

SALESMEN'S EXTRA

The FAMILY TREE

Published by Potlatch Forests, Inc.

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Lewiston, Idaho, January, 1937

Number 4

Potlatch Forests Logging Methods

When we think of white pine logging in the Lake States, and even in Idaho up to 1915, we have a picture in our minds of long, low, dimly lighted log camps. The bunk houses were close packed with tiers of double bunks; the cook houses posted "no talking" signs; fed largely on "sow belly" and beans, oleomargarine and dried fruits. The rising bell rang out long before daylight and men and horses, breath steaming, came and went to work in the dark. Horses and sleighs and a few small locomotives were the only aid to the work done practically all by hand. Even loading depended on the old cross haul team and skilled hook men, regardless of the amount of logs put in daily.

The logging of the handiest timber, the greatest ravages of fire, and mostly the advent of the tractor, truck and various loading devices, in fact machinery has today changed the picture of logging completely.

In the operations of Potlatch Forests, there are two distinct methods of getting logs to the point of transportation, mainly by tractors and horses. There are four distinct methods of transporting logs, railroading, fluming, driving, and truck hauling.

Owing to the steepness of the ground, horses will always play an important part in our logging. The creeks draining into the North Fork of the Clearwater are covered with a heavy stand of second growth timber on ground too steep for a tractor to

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Lewiston, January 4, 1937
Mr. Harry T. Kendall,
Care Train Conductor,
Weyerhaeuser Special,
Somewhere, Montana.
Dear Harry:

There never could be a happier time for you to bring your gang out to see us. We are shipping at top speed, all our sawmills are running (some of them on two shifts) and we have a tremendous back log of orders for the months ahead.

There was a time—a long time—when this kind of a lineup was sure to have a catch in it some place. But not this time. You and Don Lawrence and the rest of that great gang of yours are selling the product of our log month in and month out without getting us into serious trouble by putting too much pressure on any items. This is great stuff for us because it lets us plan, with confidence, the ways and means of taking care of our customers. It boils down to this—you get the orders and we'll fill them. (And how could Kid Millions find any trace of Santa Claus in a lineup like this?)

We are glad you are coming and we wish you could stay longer—or come more often. We can learn a lot from an organization like yours and we mean to try hard—during working hours—to get everything out of you we possibly can.

Very sincerely,
POTLATCH FORESTS, INC.
C. L. BILLINGS,

CLB:R General Manager.

Times Have Changed in Northern Idaho

Billings Writes About the Old Lineup—and the New

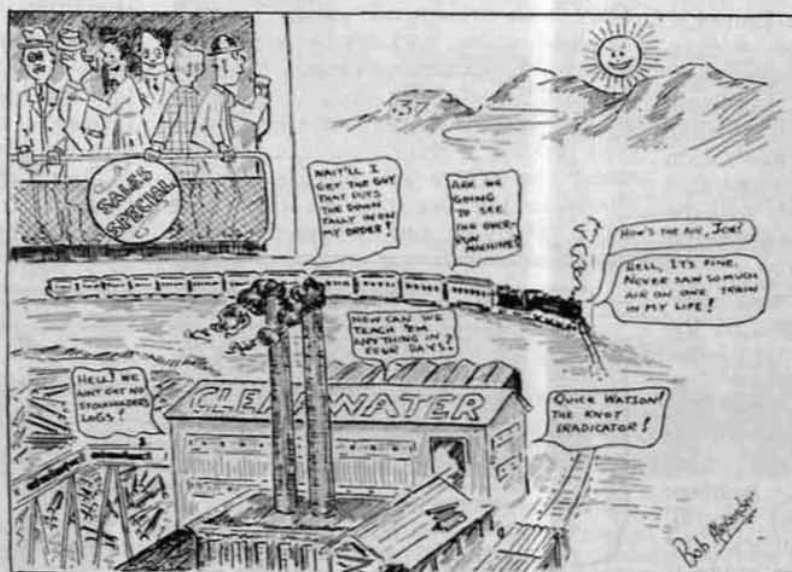
The following article, under the title of "Stabilized Lumber Production in Northern Idaho," was written by Mr. Billings for publication in the University of Idaho "Forester" of June, 1935. The editor has sought permission to run it in this issue because it tells, in as few words as possible, a story to our Weyerhaeuser salesmen guests that they are all much interested in.

To the early day lumbermen who came out here to invest their money in timber, Idaho must surely have presented a handsome picture. These men found dense stands of fine timber standing close to our lakes and railroads and drivable streams in very much the same way that the timber had stood in Minnesota, Wisconsin and Michigan, the states from which most of them had come. It was quite safe to expect that the physical operating conditions would not be greatly

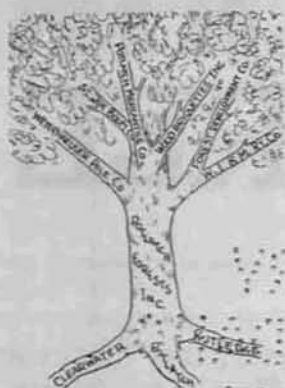
different from those in the Lake States and that easy, flat ground close to the railroads or drivable streams would make for cheap logging. Railroad freight rates seemed reasonable. The nation needed the lumber to replace the declining output of other regions and all of our principal species could be cut into lumber and readily sold.

All of these things taken together presented a very attractive invitation to enter the lumber business and this invitation was accepted by many operators large and small.

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THE FAMILY TREE



Published by Potlatch Forests, Inc.,
Once Monthly for Free Distribution
to Employees.

Robert M. Evenden, Lewiston, Editor
Miss Mabel Kelly, Potlatch
..... Assoc. Editor
Miss B. Stoddard, Coeur d'Alene.....
..... Assoc. Editor
Carl Pease, Headquarters
..... Assoc. Editor

Down the Editor's Alley

To our employees we doubt if any explanation of the character of this issue of "The Family Tree" is necessary. The Weyerhaeuser 4-Square Special, carrying the entire sales force of the Weyerhaeuser Sales Company, is making its first western stop at our plants. Only once before since the organization of the Weyerhaeuser Sales Company, has an expedition of this magnitude been undertaken. That was away back in 1922.

On January 7th, they are our guests at Rutledge; January 8th at Potlatch; January 9th at Clearwater (Lewiston); January 10th at Headquarters, and January 11th again at Lewiston. There are many things we should like to tell them about our organization and our operation that we cannot find space for. The next issue will be "regular" and will give you the usual news from all the operations.

To our guests, the Salesmen of the Weyerhaeuser Sales Company, we feel a few words of apology are due. This hastily prepared issue of "The Family Tree" is a poor substitute for the well done "Salesmen's Log" which Sabie Saberson put out in the baggage car of the 1922 Weyerhaeuser Special. The shortness of time and, worse, the particular time of year have made it

impossible to do a better job. But, if you don't have a memento of your visit from us which you can keep to look at in future years, we still hope there will be memories, which time cannot erase, of your stay here with the Potlatch Forests bunch.

Taper Sawing

The principle of sawing known as taper sawing is by no means a recent innovation in lumber manufacturing, as it has been practiced for many years, but to those not directly connected with the sawing operation, either or both the reasons for or methods of taper sawing are seldom known. Taper sawing is done as a means of reducing loss and realizing a greater quantity of the more valuable product from the log. The following brief description is of the method used by the sawyers of Potlatch Forests, Inc. We wish it understood that differences of opinion exist on this subject and that we are describing our own method.

As the piece of resistance in this exposition, we are using a diagram of an old growth log with its characteristics somewhat exaggerated. It should be understood that no two logs are exactly alike and that the diagram serves merely to illustrate a condition which generally holds true.

Around every log of this type there is a region just next to the bark from which the highest grade of lumber in that log is manufactured. We have referred to this as the select region in the diagram. Going further into this particular type of log we next encounter the end of the branches which lived when the tree was young but have since been broken off, existed a while as dead stubs, and finally were covered by the increment or growth of the tree. These branch ends will appear in the lumber cut from that region and produce a shop type. Further toward the center of the log, we cut down to the branches as they were while yet living and exist in the sawed

lumber as tight "live" knots and are characteristic of the common grades of lumber.

In taper sawing, the first cuts are made parallel to the bark of the log rather than parallel to the pith or center, in order to secure long, more valuable, lengths of high grade selects which are found in this region instead of the short pieces which would result if the log were immediately squared up to the same width at each end. This possibly can be more easily seen by examining the diagram. On the upper side of the log pictured sawing lines have been drawn through the select region parallel to the bark and extending through the shop region to where common grades are encountered. Similarly, the other side of the log is sawed in the same manner until through the shop region to the common, and, in this case, until the rot is encountered. Then, you will notice, the direction of the sawing lines change and instead of being parallel to the bark, become parallel to the face of the log which was sawed first. Enough cuts are made in this manner until the remaining part of the log is the same width at each end, at which time the log is "turned down" and the remainder of the sawing completed. This process of changing the line of cut is known as "taking the taper out" and is done at this point for the reasons that short wide pieces of selects or shop (if any remains) or common result (both saleable) and, if the log were turned down without removing the taper, each board produced afterward would have to be run through the edger and a wedge-shape piece lost from one edge.

The principle, which we hope has been made clear, is merely that of taking the loss which must result from sawing a tapered log into lumber of uniform width and thickness in the region of the log where the loss is least, both in trimming and in the short lengths which result.

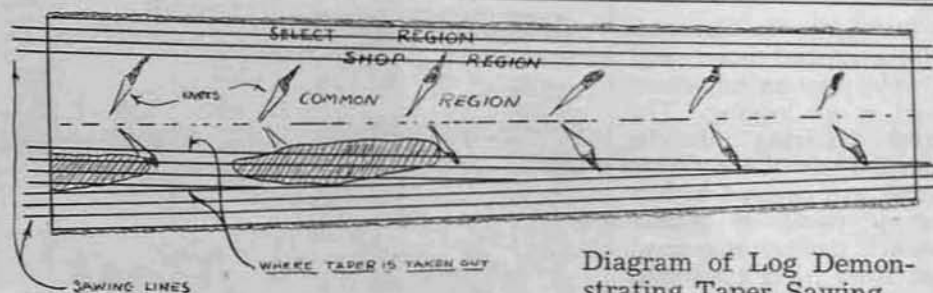


Diagram of Log Demonstrating Taper Sawing.

Potlatch Forests Logging Methods

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negotiate. These stands will always be logged by horses, and the logging will be done in the summer months only, for the moment it starts raining or snowing in the fall even horses cannot work on this ground. Therefore, practically all the logs that are put up for the yearly drive on the Clearwater have to be logged in four or five months in summer. The number of teams worked by the company runs around 150 and will weight from 1600 lbs. up to a ton per horse.

A large part of the timber land, both at Clearwater and Potlatch, is level enough to permit the use of tractors and a number of them are used in both operations. In the old growth stands in particular, when the timber is scattering and too large for the teams, tractors are used to good advantage. One large camp in the Clearwater uses all tractors and so does one of our contractors. The tractors run from 2-ton machines of 20-horsepower to 75-horsepower machines, depending on the kind of work to be done. We have over 50 tractors working in the various camps.

The advent of a bulldozer on a tractor to grade roads has changed road construction completely. Each camp has from one to two bulldozers for road building, and, although we operate two diesel shovels for railroad construction, by far the greater part of our road building is now done with modern bulldozer equipment.

After the logs are taken out of the woods to the landing they are transported in a number of different ways.

The greatest portion is still hauled with locomotives. At Potlatch five geared engines are used in a 32-mile train operation to the W. I. & M. Ry. Co. near Bovill, from which point they are hauled by that road to Potlatch.

At Clearwater, five more locomotives are used on hauls varying from 5 to 20 miles over company tracks to Headquarters, at which point they are picked up by Camas Prairie engines and hauled 81 miles to Lewiston. All these locomotives are oil burning geared engines of from 70 to 90 tons weight. The logs are loaded on the cars by either gas or oil burning hoisting machines, which have a loading capacity of about 120,000 feet a day per machine.

Next to the railroad transportation comes the truck haul. Owing to cheap road construction with bulldozers and the great improvement in cheap light trucks, this method of hauling logs has displaced railroading in many places, especially when the stands of timber are either too light or on too rough ground to warrant railroad construction. Grades as steep as 30% can be operated on and adverse grades of 10% are used successfully. Large movements of logs are made by truck to central loading points on the railroad, and, at Potlatch, as high as 20 million feet of logs are hauled direct to the Potlatch pond from distances up to 25 miles. During the summer trucking season, up to 200 contract trucks are employed hauling logs for the three Potlatch Forests sawmill units.

Besides the railroading and trucking, logs are moved at the Clearwater unit by means of flumes and river driving. In the neighborhood of 40,000,000 feet of logs come to the Clearwater plant by river driving each year. These logs come out of the North Fork from rough, steep country where neither railroads nor trucks are feasible transportation owing to steep grades.

V-shaped flumes are built in these steep watersheds with portable gas sawmills and the logs in most cases are decked to the flumes to wait the spring runoff of the snow. The rollways are then broken and the logs flumed into the river, often on grades up to 40%.

Once the logs are in the river, two long wanigans are constructed at the head of the drive, one for the cook house and the other for sleeping quarters, and as soon as the water is high enough, the work of rearing the banks and picking jams commences. With favorable water, the drive comes to Lewiston, a distance of 115 miles, in about six weeks with a driving crew of 30 men.

Differing vastly from the early log camp, we now find most of the railroad camps built on portable cars with 14 men to a bunk car, lighted with electricity, and heated by Pres-to-logs. Meals are served at tables for six or eight from large dining cars and every variety of food is furnished in the cleanest manner possible. Camps built on the flumes and truck hauls differ from the rail camps only in that they are not portable.

The logging camp and the logging methods of today truly make a vastly different picture from that of the "gay 90's."

Sherlock Holmes—Please Note

If you see any of these men, please notify health authorities: Commodore, Weyerhaeuser Boat Line; Eastern Zone Manager, Weyerhaeuser Sales Company; Manager, Weyerhaeuser New-ark Shed; Assistant Secretary, Atlantic Terminals, Inc.; Head Kantor, B'Nai B'Rith.



Twenty-seven million feet of old-growth white pine running four logs to the thousand, decked at the head of Swamp Creek flume at Camp L in the Clearwater. Those logs were part of the 1936 drive. It has been many years since there has been such a deck of logs and there will probably never be such a concentration of timber in one spot again.

Times Have Changed in Northern Idaho

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Dozens of operations were started, mills and railroads were built, streams were cleaned for driving. Thousands of men were put to work on the Kootenai, the Clarksfork, the Priest, the Coeur d'Alene and on the St. Joe and St. Maries. Only the Clearwater country for a time was left undeveloped. Communities around the sawmills sprang into existence almost overnight. Enormous inventories of forest products of all kinds were piled high in every village. These things were the economic bone and sinew of northern Idaho.

CHANGING CONDITIONS

But the picture had to change and change it did, radically. High logging costs were encountered as the flat ground was left behind and logging was moved to the steep hillsides, and the cost of constructing logging railroads and other logging improvements increased tremendously. Money was tied up in these improvements for long periods, thus effecting what amounted to a reduction in working capital for each operating company. And operations which became dependent upon driving in the smaller streams found that they must finance an entire season's cut of logs before any of them could be sawed and sold as lumber. The going became pretty tough.

And as if this natural handicap were not enough, other artificial ones appeared to color the picture still more darkly. The construction of the Panama Canal which had been carried on during the same years as those of early large scale lumbering in Idaho finally came to an end. The Canal was finished and thrown open for business. At once there began the development of a movement of Pacific Coast lumber to the Atlantic seaboard which has finally reached the amazing proportions that we see today. The profound effect of intercoastal traffic through the Canal on the value of timber properties in Idaho and the Inland Empire generally was not foreseen by anyone or grasped in its full significance until too late. The Douglas fir lumber of the coast states which could not only be produced for less cost, but which could now be transported to market for less money, came into close and direct competition with the mixed woods (red fir, larch, white fir, spruce, hemlock) of our region.

Meet the President of Potlatch Forests, Inc.



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The railroads, badly crippled by Canal traffic competition and by rapidly increasing operating costs, raised freight rates to a prohibitively high level and the markets of the great Middle West were also lost to these woods. The region was being asked to pay higher freight rates than any other producing region in the United States. It could not be done. There could be and there was only one possible result—the destruction of the value of these woods and the consequent elimination from production of one-half of Idaho's timber.

Taxes in these years went up by leaps and bounds. The very communities which the lumbermen had built up exacted enormous sums annually for purposes of education, road building and government. The standards of living, common in older states, were established in northern Idaho in an unbelievable short time. And all that was done was done by the levying of taxes on property. Mounting tax costs on a declining output of lumber brought an inevitable reaction against the holding of large properties. The scheme of blocking 20 years supply of timber behind a sawmill in order to justify the cost of a large

plant had been overtaken by economic events and had collapsed. It could not be done.

All these things presented a definite suggestion to many operators that their capital might be better employed elsewhere. The suggestion has been adopted quite generally. Literally scores of small mill operations have vanished. And of the large operations, far more than half have closed down permanently. The difficulties, natural and artificial, have been so severe as to constitute an impossible handicap for a large share of northern Idaho lumber production in comparison with more favored regions of the United States.

OPERATORS FORCED OUT

The operations in the list to follow have passed out permanently. Even after reciting the contributory causes of their passing, it is astonishing and depressing to know that in each case the final shut-down came before the company had finished cutting the timber naturally tributary to the operation and before the company had finished cutting its own owned timber.

Bonnars Ferry Lumber Co. Bonners Ferry
Humbird Lumber Co. Sandpoint, Kootenai, Newport
A. C. White Lumber Co. Laclede
Dover Lumber Co. Dover
Hope Lumber Co. Hope
Coeur d'Alene Lumber Co. Coeur d'Alene
Grant Lumber Co. Harrison
Export Lumber Co. Harrison
Springston Lumber Co. Springston
Rose Lake Lumber Co. Rose Lake
Milwaukee Lumber Co. St. Maries
Milwaukee Land Co. St. Joe
Blackwell Lumber Co. Fernwood

This rather dismal recitation of past events brings us down to the present day and the present condition of both the industry and the communities in which it operates. The communities find that hundreds of thousands of acres of cutover land and of remotely located, lightly timbered lands are tax delinquent to an amount which exceeds their full cash value. More than 100,000 acres of these lands have been donated outright to the Federal government and included among these transactions is an instance of one of our counties giving 10,000 acres of these lands which it had secured through tax delinquency. It seems inevitable that the great bulk of these lands must drift into public ownership

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Times Have Changed In Northern Idaho.

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of one kind or another. No other timbered state has yet had the foresight to revise its taxation of forest lands in time to prevent this drift. Idaho has repeatedly declined to do so and will probably continue to follow the road of the other older states who have done most of their legislating on timber taxation after their timber had disappeared. The proposition of taxing the lumber industry on an equitable basis is a proposition which primarily involves the stabilization of tax income from timber properties as a measure of good government in making community life more secure through the considerate and proper handling of labor. The prospect of "benefit" accruing to the timber owners is an item entirely secondary. To put the cart before the horse in this matter is to most effectually obscure the real issue. In Idaho this has been done so often and well that those who have the most to gain from equitable timber taxation have been its most active and vociferous antagonists.

INDUSTRY OVER-BUILT

The industry finds itself over-built for the limited volume of white pine business available with too many mills competing for the comparatively small amount of business that can be had. Production control under the Lumber Industry Code of Fair Competition has, at least for a time, halted the ruinous competition which was rapidly driving the remaining survivors of the old days to the wall. Careless, or if anyone prefers, "ruthless" logging practices—particularly, bad brush disposal—have been curbed by the Forestry Laws of 1925 and amendments. Voluntary selective cutting, Lumber Code rules of forest practice and proper brush disposal all work together to the end that young timber is left to grow on logged areas instead of being destroyed. The greatly extended participation in Timber Protective Association affairs on the part of the U. S. Forest Service, not only through contribution of funds under the Clarke-McNary law but, as a result of land donations, as an actual land owner with consequent sharing of expense, has had a stabilizing effect. And the further distintegration of the Association has been indefinitely postponed as a result. Water transportation on the Snake and Columbia Riv-

ers now seems to be a possibility. If developed, it will mean an enjoyment of advantages such as those had by the timber industries of Norway, Sweden, Finland and Germany and without which advantage forestry has never been successfully practiced on a large scale.

If we sum all this up, we see first that the difficulties of the past have, by elimination of sawmills, reduced the terrific drain on our forest resources to a point much closer to the growing capacity of the forests. And next, that the operations still carrying on are leaving cutover lands in much better condition for the continued production of forest crops.

Forest economists argue for the practice of sustained yield forest management which means that timber should be cut at a rate commensurate with its total annual growth in a locality or region, but at no greater rate.

In northern Idaho we can see that the forces working toward elimination of productive capacity are nearly spent. They were mighty hard to combat in their day, but their day is over. Conditions will still be difficult enough at best and some few of the companies now operating will retire from the field but in terms of total annual production it is very doubtful if any such proportionate reduction as we have had can occur again for a long, long time.

SUSTAINED YIELD IN SIGHT

We face now the interesting possibility that we have reached a point from which sustained yield forest management is at least in sight. Lumber production will suffer some further decrease and the production of forest crops through better handling of our cutting is bound to increase. Probably at a day not too far off we shall have actually reached a balance between growth and cutting in the white pine forests of northern Idaho.

This is an inspiring prospect. With two or three large operations running steadily and a growing activity of small mills hauling their products by trucks, northern Idaho lumber production will have settled down to a steady pace for the long pull. When the people can grasp all that this implies, tax income from forest properties can be stabilized, labor can be considerably and properly handled and community life made more secure.

These are things involved in stabilized lumber production in Idaho.

Here's the Potlatch Story

Potlatch Forests, Inc., was formed in 1931 by a merger of three companies—the Potlatch Lumber Company, Edward Rutledge Timber Company, and Clearwater Timber Company. All of these companies had been formed years before. "Old" Potlatch was actually born last of the three, but it began to move first and since it has provided the name for our present company we shall start this historical recitation there.

The Potlatch Lumber Company was incorporated in 1903 under the laws of the State of Maine, with Charles Weyerhaeuser its president. For its timber, the new organization received the holdings of the Northland Pine Company and the Wisconsin Log and Lumber Company, which made up large areas in the Palouse, Potlatch, and Elk Creek drainages. Shortly after the company was incorporated, it acquired the mills and timber of the Codd Lumber Company of Colfax, Washington, and the Palouse River Lumber Company at Palouse. The Codd mill was operated very little, if, any, after its acquisition, and apparently the Palouse mill only served to cut the lumber to build the town and plant which now comprises Potlatch, Idaho.

The name of Deary very forcibly enters our history at this time, though truthfully his activities in connection with this company and the Weyerhaeuser interests had been going on for some time. The particular incident referred to concerns the founding of Potlatch. Mr. Deary, an active and forceful man, unused to lengthy discussions, had nervously sat through three hours of fruitless discussion in a Directors' Meeting on the location of Potlatch. Finally, he rose and walked to the table, where a map was outspread. "Gentlemen," he said, "we've wasted three hours of valuable time. Some of you want the mill here and some there. Now, the mill goes HERE!" Thereupon, he poked his finger through the map at a spot which is now Potlatch. They sent Mr. Deary to Idaho to build Potlatch at the end of the meeting.

The location was criticized a few times immediately after construction started and compared unfavorably to the alleged advantages of Colfax and Moscow. Mr. Deary's answer to this criticism will be gleefully given to all

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Here's the Potlatch Story

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interested persons by any old Potlatcher.

The building of Potlatch, town and mill, was done in 1904, 1905, and 1906. The mill started operation in September, 1906, and commenced a five-year run of continuous operation. The management was in the hands of its builder, William Deary. As Assistant Manager, Mr. A. W. Laird came from Winona, Minnesota, in 1905. Tom Jones was woods superintendent; Mark Seymour, mill superintendent; and Rogers was in charge of yard and shipping. Paul Lachmund was sales manager, and Max Williamson his assistant. The Potlatch sales organization had twenty-two men in the field. C. E. Isenberger was in Minneapolis, F. J. Hughes in Omaha, and A. K. Southworth in Montana.

The first office of the company in Potlatch was in the depot building of the Washington, Idaho & Montana Railway Company. Then an office was built inside the mill grounds and was used for many years until the present office was constructed. At the present time only the vault of the old office remains, and it is used by Louis Young, Potlatch engineer, as an office.

In May, 1913, Mr. Deary died. A short time afterward, A. W. Laird was made General Manager, and later W. D. Humiston was made Mr. Laird's assistant. Mr. Laird remained as manager of the Potlatch Lumber Company until his death in 1931.

Dropping back to 1910 in the history of the company, we find the building of the Elk River Plant in that year. On the site of the Trumbull homestead, a town and mill was placed in what was one of the remotest districts. Nothing but a pack trail to the placer operations on Burnt Creek entered this region at that time.

Just as Deary's name is graven in Potlatch history, so is the name of Andrew Bloom in that of Elk River. Bloom, associated since boyhood with Deary, came West and went through this region with him when the timber was being bought. Remaining out here, Bloom became General Manager of the St. Joe Boom Company and operated it several years before being called to the new mill at Elk River. Bloom was manager at Elk River, under William Deary and A. W. Laird, until his death. Under Mr. Bloom were Joe Edwards, mill foreman, and

Charles S. Peterson, yard and shipping superintendent. William Maxwell, now of the Weyerhaeuser Sales Company, was office manager until his transfer to Potlatch as office and townsite manager there. It is of interest to note that William Maxwell's father was the superintendent of the original Palouse mill of the Potlatch Lumber Company and is still living in Palouse. Mr. Peterson also was transferred to Potlatch in 1912, his place being taken by Dave Rosenberry.

This mill, one of the most modern and efficient in the world at that time, had an active life of twenty years. In 1930 it was closed due to the lack of business and the fall and winter of 1936-37 saw its complete dismantling.

When Mr. Laird died in 1931 he was succeeded as Manager at Potlatch by R. E. "Jack" Irwin, who had come up from Boise-Payette some years before to take charge of manufacturing. Jack Irwin stayed until early in 1933 when he left to return to selling and was followed by James J. O'Connell, the present Manager of the Potlatch Unit.

Going north to our Rutledge Unit, we find the timber for this operation being bought in 1898 to 1900 by Edward Rutledge and Frederick Weyerhaeuser. On October 31, 1902, the Edward Rutledge Timber Company was incorporated with its first officers: Edward Rutledge, president; Frederick Weyerhaeuser, vice president; C. A. Weyerhaeuser, secretary and treasurer; and F. J. Davies, general manager. In 1915, on a site previously purchased by Davies, the mill was constructed. Simultaneously, R. M. Weyerhaeuser was elected the new president of the Edward Rutledge Timber Company, the motive being the installation of an "operating" president, when the company ceased to be a timber holding concern and started cutting its logs.

Sawing started in April and shipping in July of 1916 and continued to run until the depression made itself felt too strongly in 1932.

Edward Rutledge had the unusual and valuable knack of picking fine timber and some of the finest old growth pine along the St. Maries River came into the possession of the Edward Rutledge Timber Company through his activities. The select lumber which this timber produced was one of the features of Rutledge's shipments during its operation. (The common was another.)

Another feature of this operation was their drying yard, which, for the air seasoning of lumber, was perhaps unequalled in the West. Proximity to Lake Coeur d'Alene and the direction of prevailing winds made conditions ideal for this purpose.

R. M. Weyerhaeuser and Huntington Taylor constructed the Rutledge mill and Taylor was operating manager until 1928. G. F. Jewett succeeded Mr. Taylor and later under the merger, C. O. Graue was made manager which position he holds at this time.

The Clearwater Timber Company was incorporated under the laws of the State of Washington on December 13, 1900. It was thus the oldest of the three companies which were later to be merged, although it was the last to be started as an operating company. The original trustees were Frederick Weyerhaeuser, Edward Rutledge, John A. Humbird, John E. Glover, and George S. Long. The first officers were John A. Humbird, president and treasurer; Frederick Weyerhaeuser, vice president; and John E. Glover, secretary. Mr. Humbird held the presidency until his death in 1911 when he was succeeded by Mr. T. J. Humbird, his son, who in turn was succeeded by Mr. John P. Weyerhaeuser who held the office continuously until his death in 1935.

Many long years were spent in buying timber, protecting it from fire and making investigations of methods of operating the holding. In these years Mr. John Weyerhaeuser, Mr. T. J. Humbird, Mr. W. H. Farnham, secretary, and Mr. Theodore Fohl, agent at Orofino, were the entire personnel of the company. Theodore Fohl will be written up in a later issue of "The Family Tree," so for the present we shall say no more than this: In the protection of the Clearwater country from fire for over 25 years, no man ever gave a finer example of unselfish service.

Finally, after false starts at Ahsahka, Orofino, and Big Island (here it was planned to build a mill to be served by the Milwaukee via Elk River) it was decided to go ahead with the construction of the big mill at Lewiston. And so, in April, 1925, J. P. Weyerhaeuser, Jr., who had been appointed manager of the company, went to Lewiston and opened an office, taking C. L. Billings and G. F. Jewett with him.

The Clearwater plant now stands on

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Here's the Potlatch Story

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what used to be the Lewiston Fair Grounds. The loading tracks are about where the race track used to be and the time office, at the gate, is at the edge of what was once one of the early auto parks of the West. The pond area was intensively cultivated for fruits and vegetables by 41 families who made their homes on the land. It took some time and effort and a great deal of money—part of which was subscribed by the people of Lewiston—to buy this ground.

Finally, however, it was accomplished and construction of the plant was started in February, 1926. The first log was sawed in August, and the first car was shipped in September, 1927. While the plant was being built the Electric Bond and Share group, through a subsidiary, were building the dam and pond, and the Northern Pacific Railway Company by arrangement with the Union Pacific Railroad and the Clearwater Timber Company was building the railroad from Orofino into the timber at Headquarters.

When the merger was completed in 1931, a new group of officers was placed in charge. J. P. Weyerhaeuser, Jr., was elected president and general manager; Laird Bell of Chicago, vice president; G. F. Jewett, Coeur d'Alene, treasurer; and George R. Little, Winona, Minnesota, secretary. Managers of the three units were C. L. Billings, Clearwater; R. E. Irwin, Potlatch; G. F. Jewett, Rutledge. Mr. Weyerhaeuser, Jr., left the company in January, 1933, to become executive vice president of the Weyerhaeuser Timber Company and was succeeded as president by Mr. R. M. Weyerhaeuser of Cloquet and St. Paul, and Mr. C. L. Billings was elected vice president and general manager. The present members of the board of directors are: Mr. R. M. Weyerhaeuser, Cloquet and St. Paul; Mr. J. P. Weyerhaeuser, Jr., Tacoma; Mr. F. K. Weyerhaeuser, St. Paul; Mr. E. W. Davis, Cloquet; Mr. Laird Bell, Chicago; Mr. G. F. Jewett, Coeur d'Alene; Mr. George R. Little, Winona; Mr. C. R. Musser, Muscatine, Iowa; Dr. E. P. Clapp, Pasadena; Mr. C. L. Billings, Lewiston, Idaho; Mr. R. D. Musser, Little Falls, Minnesota; and Mr. H. J. Richardson, St. Paul.

* * * * *

The foregoing recital, long as it is, fails miserably to do justice to the

scores of old timers who have given a lifetime of service and skill to our company and its forbears. Because we keenly realize this, we shall attempt no build-up of our present operating organization, but shall merely introduce them by name and job:

C. L. Billings, general manager, and president of various subsidiary companies; Otto H. Leuschel, assistant general manager in charge of manufacturing and manager, Clearwater Unit; Thomas E. Kinney, assistant general manager in charge of logging; J. J. O'Connell, manager Potlatch Unit; C. O. Graue, Manager Rutledge Unit; H. L. Torsen, office manager, D. D. Lyells, assistant; Phil W. Pratt, sales manager, C. P. Baker, assistant; Roy Huffman, manager fuel department and general manager, Wood Briquettes, Inc.; R. T. Bowling, chief engineer; E. C. Rettig, land agent and general manager, Forest Development Company; W. J. Gamble, assistant general manager, Washington, Idaho & Montana Railway Company; A. D. Decker, western manager and R. V. Clute, sales manager, Weyerhaeuser Pole Company; H. N. Rooney, purchasing agent; J. H. Bradbury, logging superintendent, Clearwater; C. G. Nogle, logging superintendent, Potlatch; Jack Baggs, woods auditor; C. S. Peterson, manufacturing inspector; W. R. Boie, manager box department; J. L. Frisch, manufacturing superintendent, Clearwater; D. S. Troy, shipping superintendent, Clearwater; Ben Swafford, manufacturing superintendent, Potlatch; Paul Tobin, shipping superintendent, Potlatch; Henry Peterson, manufacturing superintendent, Rutledge; Sam Gilbertson, shipping superintendent, Rutledge; A. A. Segersten, land agent, Potlatch; A. G. Ferguson, manager, Potlatch Mercantile Company; George P. Anderson, cashier, Potlatch State Bank; R. S. Nelson, workmen's compensation exchange (insurance); R. M. Evenden, employment manager and editor, Family Tree.

She: "Aren't those chimes melodiously beautiful? Such harmony! So inspiring!"

He: "You'll have to speak louder. Those confounded bells are making such a racket I can't hear you!"

All editions of The Family Tree are printed on Northwest Paper Company's English Finish Mountie Book paper.

Interesting Facts of the Clearwater Plant

POND

The log pond has a total area of 360 acres.

The log pond is now used as a temporary storage and sorting space for logs brought in on the railroad.

SAWMILL

Logs are cut into lumber by five band saws and one gang saw.

Each band saw is a double cut saw (teeth on both edges); travels about 10,000 ft. per min.; and is driven by an individual 200 H.P. Wound Rotor Induction Motor, with an automatic starter.

The gang saw will cut 162 1 in. x 6 in. 16 ft. boards at one time. It is driven by a 250 H.P. Wound Rotor Induction Motor, with a hand driven controller for starting.

All live rolls, conveyors, and chains are driven by individual Squirrel Cage Induction Motors, through reduction gears. Each motor is controlled by push button stations, which in turn operate the magnetic switches. All motors are protected by fuses and thermal relays.

The sawmill has a capacity of 400,000 bd. ft. per 8-hour shift.

POWER HOUSE

Four 1,100 H.P. boilers are used to generate steam.

Electric power is purchased from Washington Water Power Co.

Green hog fuel and shavings are used for fuel, for the boilers, in special dutch ovens designed for this work.

Approximately 40 million lbs. of steam are generated each month.

Two 250 H.P. Synchronous Motors on the air compressor are run with over-excited fields to partially rectify the low power factor caused by the large induction motor loads.

Steam and electric driven water pumps furnish water for the plant and for fire protection.

Electric power is distributed throughout the plant by 2300 V. feeders originating in power house.

Power is distributed, and used for large motors at 2300 volts, but is cut to 440 volts for smaller motors, and 110 volts for lighting circuits.

About 20 million Kw. Hrs. of electric power are consumed annually in this plant.

(Continued on page eight)

Interesting Fact of Clearwater Plant

(Continued from page seven)

DRY KILNS

Roughly, 36 barrels of water are evaporated from the lumber in the dry kilns *each hour*.

There are 76 dry kilns in this battery, making this installation one of the largest in the world.

Lumber is loaded on dry kiln trucks by hand stackers, but is unloaded after drying by automatic, electrically operated unstackers.

Lumber is dried in the kilns by steam heated air circulated through the loads of lumber by motor driven fans.

SHIPPING DEPTS.

About 40 carloads, or one million feet of lumber can be planed, finished and shipped each shift.

Lumber is transported about the plant by monorails, which are electrically operated. They operate on 250 volts D. C. taken from a trolley wire. A monorail loaded with green lumber weighs around 17 tons, and travel at a speed of 500 ft. per minute.

Each of four rough dry storage sheds has a capacity of 10 million board feet of lumber.

All planers are electrically driven. Each planer head has an individual direct drive motor, built into the machine. Most of the motors are 3600 R.P.M.

Lumber travels through the planers at a speed of 280 to 400 ft. per min.

Shavings are collected from the sixteen planers and moulding machines by large low speed exhausters fans, powered by individual direct connected motors.

Lumber is steamed under 20 lb. pressure for a few minutes in the steam tank to prevent checking when the warped boards pass through the planer rolls. The unique feature of the steam tank is the doors or valves, which are opened and closed automatically by induction motors. This valve was designed and developed by the chief engineer of this plant.

4-Square and re-butting machines cut boards to standard lengths and square the ends before being shipped. 4-Square lumber is put up in packages.

Lumber is handled in the rough dry sheds by large bridge cranes. In the lumber yard lumber is piled in units, by a lumber piler designed and built by Mr. R. T. Bowling. Induction motors are used for power throughout on this machine.

PRES-TO-LOGS PLANT

Pres-to-logs are made from dry wood waste.

Each machine has a daily capacity of 10 tons.

Pressure developed against the thin layer of material as the log is formed may be as high as 100,000 lbs. per sq. inch over relatively small areas.

The machines are entirely automatic, being controlled by relays of several types, and push buttons.

Pres-to-logs have a density of 80 lbs. per cu. ft.—wood fiber in its solid state (no cells) has a density of 90 lbs. per cu. ft.

These machines are the first commercial machines ever developed to successfully briquette wood waste without the addition of some foreign material as a binder. This machine was invented by R. T. Bowling, chief engineer, Wood Briquettes, Inc., and was entirely developed in Lewiston, Idaho.

GENERAL

There are 33 Frigidaire water coolers that provide men with cool pure water.

The fire protection system is elaborate and complete. It consists of the following major items:

- 21,000 automatic sprinkler heads with accompanying supply systems.
- 14,000 feet of 2½ in. fire hose.
- 6,600 feet of 1½ in. fire hose.
- Several hundred Pyrene fire extinguishers for electrical fires.
- Water mains are supplied by four 1,000-gal. per min. pumps, and one 1,500 -gal. per min. fire pump.
- For emergencies when all power fails, a large reservoir on the adjoining hill furnishes a gravity water pressure. It is connected to the mains through a check valve, so its operation is entirely automatic.
- At night four watchmen and a fire crew of twelve men are maintained at the plant for fire protection.
- Six to eleven hundred men are normally employed.

Interesting Facts of the Rutledge Plant

POND

The log pond has a storage area of about 160 acres. The logs are railed to the St. Joe river, unloaded and towed down the Coeur d'Alene lake to the mill. The drive logs are sorted at the head of the lake, kept in storage and towed to the mill as needed.

POWER HOUSE

Has 5 Bros return tubular horizontal boilers installed in two batteries, one of three and one of two boilers.

The electric power is generated by one 1250 Kw., 3600 R.P.M. generator with Curtiss steam turbine and accessories, and one Allis Chalmers 500 Kw., 3600 R.P.M. turbine. These machines furnish the electric power for the plant, which is largely used in the planing mill.

One 28x48 Hamilton Corliss engine furnishes the power that operates the sawmill.

One air compressor furnishes the air required around the plant.

One 12x12 Erie City lighting unit is used to furnish electricity for the lights when the turbines are shut down.

PUMP HOUSE

One Fairbanks-Morse underwriter fire pump, capacity 1500 gallons per minute, is used for fire protection.

One electrically-driven fire pump with automatic starting switch, capacity 1500 gallons per minute. This is also for fire protection.

SAWMILL

Has two Diamond Iron Works band mills, 9 ft. wheels. Saws travel 11,055 feet per minute.

Filer & Stowell carriages.

One Diamond 8 ft. edger, using 30 in. diameter saws.

One 24 ft. Diamond under cut gang trimmer, using 32 in. saws.

One slasher using six saws.

The mill has a capacity of 120,000 feet in one eight-hour shift.

LATH MILL

It is equipped with a bolter and lath machine and lath trim saw.

SORTER AND YARD

The lumber is sorted in the sorting shed and hauled to the yard by electric transfer. The lumber is piled for seasoning in an air drying yard, covering about sixty acres of ground, considered the finest air drying yard in this district. The lumber is transferred in the yard and from the yard to the planing mill by gasoline locomotives.

DIP TANK

In the yard is a dip tank where the lumber is dipped for a few minutes to prevent checking when the boards are put through the planer rolls.

(Continued on page nine)

Interesting Facts of Rutledge Plant

(Continued from page eight)

PLANING MILL AND RE-MANUFACTURING PLANT

Electric power is used in the planer and remanufacturing plant.

The lumber moves to the planing mill on yard trucks.

The planing mill is equipped with:

- 3 moulders.
- 5 matchers.
- 1 double surfer that surfaces up to 30 in. widths.
- 1 smooth cutting siding saw.
- 2 band resaws.

Cut-off saws, rip saws, etc.

Rebutter: One rebutting machine which double end trims the boards to standard lengths and end-marks with the Weyerhaeuser trade mark and seals with paraffine and stamps "Genuine White Pine" on the face of the board.

Remanufacturing plant: Lumber coming from the planing mill not on standard grade is transferred to the remanufacturing plant, where it is carefully remanufactured to standard grades and sizes.

The lumber is taken from the planers on shed buggies and transferred to the sheds or cars with Mercury tractors.

FOUR-SQUARE PLANT

Includes double end trimming saws, taping, labeling and end capping equipment.

SHIPPING DEPARTMENT

About 20 carloads can be loaded at one time under shed roofs.

Two dry sheds with a storage capacity of about 5 million feet, the lumber standing on end.

The shed lumber is handled by a revolving system which provides for taking out the oldest stock first so that no old or dirty lumber accumulates, keeping the stock always clean and bright.

Shipping capacity, 4 million feet per month.

Interesting Facts of the Potlatch Plant**LOG POND**

The log pond has a total area of 31 acres and a log capacity of six million feet.

Above the upper dam on the Palouse River there is a storage space for twelve million feet of logs.

The logs are sorted as to species and

put into the hot pond; pulled by a donkey engine toward the log slip where they are conveyed to the sawing deck of the sawmill by means of a steel conveyor or bull chain.

All logs entering the mill pass through a high pressure spray of water which washes the dirt, rocks and loose bark off them.

BURNER

The burner, which takes care of all refuse and surplus sawdust, slabs and edgings, is 45 feet in diameter and 140 feet high. It is lined with 500,000 brick of which 20,000 are fire brick.

POWER PLANT

The power plant is equipped with: 12 boilers of 150 H.P. each (horizontal tube type).

1 boiler of 750 H.P. (water tube type).

Amount of steam generated: 50,000,000 lbs. per month.

Has a brick storage fuel vault of 600 units or cords capacity.

Twin City Corliss engine of 1200 rated H.P. with a maximum load of 1800 H.P.

The fly-wheel weighs 80,000 lbs. and is 24 feet in diameter.

The belt is 66 inches wide by 135 feet long and drives most of the machinery in the sawmill.

1 2500 K.V.A. turbine generator.

1 500 K.V.A. turbine generator.

Boiler feeds pumps to furnish water for the boilers and two air compressors which furnish air for the entire plant, including the air controlled set works on carriages in the sawmill.

SAWMILL

Daily capacity: One 8-hr. shift, 300,000 feet.

Equipment:

2 single cut 9 ft. band saws.

2 double cut 9 ft. band saws.

1 54 in. gang saw.

2 double edgers, 2 single edgers,

2 trimmers.

Band saws travel 10,000 ft. per minute.

Gang saw will cut 46 boards each operation.

Sawmill is partly electrified by 46 motors.

7 Dry Valves for fire protection with 2500 automatic sprinkler heads.

Will cut logs up to 32 ft. long.

GREEN LUMBER SORTER

544 feet long. Lumber is sorted here for drying purposes only, that is, the thickness and lengths are segregated and the different drying segre-

gations, such as selects, common heartwood and common sapwood, which require different kiln treatment. Approximately 400,000 feet of lumber always on chain or trucks in process of sorting.

STACKERS

3 Lumber Stackers, electric motor driven for stacking lumber for kilns. Capacity: 250,000 feet per 8-hr. day.

1 Electric Transfer car used to transfer lumber to kilns.

DRY KILNS

36 Kilns with capacity of 1½ million feet.

Fans are driven by four 100 H.P. motors.

Electric transfer car used to transfer lumber to unstacker.

Drying capacity of 7,650,000 feet per month.

24,000,000 lbs. of steam used per month.

DRY SORTER

Building is 470 feet long by 70 feet six inches wide. Two unstackers used to put the dry lumber on sorting table.

Capacity: 320,000 feet per 8-hr. day.

PLANING MILL

Capacity: 500,000 feet for 8-hr. day.

Equipment:

90 Electric motors.

3 12 in. by 6 in. moulders.

1 30 in. by 9 in. surfer with side heads.

10 15 in. by 6 in. matchers.

2 9 in. by 6 in. matchers.

2 Band resaws.

1 Band rip saw.

2 Circular rip saws.

9 Circular trim or cut-off saws.

(Can surface up to 8 in. thickness and 30 wide.)

REMANUFACTURING PLANT

Capacity: 150,000 feet per 8-hr. day.

Equipment:

1 Saw trimmer.

1 Band rip saw.

8 Lumber grader tables.

TRANSPORTATION

Equipment:

2 Monorails, each 4-ton capacity.

5 Storage battery locomotives and 1 gasoline locomotive.

5 Storage battery tractors and 1 gasoline tractor.

950 Yard lumber trucks.

297 Planer lumber trucks.

DRESSED SHEDS

Have twelve dressed lumber sheds, with capacity of six million feet, lumber standing on ends, and rotating system used so that oldest stock is

(Continued on page ten)



AERIAL PHOTO OF THE CLEARWATER PLANT

Interesting Facts of Potlatch Plant

(Continued from page nine)

used first the lumber does not accumulate in shed to become dirty, but is always fresh, clean and bright.

Loading dock—Can handle fifty cars at one time.

PRES-TO-LOG PLANT

4 "Pres-to-log" machines with a daily capacity of 10 tons each convert waste products into eight pound compressed sawdust briquettes 4 in. in diameter and 12 in. long.

Storage capacity for 4,000 tons.

GENERAL

Plant Fire Protection:

20 Dry Valve lines with automatic sprinkler heads in the various departments outside of sawmill.

77 Outside hydrants in plant and yard.

Volunteer fire department: 12 men.

Water supply is furnished by:

1 200 gal. Centri. pump.

1 1500 gal. Centri. pump.

1 1500 gal. Recip. pump.

1 1000 gal. Recip. pump.

Lumber yard has an area of 65 acres.

2 Lunch rooms and smoke houses located conveniently for the use of employees and equipped with radios, electric lights and steam heat.

Average number of employees at plant per operating day, 444.

A Slight Error

Spike Baker rushed into Mr. Billings' office one morning—"St. Paul is on the teletype. You have been wanting them."

Mr. Billings dashed out to the machine. "Who is to talk first?" "You are. They are waiting for you."

Mr. Billings said, "That's fine. Take this." "F.K.W. or R.M.W. Have written and wired R.M. about vacation but no answer yet. Please find him and get me a clearance. C.L.B."

And the answer came right back. "C.L.B. R.M. not here F.K. not here just Ralphie and Willie take as long as you want and go as far as you want and have good time. Klamath speaking. W.A.C."

To All Salesmen

To most of you "Pres-to-Logs" and their manufacture is going to be an entirely new and most interesting story. In order that you may get a thorough and authentic picture of this development, we have arranged to have Mr. R. T. Bowling on hand at the Briquette plant at Lewiston while you are here. Mr. Bowling is chief engineer and developed these machines from the beginning, and will be able to give you the whole story. (But don't let him make you believe the tail is ever going to wag the dog, because R. M. W. won't stand for it.)

LAS DETTA

Can anyone find in this issue of "The Family Tree" a picture of R. M. W. sitting on a stump in Glacier Park smoking a big black cigar?

Teacher (to small pupil): "Spell 'Straight.'"

Pupil: "S-t-r-a-i-g-h-t."

Teacher: "Correct; what does it mean?"

Pupil: "Without ginger ale."