The 1937 FORESTRY KAIMIN



SCHOOL OF FORESTRY

Montana State University

The Forestry Kaimin 1937

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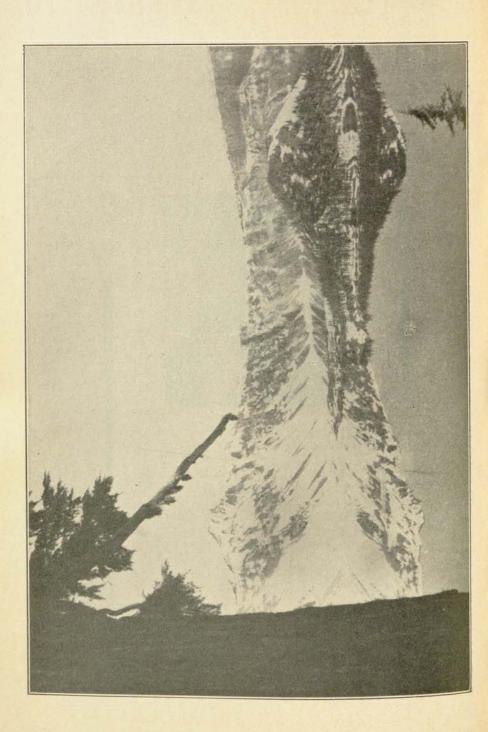
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Dedication . . .

Would that the Forestry Club could do more in the memory of I. W. Cook than merely dedicate this simple little volume to him — a sincere friend and one whose entire life was bounded by his School and his Boys.



Landscaping Problems on Highest Transmountain Highway on the North American Continent

By John C. Preston, '26
Assistant Superintendent, Rocky Mountain National Park

During the past year the National Park Service has encountered many interesting features in connection with landscaping the road slopes of the highest transcontinental highway in North America in the Rocky Mountain National Park of Colorado. The work is being done by private contractors, park maintenance crews and CCC under the joint supervision of the National Park Service and the United States Bureau of Public Roads.

Following the route of the old Ute Indian trail the Trail Ridge Road as it is called, was first open to traffic in the summer of 1931. A trip over this road is a never-to-be-forgotten experience. It offers the automobile traveling public a scenic drive of the first order. The Front Range of the Rockies which it traverses is excelled by no other mountain group in the world. At its highest point the road reaches an altitude of 12,183 feet above sea level, and then descends rapidly where it crosses the Continental Divide at Milner Pass at an elevation of 10,759 feet. The village of Estes Park at the edge of the national park and half surrounded by it, is considered the eastern entrance to the park; while Grand Lake, the sapphire gem on the western edge of the park, is the western entrance. Approximately 40 miles of this highway has been hard surfaced.

The Trail Ridge Road is one of the highest automobile roads in America. Its four-mile section over 12,000 feet in altitude is probably the longest stretch of road ever built at such a height. The protection of the road slopes along this section of the road has presented many interesting and difficult problems. The paramount problem is arriving at some type of treatment which will blend the roadway into the adjoining terrain with the most natural effect possible. It is generally conceded that this work is being successfully accomplished.

The use of weathered rock in the guard and retaining walls, the rounding of the backslopes and the type of vegetative cover being used is pro-

ducing the most natural effect possible.

Timberline at this latitude is approximately 11,000 feet. Above that imaginary line the ground cover consists only of the hardiest Alpine plants, grasses and mosses. The area is similar to the Tundra regions of the far North.

Obviously at this elevation the ground cover is stunted, making no rank growth. The short growing season begins the latter part of June, and

killing frosts arrive early in September.

The planting of sod (and there is a scarcity of it above timberline) along the backslopes has resulted in the following planting methods: The sod is far back as the line of the finished slope extends is first removed and saved. Rough grading is done by a power shovel, fine grading by hand. The degree of slope depends on the ground encountered, usually 1½ to 1. When fine grading is completed the sod originally removed is planted in trenches that are dug parallel to the roadway; these trenches vary but are usually 2 feet wide, 6 inches deep, and 2 feet apart.

Along one section of the road, below timberline where the road passes through a forested area, a steep eroded expansive backslope was sodded. Stakes were driven into the ground and boards laid between the sod strips to prevent possible slippage.

Approximately 30,000 square feet of sod was planted, the work being accomplished by enrollees from one of our CCC camps. The sod laid two years ago has become firmly established and the unsightly scar of the slope

now has a pleasing and natural appearance.

Along other sections of the road below timberline "spot plantings" have been used in obtaining a stand of vegetation to prevent slope erosion and produce a natural effect. Native trees, shrubs and plants have been used in this work. After two years the treated slopes present a natural slope cover.

At one particular point along this highway a triple tier of metal cribbing was used to stabilize a steep slope that had been giving serious trouble. Mud slides were frequent and resulted in serious damage before the cribbing was in place. This difficulty has now been overcome. It is generally agreed that in a few years the slopes will be stabilized and a new ground cover will appear which will in the end obliterate the now unsightly metal cribbing. The cribbing now in use has been painted a "mud" brown similar to the color of the ground of the slope and is not readily seen.

In constructing and developing this splendid highway all attention pos-

sible has been given to the traveling public, the guests of the park.

The road for the most part can be negotiated by the average car in high gear as the grade is not steep, never exceeding 7 per cent. Inasmuch as the highway is a scenic one, parking areas have been constructed at all salient points in order that the views from these locations may be enjoyed by all who travel the route.

This scenic highway has received world wide attention. During the summer of 1936, 216,397 people traveling in 64,051 cars passed over this

highway.

For the motorist who enjoys rugged mountain scenery this excellent highway presents a wonderful opportunity to see a panorama of the Front Range of the majestic Rockies. The trip from Estes Park village to Grand Lake can be made comfortably in less than two hours. The road passes through forested areas of pine and spruce then up, up, up to the very crest of the range. Valleys and parks lie thousands of feet below, rivers appear as tiny silver threads, and automobiles on the switchbacks below appear as minute moving dots.

From the high points one can easily trace the work done by glaciers during the Ice Age when this country was in the making. Small snow fields remain the year around on most of the sixty-five peaks over 10,000 feet elevation, and the sixteen of these over 13,000 feet that may be seen from

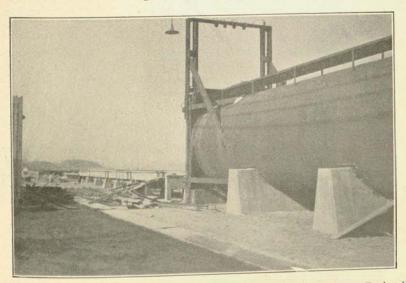
this high drive.

Plans for the regular spring trip made by the seniors of the school were abandoned when it was found that the Junior Range Examiner and Junior Forester Civil Service examinations would be given at the same time.

Dry Steam Pressure Treatment for Reduction of Cup Split

By C. P. BAKER, '21 Assistant Sales Manager, Potlatch Forests, Inc.

Excessive degrade in surfacing dry common pine lumber, especially during the dry seasons, has always been a problem for the lumberman. The old method of dipping lumber in an open tank to soften the outer surface proved some help, but only provided treatment for a small percentage of the production as it was necessary to allow the loads to stand eight to twelve hours before running the stock through the planers, and at low tem-



peratures could not be used. A steam tank was finally built at Potlatch Forests, Inc., Lewiston, Idaho, after two years of experimental work conducted by Mr. Robert Bowling, engineer for this concern, to determine the value of pressure methods over dipping in water or steaming in the kilns. Capacity was also a determining factor, as in this plant a large percentage of the total lumber produced is of the type that must be treated to prevent

excessive cup split.

This tank has been in operation for seven years. It is 8 feet 2 inches in diameter by 64 feet long, made of half-inch welded steel plates. There are valve grates on each end of the tank of special design, pressure within the tank making the seal when the doors are closed. The doors are operated vertically by mechanical means. Steam pressure of 15 pounds per square inch is maintained in the tank. The percentage of moisture content in the steam can be regulated to conform with the condition of the lumber as well as weather conditions. The length of time required to steam a charge of lumber is 15 minutes for 4-4 lumber, 20 minutes for 5-4 and 6-4 and 30 minutes to 45 minutes for 8-4. To secure the same result in kilns with no pressure would require approximately four hours per charge. A maximum charge is 14,000 board feet. The lumber is handled in standard units, 62 inches high by 52 inches wide, in any length up to 20 feet and placed on power driven rolls by overhead monorail carriers. The units of lumber are transferred from the tank to the planers automatically. The operator presses one control button to completely discharge a charge of lumber, thereby allowing him to give attention to assembling the next charge. The maximum capacity of the tank is 450,000 board feet per day of eight hours.

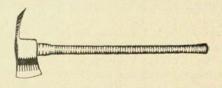
After steaming, the lumber is taken from the rolls and placed behind the different planers in units by use of the monorail carrier and may be surfaced immediately, or should be surfaced within one hour after steaming.

The steaming of lumber under pressure in this tank has reduced the degrade due to cup split and check from 40 per cent to 10 per cent. The

average cost runs about 4 cents per thousand feet.

The question may be raised whether steaming the lumber will cause increased moisture content and possible depreciation in the final product, but it has been found that after running the stock through the planers, the surface moisture has been removed. Before definitely considering this process of steaming, various thicknesses of lumber were run through the planers and placed under observation for over six months; no effects of the steam could be found.

The adoption of this method of steaming lumber under pressure has proven an exceptional saving in degrade loss, and in turn, this has increased the percentage of lumber sent direct to the cars from the planers, avoiding rehandling costs.



In the Office

Mary Wilson, for six years a "right hand man" to Dean Spaulding, assistant to the "profs" and adviser to the students, resigned her position the first of the year to engage in the postponed role of housewife. Replacing Mary in the office are June Hurwitz, who has taken over the secretarial duties, and Leah Noel, librarian.

Public Education in Forestral Policy

By PAGE S. BUNKER, '04 State Forester of Alabama

As a blanket term, education covers a wide variety of activities among which we may include pedagogical procedures as followed by the professional teacher, such as inculcating the principles of the "three R's" and other scholastic subjects. Added to these we may list religious preception, advertising, selling and public relations work, as well as resort to the body of mixed truth and untruth which we often designate by the somewhat derogatory term of propaganda.

The application of any of these educational procedures involves the consideration of certain constants and variables. The former are limited mainly to the territory affected and the stabilized content of forestry. Among the variables are the educator himself, the pupils, and the social and economic circumstances affecting the practice of forestry. The variances affecting the practice of forestry.

ability of these latter quantities is seldom wholly appreciated.

When it is perceived that a worthy cause may be furthered by individual or public education, very frequently there is little hesitancy on the part of the sponsers of the movement. Usually they enter the campaign briskly. It rarely occurs to the enthusiastic votary of any cause that in embarking upon a program of educating other people he has taken up a burden which the wisest scientists and philosophers assume with caution and humility. Even to outline here the essential basis upon which an educational campaign may be predicated would far exceed the present limitations of time and space. A few of the rudiments are all that can be mentioned.

I have indicated the educator and his pupils as variables. That the blind may not attempt to lead the blind, it is necessary to consider the values which these variables must assume in order that they may contribute efficiently to the result desired. The object in view is to influence the mental and physical behavior of human beings. The basis of understanding of the ways in which this can be done lies in the science of psychology. The latter term rivals even forestry itself in the meaning or lack of meaning which it conveys to various people. Glancing through the advertising sections of cheap magazines, we note the frequent misuse of the term as an adjunct to charlatanism. Contrasted with this, we may observe the work of the research scientists adding to the prospect of demonstrating that the laws governing the action of the mind are not wholly different from those of the so-called exact sciences.

He who aspires to educate the public in forestral matters has a task ahead of him to acquire a working knowledge of the principles of general and special psychology that contribute to his objective. While he may proceed in the way suggested to him by common sense and native ability with results that are in the main constructive, he is very apt also to find that such a course has brought in errors of such serious nature that progress is defeated. Every executive and administrator fondly believes that he understands human nature. Unskilled efforts at influencing other human beings in the right direction, however, frequently result disastrously.

As in scholastic education, the stimulating of interest in economic pro-

grams and the arousing to action in their furtherance is primarily the function of the public agency closest to the local field. When we consider that in addition to the educator and the pupil most of the other elements that enter into the situation, such as local forest conditions and the social and economic situation, are also variables, it is evident that there is a somewhat intricate path to be followed before we can attain our goal.

We may assume that the first step in any educational campaign is for the educator, be he professor or official, to have clearly defined in his own mind what is to be inculcated. In present connections this is forestry. Of late years this term has been sadly abused. Some time ago a young man gushingly greeted me with the declaration: "I am something of a forester myself; I put up thirty bird houses in the park last summer." It appears that in our desire to attract to forestry the support of every interest that has contacts with it in any degree we have run the risk of sacrificing its identity and permitting the substitution of a melange of esthetics, amusements and other less important considerations, a moral and professional retreat with the gravest of implications. To serve the purpose of a text, therefore, we will assume that forestry signifies the profitable production of timber over and above what would accrue without human intervention in current conditions. The educational problem then becomes that of landowners and the general public to further this system of production to the fullest extent that may be feasible.

In casting about for ways and means to accomplish this purpose, in addition to the basic preparation of training in psychology, the application of the latter science to the various phases of educational work that I mentioned in the beginning reveals many devices. The educator of the public in forestry, therefore, has made little more than a beginning in qualifying himself for the work until he has acquired a fair knowledge of pedagogical,

doctrinal, advertising, selling and public relations methods.

It must be borne in mind, however, that the inducing of people to practice an economic system, such as diversified farming, elimination of waste in industry or the science, art and business of forestry, does not fall wholly within any one or even all of the foregoing applications of psychological principles. Attempts to change human attitude and behavior toward forestry often meet peculiar obstacles. For instance, there is little opposition by tradition or contrary self-interest to the demonstration of a mathematical theorem. It is generally agreed that such a proposition is true or is not true and the proving of its truth or falsity by rigorous methods is little influenced by prejudice or bias. On the other hand, however, the proposition that timber should not be cut until its financial maturity or unless necessary to improve the property continually is opposed by the desire of owners to receive a dime today rather than a dollar tomorrow.

The student of theological doctrines is not allowed, under usual practice, to question premises, and the religious doctrinaire therefore has his educational problem greatly simplified. The commercial advertiser has for his object the stimulating of the desire of people to buy a particular article instead of a competing commodity, and the high-pressure salesman endeavors to further such sales largely unhampered by the question of benefit to the buyer. Forestry, however, must overcome many preconceptions and traditions, its premises must be demonstrated to be sound and its

practice must be shown to be financially profitable to the timber grower and in line with logical economic principles. On the other hand, its promotion enjoys certain advantages. It need not compete with other systems of land use and its practice is principally for the benefit of the landowner.

The methods and devices by which constructive conceptions may be instilled in the minds of the owners of forest land and of the general public must be adapted to the particular circumstances affecting each locality and each separate element of the population. In other words, there must be a continual and detailed adjustment of means to end. The kind and number of measures that are universally applicable are exceedingly limited. Naturally, the individual appeal is the most efficient. It is a good rule to conduct discussions so that the logical conclusion will be regarded by the convert as the product of his own mind rather than something forced upon him by superior skill and argument.

However, there cannot be a separate teacher for each pupil, and neighborhood and community measures must take the place, to a very great extent, of more intensive treatment. State, regional and national programs of education in forestry follow in turn, each losing efficiency in application the farther it is removed from individual contact. The problem of an executive in public forestral education, therefore, is to keep his efforts matched as closely as possible with the requirements of each citizen.

The essential qualities of educational material are truth, frankness, interest, intelligibility and timeliness. Among negative characteristics we may list all patronizing, accusatory and satiric elements. A vast amount of material designed for educational purposes is issued annually by numerous agencies throughout the country. Most of this is good and some of it is excellent, but a considerable proportion fails to conform with the foregoing standards and must be laid regretfully aside. In many instances this is particularly unfortunate, since in a single item we may find both very good and very bad features mixed, and one can but deplore the waste of splendid material rendered unavailable on account of riders of unsuitable matter.

Among the devices for impressing the public with the feasibility and necessity of forestry we may rank posters, signs, press releases, envelope stuffers, pamphlets, broadsides, periodicals, radio, moving pictures, lectures, field demonstrations and, above all, personal contacts. Each of these and similar devices must be adapted to the peculiar requirements of education in forestry.

The use of outdoor posters and signs probably will constitute a smaller proportion of educational measures in the future. There is a well-grounded reaction against bespangling the landscape with advertisements. "Beyond the Alps lies Italy" has been paraphrased into "Beyond the signboards lies America." We may offer that forestry signs and posters are in the nature of public notices of real interest; nevertheless they form a part of the piebald collection so offensive to the eye of the wayfarer and the local resident. Moderation in the use of these devices is probably in order. Such material of this kind as may be used should conform to the principles of optics, color psychology, art design and textual apperception.

Press releases should omit self-praise of the issuing agency. They should relate either news events or other information of actual interest to the

reader. Many releases will be printed without cost. However, the income of the typical newspaper of woodland regions is limited and scores of publicity-seeking interests continuously are asking for free space. A reasonable expenditure for the publication in newspapers of material that hardly

can be printed free is not to be deprecated.

In various forest communities it may be found that a large proportion of the people on account of limited formal educational facilities belong to what may be called the non-reading public. Among such are frequently those who are in the best position to advance or retard local forestral enterprise. Under such circumstances careful discrimination must be used in the selection of means and devices. Printed material fails almost completely, and dependence, in such instances, must be placed mainly upon the personal contact, self-explanatory graphic presentations, and physical and financial demonstrations of applied forestry.



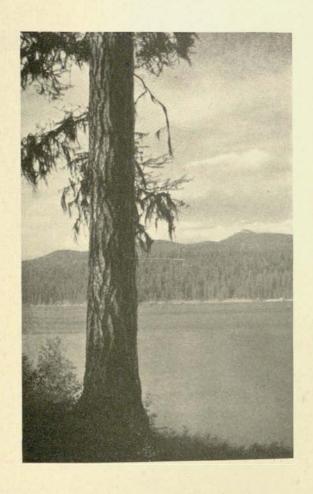
Solitude

By Lou Demorest, '37

I know the joy of living
In an ancient solitude
Where Nature's sign's apparent
Though perhaps her mark is crude;
Where home's stretched out its meaning—
(Its vast, green room out there)
Way out past laws and fences
—And Burma-Shave signs.

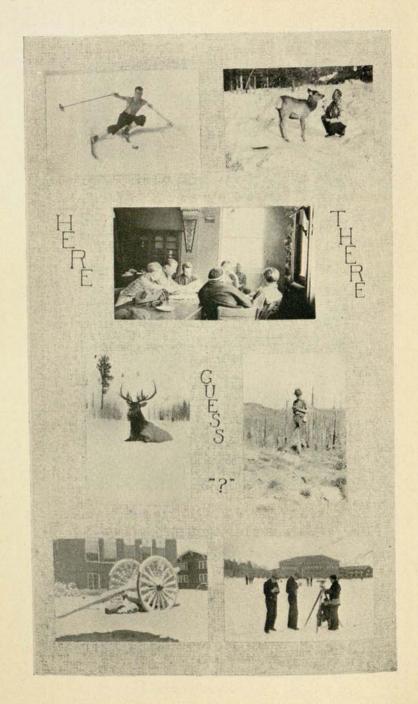
I know the hushed fragrance
Of a quiet fern-closed spring;
I've seen the great hawk circle
As it glides with wide-spread wing;
I've followed winding trails,
In this land of pine and fir,
That leads to places high and far
—From professors' bright lines.

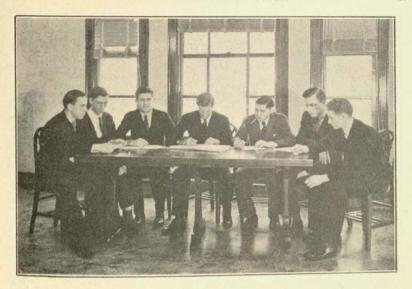
I know that I can see things here
Few men have ever seen:
Lone peaks in far-flung wildness
Traced with silver rivers' sheen;
And night's deep-shadowed mysteries
Fade in the moon's clear light,
While I'm chasing silver moonbeams
—And porcupines.



"A tree and a horse and a friend
These three at the journey's end
Will heal; or if there be
Only a friend and a tree
Still if fate grants not even these two,
A tree—will do."

—Williard Wattles



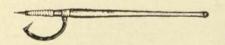


FORESTRY KAIMIN STAFF

Editorial

Men, like trees, are shaped by their environment and in turn have their influence upon it. So during four years here, we have had our place in this phase of our preparation for forestry—training for the future and contributing our share to school life and activities.

With graduation comes the completion of this portion of our work. Alumni ahead of us are laboring to make progress in forestry. Other students will come to take our places, first in the school activities and work, later in the field. It is our aim to present to our readers, in these three groups, a collection of articles and stories dealing with our mutual interest in forestry.













Bernhard, Lloyd, Napa, California Range Management

University of Montana Band, 1, 2; Forestry Rifle Club, 1, 2; Varsity Track, 2, 3, 4; Head Foresters' Fall Dance, 3; Forestry Club, 1, 2, 3, 4, 5; Phi Sigma, 3, President, 4, 5; Foresters' Ball Eats Committee, 1, 2, Head, 3, 4, Advisor, 5; Druids, 3, 4, Vice-president, 5; Kaimin Staff, 5; Student Assistant in Mapping, 4; Student Assistant in Dendrology, 4, 5. Summer work: Grazing surveys, Deer Lodge National Forest, 1933, 1934; Grazing surveys, Beaverhead National Forest, 1935; Compilation Regional Office, winter 1934-1935; Grazing surveys, Deer Lodge National Forest, 1936.

Bolle, Arnold W., Watertown, Wisconsin Range Management

B.A. Northwestern College, Watertown, Wisconsin: Forestry Club, 1, 2, 3, Secretary, 2, President, 3; Druids, 2, 3; Rifle Club, 1, 2, Secretary, 2; Kaimin Staff, 2; Ski Club, 2, 3, President; Foresters' Ball Committee, 2, 3; Student Assistant, General Botany, 2; Bird Club, 2, 3; Mountaineers; University Publications Committee; Interscholastic Decorations; Fall Hike, 2, Summer work: Fireguard, Helena National Forest, 1934; Fireguard, Lolo National Forest, 1935; Forest Service Grazing Survey, Deer Lodge National Forest, 1936.

Demorest, Louis, Chicago, Illinois Range Management

B.A. Botany, University of Illinois; Forestry Club, 1, 2, 3, Vice-president, 4; Druids, 2, 3, 4; Forestry Kaimin Staff, 2, Editor, 3, 4; Student Assistant, Surveying, 2; Forester's Ball Committee, 2, 3, 4; Ski Club. Summer work: Protection, Flathead National Forest, 1934; Protection, Cabinet National Forest, 1935; U. S. Forest Service Grazing surveys, St. Joe National Forest, 1936.

Dominek, Julian, Westby, Montana Forest Engineering

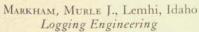
Forestry Club, 3, 4, 5; Phi Sigma, 4, 5; Foresters' Ball Committee, 5; Rifle Club, 3, Summer work: ECW, Lolo National Forest, 1933; U. S. Forest Service Ottawa National Forest, Michigan, 1935; U. S. Forest Service, Lolo National Forest, 1936.

GOODACRE, EGAN, Grandmere, P. Que., Canada Forest Engineering

Druids, 3, 4; Forestry Club, 1, 2, 3, 4; Rifle Club, 3; Foresters' Ball Committee, 3, 4; Hockey Team. Summer work: Type Mapping and Insect Survey, Yellowstone National Park, 1931; Type Mapping and Insect Survey, Yellowstone National Park, 1932; Type Mapping and Insect Survey, Yellowstone National Park, 1933.

Lewis, Harold, Lavina, Montana Forest Engineering

Forestry Club, 1, 2, 3, 4; Druids, 3, Secretary, 4; Forestry Rifle Club, 1, 2, 3; M Club Wrestling Champion, 1, 2, 3, 4; State Intercollegiate Wrestling Champion, 1, 2, 4; Foresters' Ball Committee, 3, 4; Student Assistant, Surveying, 4; Manager Forestry Smoker, 2, 3, 4. Summer work: ECW, Kootenai National Forest, 1934; Timber Sales, Montana State Forest Department, 1936.



University of Idaho, Moscow, Idaho, 1923-1924; Forestry Club, 2, 3, 4; Druids, 3, 4; Out of School—Employed by U. S. Forest Service; returned for fall and winter quarters, 1936. Graduated winter quarter. Summer work: Three seasons Nez Perce National Forest, Flathead National Forest.

McDaniel, Lewis, Missoula, Montana Forest Engineering

Forestry Club, 1, 2; Varsity Track, 2, 3; M Club, 2, 3; Foresters' Ball Committee, 1, 2, 4, 5; Student Assistant, Forest Mensuration, 5. Summer work: Telephone and trail crew, Kaniksu National Forest, 1931; Axeman, Road Survey Crew, 1932-1933; Assistant Road Locator, 1934; Road Locator, 1934; Assistant Road Locator, 1935; Timber Cruiser, 1936.

McClain, Hall, Garden Grove, California Forest Engineering

Long Beach Junior College, 1; Forestry Club, 3, 4; Druids, 4; Foresters' Ball Committee, 3, 4; Student Assistant, Logging, 3, 4; Student Assistant, Silviculture, 4. Summer work: Fireguard, Lojo National Forest, 1935; Field Assistant, Experiment Station, Forest Products, 1936.

Nousianen, Arne, Florence, Montana Forest Engineering

Forestry Club, 1, 2, 3, Treasurer, 4: Druids, 3, 4; Foresters' Ball Committee, 3, 4; Student Assistant, Surveying, 3, 4. Summer work: Blister Rust Control, Cabinet National Forest, Crew leader, 1934; Smokechaser, Kootenai National Forest, 1935; Blister Rust Control Camp Foreman, Kootenai National Forest, 1936.



















ROFFLER, HANS, Hebron, North Dakota Forest Engineering

Forestry Club, 1. 2, 3, 4; Druids, 3, 4; Foresters' Ball Committee, head of "Wood Butchers," 4; Student Assistant, Forest Management, 4; Student Assistant, Mensuration, 4; Graduated fall quarter. Summer work: Northern Rocky Mountain Forest and Range Experiment Station, 1933-34-35; Bitterroot Forest, 1936.

Schramm, Charles H., Cedaredge, Colorado Range Management

Forestry Club, 1, 2, 3, 4; Druids, 3, 4; Phi Sigma, 3, 4; Foresters' Ball Committee, 3, 4; News Letter, 4; Executive Board, 3. Summer work: CCC Camp, Kootenai National Forest, 1934; Grazing Survey, Deer Lodge National Forest, 1936.

Sparks, L. Earl, Missoula, Montana Forest Engineering

Montana State College, 1931-1932; Forestry Club, 1, 2, 3, 4; Rifle Club, 2, 3, 4; Foresters' Ball Committee, 4. Summer work: Six seasons in Flathead National Forest; one season in Apache National Forest, New Mexico; one season in Region No. 9, Michigan and Ohio.

Sparrow, Orville (Dusty), Anaconda, Montana Range Management

Forestry Club, 1, 2, 3, 4, 5; Foresters' Ball Committee, 1, 2, 3, 4, Chief Push, 5; Druids, 3, 4; Student Assistant in Range Management, 4, 5. Summer work: Lookout, Deer Lodge National Forest, 1931-1932; Seen Area Mapping, Blackfoot and Flathead National Forest Service, 1933; Grazing Survey, Deer Lodge National Forest, 1934-1935; Research Assistant, University of Montana, 1936. Winter work: Game Study, Flathead National Forest, 1934, 1935.

McKee, Max H. D., Christchurch, New Zealand
Forest Engineering

Canterbury College; University of New Zealand, 1933-1934; Forestry Club, 3; Student Assistant in Botany, 4. Summer work: Fireguard, Kootenai National Forest, 1935.

TROSPER, WILLIAM, Ronan, Montana Range Management

Forestry Club, 1, 2, 3, 4; Druids, 3, 4; Phi Sigma, 3, 4, vice-president, 4; Kappa Tau, 4; Kaimin Staff, 3, 4; Foresters' Ball Committee, 3, 4; Student Assistant, Silviculture, 4. Summer work: Fireguard, U. S. Indian Service, 1934; Timber Reconnaisance, U. S. Indian Service, 1935; Administrative Guard, Helena National Forest, 1936.

Gable, George H., Rocky Boy, Montana Range Management

Forestry Club, 1, 2, 3, 4, Vice-president, 5; Druids, 3, Vice-president, 4, President 5; Forestry Kaimin Staff, 4; Rifle Club, 2, 3; Student Assistant, Surveying, 4, 5; Foresters' Ball Committee, 3, 4, 5. Summer work: Northern Rocky Mountain Experiment Station, 1933; Geological Survey, Montana State Relief Commission, 1934; Protection, Lolo National Forest, 1935; Range Research, Miles City, 1936.



Good Timber

The tree that never had to fight For sun and sky and air and light, That stood out in the open plain, And always got its share of rain, Never became a forest king But lived and died a scrubby thing. The man who never had to toil, Who never had to win his share, Of sun and sky and light and air, Never became a manly man But lived and died as he began. Good timber does not grow in ease; The stronger wind, the tougher trees. The farther sky, the greater length; The more the storm, the more the strength; By sun and cold, by rain and snows, In tree or man good timber grows. Where thickest stands the forest growth We find the patriarchs of both, And they hold converse with the stars Whose broken branches show the scars Of many winds and much of strife -This is the common law of life. -Selected.



The Montana Druids

By George Gable, President, '37

The forestry honorary fraternity, namely the Montana Druids, was organized in 1923. Its membership is composed of the professors in the School of Forestry and those students of the junior and senior classes who have maintained a satisfactory scholastic standing and are otherwise eligible. The honorary members include the professors of the Department of Botany.

Meetings are held every two weeks, either at the residence of one of the

professors or in the school club room.

We have had the pleasure of hearing several unusually interesting talks by members of the University faculty. One evening, Dr. Shallenberger, of the Chemistry and Physics department, told us of the "visibility meter" which he and Dr. Little perfected for the Forest Service a few years ago. At another meeting, Professor Paul Bischoff related his experiences while on a trip to Mexico last summer. His talk was accompanied by many interesting pictures taken of things outstanding in photographic appeal.

Professor Atkinson of the psychology department was present at one meeting and discussed the subject of leadership and the art of handling

men with whom we come in contact in our work.

At the first meeting of the year, the following men were voted admission into the organization: Professor M. S. Morris, Gene Cox, Burt Hurwitz, Ralph Hamen, Charles Hardy, Hall McClain and Bill Petersen. These men were duly initiated and have since become very valuable and active members. During spring quarter, Kenneth Lewis was initiated into the group.

At 'pring e'ections Gene Cox was chosen president, Dick Williams, vicepresident: Bill Petersen, secretary; Ted Falacy, treasurer, and Royal F

Watters, historian,



The Rifle Club

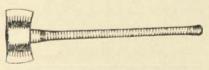
By Dick WILLIAMS, '37

Officers: President—Dick Williams
Secretary—James MacLaren
Treasurer—Billy Watters

As usual, there was a large turnout of enthusiastic riflemen and an especially large percentage of freshmen and sophomores, who after a little practice turned in some very creditable scores. We had difficulty in arranging a schedule for practice because the ROTC Range was also being used by several downtown teams. However, we enjoyed many evenings of "gun rehearsal."

With warmer weather at hand, many of the members are waiting for a chance to use the .30-06 rifles. Five thousand rounds of ammunition on hand promises plenty of sport. Next fall's club members have about 14,000

rounds of .22 ammunition with which to start the season.



And once more the foresters responded to aid in the pepping up of the weekly convocations and not only did they willingly accept, but they really showed the campus that we in the Forestry School have the "stuff." Strange as it may seem, the trio of Torrey Johnson, Bud Trussell and Joe Kanduch, "true foresters," have something special in personality and musical ability that puts them in big demand.

Fall Hike

By BILL WAGNER, '38

This year's Fall Hike was truly an item to include in a letter home. On a choice autumn evening, around 7 o'clock, a group of 150 foresters and their dates crowded the front of the school and clamored for transportation to Pattee Canyon. This was quickly and efficiently taken care of by Pete Peterson, our "ways and means" manager. Everyone was soon at the scene of festivities—a huge bonfire glowed in welcome and the tantalizing aroma

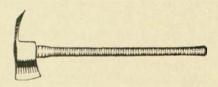
of cooking food was everywhere.

Little time was wasted before the fun started. Jack Fagar, "Georgia" Doyle and a crosscut saw walked off with sawing honors by breezing through a two foot log in short order. The girls had their chance, too, and put some freshmen to shame by an exhibition of speedy tree felling. Then Gage provided us with a "Monkey before Man" exhibition of high climbing. Most of the fellows preferred using their arms to swing an axe at a tree rather than swinging from a tree by their arms! Hans Roffler sledge-hammered through an A-1 tough fir and won first prize.

Needless to say, by now everyone was fair famished for food and when "Chuck" Thielen and Ralph Hansen yelled "come and get it" there was a minor mob scene. The food was well prepared and disappeared at an alarming rate. Luckily, the boys had dates and in their endeavors to

behave as gentlemen, enough was left to go around.

The task completed, everyone settled around the campfire and Bob Jansson's entertainment committee took charge. Bob Newcomer, clever as usual with his imitations, was repeatedly called on for encores. "Georgia" Doyle proved that the "Rebels" from the South knew how to spin a rope; Bob Farmer made his old harmonica melodiously wheeze, the Garner brothers gave vent to some sweet harmony and then the whole crowd joined in, keeping the echoes busy. Everyone enjoyed themselves to the fullest extent—too soon it was time to leave. Singing "College Chums," the crowd climbed in the trucks and went "truckin'" back to Missoula. Bill Wagner, in charge, was assisted by Ralph Hansen and Burt Hurwitz.



Silly Similes

As bewildered as a sheep in Professor Morris' office.

As numerous as Cliff Pool's pencils.

As impenetrable as Forest Mensuration.

As profitable as financing the Business Ad Club's movies. As confused as the professor who has shuffled his note-cards.

As animated as a L. O. during a lightning storm.

As bloody as a porcupine killed by colliding with a "Pulaski."

Forestry Club Smoker

By HAROLD LEWIS, '37

Sponsored by the club as an annual event, the Forestry Club Smoker was held in the Loyola gymnasium on the evening of December 9. The affair, attended by more than two hundred persons, is given each year as a "thank you" for members of the Forest Service, lumbermen in the community and Forestry Kaimin advertisers for the interest they have shown in the school

Boxing and wrestling comprised the major part of the program, the con-

testants being:

Boxing: Art Kennedy vs James Browning, Mel Akin vs Gene Landt, Kenneth Lewis vs Kenneth Leibach, Joe McLaughlin vs Ned Clark.

Wrestling: Stan Vejtasa vs John McDonald.

The comedy highlight was focused upon Bob Newcomer, the "Double-Jointed Wonder" who engaged in a complicated tussle when he wrestled

"Temptation" to a fall in a strenuous bout, with no holds barred.

Much amusement was displayed in the free-for-all in which Austin Madeen, Bernell Brink, George Fritz and Horace Leithead participated. Each man was blindfolded, given a baby rattle in one hand, to advertise his whereabouts, and a boxing glove on the other. In the furious melee resulting, Leithead found himself the possessor of a broken nose.

The evening's refereeing was ably handled by Professor Fay Clark, Les

Tarbet and John McCauley, with Bill Wagner announcing.



The Fall Dance

By BILL WAGNER, '38

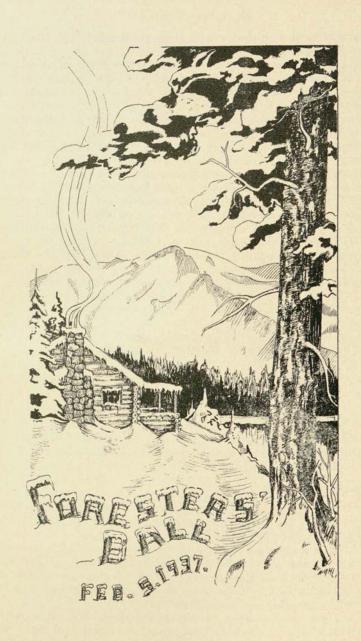
At last this event has assumed its rightful place in the Forest School's activities. Remember when thirty-five and forty couples used to gather at the Women's Gym, waltz around a bit and then call it a night? "Them

days are gone forever."

Last November 25, more than 125 couples gathered in the Gold room of the Student Union building and proceeded to "whoop it up." Music was furnished by Leo Valiton and six rhythm makers. Several old grads joined us in the "New Deal" for Forestry social functions. The highlight of the evening revolved around a circle two-step and old-fashioned waltz. Al Graesser "called" and everyone participated with more vim and vigor than was evident at an old-time barn dance. The faculty of both the Forest School and Botany department chaperoned and derived as much enjoyment that evening as the rest of us.

Continuing its present rate of growth, the Fall Dance will soon become a little Foresters' Ball. A checkup on all expenditures made and the shekels collected showed an even break. Bill Wagner was in charge, assisted by

Bob Newcomer and Norris Quam.



The 1937 Foresters' Ball

By ORVILLE SPARROW, '37

The 1937 Foresters' Ball lived up to the precedents set by former ones and set a few for those of the future. Each year this becomes increasingly difficult but the boys always come through and this year was no exception.

The tickets, favors and programs were decided upon and made up weeks before the Ball. Preparations were started earlier than usual to avoid as few

last minute slip-ups as possible.

The set-up for throwing a good party was perfect. Thanks to Tom Brierley, and his assistants last year, the 1936 Ball left a very favorable impression. Doc Schreiber gladly consented to the use of the gym. No restrictions were placed upon any of the special features; then, too, the Forestry Club was interested and willing to work, the *Kaimin* supplied the best possible publicity and the weather-man gave us a perfect day.

The trips were made to the Jocko for cedar boughs during the holidays.



GETTING BOUGHS IN PATTEE CANYON

The trips up Pattee for fir boughs were put off until later so everyone could

participate.

A convocation was held February 4 in the Little Theatre building. President Simmons, Dean Miller, Dr. Severy and Ray Whitcomb told the Forestry Club what the rest of the University thought and expected of the

Foresters' Ball.

Friday morning at nine o'clock the rush began. The truck crew dashed in and out of buildings with chairs, tables, pianos, pictures, beds, barrels, stoves, bottles and what not. The eats committee, except for the table crews in the dining halls, made little commotion since they were locked up in the Dendro and Silviculture labs preparing the food.

The gym swarmed with foresters carrying axes, trees, hammers, light fixtures and brooms. They were all over the floor, along the walls and

running back and forth across the girders overhead.

In spite of the apparent confusion and excitement special features were







soon installed, the decorations were all in place and the bar was ready for business early in the afternoon.

The usual stream of interested spectators found their way through the maze of trees and foresters during the latter part of the afternoon. Many of the foresters brought their mothers and friends up to view the finished product before they left for dinner.

The dance started at nine o'clock and the crowd was prompt in arriving. In spite of the rush the check room handled the wraps without keeping the

guests waiting in line.

The tickets of white buckskin cost three bucks and entitled one buckaroo and his babe to a good time. The programs were printed upon two pieces of *Pinus morticola* hinged together with a string of tanned hide of *Odocoilius heminous*. The front cover was decorated with a snow-covered cabin in a wilderness setting drawn by Hector LaCasse. Inside were the names of the guests of honor and chaperons and spaces for dances and meeting places. An appropriate poem appeared on the back.

The favors were in the form of a bracelet made from Juniperus scopu-

loum with a white buckskin tie string.

The special features consisted of several old stand-bys: Johnnie Inkslinger's desk, pen, and ink well, Paul's pipe and old boots. The new features were a completely new Paul Bunyan with a new axe, maul, set of wedges and a new and better built Babe. One antique of interest was Paul's crib. It was equipped with rockers, had a wrestling mat for a mattress and two large tarps for sheets. In fact it was large enough to hold Babe. Of course, after all, that's what cribs are for.

The extra-special special feature was a logging camp bunkhouse com-

plete with a barrel stove and built-in bunks.

A smaller edition of Babe pulling a sled load of logs back and forth across the gym carried the numbers of dances. The dulcet tones of the bull fiddle and a circular saw being caressed with a pick handle subtly marked the end of each dance.

Instead of allowing visitors to view the dance from the running track, the dance was broadcast over KGVO from 10 to 10:30. This cramped the boys' style on the sound effects but they made up for lost time when the broadcast was over.

The eating period started at the sixth dance so the floor was never

crowded.

As usual the lunch was served in the library and auditorium of the Forestry Building. Three dances were alloted each couple for the purpose

of eating.

This year the lunch was an occasion rather than a part of the routine. Burt Hurwitz and his advisor, and innumerable assistants, set a mark that has never before been approached. Possibly the effect was not entirely in the old logging camp manner but the satisfaction of the guests reached a new high.

The food was fresh, attractive and well served. Guests entered the halls and their lunch was brought to their table. The crowds were so organized that everyone was taken care of quickly, quietly, and adequately. The cooperation of the dining-hall crews and the quality of the food alone would have made the 1937 Ball outstanding.

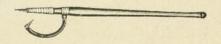
The one slip-up of the evening was brought about by the broadcast. The music was not broken up into the customary definite lengths and there was some confusion in determining the end of each dance. The Columbians, from the Winter Garden in Butte, were exceptionally good and their melodious syncopation was an added factor contributing to the success of the Ball.

A final touch, created by the Special Feature committee, was a very realistic snowstorm that started gently during the second encore of the last dance. A few flakes fell here and there at first and by the end of the dance, the storm was so heavy that the guests deemed it necessary to wander out after their wraps. The "blizzard" was extremely effective and (unless someone was watching us make the snow) entirely unexpected.

Due to NYA and school work, the turnout Saturday was not as good as it should have been, but the fellows that were there meant business. At 3:30 that afternoon, there was "nary" a sign in either the Forestry building or the gym that anything out of the ordinary had ever occurred.

In spite of the new features that were added this year and the increased cost of materials, the 1937 Ball netted about \$500 that will be added to the Loan Fund.

The Forestry School may well be proud of the ability, cooperation and organization that makes possible such a return from a student-handled function.



Nonsensical Newsy Names

By WILLIAM KREUGER, '38

Mixing Bolle Half Price Easy Pickens Fast Walker Isaac Newton Babbling Brooks Arcing Sparks Oh Shaw How Muchmore Lotta Noves Narrow Gage Growing Payne Dream Castles Et Ouam Cold Winters Running Watters

Truthful Falacy Future Farmer Phone Booth Chirping Sparrow Farmers' Mahrt Shock o' Wheatley Stomach Akin Trussell Sprouts Grinnen Barrett All Dunn Hay Cox Dip some Dobson Cashen Carey Fish Fry Clark Gable Coaloil Lamp

Emperor Jones Spider Weber Dog Trott Warm Summers Fence Poston Wading Pool Drum and Pfeiffer Roadside Parker Time O'Day Without Geil Have a Hart Alfalfa Hay Monk's Hood Main Streed Back Page Wood Butcher

The Forestry Club

By Arnold Bolle, '37

Forestry Club, the common meeting place of the school, was first organized a quarter of a century ago and formed for the purpose of creating a closer relationship between student and professor. In those days, all foresters were so closely bound as to almost constitute a clan.

In the last few years, marked changes have taken place. The school whose limit was to be 100, now numbers four times that amount. The



vocation no longer calls one type of man, it beckons to a wide array; the interest is not so centralized and the need for sponsoring fellowship between students is large.

The new attitude made more and greater demands on the Forestry Club which its former policy could not meet, so revisions were made. The establishment of a permanent entertainment committee consisting of two members from each class was one of the first innovations. Headed by Bob Newcomer, the committee "rounded up" some very pleasing presentations. Each class provided the programs which were staged in Main Hall auditorium on separate meeting nights. A wealth of talent was disclosed and the contributions were enthusiastically received. The Junior program was judged best by a committee of faculty members.

This year's activities also included all the traditional club functions. The ments. The club also decided to hold a spring initiation somewhere outcess and much credit is due Bill Wagner and his crew. Fall initiation was held under the direction of Bob Jansson, employing all the customary torments. The club also decided to hold a spring initiation somewhere out-of-doors.

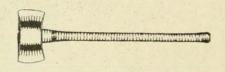
Commendable turnouts were evident at both the Fall Dance and Smoker.

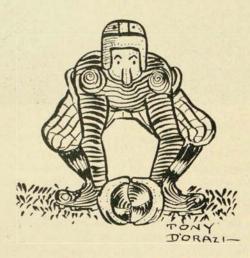
The latter was held in the Loyola gym. A picture contest for club members awarded prizes and created considerable interest, also bringing in a wide

assortment of interesting photographs for the album.

The last major change, one which is still not completed, is the plan to collect club dues from every forestry school student. These dues will be paid as part of the fees in the Fall quarter. A special convocation of the Forest School student body expressed itself unanimously in favor of the idea. This plan would allow a budget to be made in advance and will, it is hoped, take care of the ever-recurring *Kaimin* deficit.

Retiring officers are Arnold Bolle, president; Lou Demorest, vice-president; Bill Wagner, secretary; Arne Nouisianen, treasurer, and Ralph Hansen, assistant treasurer. The 1937-38 officers-elect are Mike Hardy, president; Dick Williams, vice-president; Jim Ballard, secretary, and Bob Milodragovich, assistant treasurer. George Melby was appointed chief chef.





Forestry Athletics

By Norval Bonawitz, '37

Football

The Forestry School was well represented on the gridiron last fall. Don Johnson, Archie McDonald, Leonard Noyes, Joe Pomajevich and Joe Strizich saw plenty of action in the line positions while Norval Bonawitz saw action in the backfield. The Grizzlies got off to a slow start but ended

the season in a series of victories, winning six out of nine games. This

was Bonawitz's last season on the varsity.

On the Cub squad was such promising material as John Emigh, a speed king; Lilburn Tate, Frank Popiel, Allen Chesbro and Glen Van Bramer. All of these men will probably see action on the varsity next fall.

Basketball

On the Cub basketball team were two tall speedy foresters, Bernard Ryan and Thurman Trosper. Both of these boys will have a crack at the varsity team next year.

Track

The track squad is well scattered with foresters. On the varsity are Phil Muchmore and Howard Wheatley in the jumps, Horace Godfrey in the distance runs, Bob Hileman, a hurdler of no mean skill and Horace Leithead and Bud Vladimiroff, weight tossers.

The freshman foresters out for track are Jack Pachico, Jim Quinn, Thur-

man Trosper, Bill Howerton, George Fritz and Frank Kirkpatrick.

M Club Tournament

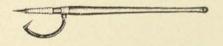
A record crowd turned out to see the "leather pushers" and "grunt and groan" artists present their stuff at the M club tournament. It seems Lady Luck was against the foresters in the boxing game but she looked with a little more favor upon the wrestlers, allowing Al Muchmore, Bud Kennedy and Harold (Strangler) Lewis to win their matches. This was the fourth consecutive victory for Lewis in this event.

Minor Sports Meet

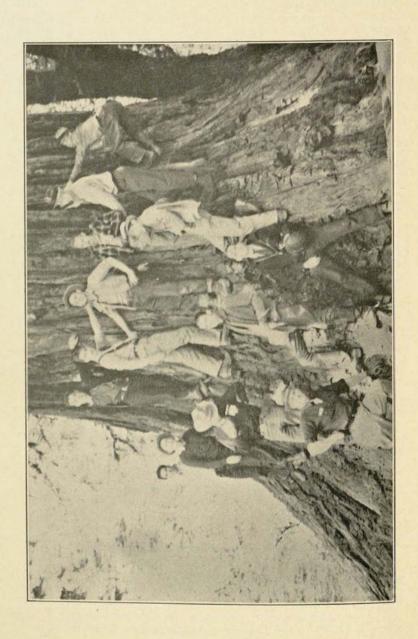
The Grizzlies again retained their crown in this meet. Harold Lewis won his wrestling event and in so doing won the only honors for the University in the wrestling events.

Intramural Basketball

After finally getting started, the foresters came from behind to split a three-way tie. If more time had been available for organizing the team, they would have undoubtedly taken the honors. Due credit must be given the Castle brothers, Norris Quam, Phil Muchmore, Howard Wheatley and Stacy Struble.



Young slipp'ry elm was poplar with a certain clinging vine,
He liked to cedar lovelight in her buckeye's when she'd pine.
Said he, "If I can have a date I know I'll fall fir yew.
I'll spruce all up and meet you on the beech at half past two.
He elder palm and said to her, "Oh, willow marry me?"
I'll balsam, yes, and cry for you, if you'll be my Christmas tree.
Her coconut fell on his shoulder as she vowed she'd be his wifey,
Poor slipp'ry learned too late, that his clinging vine was poison ivy.
—Western Florist.



Senior Spring Trip

By James McLaren, '38

Spring quarter is well underway; bud scales on acer and ulmus around the Oval have begun to swell with signs of life and the bluegrass and dandelions are already in competition.

Ordinarily at this time of the quarter, each graduating class makes a tour of the northwest—thereby enabling direct contact with activities connected with the forest. Unfortunately, this year's seniors are being deprived of this opportunity due to a conflict between the proposed date set for the trip and Civil Service exams.

In 1936, thirteen seniors with Fay Clark as supervisor, were not seen within the portals of the School of Forestry from April 25 to May 21. The Foresters' new Ford V-8 was "rigged up" to accommodate the sight-seers; bedrolls were provided by the Forest Service and nights were spent in tourist camps en route.

Outlasting even the personally told tales, is the diary that was kept and later mimeographed and bound. Progress of the trip, operations and sites observed and any items of interest were recorded each day.

Trailing the trucksters and their stops along the way, a halt was called at the Phoenix Logging Company of Quelcene, Washington. Clearcutting with "cat" and Fairlead arch skidding was seen. Selective cutting in Douglas Fir with donkey skidding and slack line is also practiced there.

At the Pacific Lumber Company in Eureka, California, the seniors were given a ride on the cars of a cableway incline to the scene of operations. A donkey engine was used to raise and lower the cars on a 25 per cent grade.

Various mills were visited which showed the manufacture of timber, shingles, plywood, boxes, paper, by-products and the processes connected with each. Experiment stations at Priest River, Idaho; Vancouver, Washington, and California showed them various experiments, instruments and the activities carried on by each station.

Conditions of grazing land were also examined along the Oregon coast and the Sierras. Sheep predominated the range and overgrazing was evident in most places.

Mt. Rainier, Golden Gate, Yosemite and Crater Lake National Parks were among the scenic and recreational places visited. The only active volcano, in Mt. Lassen National Park, was interesting and awe inspiring. Bridal Veil Falls and the largest western Yellow Pine (98 feet 3 inches DBH) were noteworthy.

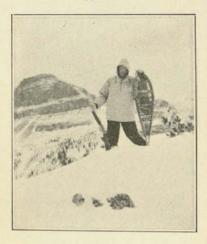
So having covered over 4,000 miles by truck in little less than a month's time, the seniors again "hit" Missoula and ended their last trip together.

To our congenial but comical Bob Newcomer, we offer congratulations; his versatility has provided a lot of laughs. By the way the freshmen put over their first year, we've got to be watching them or else—.

Ups and Downs on Game Patrol

By H. A. "CASEY" STREED, '39

It had been 20° below when I pulled out in the morning from Basin Creek cabin on the South Fork of the Flathead. It didn't seem so cold now—so I stopped. For three solid hours I had been "picking them up



and putting them down" (which in other words is snowshoeing), this being the one and only effective means of getting over deep snows. The sweat stood out on my brow and big globules fell from the tip of my nose—it was tough going and each step made me sink in a foot or more; I heartily wished for a good crust.

On this day I was playing double role, not only carrying a pack but at the same time "breaking" my own trail. My pardner and I had decided to split our patrol, thereby gaining a few days on our circuit. An extra day or two came in handy as storms always retarded us in traveling. He was to go to the Sugarloaf Mountain

tent camp and I was bound for the tent camp located on the west side of Hoadley Reef. The following day we were to check "elk drift" on the Continental Divide, taking about three miles apiece "on top of the world" and then work our way back to camp. The third day we were to meet at Basin Creek cabin again and there work up our field notes.

The scarcity of game tracks in the country through which I was traveling proved one of two things: either the drift was over or else heavy storms had been in progress higher up. An ominous silence hung over the wilderness and except for the swish-swish of my "webs" I would have taken it for a world apart.

At noon I stopped for lunch—namely a sandwich, candy bar and an apple (which by the way wasn't frozen, either, thanks to a pair of woolen sox!) I pulled the hood of my parka back, but a minute or two made me decide otherwise. It was nipping cold and as I munched on my sandwich thoughts raced through my mind like steel-tipped darts. What if I broke a "shoe"? What if I broke a leg? What would happen if I broke through the ice on the creeks and rivers in sub-zero weather? A broken shoe could be mended by use of splints and rawhide lace. A broken leg spelled one of two things, terrible suffering or else death. Getting soaked in zero weather would be a tragedy—and so on I mulled over the age-old question, carry on in order to survive. To fail meant "curtains."

Lunch over, I hurried on. A mile from my camp Hoadley Reef loomed up on the grey horizon. On its slopes I could see that there'd be heavy snows to buck in that country on the morrow. I also knew that I'd experience new adventure, and adventure in the high country is unsurpassed.

I finally made camp. It was a small 10x12 tent under a bough and shake lean-to, which protected it from the heavy snows. The snow was fully four feet deep and with considerable milling around I finally got my "webs" off. Opening the flaps of the tent, I entered into what was home to me—and what a home! The little Kimmel stove, grub boxes and small bunk all looked like a million dollars; to top it all, a goodly supply of firewood had been put in. It's a chore to rustle wood in deep snows.

I started the fire and the next question was water. It was necessary to cross a creek a hundred yards below camp so I went there with my bucket and axe. I chopped through two feet of ice and no water; on down I went hacking and scratching but still no water. I finally hit rock—the bottom of the creek. So I filled the bucket with ice and melted it on the stove.

I rolled in early and got a good start the next morning at the long grade leading to the top. It had snowed during the night and the wind howled as it blew "flurries" against my tent. Looking out I didn't have to wonder why a large white weasel had spent a greater portion of the night in camp with me. He appreciated the warmth, though at times by the rays of my

flashlight, I did think he looked kind o' bloodthirsty!

It finally became light enough to travel. Pulling on heavy sox, pacs, an extra wool shirt and finally the parka, I was ready. My webs were outside, so grabbing my gun and slipping a few extra clips in my pocket I bore out into the frosty air, which seemed to be filled with so many ice crystals they jabbed my lungs like spears. After getting the webs on I started up the trail. And up it was. Several hours passed before I finally reached the top. It was ample reward to get there; all around was snow and more snow, and such figures as the trees made under their burden of white! To the east and west the expansive wilderness rolled, to the north and above me Hoadley Reef raised up in majestic silence, while towards the south Sugarloaf Mountain added its gigantic structure to Nature's design. It was then I thought about Bill, my ranger pardner, as I well knew that somewhere to the west of that huge mound of rock, he also was having his trials and tribulations.

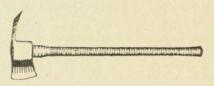
I started south on the Divide. The snow was deep and the going bad. Often I'd fall down, much to my sorrow; then and there I'd voice my sentiments and then "heave to" again. At last I came to where the wind had a direct hit at the slope; shale rock was laid bare and what a razor edge to cut the strings of my webs! To avoid that, I kept close to the

edge of the reef where the snow had started to "comb over."

Directly below on a long continuous slope snow lay packed 15 to 20 feet deep. The slope was gradual and stretched down for fully a quarter mile. In the distance an Alpine lake with its glistening surface gave more radiance to the scene. As I turned to go, I saw the snow upon which I was standing crack open with a sound like the tearing of heavy canvas. I had a vague feeling of sinking, and then with a *crunch* and a *crash* I was taken for a ride. I lost my rifle on my way down and cakes of snow bounced over me. Sometimes I was under and again on top, rolling like a barrel and bouncing like a rubber ball. In a few seconds it was all over. I lay with my head down the slope, the pack under my head and the snow-

shoes on my feet like two semaphores—the tail pieces being buried in the snow.

The place where I had broken loose was visible about six hundred feet up the slope. I squared myself around, felt for broken bones, looked for broken shoes, but luckily suffered neither. By good fortune my rifle was sticking in the snow about half way up my path of descent. After careful meandering it was recovered and then with considerable effort I snow-shoed south and went up the Divide again, none the worse for my experience. That evening I spent in my tent camp and late in the afternoon of the following day, I once more "hoofed" it to Basin Creek cabin where Bill was waiting supper for me.



The Five-Year Plan

By GENE COX

Both faculty and students of the Forest School have for several years felt the need for an extended curriculum to alleviate the strain of too many courses crowded into a single quarter. It has also been felt that the foresters' education is too strictly technical and lacks the balance of a wellrounded curriculum including more generally educational subjects.

With these needs in mind, a conference of educators on the staffs of northwest forest schools was held at Spokane last winter. The Universities of Oregon, California, Idaho, Utah and Montana were represented. All of the schools agreed to modify their curricula to include a five-year schedule. The University of California is ready to install the new arrangement next fall and Montana, although its curriculum is not yet complete, will start

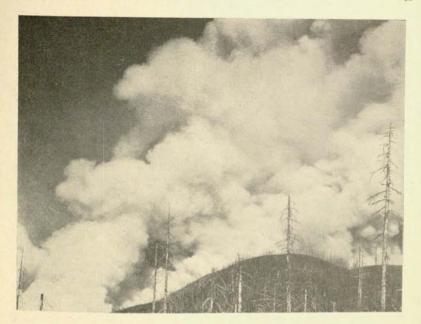
next year's freshmen on such a program.

The new course will include more English, Economics, Physics, a full year of Chemistry and other selected subjects. It is planned to concentrate the technical forestry courses in the fourth and fifth years and devote the underclass training to a broader and more general foundation. The degree of Bachelor of Science is to be granted at the end of the fourth year, with the fifth year's work leading to a master's degree in Forestry. The degree of Master of Science in Forestry will not be used in the new system.

It is felt that the new plan will turn out a better equipped forester and a more generally educated professional graduate. Quoting Professor Ramskill, "It is a step forward in forestry education; we have always recognized the impossibility of equipping the forester in a four-year curriculum. Instead of turning out a purely technical forester, the object is to turn out

a forester with a better rounded education."

There would be fewer forest fires if the only sap present were in the trees.



Crown Fire

By Albert Muchmore, '39

Smoke, flames, heat—the whole universe, it seems, is burning. I look up just as a horror-stricken expression crosses the foreman's face. Across a green neck of timber below us, red streamers of flame are shooting up over the trees.

"Let's get out of here, she's crowning," he shouts above the increasing roar.

As if that were the signal they have awaited, the flames surge up, leap toward us in a solid wall. Fifty, a hundred, two hundred yards at a bound they charge up the slope.

"We're trapped," someone screams.

Waving a signalling arm to follow, the foreman dashes directly toward that awful wall of fire. Blindly, trusting his judgment, we follow, crashing down the mountain side, running for our very lives. Hot sparks and burning twigs shower around us. The air is scorching, like the superheated blast from an open-hearth furnace. A man falls. Before I reach him he is up running again. Overhead, tree tops are bursting into flame. Above the din, trees explode with thunderous detonations. We race on, veering to the right around the slope, away from the path of the fire. Suddenly we come out into a meadow. Safe! A slow, stagnant stream meanders aimlessly through it, with here and there a green scummy pool.

And there was the Timber Mech. student who thought that the Wheatstone Bridge was a type of truss construction.

Night Work at the Lookout Station

By Bob HILEMAN, '38

A storm is in the air. The lookout, sensing that "stormy feeling," waits—disregarding all weather reports to the contrary. The sky is as blue as the ocean, yet to him the humidity and air currents in the atmosphere



furnish telltale evidence. As the sun sinks slowly toward the last visible range of mountains, a dark haze can be discerned in the southwest. Time hangs heavy. The telephone rings, giving the unwritten signal for the fire guards to finish their evening chores and put on their earphones for the after supper social hour. Minor topics of discussion give way to the ever popular subject—the weather. Static and a crackling over the earphones becomes more and more pronounced as the storm draws nearer. By now the sky is completely overcast by a thin sheet of clouds, and the approaching darkness turns the searching eyes of the lookout to the

southwest. No characteristic thunderheads are visible as yet, merely a dark mass of clouds slowly gathering volume. Faint flashes in the distant sky indicate that lookouts in another forest must already be busy. The ranger station is notified "it won't be long now." Other stations are questioned. In a few minutes the approximate distance and direction of the approaching storm is charted. Small flurries of rain are now visible against the western skyline. Sharp clicks in the earphones accompany the distant lightning flashes—indicating to the listener that it's almost time to get off the line.

A tense feeling is instilled in the lookout who has watched the storm approach the edge of the district. Deep rumblings of thunder, following each flash of lightning, reach his ears. Other similar nights are recallednights which found smokechasers hurrying toward fires, lookouts peering intently into the darkness for flare-ups, and telephones burnt out by lightning bolts.

By all outward appearances, the storm promises excitement. Darkness, save for lightning darting to the ground and between the clouds, has enveloped the area. Azimuth readings are now being recorded on the most prominent strikes still several miles away. Unnoticed by the lookout, another cloud is forming only a few miles to the south. It is dropping tiny streaks of rain and gathering electrical charges as it sweeps northward.

Suddenly without warning a streak of lightning darts from the cloud, making contact with the earth two thousand feet below. For a split second the surrounding mountains stand out in clear profile. His back turned to the cloud, the observer is unable to locate the strike. Minutes drag on, only the deep rumble of distant thunder breaks the stillness. Flash! A second bolt streaks downward from the tiny cloud, now directly overhead. Jingles from the telephone indicate that the bolt had grounded somewhere close. Overhead the sky is reverberating from the sudden expansion of air in the path of the discharge. Flash! Another thunderbolt strikes, illuminating the surrounding territory as though the sun had shone for the

fraction of a second. Simultaneously another light appears—hideously out of place in the darkness below. Tiny flames leap skyward. In a few seconds the lookout has recorded the azimuth of the fire. Now he is busy attempting to judge the distance to the flames, thereby locating the fire on his map. The telephone rings. A voice from headquarters reports that a fire can be seen by another lookout in this territory. In five minutes a report on the fire is turned in and with azimuth readings given by another lookout, the dispatcher accurately locates the fire. The flames have reduced to a tiny point of light barely visible to the observer. The voice from headquarters is again heard. This time no questions are asked, but instructions are issued. In five minutes the lookout is on his way to the point below. Another man is being sent to the station to fill the temporary vacancy.

The cloud has passed northward leaving in its wake a tiny point of light now reduced to a few dying flames, while distant flashes in the northwest indicate that the remainder of the storm has swung beyond the district. Stars are peeping through the openings where the last remnants of clouds are dispersing. Somewhere under these stars a lookout is heading for a spot on the earth corresponding to a point on his field map. If all goes well he will be back to his station by dawn. The lonely vigil is now

broken; the days of watching and waiting have not been in vain.

Nomenclature

By THE OFFICE CREW

Weary and Akin, the Newcomer got off his horse and taking his Flint

made a fire at the Bottomley of the Greene Forest Hill.

"Bernhard, little fire," he Schaertl-ed as the Sparks flew, "and Fry my Bokum (bacon) for I am Muchmore hungry than a Choate." Then as he sat in the Lee of a Hardy fir Duncan a doughnut in his coffee, he thought of his Polley and that he would soon Cyr. At the break O'Day he rolled out to give his Dunn-colored horse Limpus, some Hay and Watters.

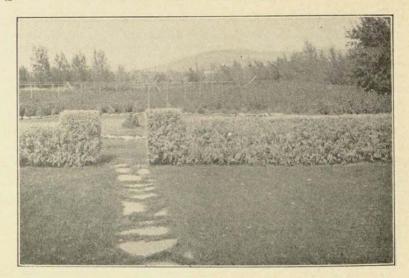
Then he began to Trott down the trail singing of "Those En-Doering Young Charms" and "Hurwitz are dull but she's Fuller Geil." Hearing a Noyes, he looked Beck. "Moy Godfrey," he cried, with a Quam, "A Bauer is Commings! I must Lash my horse's Seidensticker with my spurs and

Schramm out of here or he will Koch us!"

"Quanbeck," he yelled, "afore I Butcher yore carcass and throw it over the Brink of the Cliff." On they raced until he could see the Gable of Polley's house with the Barnwell in the rear, set in a Goodacre of Mead fringed with Underwood and surmounted by a White Peak called Mt. Hood. Here all was peaceful. A Martin splashed in a Little Lake, Robbins sat on a Poston sang, a Dusty little Sparrow bathed in a Pool and a dog ran to meet Timm, Wagner tail.

"Hi, Polley," he called, "How is my Besst girl?" Soon the Campbell rang to Collum to eat and drink some Goodale. The Lamp was lit, and as she Preston to her Hart, they built Castles in the Ayer (s). The Graesser

had come home!



Forestry School Nursery

By ROBERT JANSSON, '38

The Forestry School Nursery, under the directorship of Professor J. H. Ramskill, has just finished its most successful year since its organization in 1927. Tree sales and distribution approximated 700,000 trees, 88 per cent better than the previous season, which was the best year up to that time.

In order to handle this increase in production, many changes in policy, supervision and operation were necessary. In spite of the lack of preparedness in handling large orders requiring crating and special packing, the culmination of the shipping season was two weeks earlier than usual. This extra time is needed for ground preparation for the tremendously increased planting program.

Much credit is due Clarence Muhlick, the new nurseryman, in handling the shipping and planting, and to Professor Ramskill in obtaining large sales, thereby enabling the nursery to purchase new equipment and sup-

plies heretofore impossible on a well-narrowed budget.

Orders were shipped to 10 different states. The largest purchaser of nursery stock was the Soil Conservation Service, which ordered 353,000 trees for the Great Plains region. Two hundred eighty thousand trees were distributed to the farmers and ranchers of Montana; 27,000 went to other government projects. Ten thousand trees were used for game bird refuges and experimental work, while 30,000 went to miscellaneous agencies and corporations.

Therefore, it can be seen that the Montana Forestry School Nursery is actively engaged on a national scale in producing trees for the important work of soil preservation and reclamation. The work as carried on by the nursery has given Montana student foresters a glimpse into the future as to the research work that must be done and the practical need for the development and conservation of the nation's primary resource, the forest.

Summer on the Flathead

By RALPH HANSEN, '38

My preceding summer was spent with several others from the Forestry School in one of the most primitive parts of the United States. I had been scheduled to become a part of the Flathead National Forest's protective



force but the middle of the summer found me on a timber survey party instead. With the exception of the chief of party and the cook, all the members were forestry students hailing from four different schools. Two of them were seniors from Washington State College, one a senior from Utah State, another a junior from the University of Idaho and the remaining two, Hamilton Hough and myself, from the Uni-

versity of Montana. Most of our summer work was centered around Swan and Flathead Lakes and some up the South Fork of the Flathead.

Swan Lake is located east of the Flathead and in my estimation is one of the choicest spots in the Forest. The beauty of the lake is further enhanced by the many pretentious summer homes bordering it. Several millionaires from the east spent their summer "roughing it" in what appeared to be palatial log castles. Many times we industriously worked within the vicinity of these homes, not of course to tally tree diameters, but tallying the DBH of some fair dudette who happened along!

Another spot of interest near the lake was a small logging operation on a National Forest timber sales area. All the logs within a mile of the lake were skidded to it by caterpillar and later towed to a portable mill at the

We were also fortunate, while working here, to be close to a large forest fire without having to go out on it ourselves. All of one Sunday was spent in watching the fire crown, as it swept through 2,000 acres in a few hours. A well-timed rain brought relief to both the fire and the Forest Service officials in charge.

Working on the east shore of Flathead Lake for most of the remaining summer, placed us within "reachable" distance of town and again in the heart of the summer home district. A government boat, placed at our disposal, became very convenient as a fishing launch although its primary use was for patrolling.

The last two weeks of the summer was spent in virtual isolation on the South Fork of the Flathead near Spotted Bear Ranger Station. The big attraction of this territory was the abundance of wild game, including bear and elk

So all in all, I had a great summer seeing a wonderful country, meeting a bunch of swell fellows and above all getting some valuable experience.

How much can you get for a pelt of Douglas Fir? How many pelts would it take to make a warm coat?

Blister Rust Control

By ARNE NOUSIANEN, '37

Most destructive of white pine in the United States is Blister Rust by which eight native five-needle pines of the country are affected. Today the rust (*Cronartium ribicola*) is found in the east, throughout the Lake states, and as far south as Maryland and northern Virginia. In the west it is found in Washington, Oregon, California, Idaho and Montana. As yet it is not of great economic importance in Montana, but nevertheless extensive eradication is being carried on.

Control of the rust has been based on the destruction of Ribes, since the fungus needs two hosts to complete its life cycle. Local control has been developed in both the east and west, based on the fact that the rust is unable to spread from Ribes to pines for more than a few hundred feet. In the east over 800,000 acres are being protected annually. During the decade 1918-1928, more than 6,000,000 acres of white pine were cleared of infection. Since then, the work has spread to nearly all white pine areas of commercial importance and with the growing need of this wood, the work will undoubtedly continue for years to come.

Species of most economic importance in the northwest are Ribes petiolare, R. lacustre, and R. viscosissiumum, the former two being found along streams, and the latter on uplands in dry areas. The most serious rust carrier has practically been removed. This was the species Ribes nigra (domestic black current) upon which a quarantine was placed in either 1923 or 1924. With a cooperating public, most of the existing berry bushes have been destroyed. This particular type of eradication required contact with all ranchers and farmers throughout the country and a convincing delivery of "sales talk."

Hand eradication has been and is in common practice where Ribes are accessible, easily detected and not too numerous. Direct burning, the bulldozer and chemical means are also employed. The bulldozer is used in a fairly level country, where the alternate host of disease composes most of the ground cover. Chemicals are used on heavily inhabited areas of Ribes.

Pre-eradication work, consisting of locating infested areas and Ribe concentration, is generally done in the fall of the year. In doing this, strips are run at 20 chain intervals across drainages in white pine areas. In areas where the Ribe concentration is great, camps are established. The regular work starts in the early spring, as soon as the snow is off the ground. Camps of from 30-60 men are generally maintained, supervised by one camp boss and an assistant.

One checker works in connection with the camp superintendent. His job is to map the timber types, drainages and Ribes concentration. He goes through the area at every 10 chain interval before the crews start actual eradication. On worked areas he runs strips every 5 chains, making a 4 per cent check of the work on upland and an 8 per cent check on streams. Twenty-five feet of live stem are allowed on any worked area. The area is re-worked until it passes the check. The checker can cut out

much of the area by stripping, as in the case of dense pole type where Ribes

are only found in wet patches at distant intervals.

Crews work in three-man units, one being in charge. By the aid of string lines, narrow strips are worked, the width depending upon the concentration. Streams are worked and checked separately to insure greater efficiency. All Ribes are pulled by hand with the aid of "hoe-dags" or short handled picks. Care is always exercised to get all main roots of the bushes, especially in wet areas. Crews work from one and one-half to four acres per day depending on Ribe density and roughness of terrain.

Ribe eradication is becoming more important every year. To many, this work represents "just so much money spent for nothing" or just another "alphabet" project-something to do for the reliefers, but by considering Montana as an example, the efforts already made have not been in vain. Infection hasn't increased or spread to any great extent since eradication began. Because control methods were started before the pine stands became affected, it is possible that many of the areas will be protected from all rust infestation.

New Buildings

By OSCAR GUTTORMSON, '39

Because of the necessity of maintaining satisfactory classroom conditions, the University has made a sudden spurt in the construction of buildings to house its rapidly increasing student body. At present there are upwards of 2,200 students, and the enrollment has been boosted tremendously each successive quarter. Until the new buildings are ready for occupancy, classes will continue to be greatly overcrowded.

Construction was begun last fall on the new Journalism building, between the Forestry School and the old hockey rink, which alums will remember (and which has since been torn down); somewhat larger in

size, it will match the Forestry building.

Southwest of Craig Hall, on Maurice avenue, work is proceeding on an

art museum, built by Missoula Woman's club and WPA funds.

Mr. Swearingen of the Maintenance department, recently announced the OK of plans for a new women's residence hall. This hall, to be ready for occupancy around October 1, is to be located south of Corbin Hall and facing North Hall. It will be built so that more wings may be added to it in later years, filling out the quadrangle of residence halls to University avenue.

Plans have also been going ahead for a new Chemistry-Pharmacy building. Although nothing definite has been done, promises of federal money to complete the project have been made, and it is fairly certain that work will begin when the final plans are drawn up. It will be erected in the present ROTC field, south of the new Journalism building.

In addition to this, there are rumors of constructing a new armory for the ROTC corps here. However, as yet, nothing certain has been done. And in the Forestry School there is wailing and gnashing of teeth, for

next year there will be a new and larger campus map to be made by the

surveying class!

Lesson in Conservation

By Robert Coombs, '38

Possibly many of us westerners are a bit inclined to take a "for granted" attitude about conservation. We have our forests and are willing to take all manner of methods to protect them. Yet we only distantly realize what a lack of this conservation would mean.

My own understanding of the value of conservation was decidedly vague until I spent some time with the Forest Service in the Lake States region—in the great White Pine graveyard of Michigan and Wisconsin. Seeing the lonesome white tombstones of wood still sticking up, monuments—not to the greed of early lumbermen but to an unseeing public that knew not the value of conservation. Seeing mile upon mile of scrub oak brush, valueless, thriving at the expense of more valuable species that could not compete upon sand robbed by repeated fires of its rich, thin top layer.

Traveling through towns deserted since the sawmill stopped. Passing by acre after acre of submarginal farms wrested from the forest by hard labor; farms that are continually blowing away, that should never be robbing the



THIS WAS ONCE A FARM IN MICHIGAN

soil of its meager food; only enough to grow trees, not orchards and potatoes. Seeing streams—the Au Sable, Pere Marquette, Mainstee, once the best for trout fishing in the country, now warm and murky.

Perhaps noting from time to time a lone veteran White Pine towering majestically aloof above the lowly oaks and aspen. One rarely sees any progeny under these old ones. Maybe still remembering the fate of their brethren, they hesitate bringing new life into this grasping world.

Also one sees many people; campers and fishermen trying so hard to find solitude and escape from the heat of the oppressive Detroit and Chicago summer. Their tents can be found in every available clearing on the lakes

and streams. This is their vacationland, their escape, and they enjoy it; but I think how much more they would enjoy the coolness and beauty of large pines, of good fishing and hunting—their real heritage which can only be regained by their indulgence and the efforts of conservationists, the Forest Service and state agencies.

I was surprised to find that these agencies, especially the Forest Service, stress a continuous policy of Public Relations work. They had found that to be able to really practice conservation, to build up this decadent land, the public must show interest and cooperation. Here the objectives differentirely from ours in the west—our big job is to protect what we already have which people can see and appreciate. Theirs is a problem of bringing forth something that most people have never seen, never realized and therefore must be educated to.

Also recreation, fish and game work was being stressed. I was told that the public could be shown acre after acre of young planted seedlings, an excellent thinning or release job, even mile after mile of truck trails and firebreaks without becoming enthusiastic. But show them an improved stream where you have made it possible for them to catch a few trout or give a nice place to camp with fireplaces and a beach and they will be an eternal friend of the Forest Service adn all its policies—policies which will some day bring back the White Pine to the Lake States.



Sleigh-Riding Without a Sled

By Ed Shults, '40

At the headwaters of the Selway river in Idaho, between it and the famous Salmon river, is a watershed in the form of a loop at an elevation of nearly 9,000 feet. Along this high ridge, the Forest Service has a main telephone line with branches here and there leading to the various lookouts. The line is always broken in several places by heavy snows and it is almost an impossibility to repair the breaks until July. The job of its maintenance has traditionally become known as "the trip around the horn."

A few years ago, I had a crew of men on this location doing reconstruction and maintenance work. We were lounging around camp on the evening of July 3 when the telephone rang. It was the District Ranger; his orders were to take one man, saddle horses, a pack horse and a light outfit for the "trip around the horn."

We put out outfit together that evening and early the next morning wrangled the horses and were on our way by 7 o'clock. Our chief anxiety

was to get through one of the passes before the snow became soft, as the only way one could get the horses over it was by skirting the base of a rock cliff. It was very steep and if the snow was crusted, the horses were better able to keep their footing. Hurrying along, we repaired line as we went and arrived at the pass around noon. With considerable difficulty, the horses were worked through the niche.

This point of the ride became so rough it has been named the "Knifeblades." The trail drags over a rim, switches back down about a 70 to 80 per cent slope for half a mile to a mountain lake, and then on down Dark Canyon, grading out to a low saddle on the main ridge. The snow stays there all summer and when we made our trip, there was a continuous

sheet of it from rim to lake.

The telephone line was buried, so after safely getting the horses through, we went back to dig it out—not a successful venture as the snow was mostly ice. I decided to work my way to the edge where the line emerged again. With one man at each end, we were going to try sawing the wire up through the barrier. Just reaching the edge, I lost my footing and proceeded to travel in a downward direction, sitting, with my feet going on ahead!



Skimming along (and getting warm in spots) I tried to make up my mind whether to dive in the lake or go in feet first; my mental debate was interrupted by a break in the snow in front of me. A portion had melted and left a strip of slide rock directly in the path I was pursuing and from which I was unable to alter my course. Very soon I was bumping along the rocks, unhurt, not even bruised; the only damage being to my tobacco can in a hip pocket—and it was badly bent! Just to have finished that perilous descent was a distinct relief, and at that moment the slide rock was quite as welcome as a pile of hay.

Working my way along the stretch I had so hastily come down, I

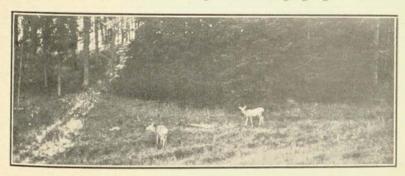
returned to the top and we finished removing the line.

The lake was our camp for the night. As we rode down Dark Canyon early the next morning, we could look back and see the sunlight shimmer upon the waterfall at the lake's outlet—a truly beautiful sight. The field of snow above the lake was oddly marked with a whiter strip starting at the rim and ending abruptly in a strip of slide rock. The trail rounded a point in the ridge and the head of Dark Canyon was lost to view. There remained just the memory of another experience.

Twilight

By RUDY PEDERSON, '39

Tired of the smell of cattle, the dirt and dust, I was glad when a cool damp breeze carrying the smell of wet wood from the river below started gently to flow past me. The light from the sun now gone down was reflected from the atmosphere, and flooded the canyon in a red haze of light. The high spires of rock on the canyon walls took on new color; the road unfurled before me like a ribbon in the bright red sunset. The sighing of the wind in the trees mingled with the gurgling of the stream



below. All that disturbed these sounds was the constant clip clop, clip clop of my horse's hoofs striking the rocks. Gradually the red light faded into a dark shadowy twilight purple; only the highest rocks held the brighter

red light.

While starting around a long bend, I noticed that my horse had raised his head and pricked up his ears, giving me, I thought, his old sign that other horses were near. Upon rounding the curve I saw standing, about fifty feet to my left, five deer. There were two does, their heads lifted, and one hoof held in mid-air as if stopped on its downward motion, standing in front of three fawns. The fawns, their heads held to one side in a curious manner, the brown of their hides sharply contrasted with the lighter gray of their mothers, posed not unlike a proud little boy for his first picture. I had stopped and was enjoying the scene when my horse, impatient and wanting to get home, pawed the dirt; the deer vanished in one jump. The sound of rocks rolling down the hill ceased; twilight gradually faded into night.

And then there are those who think that the Cascara tree produces that cosmetic used by women to make their eyes attractive.

"Hi" Lyman, a junior in the school, gleaned 54 grade points winter quarter—or in other words, an A flush.

Breathes there a student with head so dead Who never to himself hath said: "Would that I too might brilliant be And in my handbook straight A's see!"

The Organization of Foresters'

By ORVILLE SPARROW, '37

Foresters' Ball is the biggest annual dance put on by any University organization. The crowd is the largest, the tickets sell for the most and the net income alone is greater than the gross return on many University dances. The foresters attract much attention and have a lot of fun putting it on.

Then there is the loan fund. This fund, built up over a period of years now amounts to around \$3,000. It is continually assisting Juniors and Seniors over the rough spots.

The dance is known all over the Northwest and is excellent publicity for

the Montana School of Forestry.

These things are all more or less tangible and recognized values but there is another value that is equally important which undergraduates frequently overlook. That is the opportunity the dance presents for training in cooperation and organization.

Every student in the forest school is given a chance to participate. Freshmen, transfers and graduate students are all assigned to the various committees. To feed, entertain and care for 900 people requires thought and effort. The size of the dance and the urge to improve it each year makes the training of everyone connected with it that much more thorough.

The general plan has become pretty well organized by years of experience but there is still ample opportunity for originality in ideas and ways of

putting them into effect.

Freshmen are usually assigned to committees alphabetically and to the chairman, they are just so many names. It is up to the freshman to become an individual. Here the training begins. He learns to cooperate with his fellow crew members in a way that gets things done. There is always the opportunity to suggest new ideas or short cuts in the work.

In their sophomore year the men who stood out as freshmen are picked as assistant committee heads. Here, under the guidance of the more experienced chairman, he gets his first opportunity to handle men. By the time the Ball is organized, staged and cleaned up, he will have seen his mistakes and how they should be remedied.

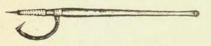
The chairman of a committee is pretty much on his own but if he has profited by his experience, he knows what to do. He organizes his work and directs the men. There are supplies to be purchased. He must buy where he can get the best for the least money and still "play ball" with the Forestry Kaimin advertisers. He is responsible for borrowed property and after borrowing it must see that it is returned in proper condition.

The Chief Push job is pretty well cut and dried although he must pick his committee heads with care and be able to help them organize their

During the preparations of four (or five) dances, with which each student assists, he learns to work, cooperate, sell himself and to have others work for him. He learns to plan his work and to use his men on jobs for which they are best fitted. Volunteer help is the hardest kind of labor to

use. When a student learns to get results with it, he need have no qualms concerning his ability to handle hired labor after he is out of school.

So while the Ball is a grand dance and a lot of fun, it is also an important part of the training of all Montana foresters. The advantage they take of this opportunity is reflected in their standing in the Forestry Club and Druids. It also has a direct bearing upon the summer employment they obtain while in school and their success in the profession after they have graduated.



Hell's Half-Acre

By Albert Muchmore, '39

We walk along in single file, heads bent, faces sweaty. Seeming eons pass; the acrid odor of smoke is heavy in our nostrils. Word is shouted down the long line of men that we are nearly there. That which at first seems only the soughing of the wind grows in volume till now it is an ominous roar. We trudge slowly up another tortuous pitch; a sudden bend in the trail reveals a thick murky cloud of smoke, like greasy yellow wool, boiling venomously over the ridge directly ahead, obscuring the sun. I think of home. My eyes are glued to that towering mushroom of smoke. I am brought back to earth again when the men around me start silently forward. We file along under a pall of smoke that casts a somber, yellow shroud over the landscape. An old burn, spotted here and there by gray and black skeletons of once majestic trees, has been selected as our campground. The foreman, a tall, raw-boned man with tanned, weather-beaten face and a shock of blond hair, announces that we will eat a lunch here and then "have at it." I can't eat. In a few minutes we'll be over in that inferno. As we start over the ridge to the fire, my throat is dry and con-

"There's nothing to worry about, son," consoles the foreman.

"I know it," I replied. I do not "know it," however.

For some inexplicable reason that menacing column of smoke has ceased to pour up. Can it be possible? As we break over the ridge we see a small, comparatively level valley. Steep slopes covered with brush and timber rise abruptly from three sides, falling away at the lower end to a long, rugged gulch-Hell's Half-Acre. It is black, black and smoking; black smoking logs, black charcoal that was once grass and brush, covers the ground. Across the valley there is a ragged line of fire licking at the underbrush, crawling up the slope, now and then igniting a thickly limbed, moss-covered balsam that flares up in a pillar of dense, oily smoke, the vicious roar heard even at this distance. My curiosity finally overcomes my youthful pride.

"Where is that big fire we saw as we came up the trail?" I asked the

foreman, who seems to be a decent sort.

A good-natured grin wrinkles the corners of his eyes as he points. "See that clump of burned spruce and balsam? When that stuff starts—whoosh! Had me fooled at first, too."

A Day on G-Survey

By Arnold Bolle, '37

It's ice-cold outside your warm kapok when the cook's voice interrupts your dreams. The sun's rays haven't yet touched the frost on the ground. You're tempted to stay in bed a few moments longer but experience has



A G-SURVEYOR

taught that unless one dashes out there won't be any hot water left for you to wash. After a hurred toilet, which leaves most of the dirt on the towel, you huddle around the kitchen stove until the cook gives the final word.

Breakfast is a pleasure and also a darned serious business because it's going to mean a lot to you before the day is over. Not much is said as the crew eats its way through fruit, mush, eggs, bacon and stacks of hot-cakes. The day's plan of action may be discussed over a last cup of coffee or the time may be taken up with good-natured banter. Then lunches are hurriedly thrown together, instruments gathered and you all jump into the "hoopie" for another day of running line. The chief-of-the-party drives you as close as he can get to your country and you hike to the starting point.

The sun is just getting above the mountains and the mists in the valleys are being dispersed. It's a fine time to see game and you keep your eyes open. Maybe you'll

meet a doe and her fawn feeding on the succulent weeds or it may be something larger, a moose, perhaps, or a bear—and when you do, vivid memories of the stories you "pooh-poohed" storm your mind.

You find your control after hunting around a bit and orient yourself on the map; then start down the section line clicking your "talley whacker" with each pace. The morning is cool and you can make good time. You keep careful check on the type changes, draw each one in carefully and make your write-ups of the vegetation. You're going uphill but you've been doing it every day and can keep up a pretty good pace; experience has taught you the number of paces to drop with each steepness of grade.

About noon or a little after, you reach the top of the ridge. The trees grow in open stands and a cool breeze is blowing; it feels good to stretch out on a patch of upland sedge before eating the lunch you brought along. Most likely it has been sat on several times but you like it; and so do the chipmunks and chicadees that invariably appear!

The course back down the hill, a half-mile over from the morning's course, is easier but it seems to take just as long. You have to take more compass shots on the way down since you're running through the center of the section and there are no blazes to follow.

You may come to a little knoll which presents a view of the country covered and stop to get the shapes of your types. You may shoot in some types with your compass or perhaps do a little triangulating. You use every method at your disposal; even sketching in some of the country you're going to map the next day, or seeing a type you've missed and may have to go over and write up.

About five o'clock you get back to the road and the chief-of-the-party picks you up and takes you back to camp.

The cold water that scared you out of bed in the morning feels good after a day's work and it's fun splashing around in it. The cook has an enor-

mous dinner just suited to your appetite and everything tastes good.

Everyone is tired but in good spirits and it's fun being together, exchanging the day's adventures. You all sit around puffing on pipes while the sun sets. Before long someone starts writing letters and becomes the butt of several jokes, or perhaps a card game will be organized.

By nine o'clock bed calls irresistibly and you sink into the soundest sleep

of your life.

In Addition

By BILL JOHNSON, '38

Three new instructors, namely R. H. Weidman, M. S. Morris and C. W. Bloom were added to the staff of the Montana Forestry School this year.

Mr. Weidman of the Northern Rocky Mountain Experiment Station of Region I, was called upon to take over the duties of teaching Silviculture following Mr. Cook's sudden death. The work connected with this subject is rather difficult due to the necessity for him to prepare the course in addition to putting in full time with the Forest Service. His aim has been to present the principles of silvicultural methods supplemented by years of personal experience along this line.

The work at the Experiment Station deals principally in planting research and explanatory work relating to the causes of low field survival. Considerable research in nursery practice has been done in the past but few causes and remedies have been uncovered. Mr. Weidman has obtained the co-operation and services of several fellow workers from the station in giving us detailed information dealing with their particular branch of Silvi-

culture.

Mr. Morris came to Missoula from Colorado State college and is an assistant professor of Range Management. Before coming here, he was associate professor in the same field at Colorado. He received his Master of Science degree in Botany and Bachelor's degree in Forestry at that institution, later being on both instructional and experiment station staffs.

Mr. Morris has been working on several research problems, the principal

one at present being nutritional deficiency in the range field.

Mr. Bloom is graduate assistant in the Forest School this year for survey-

ing and mapping classes and instructor in logging engineering.

He was graduated from this school in 1927. During the past ten years, he has worked in several National Forests and carried on further study. He spent three years on the Cabinet Forest, three years at the Experiment Station, and two years as Ranger on the Lolo National Forest. was in the Clearwater and Madison Forests. Part of the intervening time was taken up in attendance at the Syracuse Forest School, where he received his Master's degree in Forestry.

The students of this school feel very fortunate in having these three

men on the faculty.

Book Reviews

Abstract: Soils—Their Origin, Constitution and Classification. By C. W. Robinson. 442 pages. D. Van Nostrand Company, Inc., New York, N. Y., 1936.

This book should fill a much-needed place for a book on soils. The author, an Englishman, gives an excellent and thorough treatment of the fundamentals of soil science. It has a high degree of utility for both the technical forester or the grazing expert. It meets a distinct need for a book

which is applicable to crops other than field crops.

The book treats the major phases of soil science such as the soil development process, physical properties, chemical properties, soil classification, geography of soils, soil surveys, soil analysis and soil-plant relationships. The detail treatment of the clay complex, reactions of the colloid complex and the descriptive analysis of the major soil groups indicates the quality of this publication.

M. S. Morris
Associate Professor

Flora of the Palouse

Western Montana, northern Idaho, and eastern Washington and Oregon comprise a territory as poorly covered by Taxonomic Manuals as any part of the United States. Rydberg's "Flora of the Rocky Mountains," found by most workers to be too unwieldy for easy use, has been out of print for several years. The other floristic works that deal rather indirectly with this

region are also mostly either antiquated or no longer obtainable.

It is, therefore, with some anticipation that botanists await the publication of Dr. Harold St. John's "Flora of the Palouse Region." Dr. St. John, now with the Bishop Museum and University of Hawaii, studied the flora of the above mentioned territory very intensively while on the faculty of the Washington State College, a position which he held for several years. Since leaving there he has done a great amount of work in the herbaria of the Eastern United States and Europe putting his manual in final form. Its publication is expected in the near future.

Designed primarily to include the flowering plants in the vicinity of Pullman, it will of course include the greater number of our species in

western Montana.

C. L. HITCHCOCK Professor of Botany

Mycorrhizas and Forestry

Since the time when Frank in 1885 first used the term Mycorrhiza to designate the roots of trees which displayed a peculiar infection by fungus mycelium, investigators the world over have attempted to ascertain by

observation and experimentation the significance of such relationship. Many and varied have been the explanations, ranging from the extreme view on the one hand that the fungus was a harmful parasite, to the other extreme, that the tree root acted in the role as a parasite on the fungus. Ambiguity of terms, lack of definition and the absence of refinement in culture technique have all served to prevent an unanimity of opinion.

Within the past decade, however, workers such as Melin, McArdle, Hatch, Doak and others have done much to clarify the atmosphere and bring us to the belief that the presence or absence of mycorrhizal fungimay have a significant influence on the successful establishment of forest

trees within an area.

Especially significant has been the work of Elias Melin in Sweden, who demonstrated that in certain types of soils the absorption of inorganic salts is carried on more effectively by mycorrhiza, than by uninfected tree roots.

More recently, Melvin Hatch, working in this country, has presented the possibility that the afforestation program being carried on in the prairie region in connection with the shelterbelt project, may well recognize the

possible importance of mycorrhiza.

Hatch, in working with white pine seedlings, found that mycorrhizal fungi apparently increased the amount of nitrogen, potassium and phosphorus salts absorbed by these seedlings. He grew these white pine seedlings in prairie soils under controlled methods and found that when such seedlings were accompanied with mycorrhizal fungi they showed a pronounced increase in the above elements over those seedlings which were grown in similar soils but lacking in mycorrhizal fungi. Since it is believed that mycorrhizal fungi are lacking, or at least, are not prevalent in the soils of the American prairies, an extensive program of investigation might show that artificial inoculation of such soils would be necessary before trees could successfully be established in such regions.

It has always been the belief of the writer, and in view of the more recent work which has been conducted, this belief is strengthened, that the field of mycorrhizal investigation may offer a solution of many perplexing problems which have puzzled the nursery men and silviculturists for many

vears.

CHARLES W. WATERS Professor of Botany

Biological Effects of Radiation

So much investigational work is going on throughout the world that it is impossible for the individual scientist to keep acquainted with it all. All he can hope to do is to watch general trends and hope to recognize the more significant contributions, particularly in his own field. We have reached the stage then, where comprehensive reviews or compendiums are essential to the man who wants to keep up with what is going on in science.

One of the most important publications of the past year for the biologist is Biological Effects of Radiation edited by B. M. Duggar and published by McGraw-Hill Book Company in two volumes and with 1,343 pages of

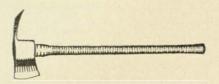
material. This is significant because it is a compendium in which around fifty specialists collaborate through a committee named by the National Research Council, and the publication is so extensive that it has been necessary to finance the gathering of the material as well as to in part

underwrite the publication itself.

There are over forty chapters, and each is written by an expert. Whenever possible, a particular aspect of radiation is treated by the man who has done the most work in that particular field. The various chapters treat not only the physical nature of radiation including, of course, solar radiation, but also various techniques used in the measurement and production of radiation followed by a treatment of what the title indicates, biological effects of radiation. The practical aspects are not so much emphasized as are the theoretical, since even a consideration of the theoretical makes a monumental work, but the chapters are significant to the man who is interested in plants as well as animals. For instance, W. W. Garner reviews the work in photo-periodisum and Hardy L. Shirley of the Lake States Forest Experiment Station writes on the effects of light intensity upon seed plants. There are chapters dealing with the effect of radiation upon germination, histology, reproduction, and the various growth processes, as well as chapters dealing with the light factor in photosynthesis, formation and development of chlorophyll, processes of respiration and so on.

While the book may not have wide appeal for the man in administrative work, for those who are doing any type of investigational work, whether in the field or in the laboratory, a general knowledge of the contents of the book is necessary if one is to understand at all what we do know concerning light and radiation with regard to organisms at the present day.

J. W. SEVERY Professor of Botany



Vacant shelves in the library are gradually being filled with new books and bulletins received during the school year. Two WPA girls have been assisting in cataloging, all of which keeps Oscar Guttormson, student librarian, on the go, as it's his job to find room for everything.

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Dr. C. L. Hitchcock, professor of botany, has recently had published a "Manual of Grasses" which is being used by students in his classes.

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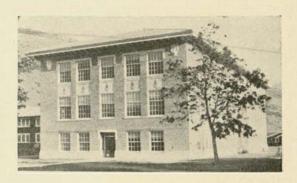


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General Information. The School of Forestry possesses a marked advantage in location. Every forest type of the inland Northwest is found within a few miles of the campus. Two large lumber mills are located within a short distance of the campus. The headquarters of Region One of the United States Forest Service, the Northern Rocky Mountain Forest and Range Experiment Station and the Lolo National Forest are located in Missoula. Within 100 miles of the campus are sixteen National Forests, two other government timber reserves, several state forests and a national park. The Forestry School maintains its own nursery, and a valuable school forest of some 2,000 acres of timber is immediately adjacent to the campus.

For information address

The School of Forestry

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		Quarters
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Ahlgren, Ivan, Somers, Montana	Fr.	1,2,3
Aicher, Howard E., Great Falls, Montana	Jr.	1,2,3
Akin, Melvin, J., Missoula, Montana	Jr.	1,2,3
Antonich, J., Missoula, Montana		1,2,3
Arlee, Joseph, Arlee, Montana	Fr.	1
Armstrong, Bruce, Saco, Montana	Fr.	1
Aubertine, Leo E., Anaconda, Montana	Fr.	1,2,3
Axlund, Don, Casper, Montana	Jr.	1,2,3
Ayers, Oscar W., Lolo, Montana	Fr.	1,2,3
Baker, Fred, Wyola, Montana	So.	1,2,3
Ballard, James, Missoula, Montana	So.	1,2,3
Barnwell, Elbert, Missoula. Montana	Fr.	1,2,3
Barrett, Eugene W., Missoula, Montana	So.	1,2,3
Barsness, Laurence, Lewistown, Montana	Fr.	1,2,3
Bauer, Jerome J., Missoula, Montana	Fr.	1,2,3
Bayes, John C., Lookout, West Virginia	Fr.	1,2,3
Beck, Donald, Deer Lodge, Montana	Fr.	1,2,3
Bergner, Carl W., Kankakee, Illinois	Fr.	1,2,3
Bernhard, Lloyd, Missoula, Montana	Sr.	1,2,3
Besst, Earl, Forsyth, Montana	So.	2,3
Biehl, Clarence, Lewistown, Montana	So.	3
Blakeslee, Robert H., Great Falls, Montana	So.	1,2
Blayden, Ralph Earl, Helena, Montana	So.	1,2,3
Bogardus, Tom, Janesville, Wisconsin	Fr.	1,2,3
Bokun, Milton, Anaconda, Montana	Fr.	1,2,3
Polls Appeld Western Wisconsin	Sr.	1,2,3
Bolle, Arnold, Watertown, Wisconsin	Sr	1,2,3
Bonawitz, Norval, Missoula, Montana	So	1,2,3
Booth, Maynard, Ridgeview, South Dakota	So	1,2,3
Bottomly, Raymond, Great Falls, Montana	Fr	1,2,3
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Brandenburg, Herb, Monroe, Washington	So	1.2,3
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Burd, Harry L., Defiance, Ohio	Er.	1.2,3
Rurdick Pohort F Plains Montana	****	1
Pulaich William Von Hauten New Mexico	erende de	1,2
Burnett, Trafford, S., West Yellowstone, Montana	Fr	1,2,3
Butcher, Owen J., Sunburst, Montana	THE CANADA	
Campbell, P. J., Missoula, Montana	Fr.	3
		1
		1,2
		1,2,3
		1,2,3
		1,2,3
		1,2,3
		1,2,3
		1,2,3
Clark Farl C. Proedus Montana	Fr.	1,2,3

Claypool, Donald, Kalispell, Montana	Jr.	1,2,3
Celmow, Joe W., Billings, Montana		3
Clodfelter, Dwaine, Forsyth, Montana		1,2
Cochran, Bill, Stevensville, Montana		1,2
Collom, C. R., Marissa, Illinois.		1,2,3
Commings, William E., Hamilton, Montana		1,2,3
Conner, William S., Melrose, Montana		1,2,3
Coombs, Robert, Missoula, Montana		1,2,3
Cormier, M. A., Libby, Montana		2,3
Cox, Gene, Helena, Montana		1,2,3
		1
Crippen, Lloyd, Baldwin, Wisconsin		1,2,3
Culver, Leith R., Terry, Montana		
Cunningham, Penn, Missoula, Montana		1,2
Curdy, Dave, Livingston, Montana		1,2,3
Cusker, Orian J., Circle, Montana		1,2,3
Cyr, Charles Krest, Missoula, Montana	Fr.	1,2,3
Dahl, Arthur J., Forsyth, Montana	Fr.	1,2
Daly, Jerome, Great Falls, Montana	Fr.	1
Davis, Bill, Manhattan, Montana		1,2,3
DeMers, Jack, Missoula, Montana		2,3
Demorest, Louis, Chicago, Illinois		1,2,3
Dickman, George, Missoula, Montana		1
Dickson, Clair, Geyser, Montana.		1.2.3
Dobson, Charles, Missoula, Montana		1
Dominek, Julian, Westby, Montana	Sr.	1,2,3
Doering, John, Missoula, Montana	Sr.	1,2,3
Doull, Robert H., Butte, Montana	Fr	1,2,3
Doyle, Howard J., Atlanta, Georgia		1,2,3
Drazich, Albert, Great Falls, Montana		1,2,3
Duncan, Eugene M., Bozeman	Fr	1,2,3
Dunn, Walter L., Kalispell, Montana	Fr.	1,2,3
		1,2,3
Ebersole, Thomas Al, Glasgow, Montana	FT.	1,2,3
Edgmond, Millard, Missoula, Montana	Sr.	1,2,3
Edie, Martin, Columbia Falls, Montana	FT.	3
Eichelman, E. Tod, Park Ridge, Illinois	FT.	
Eiden, Nels, J., Dillon, Montana	So.	1,2,3
Ekern, Halver O., Thompson Falls, Montana	So.	1,2,3
Ekstedt, Bradley, Dooley, Montana	So.	1,2,3
Elliot, Eugene W., Billings, Montana	Fr.	1,2,3
Emigh, Jack, Kankakee, Illinois.	Fr.	1,2,3
Erickson, Allen, Nemo, South Dakota	So.	1,2,3
Erickson, Vernard, Bonner, Montana.	Jr.	1,2
Erwin, Orval F., Charlo, Montana	Sr.	1,2,3
Eschwig, William H Whitefish Montana	Tr	1.2.3

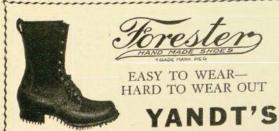


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> Home Grown Flowers

Fager, John C., Durango, Colorado	r. 1,2
Falacy, Ted, Missoula, Montana S	r. 1,2,3
Farmer, Robert W., Deer Lodge, Montana J.	r. 1
Faught, Jess, Lodgegrass, Montana. F	r. 1.2
Faunce, Harold, Dixon, MontanaF	
Fleming, William, Glendive, Montana F	
Flint, Howard R., Missoula, Montana F	r. 1,2,3
Forgey, Louis, Miles City, Montana	r. 1,2,3
Forsman, John, Glasgow, Montana	1,2,3
Franks, Lester C., Choteau, Montana Franks, Lester C., Choteau, Mo	
Freeman, Howard L., Bristol Connecticut	
Fritz, George J., New York City, New York	
Fry, Fred, Kalispell, Montana	
Fry, Fred, Kallspell, Montana.	
Fry, Hale, Belton, Montana Fry	
Fuller, Lewis, Libby, MontanaSo), 1,2,0
Gable, George H., Rocky Boy, MontanaSi	r. 1,2,3
Gage, G. B., Thompson Falls, Montana	r. 1,2
Gajan, Charles, Missoula, Montana	r. 1,2,3
Gajan, Stephen A., Missoula, MontanaFi	r. 1,2,3
Gallagher, Charles W., Hamilton, MontanaFr	r. 1,2,3
Garner, Eldon, Brady, Montana	r. 1,Z,3
Garner, Leland, Brady, Montana Fi	r. 1,2,3
Geil, Don J., Missoula, MontanaJi	r. 1,2,3
George, Welby H., Missoula, MontanaSi	r. 1,2,3
Gervalia, Jim, Butte, Montana	r. 1,2,5
Ghirardo, Bernard, Columbus, MontanaSo	0. 1,2
Gilfeather, Clarence, Winnett, MontanaFi	r. 1,2,3
Gillin, John, Forsyth, Montana Fi	r. 1,2,3
Godfrey, Horace, Whitefish, Montana	1,2,3
Goffena, Robert, Delphia, Montana Fi	r. 1
Goodacre, Egan, Grandmere, Canada Si	1,2,3
Goodele J. Grandmere, Canada	
Goodale, James A., Helena, Montana So	
Graham, Clarence, Laurel, Montana Sci	
Graesser, Alfred, Dallas, South Dakota	
Greene, John, Lewistown, Montana	
Greene, Rae C., Chicago, Illinois	
Gregory, Lester, Missoula, Montana	
Griffith, Richard, Sand Coulee, Montana	
Grimm Ray Bridger Montana	
Guttormson Oggar Malta Montana	J. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
Gunterman, William, Missoula, MontanaGr	. 0
Hait, William, Missoula, Montana Fr	1,2,3
Haller, Fred B., Missoula, MontanaJi	1,2,3
Taner, Freu D., Missoula, Montana	



403 North Higgins



Missoula, Mont.

Halverson, Lewis, Camas, Montana	Fr.	1
Hamilton, Bob, Missoula, Montana	Jr.	1,2,3
Hamilton, Reid A., Missoula, Montana	So.	1,2,3
Hansen, Ralph, Billings, Montana	Jr.	1,2,3
Hardy, Charles, Fullerton, California	Jr.	1,2,3
Hart, Dean E., Darby, Montana	Fr.	1,2,3
Haverfield, Larry, Emmett, Idaho	Fr.	1,2,3
Hawk, Howard B., Missoula, Montana	Sr.	1,2
Hay, Jack, Billings, Montana	So.	1,2,3
Healy, Edward S., Missoula, Montana	Fr.	1
Heckert, Raymond, Missoula, Montana	Jr.	1, 3
Helms, Earl I., Heron, Montana	So.	1,2
Hendrickson, Don, Hamilton, Montana	So.	1,2,3
Hess, Junior, Antelope, Montana	Fr.	1,2,3
Hileman, Bob, Whitefish, Montana		1,2,3
Hill, Forrest, Absarokee, Montana		1,2,3
Holdeman, Robert, Oklahoma City, Oklahoma	Fr.	1,2
Hood, Thomas, Absarokee, Montana	So.	1,2,3
Hough, Hamilton A., Libby, Montana	So.	1,2,3
Howard, Winston, Kalispell, Montana	So.	1,2
Howerton, Wilfred M., Missoula, Montana	Fr.	1,2,3
Hurwitz, Burt, Missoula, Montana		1,2,3
Isaacson, John A., Haugen, Montana	g ₀	2
isaacson, John A., Haugen, Montana		
T. 1	-	1,2,3
Jackson, E. Glenn, Red Lodge, Montana		
Jansson, Robert, Chicago, Illinois	Jr.	1,2,3
Jenkins, Clark J., Erie, North Dakota	So.	2,3
Jeppesen, Russyl, Sidney, Montana.	Fr.	1
Johnson, Donald, Billings, Montana.	So.	1,2,3
Johnson, Eric W., Brockton, Massachusetts	Fr.	1,2,3
Johnson, J. William, Hamilton, Montana	Jr.	1,2,3
Johnson, Roy A., Glendive, Montana	Fr.	1,2,3
Johnson, Torrey, Kirby, Montana	Fr.	1,2 1,2,3
Johnson, Wilbert, Roundup, Montana	Fr.	
Jones, Emerson, Missoula, Montana	Jr.	1,2 1,2,3
Jones, Horace, Missoula, Montana	Jr.	1,2,5
Kammeyer, Walt, Libby, Montana	Fr.	1,2,3
Kammeyer, William, Libby, Montana	Jr.	1,2,3
Kanduch, F. Joe, Anaconda, Montana	Fr.	1,2,3
Keil, Walter, Billings, Montana	So.	1,2,3
Kellman, Lester A., Whitehall Montana	Ir	1,2,3
Keilman, Myron H., Whitehall, Montana	So.	1,2,3
Kendall, Richard, Lima, Montana	So.	3
Kenison, Floyd S., Dell, Montana	Fr.	1,2,3
Kennedy, Arthur Frank, Belt, Montana	Fr.	1,2,3
Kerttula, Walter, Avon, Montana	Fr.	1,2,3
Kibler, Fred, Jordan, Montana	Fr.	1,2,3
King, Joe C., Livingston, Montana	So.	1,2,3
Kirkpatrick, Franklin, Middleport, New York	Fr.	1
Klaue, A. R., Great Falls, Montana	Fr.	1,2,3
Kleck, John, Lombard, Illinois	So.	1,2,3
Kleck, John, Lombard, Illinois Knutson, Alton, Devon, Montana	So.	2,3
Roch, Tom, Missoula, Montana	So.	1,2,3
Korkalo, Roy H., Missoula, Montana	So.	1,2,3
Kotsakis, Pete, Billings, Montana	Fr.	1,2,3
Krause, Paul, Kalispell, Montana	So.	1,2,3
Krell, Walter, Bronxville, New York	Fr.	1,2,3
Kreuger, Bill, Bozeman, Montana	Jr.	1,2,3
Krutar Chaster Dhilingham Manten	To.	193

La Barre, Carl, Forsyth, Montana	Fr.	1,2,3
LaCasse, Hector J., Missoula, Montana		1,2,3
Lake, Stanley, O., Missoula, Montana	Jr.	2,3
Lamp, Morley B., Big Timber, Montana		1,2,3
Landt, Eugene F., Wisconsin Dells, Wisconsin		1,2,3
Lang, Herbert L., Wilmette, Illinois		2,3
Langen, Robert, Glasgow, Montana		1,2,3
Lash, Odell, Miles City, Montana		1,2,3
Lawrence, Ray, Missoula, Montana		1,2
Lee, Byron D., Lidgerwood, North Dakota	Fr.	1,2
Lee, Harry A., Wolf Point, Montana	Jr.	1,2,3
Leithead, Horace, Manderson, Wyoming	So.	1,2,3
Lewis, Bob, Manhattan, Montana	So.	1
Lewis, Harold, Lavina, Montana	Sr.	1,2,3
Lewis, Kenneth, Lavina, Montana	Jr.	1,2,3
Lewis, Stanley, Plentywood, Montana	Jr.	2
Limpus, Leroy David, Winifred, Montana	Fr.	1,2,3
Lindsay, George Oliver, St. Ignatius, Montana	Fr.	1,2,3
Lockhart, Russell, Missoula, Montana	So.	1,2,3
Loeffler, Henry R., Columbia Falls, Montana	So.	1,2,3
Lohn, Dwight, Wolf Point, Montana	Sr.	1,2,3
Lukkason, Joseph, Polson, Montana	So.	1,2,3
Lusher, Arthur A., Pasadena, California	Jr.	1,2,3
Lyman, Chalmer K., Missoula, Montana	Jr.	1,2,3
Lynch, Don, Highwood, Montana	Jr.	1,2,3
MacCormick, Leo, Deer Lodge, Montana	Fr.	1,2,3
MacDonald, John C., Helena, Montana	Jr.	1,2,3
MacLaren, James, Whitewater, Montana	Sr.	1,2,3
Madeen, Austin, Hamilton, Montana	So.	1,2,3
Mahrt George Bonner Missoula	Jr.	1,2,3

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Noll-Welty Lumber Company, Kansas City, Mo.
Prestegaard Lumber Company, 1014 Terminal Bldg., Lincoln, Neb.
Jewett Lumber Company, P. O. Box 5036 Terminal Annex, Denver Colo.

Montana	Fr	3
Mansker, Floyd, Lima, Montana	Sr	1,2
Markham, M. J., Missoula, Montana	Tr.	1,2,3
Mart, Roy M., Jordan, Montana	Tr.	1,2,3
Martin, Ben, Billings, Montana		1,2,3
Massing, Daniel G., Christina, Montana	F1.	
Mast, Paul, White Sulphur Springs, Montana	S0.	1,2,3
Masters, Carl, Missoula, Montana	S0.	1,2,3
McAvoy, Ralph T., Butte, Montana	Fr.	1,2,3
McBride, Raymond, Safford, Arizona	So.	1,2
McCabe, James E., Red Lodge, Montana	So.	1,2,3
McClain, Hall, Garden Grove, California	Sr.	1,2,3
McDaniel, Lewis, Missoula, Montana	Sr.	1,2,3
McDonald, Archie, Niarada, Montana	So.	1,2
McFadden, David M., Wilton, North Dakota	Fr.	1,2,3
McGinty, Austin, Anaconda, Montana	Fr.	1,2
McGlumphy, George, Sumatra, Montana	So.	3
McKee, Max, Missoula, Montana	Sr.	1,2,3
McKinley, Stanley C., New Albany, Indiana	So.	1,2,3
McLaughlin, Joe M., Missoula, Montana	Fr.	1,2,3
McLaughlin, Robert, Missoula, Montana	So.	1,2
McLeod, Phil, Gard, Nebraska	Fr.	1,2,3
McLure, Bill, Missoula, Montana	So.	2
McNamara, Stuart G., Chicago, Illinois	So.	1,2,3
Mead, George, Cleveland, Ohio	Fr	1,2,3
Melby, Arthur, Chicago, Illinois	Fr	1,2,3
Merrill, Howard B., Missoula, Montana	Fr	1,2,3
Middleton, Ben, Anaconda, Montana	Fr	1,2,3
Miller, Russell H., Missoula, Montana	Ir	1,2,3
		1,2,3
Milodragovich, Bob, Butte, Montana		1,2,3
Milodragovich, John, Butte, Montana		2
Moffet, Harold James, Missoula, Montana	Tr.	4

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Mongold, LeRoy, Fort Peck, Montana	So. 1	1,2,3
Moore, Kenneth, Missoula, Montana		1,2
Moravetz, Bennie C., Canby, Minnesota		1,2,3
Morris, Stanley R., Kettle Falls, Wisconsin		1,2,3
Moy, Oscar M., Missoula, Montana	So. 1	1,2,3
Muchmore, Albert, Missoula, Montana		1,2,3
Muchmore, Phil, Missoula, Montana	Jr. 1	1, 3
Mueller, Glenn, Lewistown, Montana		1,2,3
Murphy, Raymond P., Anaconda, Montana	Fr. 1	1,2,3
Nash, James, Missoula, Montana	Sr.	1,2
Nawrocki, Joseph, Brockton, Massachusetts		1,2,3
Neff, George, Missoula, Montana		1,2,3
Neff, Paul, Missoula, Montana		1,2,3
Nelson, Dan S., Missoula, Montana		1, 3

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Nelson, Frank A., Crow Agency, Montana	So.	1
Nelson, Normal, Anaconda, Montana		1,2,3
Nelson, Ray C., Roundup, Montana		1,2,3
Newcomer, Robert E., Rapid City, South Dakota		1,2,3
Newton, Bruce, Joliet, Montana		1,2,3
Nordquist, Donald, Washburn, North Dakota	Fr.	1,2
Norman, Orlew G., Mullan, Idaho	So.	1,2,3
Nousianen, Arne O., Florence, Montana		1,2,3
Noyes, Leonard, Santa Monica, California		1. 3
atoyon, about a, butter around, butter,		1
O'Brien, Marcus, Missoula, Montana	Fr.	1
O'Day, Joseph, Anaconda, Montana		1,2,3
Olsen, Laurence, Chicago, Illinois		1,2,3
Osburnsen, Laurence, Denton, Montana		1,2,3
Obbut hoor, Marienoe, Mentany montana		
Pachico, Jack, Butte, Montana	Fr.	1,2,3
Page, Paul, Missoula, Montana		1,2,3
Page, Luther E., Camas, Montana		1
Parker, J. Larry, Ronan, Montana		1,2,3
Payne, Gene F., Columbus, Montana		1,2,3
Peak, George W., Missoula, Montana		1,2,3
Pederson, Norman, Glasgow, Montana		1,2,3
Pederson, Rudy, Dutton, Montana		1,2,3
Perry, Ernest, Deer River, Minnesota		1,2,3
Petersen, Bill, Los Angeles, California		1,2,3
Petersen, Herbert, Evanston, Illinois		1,2,3
Peterson, L. G., East Helena, Montana		1,2
Pfieffer, Dene, Morristown, South Dakota		1,2,3
Phillip, Milton, Anaconda, Montana		1,2,3
Phillips, Lewis I., Valentine, Montana		1,2,3
Piatt William R Rutte Montana		1.2.3

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Pickens, Wesley, Huntley, Montana	So.	2
Pillen, Bud A., Sheridan, Montana	Fr.	1,2
Pipal, Leo, Wolf Point, Montana	Fr.	3
Plummer, Bill, Missoula, Montana	Fr.	1,2,3
Polley, Foster, Ronan, Montana	Jr.	1,2,3
Pomajevich, Joe, Missoula, Montana	Jr.	1,2,3
Pool, Cliff, Torrington, Wyoming	Sr	1,2,3
Popiel, Frank, Wibaux, Montana	E'r.	1,2,3
Popiel, Frank, Wibaux, Montana	Jr	1,2,3
Poston, Richard W., Missoula, Montana	F'r	1,2,3
Pressman, Elmer, Glendive, Montana	E'r	2,3
Prestmo, Harold, Browning, Montana	Tr	1,2,3
Preston, Phil, Great Falls, Montana	Tr	1,2,3
Preuss, William P., Los Angeles, California	E'm	1,2,3
Price, Bob, Billings, Montana	On	1,2,3
Price, John, Missoula, Montana	51.	1,2,0
Quam, A. Norris, Great Falls, Montana	Jr.	1,2,3
Quanbeck, Elmer, Shepherd, Montana	Fr.	3
Quinn, James, Missoula, Montana	Fr.	1,2,3
Quinn, James, Missoula, Montana		
Rader, Odell H., White Sulphur Springs, Montana	Fr.	1,2,3
Ranney, J. B., San Diego, California	Jr.	1,2,3
Rawlings, John A., Miles City, Montana	Fr.	1,2
Reed, George, Billings, Montana	Fr.	1,2,3
Rees, B. Lester, Glenside, Pennsylvania	So.	1,2
Reid, Harold, Miles City, Montana	Fr.	1,2,3
Rieder, Jack, Valier, Montana	So.	1,2,3
Rieder, Jack, Valler, Montana	So.	1,2,3
Robbins, Robert, Anaconda, Montana.	Fr.	1,2,3
Robbins, Terrence, Circle, Montana	So.	1,2,3
Robinson, Robert H., Forsyth, Montana	So.	1,2,3
Robinson Richard A Brockton, Massachusetts		

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The TIMBERMAN

An International Lumber Journal GEO. M. CORNWALL, Editor, Portland, Oregon

Roffler, Hans, Missoula, Montana	Sr	1
Rognrud, Merle, St. Ignatius, Montana	Fr	1,2,3
Ross, Lewis, Billings, Montana	So	1.2
Ryan, Bernard, Livingston, Montana	Fr.	1,2,3
Schaertl, Richard, Stevensville, Montana	Jr.	1,2,3
Schenkenberger, Earl C., Wolf Point, Montana	So.	1,2,3
Schramm, Charles H., Cedaredge, Colorado	Sr.	1,2,3
Seidensticker, Sylvester, Twin Bridges, Montana		1,2,3
Shaw, Walter, Missoula, Montana	Jr.	1
Sheldon, M. K., Lamont, Iowa	Jr.	1,2,3
Shelton, Jimmy, Denton, Montana	Jr.	1,2,3
Shults, Edward L., Woodside, Montana	Fr.	1,2,3
Simpson, Carl, Roundup, Montana	Fr.	1,2,3
Smalley, Winston W., Roundup, Montana	Jr.	1,2,3
Smith, Robert H., Great Falls, Montana	Fr.	1,2,3
Smyser, Marion, Laramie, Wyoming	So.	2,3
Sparks, L. Earl, Missoula, Montana.	Sr.	1,2,3
Sparrow, Orville, Anaconda, Montana	Sr	1,2,3
Sperling, Clarence H., Kila, Montana	So	1,2,3
Squire, George C., Humbolt, Kansas	Fr.	2
Stoebe, Bob, Miles City, Montana	So	1,2,3
Streed, Harris A., Kalispell, Montana	Jr	1,2,3
Strizich, Joe, Black Eagle, Montana	So	1,2,3
Strubeck, Earl, Plentywood, Montana	Jr	1,2,3
Struble, Stacy L., Missoula, Montana	So	1,2,3
Summers, Claude, Helena, Montana	Fr	1,2
Swartz, Jack H., Pryor, Montana	So.	1,2,3
Tate, Lilbern, Melrose, Montana.	Fr.	1,2
Taylor, Harold, Troy, Montana	Tr	1,2,3
Intelen, Charles, Lozeau, Montana	90	1
Hompson, David C., Box Elder, Montana	Er	1,2,3
Indrsen, Seimer, Fairview, Montana	Lin	1,2,3
inoisiuu, Sverre, Missoula, Montana	90	2,3
min, John, Missoula, Montana	90	1,2,3
110sper, Inurman H., Ronan, Montana	E'm	1,2,3
110sper, William, Ronan Montana	Cl.	1,2,3
110tt, William I., Billings, Montana	E're	1,2,3
110y, 30e, flavre, Montana	Clas	1,2,3
Trump, Jack, Kanoka, Wissonri	Co	1,2,3
Trussell, Homer E., Hardin Montana	T	1,2,3
Ischache, Junior W., Fort Benton Montana	Tiles.	1,2,3
Turner, Ted, Missoula, Montana.	Fr.	1
Underwood, Habert E., Missoula, Montana	Fr.	1,2,3



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Van Bramer, Glenn, Billings, Montana	Fr.	1,2,3
Vejtassa, Stanley, Circle, Montana	Sr.	1,2,3
Venrick, John, Missoula, Montana	So.	1,2,3
Vladimiroff, Bud, Chicago, Illinois		1,2,3
Wagner, William, Missoula, Montana	Sr.	1,2,3
Walker, Bob H., Great Falls, Montana	Jr.	1,2,3
Walsh, Richard, Columbia Falls, Montana	Fr.	1
Walworth, Maurice, Juneau, Alaska		2
Watters, Billy, Missoula, Montana	Jr.	1,2,3
Watters, Ronald, Missoula, Montana	Sr.	2,3
Weber, Norman, Washburn, North Dakota	Fr.	1,2,3
Webster, Kenneth L., Juneau, Alaska	Fr.	1,2,3
Weigal, Jack, Wilmette, Illinois	Fr.	1,2,3
Westfall, Frank N., Whitehall, Montana	Sr.	1,2

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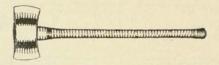
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Corner Higgins and Main MISSOULA, MONT.

Wheatley, Howard, Dixon, Montana	Jr.	1,2,3
Whilt, Jim, Eureka, Montana		1,2,3
White, Chester, Missoula, Montana	So.	1,2,3
White, Leonard I., Whitehall, Montana	So.	2
Williams, Dick, Missoula, Montana		1,2,3
Wilkie, Stephen C., Rosebud, Montana		1,2,3
Wilmsen, Clinton, Hecla, South Dakota		1,2,3
Wilson, John E., Winnett, Montana	Fr.	1,2
Winters, Bruce K., Rosebud, Montana		1,2
Wooten, Gille, Winnetka, Illinois		1,2,3
Young, Merlin, Somers, Montana	Jr.	1,2
Zabroski, Ralph, Wibaux, Montana	Fr.	1,2,3
Zahn, Albert, Mandan, North Dakota		1,2,3



A four-day trip to Priest River, Idaho, was made by Silviculture and Mensuration classes. While there, the students stayed at the CCC camp. The school truck and one borrowed from the Forest Service provided transportation. Mr. R. H. Weidman and Professor Fay Clark accompanied the students.

As the Forestry Kaimin goes to press, every forester with a C or better average, has been assigned a job for the summer. Many of the students will leave immediately after taking their early exams in order to report on time for work, as a jump of 500 miles or more doesn't offer any time to spare in between.

Members of Forest Botany, Plant Ecology, Systematic Botany and Range Management classes left on May 7 for the Grand Canyon and adjoining regions. They collected specimens for the herbarium and studied range management experiments in the southwest. The group, under the supervision of Dr. C. L. Hitchcock, Dr. J. W. Severy and Professor Melvin Morris, returned to Missoula May 17. They traveled in several cars instead of taking the truck as has been customary on previous trips.

And incidentally, the majority of the school felt gypped out of one of the prizes offered by Musical Varieties. But when contests are judged by those who will respond only to the classical type of entertainment rather than what appeals most generally, what else can be expected?

Autographs

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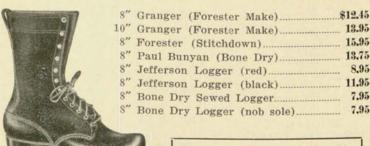
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