

Weyerhaeuser Production And Mechanism Outlined, Progress of Mill Shown

(Reprinted from The Timberman)

Production has begun in earnest by the Weyerhaeuser Timber company of Klamath Falls, Ore., the newest and largest operation in the Klamath basin. The plant, of which H. R. Macartney is manager, occupies a natural mill site on the Klamath river about five miles from Klamath Falls, with direct connections to the Great Northern railroad and with the connection with the Southern Pacific system. The sawmill, which is slowly warming up, has four bands and a gang saw major sawing equipment, and was designed to saw 300,000 feet in an eight-hour shift. Ponderosa pine, sugar pine and Douglas fir will be the principal woods sawn. The product of the designing genius of A. H. Onstad of Tacoma, Wash., sawmill architect of the Weyerhaeuser organization, mechanical handling of lumber is provided wherever consistent with economical operation. H. H. Panning, assistant to Mr. Onstad, co-operated in the design and supervision of construction. Charles B. Sewall has charge of construction. Among features which impress the visitor at once are the bridge crane handling of lumber throughout the plant, the stacking arrangement for the dry kilns, and the enclosed green sorting chain.

The power house is approximately 100x150 feet. Brick work in the power house was done by Roberts & Horstkotte, W. A. Gamble is chief engineer in charge of the power house and the machine shop. J. L. Hutchinson is power house operator. C. W. Lyons is chief electrician. Four Erie City water tube boilers are mounted on Dutch oven settings built of standard fire brick, with grate bars by Klamath Iron & Steel works. The furnaces are fed by an overhead dual system. Ashes are removed by a conveyor system, which discharges into a hopper which in turn permits dropping into truck or car for final disposal. The fuel house is served by a dual overhead fuel conveyor system. One system is operated by an electric motor and the other by a steam turbine drive. All pipe of crane manufacture is welded. Asbestos pipe insulation is by Johns-Manville. The boilers operate at 325 pounds pressure, and are of 300 horsepower each, and capable of large overload. A Cochran super-heater system is employed. One 5000 K. W. General Electric turbo generator furnishes electricity for the plant. Space is provided for the addition of a second unit. Westinghouse switchboard is used. There are two Moore steam turbine pumps, a Worthington steam pump and an Allis-Chalmers pump. Grinnell sprinkler system is employed throughout the plant. A 30-ton, 38 foot 2 inch P. & H. bridge crane serves the power plant. The fire protection system has A. P. Smith hydrants and is in pipe furnished by American Cast Iron Pipe company.

The plant is 100 per cent electrically operated. All transmission lines are under ground, in lead-covered cables, except those in the air seasoning yard, which are carried on poles at the back of the piles, and the 2300-volt transmission line to the company town site. Rubber-covered electric wire is by Hazard, while Okanite lead-covered cable is used and weather-proof wire furnished by Standard Underground Cable company. The majority of the motors are G. E., with Fairbanks Morse and Westinghouse used in some drives. Western Gear works reduction gears are employed throughout. The reinforced Weber smoke stack is 255 feet high. Seattle Boiler works furnished the 55-foot diameter, 111-foot high, fire brick lined waste burner. Grate bars were furnished by Shafter Brake Shoe & Iron foundry. On the conveyor to the waste burner is the hog house, in which is installed a 72-inch Huffman hog furnished by the Electrical Steel Foundry company.

The main sawmill building is 200x300 feet. On the log deck is a nine-foot circular cutoff and a Union Iron works chain cutoff saw for extra large logs. There are four nine-foot P. & S. roller bearing double-cutting band head rigs, each operated by a 300-horsepower synchronous motor. The carriages are by Prescott, with electrically operated set works and electric dogs. Short logs and small logs go to the two inner bands, while the long logs and large logs go to the two outside rigs. The left-hand rig was designed to saw Douglas fir principally. Gang cants from all the rigs pass directly to the back of the mill, and may move to a central conveyor and then return to a 48-inch summer iron works gang, or may be stored in the cant well or in temporary storage. There are four Diamond Iron works Timken roller bearing edgers, two 84-inch double edgers and two 54-inch single machines. There are two 20-foot and one 24-foot electrically operated Prescott trimmers. Timber sawn on the Douglas fir rig may pass directly out of the saw mill onto a timber dock. The gang cant storage well will be largely used to accumulate fir cants, making possible a sustained run. The gang cants are taken to storage and from storage by a three-ton P. & H. bridge crane with space of 25 feet 10 inches. Transmission equipment, slushers, lat and picket machinery are all of Lamson Gray Harbor manufacture. Chafe was furnished by Webster-Brinkley and A. H. Coates & Co. Leather

er belting in the sawmill was furnished by General Rubber and Supply company, while rubber belting was all supplied by the American Belting company. Stanley Hodgman is general superintendent of manufacture. J. T. Ahrens is sawmill foreman, while Dave Danielson is head millwright for the entire plant. There is an excellently arranged and well-lighted filling room, presided over by A. W. Eilers. Dimension saws are employed.

The sawmill building is of mild construction, painted inside with white cold water paint and outside a dark olive green. The roof is sawtooth type, giving maximum light through the center of the sawmill and in the filling room. The plank and boards and most of the small timbers of Douglas fir were sawn by a small mill, now dismantled, which was erected not far from the large sawmill. Zore and Alemitte forcer feed lubrication is used throughout the plant.

The green sorter building, which is 630 feet long, is especially interesting for two reasons. First, because it is entirely enclosed, with double rows of windows in the sides to provide ample light, and secondly, because all unit packages are handled by a bridge crane. The ground on the inside is covered with plank, reducing dampness. This 19-ton P. & H. bridge crane, as is true of the other lumber handling cranes, has a maximum travel speed of 400 feet a minute. It has a 66-foot span and a 38-foot lift. Red paint marks on the crane run way indicate exact spots to stop water tube boilers are mounted on Dutch oven settings built of standard fire brick, with grate bars by Klamath Iron & Steel works. The furnaces are fed by an overhead dual system. Ashes are removed by a conveyor system, which discharges into a hopper which in turn permits dropping into truck or car for final disposal. The fuel house is served by a dual overhead fuel conveyor system. One system is operated by an electric motor and the other by a steam turbine drive. All pipe of crane manufacture is welded. Asbestos pipe insulation is by Johns-Manville. The boilers operate at 325 pounds pressure, and are of 300 horsepower each, and capable of large overload. A Cochran super-heater system is employed. One 5000 K. W. General Electric turbo generator furnishes electricity for the plant. Space is provided for the addition of a second unit. Westinghouse switchboard is used. There are two Moore steam turbine pumps, a Worthington steam pump and an Allis-Chalmers pump. Grinnell sprinkler system is employed throughout the plant. A 30-ton, 38 foot 2 inch P. & H. bridge crane serves the power plant. The fire protection system has A. P. Smith hydrants and is in pipe furnished by American Cast Iron Pipe company.

An interesting mechanical detail of the plant is that all steam cylinders are of the poppet valve type. Some are operated mechanically and some have solenoid control. This type of valve was selected in order to eliminate waste of steam. Diamond Iron works furnished the steam cylinders. At the dry kiln stackers, of which there are two, one for stock 16 feet long and longer, and the other for stock 16 feet and shorter, a crane unit is raised by motor

to the desired height and then tipped toward the loading platform at a sharp angle. One leaf, or later, at a time then slides out on conveyor chain to the stacker, in which the stickers are mechanically inserted after the laying of each course and the load lowered for the next course by the operator. The course is first assembled on the conveyor chain and then pushed in place on the load by reversible chain equipped with small dogs. The stacker device was designed by Mr. Onstad. Stickers are mechanically returned from the unstackers to the stackers by a belt conveyor. Kin trucks also are returned from the unstackers by conveyor.

A feature of the operation is that all kiln dried lumber is under roof from the time it is sawn from the log until it is loaded in the car—in fact, it is never exposed to the elements until it reaches the receiving yard of the buyers. There are 30 General Dry Kiln company kilns, of the latest "cross-flow" solid flat pile external fan type. The kiln chambers are built in batteries of 10 each, and are equipped with General's patented oscillating deflectors designed for uniform air distribution through the lumber piles. Each kiln chamber is equipped with Foxboro automatic controls and automatic cone roof ventilators. Loads are handled to and from the kilns by Ederer transfer cars. The loading and cooling sheds are each 130x275 feet. Loyd B. Hopkins is dry kiln operator.

The dry sorter is 70x594 feet. Loads from the kiln are unloaded by two unstackers, one for stock 16 feet and longer, while the other is for stock 16 feet and shorter. At one end of the dry sorter is a connection with the dry railroad system, while toward the other end is a double conveyor system leading to the rough dry storage shed. Lumber is handled in the sorter by a 7½-ton P. & H. bridge crane with 66-foot span.

The rough dry storage shed is 160x1205 feet and is divided lengthwise into two compartments. The floor is covered with heavy plank. In each compartment there is a 7½-ton bridge crane with 75-foot span and 30-foot lift. All loads will be billed in and out of the sheds. The divisions are indicated by symbols just as the seats in a theatre are indicated. Markers along the crane runways and on the bridge arms automatically indicate the points at which to stop so that spotting time will be reduced to a minimum. A connection with the yard railroad track is provided, while packages for the planing mill are moved by chain conveyors, of which there are two, into the planing mill. One of these conveyors is reversible, making it possible to return surfaced lumber to the rough storage yards, if desired. Bert Reynolds is in charge of the rough dry sheds.

The planing mill is 196x418 feet, including the remanufacturing plant. The planing mill machines are mounted on the second floor, on heavy timber frames resting on concrete foundations. A bridge crane delivers unit pack-

ages from the rough dry shed conveyors to any machine, and the lumber is then inclined toward the feeding table by a hoist, so that it slides to the feeding table, a tier at a time. From the machines the lumber is discharged onto a belt conveyor, where it is graded and pieces needing further manufacture are transported to the remanufacturing department. Included in the planing mill equipment are five Stetson-Ross high speed electric matchers, one 30-inch surfacer and three S. A. Woods moulders with traveling feed beds. Two of the moulders are six-inch machines and one a 12-inch machine, while all have five heads. There are also two band resaws. Earl Welmar is planing mill superintendent. Unit packages of surfaced lumber are handled by a bridge crane. The transmission equipment in the planing mill was furnished by the Chain-Belt company. The transmission of the sticker transfer was furnished by the Western Foundry company, and a zinc miscellaneous transmission equipment by Prescott. Bunks for unit loads are returned to the dry sorter by conveyors from the planing mill. The hower system is of the high pressure type of Arlington-Curtis design equipped with Sturdevant blowers.

The shipping shed is 26x110 feet. It also is served with a bridge crane. There are two loading tracks, one permitting loading of cars from either side, the other from one side only. Adjacent to the shipping shed is the broken package shed 85x510 feet. In this surfaced lumber will be stored on end. The shipping shed is entirely enclosed, permitting comfortable operation in cold weather and preventing rain or snow ever reaching the stock being loaded. There is also a loading track at the sawmill timber dock. The machine shop and the adjacent warehouse are also on a spur track. Dick Moreau is shipping foreman.

The green sorter, the dry sorter, the rough dry storage, and the planing mill all have connections with the yard narrow gauge railroad system. Baldwin-Westinghouse electric storage battery locomotives are employed on this system. Edison storage batteries are used. The yard is laid out for the use of Hilke electric piers, of which there are three. Al Krog is yard superintendent.

Construction is just starting on the box factory, which will be adjacent to the planing mill. The box factory will be in charge of W. C. Strong.

Overlooking the plant, the Weyerhaeuser Timber company is erecting a hotel and 25 houses for those of the men who wish to live close to the plant.

R. L. Brasen has served as purchasing agent during most of the construction. C. A. Bunnell is office manager, while L. E. Stallings is employment manager. J. W. Brickner did the civil engineering work in connection with laying out the plant, while E. J. Ellason was assistant construction superintendent.

Woods operations are in charge of Lloyd R. Crosby, chief engineer and woods superintendent.

Logging has been planned well ahead. To date 14 miles of main line railroad has been built and steel laid, while 25 miles of spur line have been graded, but the steel not laid. G. M. Upington, assistant to Mr. Crosby, is in charge of woods construction. At present one camp, Camp No. 2, employing about 150 men, is being operated. There are logs for a months run in the pond, and a reserve supply in the woods. S. S. Cruikshank is camp foreman. Bunkhouses 12x24 feet, are on skids, with accommodations for four men each. Cottages, 12x16 feet, on skids, are provided for family men. These are all built at the sawmill. The company has three locomotives and nine tractors, seven "caterpillars" and two Monarchs. Other equipment includes two steam donkeys, two graders, Willamette-Ersted they fairlead arches, two McGiffert loaders, four air compressors, four gas shovels, five America.

speeders and one locomotive crane.

The machine shop, to serve both woods and sawmill, is 76x200 feet. It is served by a ten-ton P. & H. crane. Power tools include forges, planers, lathes, hammer, press, compressor and welding equipment. A wood-working department is also maintained for company work.

There's no such problem when you use White King. It's all pure soap, condensed, scientifically made from high-grade vegetable oils—no filler added. When you see how richly it lathers, how thoroughly it cleans, and how quickly it rinses away, you'll appreciate what that means.

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SIDE GLANCES

By George Clark



"I have spent most of the week looking these items over; they are on my desk before me now."

eer and woods superintendent.

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Sarpolis Sure He Can Defeat Lewis

PORTLAND, Ore., Jan. 31. (A. P.)—After spending the night at a local hospital where he was taken following his collapse in his match with Ed (Strangler) Lewis, Dr. Karl Sarpolis, Ohio wrestling medic, was around yesterday. The doctor suffered a dislocated vertebrae which was snapped back into place. Despite the outcome of the match which Lewis won when Sarpolis collapsed from vicious headlocks and rabbit punches after suffering an injury when he missed a try for his flying body scissors and landed on the boards outside the ring, Sarpolis is confident he can defeat the former world champion heavyweight despite his punishing headlock. Sarpolis took the first fall of the match.

GIRL'S BODY FOUND
MONTEREY, Cal., Jan. 31. (A. P.)—Police believed the body sighted in the water off Pacific Grove beach to have been that of 15-year-old Henrietta Vierra, missing Oak Grove school girl.

**DOCTORS ISSUE
DIET WARNINGS**

Too Strenuous Reducing Diets
Lead to Serious Results

Statistics from all over the country show an alarming number of girls and women who are paying the penalty of reducing diets which are sponsored by ill-advised people. These slaves to their diet are suffering from many evils. Some have no resistance to the common cold, many have constipation and there are those who are in the first stages of tuberculosis.

Overweight should be avoided but the diet in normal cases should be complete. The system needs regularly proteins, roughage, water and vitamins. The foods which have these elements are meat, fish, eggs, leafy vegetables, fruit and milk.

In planning meals, desserts should not be overlooked. They fill an important place in the diet. Cakes, puddings, fruit pies, custards, ice cream and candy are a fitting climax to a balanced meal. Sugar sprinkled on cereals makes them more palatable and especially inviting to children.

Many cooks have discovered the value of an old rule to use sugar in seasoning vegetables. Carrots, parsnips, tomatoes, peas and cabbage, which are rich in nourishment, are much improved in color and flavor by adding a dash of sugar during the cooking process.

It does not pay to risk your health by denying yourself necessary food in an effort to reduce your weight to compare with that of another. Health depends upon good foods and good foods can be made more appetizing with sugar. The Sugar Institute.

There's no such problem when you use White King. It's all pure soap, condensed, scientifically made from high-grade vegetable oils—no filler added. When you see how richly it lathers, how thoroughly it cleans, and how quickly it rinses away, you'll appreciate what that means.

You can use White King Granulated Soap for everything—from lingerie to blankets, dishes to shampoos. And a little goes a long, long way.