



Story Without Words

A story that doesn't need words is this picture of the mill yard at Clearwater. Except for some edgings, a few kiln stickers, and a pile or two of timbers (already sold) there isn't anything in outside storage to tempt a buyer. It is mute and appropriate testimony to war's demand for lumber, as well as spokesman of the reason why today's customers do not receive prompt shipment.

New Products Give Value To Mixed Woods

A PROBLEM which has long threatened the economy of Inland Empire lumbermen whose holdings run to mixed wood forests has been the need for discovery of markets for the less desirable species of timber. War's tremendous demand for construction and box lumber gave temporary desirability to almost every kind of wood, but pre-war the footage that could be harvested from mixed woods was practically nil, thanks to the dollar loss certain to occur if quantity production be attempted. The result was an economy based on pine, with the almost complete exclusion of all other species.

It is unlikely that the market for mixed woods will slump to pre-war levels. The need for lumber to service general construction needs and to build homes will

prevent that for a long time, but the old problem of finding outlets in sufficient quantity and number to permit the cutting of all mature trees when an area is logged will soon again bedevil lumbermen.

TOP JOB FOR ENGINEERING DEPARTMENT

Recognition by P.F.I. management of the necessity for giving value to mixed woods caused Assistant General Manager Roy

Left—Hershel Atkinson, pull saw operator, and Fred Keiper cut cants to desired length, steam boxes in background.

Huffman, whose special charge is development of new products, to place this problem in top spot on the work calendar of R. T. Bowling's engineering department. A measure of solution can already be seen at Clearwater in the shook slicing plant, now producing.

Object of the shook slicing plant, as related by Engineer Bowling, is to achieve a further utilization of mixed woods in a product that is both serviceable and acceptable to the trade. The plant is located under the sawmill in the southwest corner of the mill building. The lumber that passes through it travels in a tight three-quarter circle with only a few yards of space separating slicing machine and loading dock.

Stages of manufacture consist of cutting the cant in the sawmill, reducing the cant to correct length blocks with a cut-off saw under the tie and timber dock, steaming of the blocks in a steam box, slicing, grading, stitching, bundling, drying and final loading.

LUMBER WITHOUT SAWDUST

The method of manufacture is one that assures the highest possible recovery of material from the original raw material and it is worth noting that here a block of wood is cut into many pieces without developing

(Continued on page four)

History Makers

It is always a pleasure to receive a letter from a P.F.I. serviceman and there is an incomparable thrill that accompanies the reading of such letters as those received from Green and Bell, reproduced on page two of *The Family Tree*.

A lot of history has been written in the past few years and the names of a great many boys from our outfit have figured in the writing. The world has shrunk in size at a terrific rate and we are made mindful of that fact by the familiarity with which our servicemen discuss places on opposite sides of the globe.

It has been said that ours is the tragic privilege of living during the greatest military crisis since Napoleon, the greatest economic crisis since Adam Smith and the greatest human crisis since the fall of the Roman Empire. Perhaps that is true, but, more important, we also have the most magnificent opportunity ever afforded any people—that of writing another creditable chapter in history already written by Green, Bell, and millions of other Americans.

C. L. BILLINGS,
General Manager.



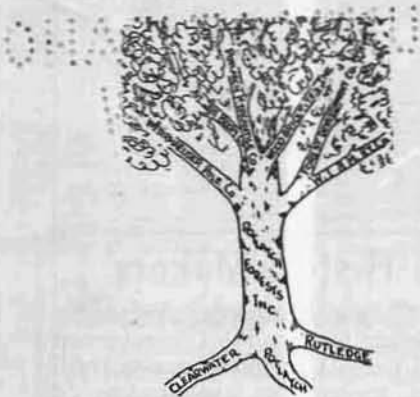
C. L. Billings Elected 1st Vice-Pres. NLMA

On November 26th, in Chicago, P.F.I. General Manager C. L. Billings was elected first vice-president of the National Lumber Manufacturers Association. It was the 43rd annual meeting of the association. Mr. Billings is a director, and a member of the NLMA executive committee, representing the Western Pine Association. Elected to the presidency of the association was C. Arthur Bruce of the C. L. Bruce Company, Memphis Tennessee.

Below—Atkinson and Keiper push a load of blocks into one of the steam boxes.



THE FAMILY TREE



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Editor Leo Bodine

Correspondents

- Robt. Billings Rutledge
- Mabel Kelley Potlatch
- Charles Epling Clearwater Plant
- Carl Pease Headquarters

Christmas

There is a magic substance to Christmas that more nearly achieves the unlocking of all man's goodness, conversely pushing whatever he may possess of meanness and greed into temporary retirement, than does any other single thing on earth.

There is much cause for rejoicing this Christmas. Peace on Earth, to men of good will . . . has returned. But, joy must be tempered with grief that the price of peace was inflated by earlier mistakes to a fearsome figure.

And the ingredients for another war seem to be already at hand, awaiting only the fuse of misunderstanding. Ironically it is the path of peace, the road of reason and sanity, that is elusive and demands as its coin unceasing effort, eternal vigilance.

This year, when the caroled strains of Silent Night, Holy Night, evoke a lift of the spirit, bring a humbleness of mind that few can deny, let us remember to ask of Providence a wise tolerance and a gift for understanding that may guide the future against the mistakes of the past and set our minds to master the Science of Peace. We must find a way to end war, else we shall of a certainty end mankind.

A pink elephant, a green rat and a yellow snake walked into a cocktail bar. "You're a little early, boys," said the bartender. "He ain't here yet."

Service News

From Lt. Wm. A. Greene, Hamilton Field, California

Have been transferred three times since leaving Florida. My ambition has been to pilot a C-54 Skymaster, so passed up everything, including a promotion, to get to C-54 school. It took about six months longer than I had hoped and in order to complete the course I had to sign what seemed to be a harmless piece of paper—duration plus six months, same as when I was drafted, years ago. Anyhow, I have ended up as a pilot on a Transpac crew in A. T. C. on what is referred to as the Purple project. Originally it was to transport troops and supplies into the Pacific but now it's to bring them back.

When I tried to get discharged was told it required more points here and that I was in until we are replaced by career men or until the job is finished, which will be spring.

FLEW THE GLOBESTER

My first trip was interesting as I hit Pearl Harbor, Kwajalain, Guam, Toyko, Okinawa and Manila. From Toyko I had Major General Stivers in the cockpit most of the way. He was returning to Manila to take charge of Yamashito's trial and was very interesting to talk to. He had me fly over Corregidor and pointed out various places and told about what they went through there. He left the rock with General MacArthur.

On the trip from Guam to Kwajalain I flew the Globester on its round the world hop.

Sounds interesting, but means being out from 20 to 25 days a month with little sleep. Also, my wife and mother think every plane lost is me, which is all the more reason to get home. If I'm not out by Xmas should have a leave and will stop in for a bull session.

Editor's note—Lt. Greene completed fifty missions in the European theatre before returning to the U. S. and re-assignment to the Pacific.

From Pfc. William J. Bell, Nunberg, Germany

Received the Xmas package last night and wish to thank you for your thoughtfulness in sending such a wonderful gift. I can assure you every bit of it will be used, as things are scarce over here.

I am now in the army of occupation in and around Nurnberg. We have one prison camp and a few men from our company are guarding the war criminals held at Nurnberg. Hermann Goering and Rudolph Hess are two of them. I have never been inside the prison as I am working in the supply room, so never get the chance. Strict rules are observed and it is impossible to even enter the prison gates unless you happen to be one of the guards or a government official.

From Sgt. Bernard Hobbs, Biak Island

At last we have received word that we are heading for the States. We have shut down work completely and are anxiously awaiting the boat. It will land at Los Angeles and I'll be discharged at Fort Lewis, Wash. Hope to see all of you soon. Merry Christmas to everybody—me too.

You see an unusual number of hangovers on the streets these days—must be the holiday drinking!



Two-Fisted Writer

Back in the days that haven't yet "dimmed beyond recall" various contracting agencies of Uncle Sam's government flooded the P.F.I. sales office with a God awful number of forms that had to be executed with shipment and invoicing of each order.

The straw that broke the camel's back, however, occurred when a batch of forms came back to Sales Manager Phil Pratt with a note reading—"Mr. Pratt, your signature is not the same as on other forms."

To which Mr. Pratt gave articulate and immediate judgment for the benefit of those within hearing distance. A written explanation was later sent the penman of the note—"There have been so many of these forms that I have been forced to train myself to write with both hands at the same time. Obviously what has happened is that I signed the first papers with my right hand and the second batch with my left hand. Please forgive me."

Kroll Does Barrel Roll

The fellow who went over Niagara Falls in a barrel has little more to brag about than does woodsman Al Kroll who recently did a fancy three turn-over barrel roll off the Greer grade in his car. With a touch of



sadness be it noted that the barrel roll did lasting damage to the automobile, in fact, totally destroyed same.

Mr. Kroll fared slightly better than did the car. Damage suffered to his person in the way of torn shoulder ligaments, black eyes, skinned nose, cuts and abrasions have disappeared. At this writing he appears in the pink of condition but admits to no interest in re-living the experience.

Cause of the accident was a sharp U turn toward the top of the grade, plus the fact that Al's foot slipped off the brake and pushed the accelerator to the floor boards at a time when the brake was what he needed. A fancy, three times over, barrel roll followed. By great good luck woodsman Kroll is alive to relate the happening. All of which proves that it takes a lot to kill a lumberjack . . . or something.

SAFETY NOTES

There's still a war on—against traffic accidents. Drive carefully.

As of October 31st the Potlatch Unit reports a total year to date of 670,897 man hours worked, 28 disabling injuries, 698 calendar days of disability, accident frequency rate 41.7, injury severity rate 2.04, Donovan Index 52.1. Not bad—but it could be better! WITH HELP!

In 1944 accidents in the U. S. claimed 8,000 lives, permanently disabled 340,000 people!

DEATH DOGS SANTA'S FOOT-LEPS. Every year, children are killed or maimed because of inappropriate toys given by careless adults. Toys can't be chosen casually as Christmas ties. They are a part of a child's development and should be chosen to suit his age, his interest, his mental and physical capacities. Give careful thought to the selection of all toys!

Accidents in the U. S. in 1944 injured 9,800,000 persons, cost the people of America \$4,900,000,000.

A safety film entitled "Sawmill Safety" recently shown to sawmill employees by Safety Director Charles Epling, Clearwater. The film is a sound slide variety, distributed by the National Safety Council, and pertains to the operation of a British Columbia sawmill. The operation covered is quite different than Clearwater but still has some very good hints on safety. A similar film covering woods operations is available through Woods Safety Director A. White.

The best brakes in the world may be used if your foot doesn't work right. Watch those brake and clutch pedals. A little bit of mud or slush on them, or on your shoes, may mean a lot of trouble.



"It's all my fault, officer. I was looking the other way and didn't have my husband in control."



Box Factory Has Accident Free Month

Pictured above is the day shift safety committee of the box factory at Clearwater. They boast an accident free month during the first month of their existence as a committee . . . November 1945. The night shift safety committee in the box factory has been equally effective.

High purpose of such departmental safety committees is to help reduce accidents, particularly through making a study of near accidents and then eliminating the possibility of a near accident becoming an actual accident at a later date.

Committee membership is limited to three months to insure rotation of the job among department employees. That the idea has merit it is easy to believe when remembered that the box factory has been the most hazardous of all Clearwater departments and has the most lost time injuries charged against it of any department in 1945—a total of eighteen. The sawmill is next with sixteen.

Left to right, above, are . . . Riley Worley, foreman; Monty Morris, Ernie Hemphill, Mark Haworth, Delbert Clear, and Carl Tweetmeyer.

It is the unexpected, the thing that doesn't happen, the gun that isn't loaded, which always brings accident and death.

The need for constant alertness was never more sharply brought to sight than at Camp 58 in late November when a tree toppled over and killed two P.F.I. loggers . . . George Trout and Jess Lockwood. There was no reason to presume anything of the sort would ever happen, maybe the accident will never be reproduced. There was no warning, the tree simply uprooted and toppled over, instantly killing Trout, and fatally injuring Lockwood.

But there are other accidents that happen which can be avoided by careful attention to safe working practices and a watchful eye to surroundings. This accident should serve as a reminder that anything can happen, and does. It is only good sense to never relax vigilance against accident, to think safety and to practice it.

Jack Willows, machine shop foreman at Clearwater, professes to a new respect for STOP, LOOK, & LISTEN signs at railroad crossings. November 14th Jack left the plant at 5:45 and didn't see an approaching freight train at the crossing just outside the plant's entrance gates. With the front wheels of his car almost on the track he noted what was happening, quickly swung the car to a position paralleling the tracks but the freight took off a fender or two and drug the automobile along the right-of-way for a short distance.

In Jack's defense, let it be said that the weather was as foul as weather can be and there was a soupy fog that helped blot out the approaching train, but, we agree with him—"you got to watch out for trains." . . .

From the American Cancer Society comes this good advice on how to prevent mouth cancer—

Cancer rarely occurs in a clean mouth. Women have better mouth hygiene than men, which may account for the fact that there is less mouth cancer found among them. Here are some sound measures to observe in the prevention of mouth cancer:

1. VISIT YOUR DENTIST FREQUENTLY:
Have him smooth down teeth with rough edges and fill or remove decayed teeth. Bridges or plates which do not fit should be repaired or discarded. Have your teeth cleaned by him at least twice each year.
2. KEEP TEETH AND ORAL CAVITY CLEAN:
Avoid picking the teeth with abrasive objects such as toothpicks; use dental floss instead. Brush your teeth and gums regularly.
3. AVOID LIP AND TONGUE IRRITATION:
Rough, hot pipstems have caused cases of lip and tongue cancer; avoid irritation by this source. Keep the lips from chapping due to overexposure to sun and wind, by protecting them with some bland ointment such as vaseline or cold cream.

Have you heard about the fat lady who visited one of Kaiser's shipyards during the height of the ship-building program? She bent over to tie her shoestring and before she could straighten up they broke a bottle of champagne over her stern and launched her.



Above—Orville Luster pulls a load of steaming blocks from the steam box. Steaming time varies from 2½ to 5 hours depending on thickness of blocks.



Above—The machine for assembling slats and cleats preparatory to stitching them into veneer shook covers is one of considerable complexity. Girls arrange the slats on a traveling chain that carries them to the stitcher.

New Products

(Continued from page one)

sawdust or sufferance of any loss of wood to saw kerf.

In brief, the slicer is a machine that slices thin pieces of wood off a solid block, commonly called a cant. The cants may vary in size from 2½ in. to 7 in. in thickness and from 4 in. to 12 in. in width. The thin slats cut by the slicer, generally termed veneer, may be cut in thicknesses from 1/20 in. to 5/16 in.

The veneer produced on a slicer of the type and size installed at Clearwater is generally used for making citrus fruit boxes or crates, apple boxes, vegetable and berry crates, and particularly the tops and bottoms of such crates.

The Clearwater slicer is a 27 in. size. That is, it will cut pieces 27 in. long and 7 in. wide. It is a mechanical type, motor driven through a train of gears. The final two driven gears of the chain act as cross heads to which a crank pin and crank rod is attached, one at each head. The rods are in turn attached to the cutting knife head which is supported at both ends in a guide bearing frame on the machine. The movement of the gears imparts a reciprocating motion to the knife bearing heads and at full speed makes 225 strokes per minute, thus slicing 225 pieces of veneer per minute.

The blocks or cants are fed to the cutting knife on a horizontal bed plate by means of a hydraulic oil cylinder, maintaining constant pressure on the blocks as they are cut. When one series of blocks have been cut the cylinder reverses automatically to receive another set.

The slicer is the main machine in the plant, but considerable additional equipment is necessary to plant operation.

STAGES OF MANUFACTURE

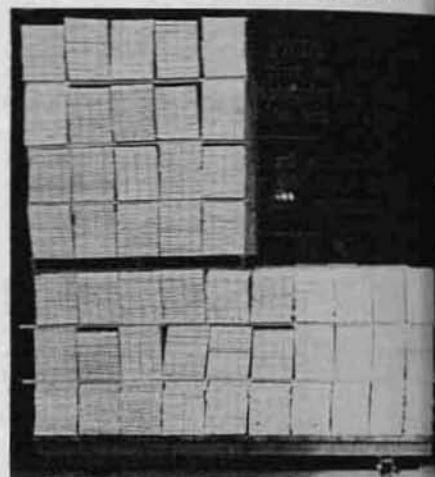
Lumber, or cants, are first cut in the sawmill and then into blocks with a pull saw located under the tie and timber dock. Careful selection is mandatory as the slicer works best when cutting vertical grain stock.

The operator of the pull saw cuts the cants into lengths suited to the manufacture of the shook on order and tries to get clear pieces, free of knots or other defects. In addition to cross cutting for length a rip



Above—Jack Byrnes, slicing machine operator, places another White Fir block on the feeder table. Slicer will cut 225 pieces a minute.

Below—Girls sort and grade the veneer slats on a grading table after they drop out of the slicing machine. Note steam still coming off pieces of veneer.



Above—A load of stitched and bundled shook covers takes shape.

Below—The second of two loads is about to be pushed into the dry kiln. It is on the turntable that makes possible a right angle turn of the load. Dry kiln charge is two loads—drying time about four and a half hours.



is used for further elimination of de-

Next, and last preliminary to feeding the blocks into the slicer is a steam bath to soften the wood. This makes possible a more accurately milled veneer of higher quality. Six inclosed steam boxes have been provided for this purpose and exhaust steam from the sawmill is utilized for steaming. The blocks are piled on skid pallets and are moved with the aid of a hand lift truck into the steam boxes and from there into the slicing machine. Blocks of 2½ in. thickness require 1½ hours of steaming; thicker blocks of 5 in. and 7 in. thickness require four or five hours of steaming.

At the slicing machine the veneer falls onto a grading table and is carried along the top of the table by narrow parallel belts. It is sorted and graded by several girls who then pile it onto another skid pallet onto gravity roll cases for the next part of the manufacturing sequence, that of assembling and finishing the stitched veneer.

STITCHING

A veneer shoo cover consists of a number of pieces of veneer (slats) assembled in given spacings on cleats placed at either end of the strips. The number of slats, their thickness, width and length will vary, also will the cleats. This necessitates the assembly of the complete cover, a matter of considerable complexity. These machines are known as stitching machines and their function is to wire stitch the slats to the cleats. Each slat requires at least two staples at each end. The machine will stitch 30 to 60 covers per minute, but it is a bottleneck in the department and an increase in the stitching capacity is needed to match the production of the slicer. Consequently an entirely new method of making unitized covers by gluing has been developed by the engineering department. A machine to perform this task has been designed and is being built as rapidly as possible by Ward Tousley.

After stitching, the covers are bundled and strapped in bundles of fifty each.

DRYING

All the veneer is cut and worked up green and therefore must be dried before shipment. To accomplish this a two truck dry kiln, modern in every respect, with internal cross circulation of air, automatic controls for temperature, humidity, and vents has been installed.

Loads sent to the kiln measure ten feet by eleven feet long and eleven feet high. The loads make a kiln charge. Depending on the size of shoo, a single kiln charge will range from 700 to 1,000 bundles of shoo. Approximately 4½ hours of drying is required to reduce the moisture to an acceptable percentage. Capacity of the plant is 100 covers per day.

HOLDEN IN CHARGE

In pursuance of company policy of trying every case to promote men from within the organization, Dan Holden, with an employment record at Clearwater of some twenty years has been given charge of the department.

MORE LATER

Another new product, aimed at providing a market for additional mixed woods is the post manufacturing plant, now taking shape. More about it later.

Plant News

Clearwater

The first Pitch tournament (day shift half) has ended with victory for Bill Florence and Alvin (Slim) Leachman of the Pres-to-logs sales. Winners of the night shift tournament were J. D. Perry and Jess Mosher, graders.

Florence and Leachman staged a Horatio Alger finish by taking three close games from L. H. Ross and Shelt Andrew and have already collected a fat turkey each. Turkeys for Perry and Mosher are in the fattening pen awaiting their pleasure.

The second pitch tournament is underway. It will run fifteen days with a drawing each day for partners and opponents. There will be a total of seventy participants (day and night shifts combined) and the two fellows who finish up with the high scores will each receive a turkey.

The bowling league has developed some stiff competition between top teams. In the men's league the sawmill leads with 26 points in the win column, 14 in the lost column. Second place belongs to the Shipping Office with 23 wins, 17 losses. In third spot are the Gypos with 22 won and 18 lost. High bowling average at the present writing belongs to Leo Moore with 168 pins per game, followed closely by Bill Steg with 165 and Virgil Davis with 161. In sixth spot is Employment Manager R. G. Berger, who insists that no story on bowling is complete without listing the top six bowlers. (Next month it may be more.)

In the ladies' league the Punks team is high with 27 won, 14 lost—followed by the Pres-to-logs and Lumber Jills in a tie with 19 won and 21 lost. Top individual average is held by Pearl Gupton with 151, second high is Faith Erickson with 140, third is Goldie Finnell with 124.

The twelfth annual Clearwater Christmas party will be held on December 16th in the Senior High Auditorium. On December 15th there will be a free show for children of 12 years and under at the Liberty theater.

Chairman of the committee in charge is Bud O'Shaughnessy. Assistants are Les Woodland, entertainment and publicity; Russell Kirsch and Dris Holman, decorations; Jim Scofield, candy and presents; Cully Bing and Ed Gordon, tickets and arrangements; and Blanche Ryther, usherettes.

Ed Lillard is to again enact the role of Santa although rumor has it that Foreman Bill Campbell has been seen covetously eyeing the Santa suit, and by way of selling himself has been heard to complain that Ed has lost so much weight there ought to be a new Santa, meantime pointing his finger at himself.

Part of the program on the 16th will be a showing of Kodachrome movies taken of the plant picnic last summer.

Half the nation's commercial forest is second growth timber, re-grown on cutover land. Future harvests will come from third and fourth growth timber, as the present trend to sustained yield logging increases.



Gerald Arno and bride.

Potlatch

T/4 Gerald F. Arno, former rip saw and trimmer saw operator, Potlatch, is back home after receiving his discharge at Fort Douglas on November 15th. Arno spent 26 months overseas with the Quartermaster Truck Corps as an auto mechanic.

On August 11, 1945, he married an English girl, Miss Margaret Platt, in the picturesque Church of England in Culchet Parish, Lancashire County. Mrs. Arno is still in England but hopes to join her husband in the United States early next year. Arno wears the European African Medal, Eastern Service Ribbon, Good Conduct Medal, Victory Medal and Marksman Carbine Badge.

A hot lunch project for the school children has just been launched in Potlatch by the Ladies Auxiliary of the Robinson Post, American Legion. The kitchen and dining room in the old gym building has been equipped for the purpose. First lunch was served on Monday, November 26th, to a total of 185 school children.

Announcement of the death of Reverend Fr. John E. Foley, who served the Potlatch and Bovill parishes about 1925-30, has brought sorrow to the many friends made during his residence in Potlatch. After outbreak of war, as Aide to Archbishop Francis J. Spellman, he accompanied the U. S. Military Vicar on a tour of Army Camps in England and Northern Ireland, carried the rank of Lt. Colonel. His picture once appeared in Life magazine with that of Archbishop Spellman visiting a military cemetery in Europe. He later became the head of all American Chaplains in the European theatre. Father Foley is understood to have died at his home in Memphis, Tenn., following his return to the United States because of poor health. *

Twenty-two servicemen returned to work at Clearwater during the month—Luke Wilsey, R. B. Edwards, Frank Gripp, Bob Glenny, Dale Wickersham, Lawrence Kydendall, Wynne Blake, Sam Myers, French Weiss, Harry Olin, Albert Dobroth, Luther Biggs, Kenneth Alspach, Ralph Wharton, Nelson Ross, Dale Curry, Paul Weiters, Larry Millage, Cody Abbott, Lawrence Stevenson, Reynold Peterson, and Carl Schimnowski.

Morris Designs Important Saw Guard

The saw which is used to cut hand-holds into the ends of certain kinds of shook in the box factory at Clearwater has long been recognized as a danger point. It has been the scene of several accidents and was thought unguardable.

However, a relatively simple, but completely effective guard now covers this saw, earning the praise of employees and management alike. It was designed and placed on the machine by Monty Morris, member of the box factory safety committee.

The guard consists of a flat steel plate placed over and above the hole in the steel feed table top through which contact is made with the saw by pushing downward on the table top after the board to be hand-holed has been placed in position.

At right Morris checks the machine while box factory foreman Riley Worley looks on.



Temperature Taking

By R. OLIN, Woods Maintenance Engineer

NO WHIT less important than the temperature of a patient to a doctor are the operating temperatures of machine parts to the maintenance mechanic and the machine operator. Temperatures have vast meaning, and are a barometer that denote approaching failures. They represent a danger signal that cannot be long ignored with impunity.

Machines are made up of many surfaces sliding one against another, usually held apart by a minute film of lubricating oil. When temperatures get too high this lubricating film fails, and the two surfaces tend to gouge each other, causing failure.

Machine designers very carefully study every sliding surface in a machine and select materials that will best serve, but, in each of these critical points there is a temperature limit, a point beyond which any increase in temperature will cause trouble and failure. Therefore, it is essential that a mechanic have knowledge of temperature limits and that he have at hand to diagnose machine troubles a reliable and accurate means of measuring temperatures.



Tire Doctor John Huff makes use of the pyrometer to determine internal time temperature.

Yangel Elected President of Latah C. of C.

At a meeting in Moscow on November 13th, Woods Whse. Foreman Chet Yangel of Bovill was elected president of the Latah County Chamber of Commerce to serve during the ensuing year.

THE PYROMETER

Recently the woods mechanical department was able to secure an ingenious and very desirable instrument to measure surface temperatures. It is an intricate, small portable gadget called a pyrometer. The theory of operation is interesting and deserves explanation.

There is a fundamental law in physics that indicates in substance the following: If two dissimilar metals are brought in actual contact with each other, they will develop an electric force which will change in an amount proportionate to the temperature of the two metals. This is a principle known as the "thermo couple" and an electrical measuring instrument can be connected in the circuit with the thermo couple and will actually indicate the temperature of the two dissimilar metals by measuring the minute current generated by the thermo couple.

First use of the pyrometers was to measure the temperatures of flames and red hot, molten iron. Present day development of electrical measuring instruments makes it possible to calculate much lower temperatures, even down to as low as 60° below zero. The P.F.I. pyrometer for woods use measures temperatures between zero and 600° Fahrenheit and has several different types of thermo couples that can be attached to the one indicating instrument.

VARIETY OF USES

One very sensitive and fragile thermo couple is designed for flat surfaces and will

indicate temperatures in two or three seconds. Another more rugged design gives a reading in 10 to 15 seconds. These two thermo couples will be used to indicate temperatures of brake drums, oil pans, housings over bearings of various types, water pipe temperatures and wherever a surface temperature reading is needed.

Another thermo couple obtained consists of two long wires twisted together. This can be used to measure the temperature of liquids. One of the most ingenious thermo couples is a long pointed needle with a thermo couple at the end, near the point of the needle. By careful maneuvering it is quite possible to insert the needle into the rubber of a tire and to measure internal tire temperature. This is important information in these days of synthetic rubber. Pyrometer studies can be expected to indicate speed and load limits and to thereby prolong tire life.

FOR BRAKE TESTING

Brake maintenance on heavy trucks is a serious item. Brakes must be properly formed and properly used in order to secure maximum braking effect and at the same time secure a long life for the lining and brake drum. A reading with the pyrometer on the brake drums at the foot of a hill will quickly indicate any brake that is out of adjustment. Brake drums can reach so high a temperature when misadjusted as to cause tire and tube failure.

There is a never-ending flow of problems and tests that require rapid and accurate temperature indications, but likely the most continuous application of the pyrometer will be in checking brake drum temperatures to discover out-of-adjustment brakes.

It will prove a very valuable instrument in woods mechanical work and is another manifestation of P.F.I.'s intention to supply all workmen with the best in equipment and devices to perform their work efficiently, accurately and with a minimum of effort.

Deafness in just the degree desired can be turned on at will with newly developed hollow neoprene ear plugs that were used to protect the ears of Navy personnel from the roar of big guns.

The ear plugs can be used by factory workers to check fatigue and accidents caused by factory noise and is expected to make possible peaceful sleep in the noisiest neighborhoods. Paradoxically the plugs do not interfere seriously with normal conversation.

Woods News

Camp 54, Washington Creek

The hunting season is over, for which Joe LaMotte and Nancy, his pet deer, are very thankful. Nancy has made Camp 54 her permanent home and has a bed of her own in a covered, three-sided pen close to the skidding shack.

Chuck Ham Snyder is still under the weather and still absent. Art Topping is heading the culinary department in Ham's absence.

Turkeys, baked a golden brown in the camp bake oven, plus all the trimmings, provided us a fine Thanksgiving dinner. There were at least five requests from different fellows for girdles with a three-way hitch following Thanksgiving dinner—it was that good.

Colder weather has hardened the freight roads and has eased the mud situation on the skid roads and landings, making 54 a much nicer place to work.

However, the creeks have been running high and the water is slightly tinged with red due to the vast number of deer and elk that died around here during hunting season. Most of the animals were killed three times over in the woods and twice in the camp.

We have a full crew in camp and a lot of faces. Among them are a couple of fellows who went to town of a Saturday and returned Monday with new (well—different) facts, at least they had been made considerable.

The five-day week has caused an epidemic Friday nite Speeder Fever.

A slight mishap to a couple of platters filled with little pig sausages has brought a quotation from the Orofino Cleaners dry-cleaning sausages. Suffice it to say Frank Stedman will need three classifications for his next inventory here—NEW, USED and MIS-USED.

Camp 55, Lower Alder Creek

Not much news to relate at this writing. Gangs of sawyers are cutting, with construction crews building cat roads. The arrival of skidding crews from Camp 59 is expected before the end of the month. Weather has been variable with intermittent rain and snow storms.

Camp 59, Meadow Creek

We now have a foot or more of snow and the weather has turned cold. Five cats are skidding right-of-way logs and are expected to finish the job before the end of the month. They will then move to Camp 54.

Camp 60, Lower Washington Creek

Production here hasn't been bad, running around 12 cars of logs a day.

Ed Ashley, assistant foreman, may eventually earn the mantle that once draped proudly from Stan Proffit's manly shoulders. Stan told the tallest stories in the camp. We have no way of knowing how he rates at the mill but venture the guess that he isn't in any back seat down



ACCORDING TO THE BEST ESTIMATES THERE WERE APPROXIMATELY 822 MILLION ACRES OF TREES WHEN THIS COUNTRY WAS NEW.... TODAY, AFTER NEARLY 350 YEARS OF HARVESTING AND LAND CLEARING FOR FARMS, THERE ARE STILL 630 MILLION ACRES OF FOREST LANDS, MOST OF WHICH IS CONSTANTLY GROWING NEW CROPS OF TREES.

there. Red comes up with the story of a cat driver who was promoted from the bull gang to skidding. The driver started up the road and saw it was filled with logs, so he left his cat and came back to Red and said—"I can't get up that road, there are too many logs in the way."

Headquarters

We have about twenty inches of snow... highway is in good condition.

"Sun Flower" McKimmon is suffering with some leg or foot disease. Some days he's up, some days he's down.

Among servicemen who have returned to the woods are Howard Kennedy, Vernon Swearinger, Kenneth Peterson and George Kolasa. There are many others whose names we've missed to date.

Saturday, November 17th, brought back the 5-day week for everybody except the cookhouse crews. This week was the first 40-hour week since early in 1942, bringing to a close the wartime schedule.

The railroads out of Headquarters were snowed under early this month and were plowed about the middle of November for the first time this fall.

We are getting an addition to our city. Another townsite is to be located on the edge of the meadow next to the townsite laid out there a couple of years ago. Sewer and water systems are now being installed. Fifteen houses are to be set up.

Just before snow blocked the roads Perd Hughes reported theft of a 22 rifle and snowshoes from his cabin on the North Fork. In that Perd makes trips to Camps X and T during the winter to shovel the snow from the buildings, it is necessary that he have snowshoes. It would have taken a cat and driver a day to take in new snowshoes and a day to return... so the snowshoes were delivered by air from Orofino—in a matter of minutes.

Camp 44, Lick Creek (Avery)

Camp was closed on November 20th after getting out 9,895,000 feet of logs. There wasn't much snow but the Fishhook is in a heavy snow belt and roads had already become slick and dangerous. The crew has been transferred to Camp 42, Bovill.

Camp 42, Bovill

Not much logging here in November but some construction work and some skidding and decking. We have about 115 men in camp. The road up the East Fork is in good shape and we should be able to get underway in good shape in December.

Camp 43, Deep Creek

Ninety to a hundred men in camp. Mud and snow has slowed our production. We now have about a foot of snow.

Camp 45, East Fork Potlatch Creek

The campsite for Camp 45 is nearing completion. Bunkhouses, cookhouses and necessary Chic Sale appurtenances are all in place. A construction crew is at work on roads and it is expected the Camp 36 crews will move over here in February or March.

Embarrassed Hunter

Kenneth Ross, Clearwater power plant—pipe-shop foreman and fire chief, took himself a boat ride up the Snake River in late October. Had circumstance not interferred the ride would have developed into its intended purpose, that of a hunting trip.

A short time out from port suggestion was made by a member of the drought stricken hunting party that recourse be had to some bottled in bond goods that supposedly had been stowed away in the Ross pack sack. This seemed a good suggestion and Mr. Ross straightaway retired to the stern end of the boat to unearth the huntsman's cheer. He returned a few moments later with confession written plainly across a crimson face.

Caustic babel on the subject of absent-mindedness ensued, one member of the party acidulously remarking—"Only thing that could be worse would be to forget to bring along any shells." Foreman Ross responded to this observation with a violent twitch and there was painful quiet, broken by another inquiry—

"What the hell else did you forget? Your deer tag?"

Here despair reached full and frenzied flower and found expression in the simple, gulped word... "Yup!" It is such lunacy that makes all men kin.

A limousine was followed through the congested traffic by an antiquated "jalopy." The limousine stopped suddenly and the jalopy crashed into it.

A policeman rushed out and asked the driver of the jalopy his name and address.

"Paddy Murphy," was the reply.

"Begorra, is it now?" said the officer. "Hold on a minute while I give that fellow a ticket for backin' into ye."

Girl: "I think that guy's a pain in the neck."

Boy: "I have a lower opinion of him."



Fuel Conveyor To Be Remodeled

The under-pile fuel chains, or conveyors, at Clearwater that carry fuel from the outside fuel storage to the conveyor that takes it into the power plant are scheduled for a remodeling job which will considerably increase their value.

Pictured above is bulldozer with bucket attachment dumping a load of fuel onto the conveyor. In earlier years the fuel was pushed down off the pile by hand, necessitating much heavy labor, and with attendant accident hazards.

An installation similar to the one at Clearwater (copied from one at Potlatch) has been built at Rutledge and at the J. Neils Lumber Co., Libby, Montana. Both have profited in design from experience gained at Potlatch and Clearwater.

At present some 250,000 lbs. of steam per hour is developed in the Clearwater power plant. It is used to operate the sawmill, dry kilns and turbine. About 8,500 kilowatts of power per hour is generated in the turbine.

"Fore!" shouted the golfer, but the woman ahead paid not the slightest attention. He shouted again, but still no effect.

Whereupon another member of the foursome came up with the brilliant suggestion, "Try her once with 'three-ninety-eight'."



Clearwater Suggestion Committee

A new suggestion committee at Clearwater has for its membership (reading left to right) Gene Gussenhoven, Les Woodland, Happy Rodeck, Cut Epling, Charlie Cummerford, Russell Wallace, Russell Kirsch and Ken Ross. Cummerford is chairman; Epling, secretary.

The entire suggestion setup was revised in September . . . has been functioning now for more than two months. Idea back of the reorganization was to effect quicker action on suggestions.

Each month a list of current problems is posted on plant bulletin boards with a request for suggestions as to solution. Advice and help in "drawing up" a suggestion is available on request of the committee. Only those suggestions that can be used are accepted. Personal contact is made with the suggester to insure a thorough understanding of his idea and a follow-up letter is sent to the suggester explaining why his idea was accepted or rejected. The amount of the initial award that will be received is named in the letter.

To be eligible for award suggestions must cause a—

- (1) Production increase or cost reduction.
- (2) Improvement in quality of product.
- (3) New product development or new uses for present products.
- (4) Waste utilization and reduction of waste.
- (5) Hazard elimination or correction of unsafe work practices.
- (6) Promotion of good job relations.

The Victory Loan

P.F.I.'s quota for the Victory Loan fell far short of the half way mark as of November 30th. Every unit missed the boat by a mile except the General Office which out did itself by purchasing about 4/5 of its total quota in November.

Quota for the drive is \$122,162.50. Amount invested in bonds to date is only \$31,709.90.

December 7th brought a wire from Ted Gamble, national director of the War Finance Division, Washington, D. C., which read in part—"Complete success of the Victory Loan is largely dependent upon the response of workers in the plants and factories."

Wellman Promoted—Burns Joins Staff

The retirement of C. W. Leaf from the position of manager of the Workmen's Compensation Exchange, Lewiston, brought announcement in November that C. J. (Cliff) Hopkins had resigned from P.F.I. to succeed Mr. Leaf and that Clare Wellman had

been promoted to the position of cashier and credit manager at P.F.I.

Clare was formerly cost accountant in the accounting department and has an employment record at P.F.I. that dates back to early days at Clearwater.

Succeeding Clare as cost accountant is Willard Burns, formerly of Boise, an auditor for General Timber Service for two years preceding the war. Burns was recently discharged from service as a navy lieutenant (s.g.) following four years of service. He wears the European Ribbon with four stars . . . North Africa, Sicily, Salerno and Normandy. A survivor of heavy strafing at Sicily and Salerno, he was not so fortunate at Normandy on D-Day. The LST on which he served as executive officer was torpedoed and sunk. Four hours later a British destroyer fished Burns out of the English channel, unconscious. He has since been awarded the purple heart for wounds suffered at that time.

Burns enlisted in Seattle and served nine months as a store-keeper 3/c before receiving an ensign's commission in September 1942. He trained at Princeton University.