government work, and particularly in the engineering branches of Forest Service work, and as scalers and cruisers, expert lumbermen, logging engineers, and the like for work in the National Forests.

Beginning about January 1st of each year, short courses of fourteen weeks of thorough special training are offered in scaling and cruising, lumbering and logging, logging engineering and forest engineering, and in the work of the Forest Ranger. These special courses are intended primarily to give men who are already employed with lumber companies, or in the different branches of government service, a better training for their work, and particularly to train forest rangers for advancement and promotion. The special courses are open only to men who have had considerable practical experience in the work, or who are so fitted by education and training that they would be able to profit by short courses of special training.

Our faculty is composed of men who have not only a high technical training for their work, but also extensive experience in the prac-

tice of their professions, and who have established reputations by efficient practice in the western states. Thus the faculty of the school knows what training the students needs, and how to teach it to him, and it is the aim of the school to give the student a thorough training in the work which he will actually have to do.

The requirements for regular entrance to the Forest School as a candidate for graduation, and the degree either of Bachelor of Science in Forestry, or Bachelor of Science in Forest Engineering, is the completion of a four-year accredited high school course, or equivalent preparatory training. Applicants must present evidence of good moral character.

No general tuition fee is required, and there is no charge for instruction. An annual matriculation fee of $10 must be paid on the day of registration, and an incidental fee of $5 must be paid on the day of registration.

Meals may be obtained on the University campus at $4.25 a week, and room and board may be had in private families for from $20 to $30 a month.

Considerable changes have been made in the curriculae of the various departments, and a large number of elective courses of practical training have been added since a description of the Forest School was last published in the University Register. A new catalog is now on the press which will be ready for distribution in a few days. If you are interested in the lines of training which are offered, write for new catalogues and bulletins to the Dean of the Forest School, University of Montana.

A SOFT ANSWER TURNETH

James, returning home from a Forestry Club meeting, rather the worse for the event, entered his appartments about 2:00 A. M.

Mrs. James, feeling none too tenderly toward her financier, sat up in bed calling out, "Is that you, James?"

"Whom else were you expecting, my dear?"

HAND BOOK FOR RANGERS

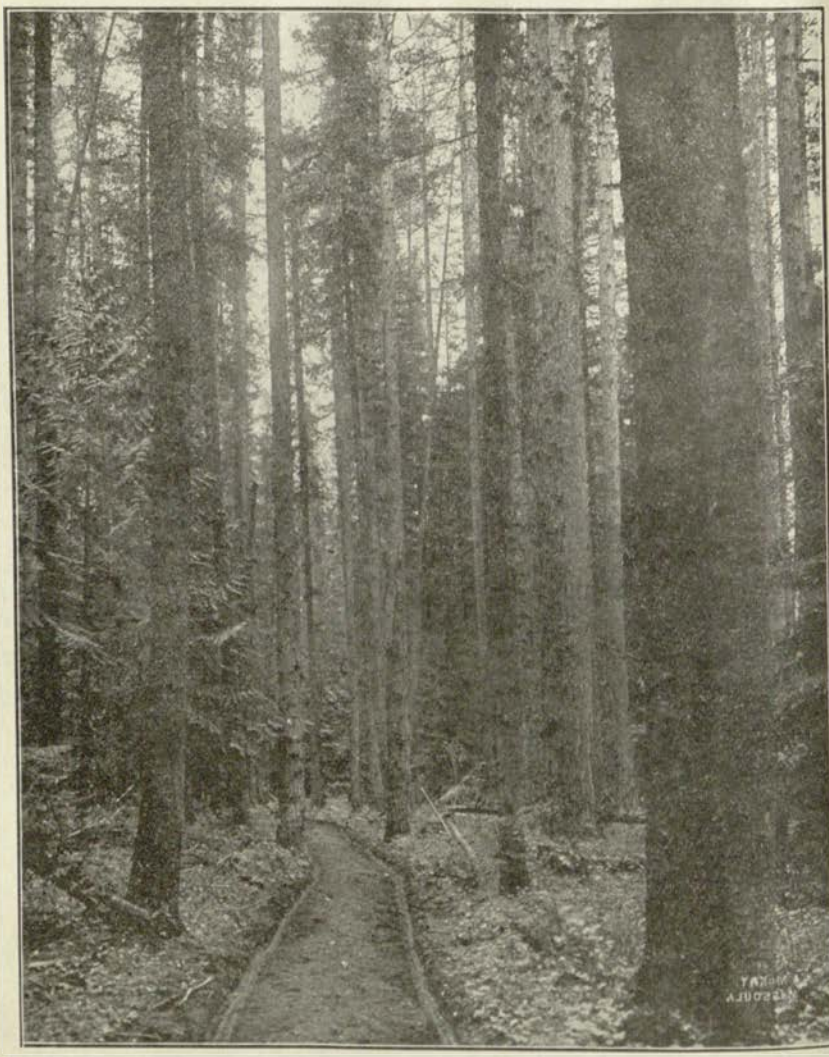
When on your district you will regard yourself as the King of the Universe, and all non-official beings as worms of the dust.

You will refuse absolutely to answer any questions put to you by any homesteaders living on your district.

You will consider any request for information a deadly insult.

You will memorize the 57 varieties of insolence and try to devise new ones.

Remember, that you are a privileged being in the matter of hours and work, so disdainfully scorn any change in the interests of efficiency.



In the Missoula National Forest

AROUND THE ~CAMP FIRE~

Oh, cheerful is your mission, and we know it as we sit
Around your glowing embers when all our pipes are lit,
And we listen to the tales, twice told, and sometimes more,
Of the early days, the burly days, when we were but a score.

When we rangers used to fish, and hunt, and fool our time away
Nor did we feel reluctant when we went to draw our pay.
How we used to roam the hills in huckleberry time,
Spend hours, fooling 'round some old deserted mine.

Memories, sweet memories, your cheerfulness brings back,
They're vivid and they're varied, and not a one alack.
Oh, cheerful is your mission, and we know it as we sit
Around your glowing embers when all our pipes are lit.

A LOGGING CLASS

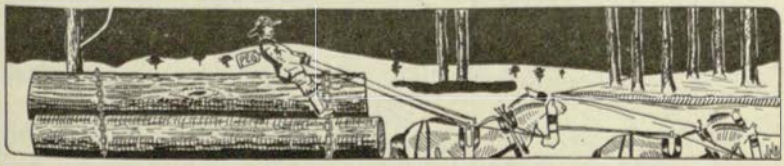
Tuesday, 9:30 A. M. The Dorr opens; a citobagar enters; the Dorr closes with a slight draft. There is a moment of apparent deep concern (on the part of the Dorr), then slowly the Dorr opens again, the expression of deep concern seems to gradually disappear (in the air), and the class is opened in form.

President Ade: "Who's got my pipe? Hello, Buddy! Say, someone give me a paper. 'Peg,' have you any P. A.? Bob, gi'me a match."

Prof. Skeels: (Who has gone through his usual preliminaries preparatory to saying something, while Ade at the same time has actually accomplished his end, thereby not detaining the class while each puts on his act separately):

"Mr. Ade, will you tell us what you know about logging?"

Mr. Ade: "Well, I have been around here a long time, Buddy and I, this being my fourth year. During that time I have been the whole forestry school, holding down the places of student to begin with, and after I had been with Prof. Kirkwood in his department for



two weeks I was made his assistant professor in the botanical department. After I was assistant professor for a couple of weeks, and Prof. Kirkwood found out what a valuable man I was, he gave me entire charge of the department while he went to California to spend the winter.

When spring opened up and the flowers began to peep through the buds, and the leaves and grass began to give a fragrance to the air, while the birds sang merrily during their nest-building labors, I received a call from the forestry department to go to the distant dangerous mountains to direct work, which only skilled and competent men are commissioned to do, a work which calls for only the most husky and wholesome of mankind—I was a fire guard.

I came back that fall as hard as a nail and as healthy as a pet coon. I met Prof. Kirkwood on the steps of main hall looking very downcast and disheartened. But the moment he set eyes on me his whole countenance changed, and he looked at me and at the same time grasped me by the hand saying, "Boy, my man, I should say, I am more than overjoyed to see you return to me; I was afraid my class was not going to come back this fall."

At this juncture in Mr. Ade's very efusive eulogy on what he knew about logging, Whistlepunk woke up with a yawn and a stretch and shook his seatmate by the shoulder with the remark, "Your pipe is out, Bish, but never mind, no one else is awake so let's go back to dreamland again, 10:30 will soon be here.

"That, dear class, is my experience as a logger. When I get to be manager for the A. C. M. Company, and it won't be long, as the job is waiting for me as soon as I graduate, and you know I've been around here a long time now, four years, it will only be another proof that I am a good man. You know I have been around here a long time now, this is my fourth year—and the clock strikes 10:30. Thanks to old Father Time!

WHY DID WE BUILD IT?

You've been told of the tower which stood on the Rhine,
By the waters which silently flow
To the bounding and breaking, billowy brine
Where winds o'er its waves softly blow.

Well, brother, this tower was good in its day,
But the time of its service is past;
Of course, one might call it a theme for a lay,
But it isn't the kind that'll last.

Old Father Time has turned many a page
Since this tower was the candy whiz,
And as one of the features of our active age,
We've a tower we use in our biz.

Now don't get the hunch that we're cocky and proud,
Because we've a home of our own;
And don't cry out in the maddening crowd
That we moved in there solely to bone.

From the vantage point of our windows clear,
Full many a sight is seen.
Mount Sentinel's slope, and the campus dear,
Can be swept by our eye e'er keen.

Aye, never a fusser shall sneak away
Up the old enticing trail;
And the sun shall ne'er close on a day
Which hasn't produced its tale.

You are welcome to come when so inclined,
You may call for your place at the glass;
How long would this secret have been undivined.
If this poem had not come to pass?

THAT COCOA NINNIE

There are strange things done 'neath the Coconino sun, by the Sups who vise for Sam,
It may be so, but we don't know, nor do we give a damn
What happened there in the blistering glare, while that Drake duck held sway;
As to the Coconino, he'd have a whole heap less to say.
He's at Montana now, and by the Gods we vow, and wish, and hope, and pray,
As to the Coconino he'd have a whole heap less to say.

Bring your trees up to be as polite as possible.

Teach them to bough when they are learning.

Never allow a fir to pine for a larch.

Don't blame a tree for being crooked—we are all more or less that way.

Deal as lightly as possible with the young trees that have a shady reputation.

Teach your trees not to bark at strangers.

Teach them also to be conventional as possible. Don't let them fall for the first feller that comes along.

In leaving you, be sure that their trunks are taken care of.

Don't allow the more wild ones to overdraw their checking account.

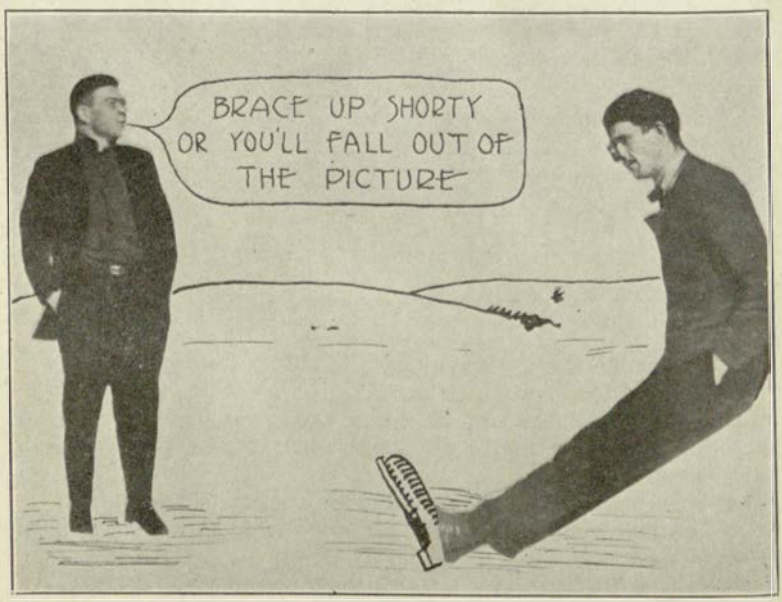
Never allow the trees to call each other names, such as you're "rotten," or you're a "scrub."

Who ever heard of a Palm beech?

There are some fellers that even a tree won't stand for.

Never pay any attention to the howl the trees make because the wind happens to be up all night.

It's been rumored that trees are to be planted along the Mt. Sentinel trail that the Freshmen may learn how trails are blazed.



That may be all right for it would be pretty hard to get the cart before the horse—on a trail of any kind.

All students of the University who are registered from Big Timber, if they are at all interested in development work, should visit an occasional class in this department, as there are some very interesting things over here concerning "big timber."

But speaking of Big Timber, there is no doubt that the place has produced some of the biggest sticks (a few chips off the old block) that ever had the nerve to go to college. If Tom ever comes out from behind the Bush, what will "a" have left?

The Craighead family tree has some Bare. At least Donna thinks so.

Never allow a tree to wear a girdle, of corset may be all right.

"By the way, aren't some of the chips off the Big Timber block useful in making matches?"

"It all depends on the kind of chip he may be.

You should never skirt a piece of timber.

A ranger is a pretty tough article when he takes to eating preserved timber on his bread and butter.

If the non-treating law ever goes into effect, the pickling plants will have to take sides with the saloons.

THE KNOCKER.

"Well, Son, I've taken a day from the ranch,
Heard you were feeling blue;
Now tell your old Dad how you're getting along,
Do you like it here at the U?"

"What's that? The classes are way below par,
The students and profs all a joke?
Why, Boy, you don't know what you're talking about,
And it's time that you awoke."

"Universities are similar all over the world,
You may find them bigger, it's true,
But don't blame the school if you're not making good,
It isn't the college, it's you."

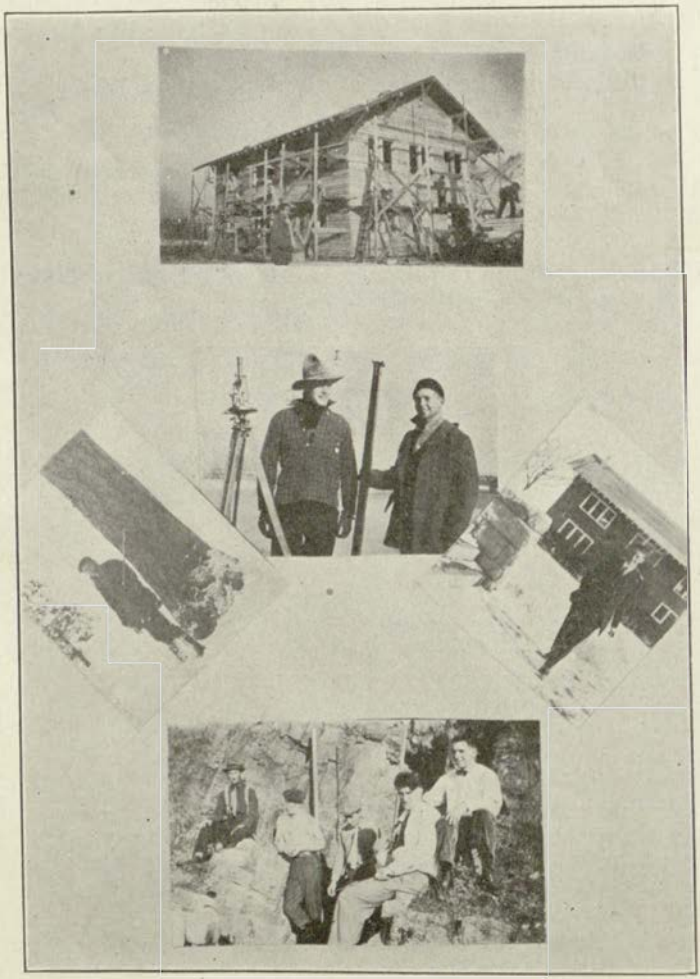
"It's nothing against you if you fell down at first,
Why, I used to do that, too;
But it's a confession of failure to blame the school,
It isn't the college—IT'S YOU."

FIRST ADE.

I met Lin on the campus green,
And she promised to be my college queen.
She has stuck to me through thick and thin,
So now she is wearing my Fraternity pin.

SLOW CURTAIN.

He—"You know Sanderson's neck."
She—"Yes, what about it?"
He—"Why he fell in the river up to it."



THE FORESTER'S WANDERINGS.

Bish packed his grip for a southern trip, and so did Forester "K,"
They started forth far to the north, somewhat out of their way.
But they had a plan they'd talked over with Dan, before they left the "U,"
We'll go to Fort Bent, 'fore our money's all spent, and make the trip by canoe.

The first day's run was a son-of-a-gun, they were cold and wet from the storm,
It rained and it snowed, and the old wind blowed, they simply couldn't keep warm.
Said "K" to Bish, "this is some swell dish in our canvas-covered canoe,
But between you and I and old Rock and Rye, I wish I was back at the "U."

"Come, 'K,' jar loose and clean that goose, supper time's drawing near;
I'm feeling good, so I'll chop the wood, you understand, don't you dear?"
"Pull up that boat and hand me my coat, I'll show you who's going to jar loose,
Go chop the wood, if you're feeling so good, and say! you can clean the goose."

"Come on with the salve, what else will we have, I'm getting tired of this chuck.
If we don't have meat, we'll have nothing to eat, and I'm gettin' dam tired 'a duck."
It's all we've had since we went to the bad, 'cept once in a while, pork and beans,
If we live long enough, we'll be rid of this stuff, by the time we hit New Orleans.

For a couple of months, filled with many queer stunts, they drifted along their way,
Now fishing, now hunting, now wishing, now grunting—neither had much he would say.
Till at last they came to the goal of their game, and they "chucked" the pork and the beans,
And decided to stay for a week and a day, in that dear old town—New Orleans.

"And what did Santa Claus bring you for Christmas, my little man," said the lady to the little boy on the street.

"Aw, back up," replied the boy, "dey ain't no Santa Claus, and de stork is all a fake and I'm going to look into this God business next."

DEFINITIONS.

A Ranger is a fellow who lives so far back in the woods that his watchword is woodtick.

A Supervisor—Sometimes a man.

Sawyer—The one man in a logging camp with a pull.

Foreman—The Bull of the woods.

Hooker—A sheepherder who feels insulted if he can't hook a job.

Lumberjack—A society flu flu, whose chief occupation is attending progressive dinners (or other meals).

Forester—A guy that thinks the trees would all fall over if he should move away.

Peavey—A tool with a hook on one end and a weak mind on the other.

Canthook—A de-horned cow.

Skinner—Hired for his vocabulary rather than his table manners.

Swamper—The camp doctor who draws salary for amputating limbs from the scenery.

Shorty Schlegel insists that he is not taking Forestry, but we notice he is about the best Cone gatherer in the whole school.

But Cone says she doesn't care for Shorty any longer. When asked why, she said that he is long enough.

Why is it that Dick Howell's taste seems to run so much to Brown?

And why is Mary Brown always Howelling.

Brice Toole had a little Lamb, when first he came to school,
She fleeced him; but he gave a damn about the price of wool.

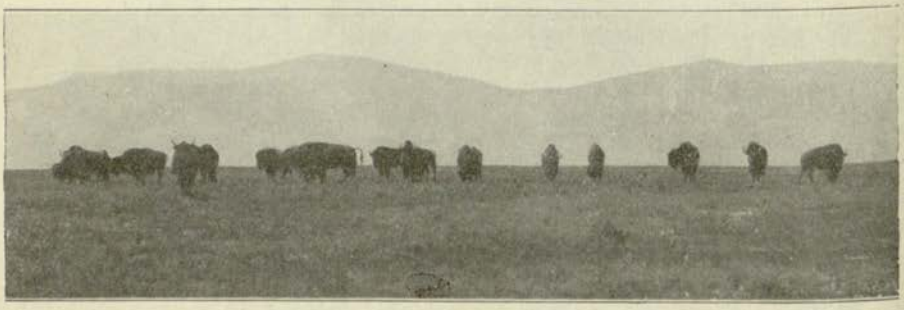
I wonder if Cozette ever feels sheepish.

Grace Leary is studying Art.
She may be Wright at that.

Isabel Gilbert has decided that it is easier to let fate take its course than to try to keep the Wolfe from the door.

Hugh Kent is going into farming instead of Forestry—he holds a mortgage on quite a valuable Stubblefield and is about to foreclose.

Speaking of Rough necks, do you know Peg Lansing?



RULES AND REGULATIONS FOR THE FORESTRY BUILDING.

1. Rough-housing will not be permitted in the rooms or halls; accommodations for wrestling and boxing may be had in the gymnasium. Fencing with T squares and playing catch with "Higgin's Black" and kindred sports will be considered rough-housing.

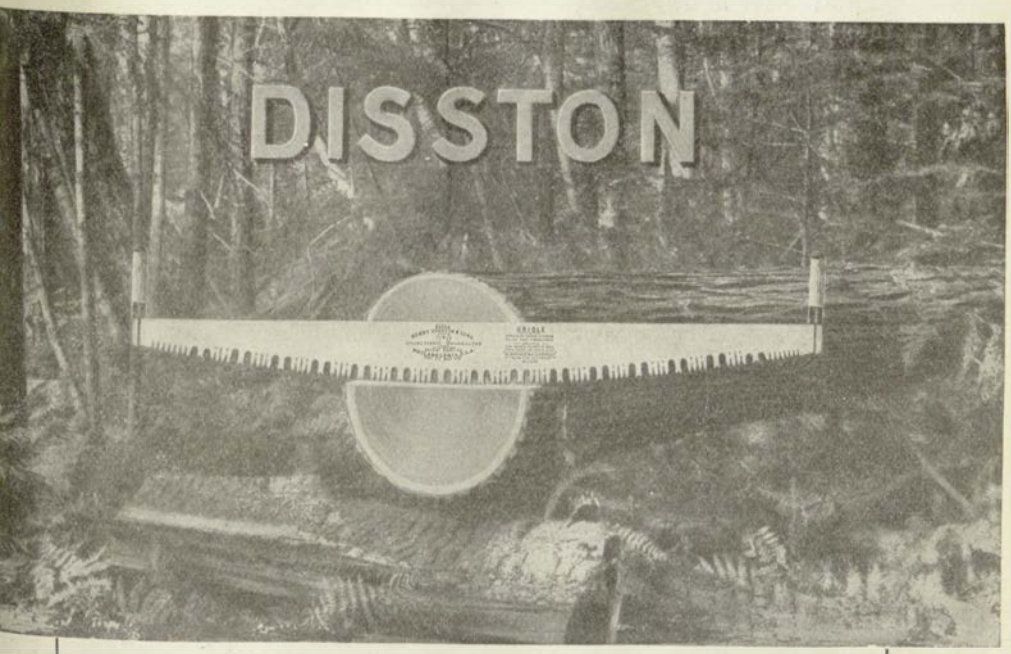
2. Driving nails in the walls, door frames, etc., will be considered ungentlemanly; if you feel that you must go driving, nails, hammer and a block of wood will be furnished free.

3. Hobnailed boots are exceptionally hard on our beautiful hard-wood floors, and you are asked, therefore, to crawl on your hands and knees, or change to bedroom slippers on entering.

4. Freshmen are positively forbidden to smoke pipes or cigarettes on the premises; cigars may be smoked, providing their quality has been passed on by the board of censors consisting of all upper-classmen who may happen to be in the room at the time; samples shall be furnished to each member of the board for testing purposes.

5. Freshmen shall at all times be prepared to furnish tobacco to upper-classmen on demand; they shall ascertain the brands preferred by each, and shall daily replenish their supply of matches, and shall cheerfully fill and light the pipes of their superiors when requested.

6. The privilege of keeping pet dogs in the building is accorded to Seniors only, and the number that each may own shall not exceed one.



For a Smooth, Quick Cut

DISSTON SAWS

Built of the finest materials along lines scientifically correct for the intended service.

Result—Run easiest, Cut Fastest, Last Longest.

Write for Cross Cut Saw Booklet

Henry Disston & Sons, Inc.

Philadelphia, U. S. A.

An ancient rhymester speaks of the "ears of the forest." So far as we know, no bard has sung of the ears of the forester. But, anyway, we heard this, in passing, the Tuesday after vacation: "My! I missed Helen. I was so glad to see her when I got back here that I rushed up and kissed her right on the campus."

Tell us, WHO IS HELEN, and what?

Jenkins seems to like the game of Uline and I lean—and then we lean together.

I wish Prof. Skeels would stay away another week, I like his office.

Ask Bish if he got away with it, or you might ask Perky about it?

"Say, what kind of a duck is Drake, anyway?"
"You know what kind of a goose a Gander is, well, that's it."

I've heard it said that Prof. Drake is some duck.

Kent—Do you smell the wood burning? It's a peculiar smell, isn't it? I don't recognize just what kind of wood it is; wait, I'll go see if I can locate it."

Ken—Never mind; it's probably Kirkwood firing away in one of his spontaneous combustions.

Dear Editor—To clear up the mystery about why so many of us girls are planning on taking a course in tennis this spring, I wish to write you this note of explanation. Why do you think so many of us have been registering for German and Economics heretofore? You've heard it said that we objected to running the Law School gauntlet on the library steps; don't you believe it, Kid, but the Laws have been the best we could expect these many years, but now we are going to get a chance to associate with real men. Oh my! but those foresters are the handsome devils—and their building joins the tennis courts. Take Bob Borland, for instance, and Vance, doesn't that name Cecil just suit his eyes? And there is Lansing and Hugh Kent and Clarke and Kay Wolfe, but then he's married.

And we like your roughneck ways; it seems great to breathe the fumes of real tobacco after having breathed Durham smoke around that law bunch for so long. We may blush when you give us the once-over from the windows, boys, but don't let that scare you; that's just a stall; we expect you to come out and help us find the lost balls; a lost tennis ball will be great help for some of you bashful foresters in making a date, and you are all such lovely dancers.

The other girls will just kill me for giving them away, but then we all want you to know.

Yours for Forestry,

SUSIE.

"Do you know that I have a new infinity?"

"Infinity! You mean affinity, don't you?"

"No, I mean infinity."

"Well, how do you mean, you have a new infinity?"

"Well, I mean that there is a certain young(?) lady in this college that is my infinity, and not affinity."

"Who is she?"

'Miss Kidder."

"And why do you insist she is your infinity?"

"Because she is as hard to approach."

Doc. Underwood—"Let's see, Bohan, aren't you the same student I flunked at the first of the year?"

Bohan—"No sir, I haven't been the same since."

A co-ed is a female that always has to unstrap and unpack the trunk that she has just strained and pounded together, and extract the key from her handbag at the bottom.—Ex.

He—"Of what species of preserved fowl is an expelled co-ed?"

She—"I bite, what is she?"

He—"Canned chicken."

We accidentally learned through the columns of The Kaimin that Law was a profession for women. Of course we know that the fair sex can accomplish nigh the impossible. But just a word of warning, dear girls, do not remain in the kindergarten for the first forty years.

TABLE MANNERS FOR FORESTRY STUDENTS.

1. You're not in reconnaissance camp. Therefore, do not spit on floor.

2. Don't flip the bones over your shoulders, you might injure a waitress.

3. Do not designate coffee as "mud."

4. Don't swear at the table, it sounds like hell.

5. Keep hob-nailed shoes in your own territory—not on your neighbor's shins.

6. Look natural when waitress hands you a napkin.

7. Don't tip the waitress, she might upset.

8. Don't take the pie in your hand.

9. Please don't remove shoes while eating, because—

10. Don't grab anything from your neighbor's plate.

11. Don't wipe your nose on napkin or tablecloth, it's better to secretely use your sleeve.

12. If soup is served, don't inhale it, or drink from dish. In case it embarrases you to eat it, pass it up.

13. As you enter the dining room, don't yell "come and get it."

15. Don't crowd and rush for a chair for there will be a chair for each.

15. Don't take *everything* in your hands and eat it, use a fork whenever *possible*.

16. Take your time eating, because there will be enough for all and your neighbors won't take any of your food.

17. If any meat and bread are left, don't make sandwiches out of them for the afternoon lunch.

18. Don't make audible comments on the food.

19. Don't try to jew the waitress down on the price of the meal, they are fixed prices.

20. Don't eat with your knife; if peas are served, please do not attempt to eat them.

21. Don't ask for salve, call it by its correct name, "butter."

22. Don't ask for canned cow or milk, ask for cream.

23. If you can't reach something, don't lay over the table to get it or ask someone to throw it at you.

24. Don't drink from the pitcher, use your your own glass.

25. Be sure and take off your hat before setting down at the table.

REMEMBER, YOUR WIFE AND FOREST SERVICE ARE PROUD OF YOU, SO ACT ACCORDINGLY.

(Signed) THE OFFICE OF ENTRY SURVEYS.

The lawyers may expect no choice positions.

Occasionally, though not often, we foresters visit a tonsorial parlor. In this day of the photoplay, could we get by with this one? THE METROPOLE FILM COMPANY announces the appearance of that devilish SHAVER, CLAUDE CLIPPER, in that HAIR-RAISING drama "The Swift SINGE," the sequel to the U. R. NEXT series. CUT prices, THIRTY-FIVE CENTS.

Department of Commerce and Accounting

Full Four Years' Course Leading up to the Degree of
BACHELOR OF SCIENCE
(In Economics)

Complete Courses Outlined Preparing for
ACCOUNTANCY, GENERAL BUSINESS, PUBLIC SERVICE, SECRETARIAL WORK, COMMERCIAL TEACHING

The demand for men and women **well prepared** in the various lines of business is growing stronger every day.

The following is taken from an official letter written by R. H. Montgomery, president of the American Association of Public Accountants:

"Already the work devolving upon the reputable accountants of the country is considerably in excess of their normal capacity, and when the increase of work (which is sure to come in the near future) has come to pass, the present difficulties will be enormously increased unless we can secure from our establishments of learning a vastly greater number of qualified accountants."

For information address C. C. Staehling, Department of Commerce and Accounting.

School of Music

University of Montana

DeLoss Smith, Director

Voice

Professor DeLoss Smith

Piano

Assistant Professor Josephine Swenson

Violin

Professor Cecil Burleigh

Terms:

Two lessons per week, $36.00 per semester.

One lesson per week, $18.00 per semester.

Single lessons, $1.25 each.

Complete Courses in

Public School Music, Harmony, Composition,

History of Music, etc.

University of Montana

School of Pharmacy

Missoula, - - - Montana

¶ Students are trained in the practice of Pharmacy as well as in its principles, and it is the aim of the school to meet conditions and opportunities in the profession as they exist in the great Northwest.

¶ The work of the school is approved by prominent pharmaceutical authorities. All of its graduates are practicing pharmacy and hold responsible and remunerative positions.

¶ The entrance requirements are similar to those of the other best schools, and standard courses of study and degrees are offered. In addition to the usual courses in Pharmacy, Chemistry, Botany and Histology, Physiology and Bacteriology, new courses are being offered in Commercial Pharmacy; Business Law, Typewriting, Accounting, Business Advertising, and others of prime importance to pharmacists.

¶ Students receive instruction from an able and experienced faculty of sixteen teachers. The work in Pharmacy subjects is given by registered graduate pharmacists.

¶ Expenses are as low as at any good University School of Pharmacy.

For detailed information, address

CHARLES E. MOLLET

Director

B. L. T. says:

"Journalism is an attractive profession. The rewards are infrequently large, yet men persist in it when they could do better outside it, and return to it after they succeed in escaping. The profession has its pleasures, and perhaps the keenest of these is the feeling that, if he deserves the confidence, a man may write what he will, without suggestion from the owners and managers of the newspaper on which he is employed."—Bert Leston Taylor, conductor of "A line-O'-Type Or Two," "colyum," Chicago Tribune.

The University of Montana has the only School of Journalism in the west

Instruction is offered in both the editorial and business phases of newspaper work. This includes study and practice in reporting, editing, editorial writing, advertising, circulation, organization, administration and a thorough consideration of costs.

For detailed information write to the Dean of the School of Journalism, University of Montana, Missoula, Montana.

LAW SCHOOL
of the
University *of* Montana

Standard Course of Three Years.

Case System as in use in all leading American Law Schools.

Prepares for practice in any state.

Special attention given to subjects of law such as Irrigation, Mining Law, and Code Practice and Procedure, more commonly used in the Western States.

Admits to practice in the Courts of Montana without special examination.

Three years' Practice Court under direct supervision of Professors training students to engage in actual practice immediately upon completion of course.

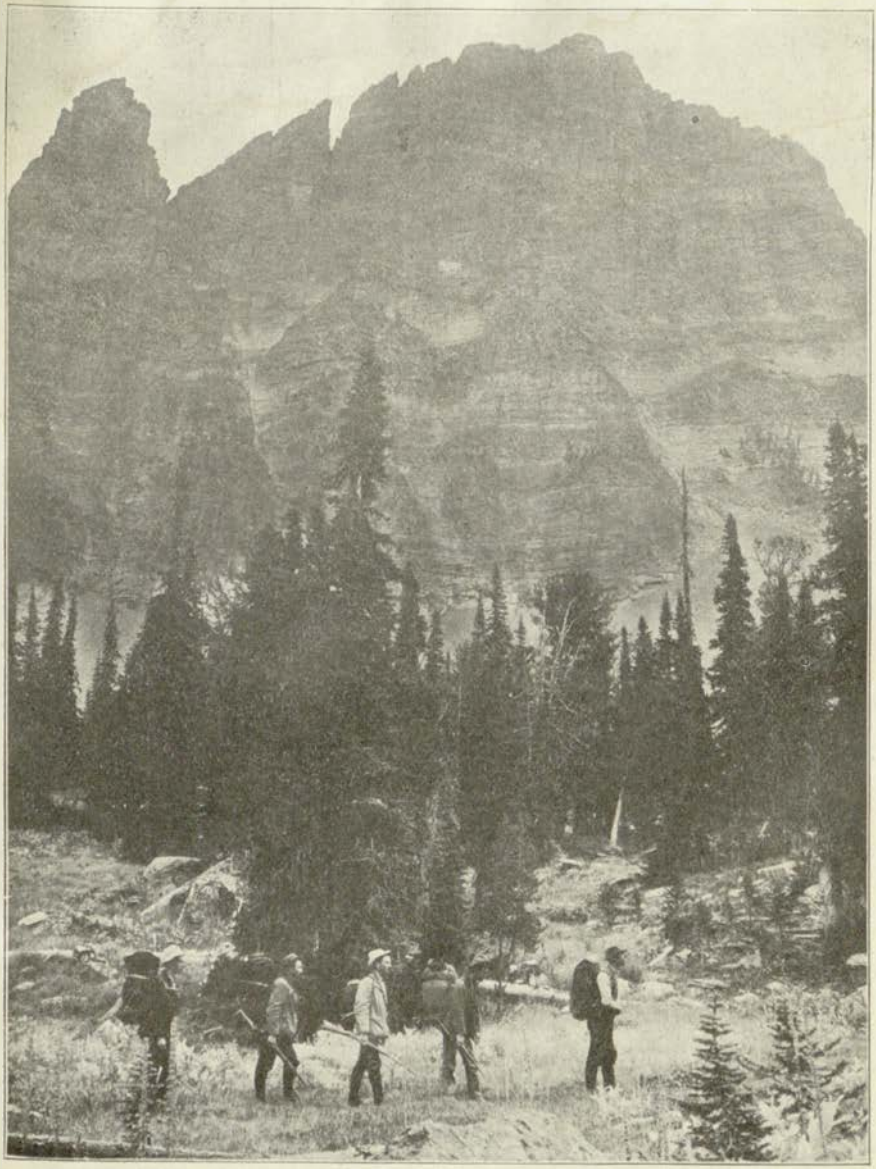
The Law School was admitted to the American Association of Law Schools during the past year after an investigation conducted by the Carnegie Board, thus placing the Law School upon a standard with the other leading American Law Schools.

Summer Session of six weeks each year. Regular courses are given and completed in law and are so arranged as to fit in with the regular course.

For further and more detailed information, write

LAW DEPARTMENT,

University of Montana.



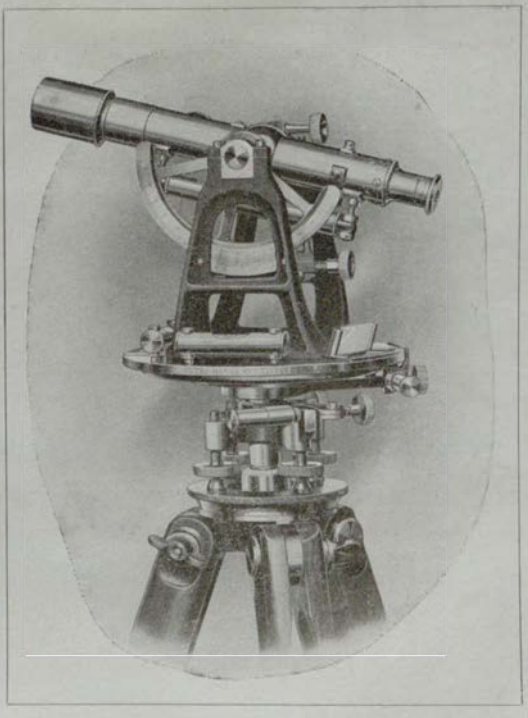
Off For a Hiking Trip.

THE END.

Hanna Quality

Engineering Instruments

ARE ACCURATE



ARE RELIABLE

No. 62 Theodolite

Hanna Engineering Instruments are the BEST at any price. They have rigidity, a quality of workmanship, a superiority of design and a peculiar refinement and nicety of adjustment which cannot help but place them first in comparison with any other instruments made.

Graduations are on solid silver.
The lense system is the acme of perfection.

Hanna Transits and Levels are built to give ENGINEERS using them, ACCURACY, EASE OF MANIPULATION and SATISFACTION BACK OF EACH INSTRUMENT STANDS OUR GUARANTEE.

Write today for story of Hanna construction.

The Hanna Mfg. Co.

TROY, N. Y., U. S. A.

UNIVERSITY OF MONTANA

The Largest Institution in the State

A Faculty of Eighty Trained Specialists

A Student Body of Nine Hundred

Eighteen Additional Instructors this Year.

EIGHT NEW DEPARTMENTS AS FOLLOWS:

Commerce and Accounting	Fine Arts
Pharmacy	Vocal Music
Forestry	Home Economics
Journalism	Romance Languages

The Strongest Law School in the Northwest

The Strongest Forestry School in the Northwest

The Strongest School of Education in the Northwest

A College Equal to the Best Eastern Standard

THE UNIVERSITY MAINTAINS NO PREPARATORY DEPARTMENT. WE DO WORK OF COLLEGE RANK ONLY.

SUMMER SCHOOL—June 14—July 24, 1915. (Dr. W. W. Kemp, Director.) The University Faculty, augmented by lecturers of national prominence, offer instruction of great advantage to teachers and other students.

THE EXTENSION DEPARTMENT— (Dr. G. F. Reynolds, Director.) Offers lecture courses in any section of the state.

THE CORRESPONDENCE DEPARTMENT—(Dr. W. J. Lennes, Director.) Offers instruction through home study correspondence.

THE BUREAU OF PUBLIC INFORMATION—(Dr. Carl Holliday, Director.) Offers information, free of charge, on any subject to any citizen of Montana.

THE BIOLOGICAL STATION—(Dr. Morton J. Elrod, Director.) A six weeks' session at Flathead Lake.

Room, Board, Light, Heat, Every Convenience, for Men, $20.50 per Month; for Women, $25.00 per month. Student Aid to All Deserving It.

For detailed information apply to

The REGISTRAR, University, Missoula, Mont.

MISSOULIAN JOB ROOMS, MISSOULA, MONTANA.