

LUMBERING *and* LOGGING *in the* *Pine Forest of California*

PHOTOGRAPHED 1943 BY
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EXHIBITION

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The lumber industry has developed its own machines and its workers have their specialized skills. Berenice Abbott has captured some of these in this group of photographs.

Methods and equipment are adapted to local conditions. Differences in topography, climate and utilization of timber may be roughly classified by the species of forest growth. These photographs are typical of the Pine regions of the Western mountain states. Redwood on the coast watershed of Northern California and the Fir stands of Washington and Oregon have generally different conditions and methods.

In this particular area, in the Sierras of California, the Summers are dry. Winter brings deep snow and rain. Logging is carried on in the dry season unless exceptional demand, such as war production, necessitates winter logging. Mills that continue production into or through the Winter accumulate enough logs at the mill during logging season to carry them through. The plant where these photographs were taken employs 2,500 to 2,800 men and women, including 500 men in the logging woods. Its mill and factories run the year round.

NOTES ON PHOTOGRAPHS

NO. 1—AT THE SIGN OF THE BLUE OX INN

Recalls Paul Bunyan and Babe, his blue ox, "47 ax-handles wide between the eyes." The logging truck has telescoping trailer wheels.

NO. 2, 3, 4, 5, 6 and 7—FALLERS

The faller decides where the tree must lie on the ground. He then makes it fall exactly in that direction. Logs should be placed on the ground so that tractors can get to them and pick them up with the least work. The faller must guard against damage to the tree from striking rocks, stumps, logs, nearby trees or irregular ground. Control of direction may require overcoming the pull of adverse forces—wind, heavier limbs on one side or the lean of the tree.

The main factor of control is the ax-cut notch called the "undercut" on the side toward which the tree is to fall, placed at a right angle to the line of fall. Manipulation of the saw cut and the placement of steel wedges are also important.

NO. 2 and 3—OLD SUGAR PINE

This ancient Sugar Pine is long past its prime. Age has brought decay. This illustrates a principle of Forestry, "Trees have a limited life cycle. Remove old trees and give the younger trees a better chance to grow."

No. 3 shows a dangerous condition from dead limbs. Most injuries to fallers result from dead limbs and tops breaking off and falling backward. Nearby dead trees are a similar hazard. Both call for extra caution and skill.

NO. 4, 5, 6 and 7—PONDEROSA PINE

These show the undercut, saw cut and the start of the fall following the faller's warning cry, "Timber." The bottle in No. 6 contains lubricating oil for saw.

NO. 8—OLD SUGAR PINE

End of the tree shown in No. 2 and No. 3.

NO. 9—ELECTRIC SAW

Used here for "bucking,"—cutting trees to log lengths. Power saws are also used by fallers. Some types are driven by small gasoline motors, others by electric motors with current supplied by portable generators usually carried on special tractors.

NO. 10—SUNLIGHT AND BARK

Trunks of two Ponderosa Pines. They stand like tall, straight columns with limbs near the top. Ponderosa and Sugar pine sometimes reach a diameter of 7 or 8 feet. Their wood is light, soft and even textured.

NO. 11 and 12—TRACTORS

Track tractors are called "cats" by loggers. The operator is a "cat skinner" and repair men "cat doctors." With the trailer arch and a winch on the tractor, logs are picked up by one end and dragged to points where they are loaded on railroad cars or trucks. More economical and handy than older methods, tractors have revolutionized logging. They can be worked on steep slopes where the skinner must be bold and skillful. Tractor logging reduces damage to small trees which are left to grow.

NO. 13 and 14—THE JAMMER

The machine that loads logs on railroad cars is called a "jammer." It travels the railroad tracks on its own wheel trucks by geared power. At point of operation the wheel trucks are raised and the empty cars pass under the jammer to position for loading, pulled by a cable from the jammer.

The "hooker" in No. 14 uses the ropes to aid the jammer engineer to swing logs into the position directed by the loader. It is the loader's job to build up loads that are balanced and secure.

NO. 15 and 16—LOADING TRUCKS

Trucks are loaded by a crane that travels the roads on rubber-tired wheels. The loader stands on a platform on top of the truck cab where his signals can be seen by the engineer and hookers.

NO. 17—TELESCOPING LOGGING TRUCK

Compare this photograph with the truck in No. 1. The telescoping wheels are being lifted onto the truck. Cars loading at the jammer are seen in background.

NO. 18—LIMBERS

Machines have not replaced the axmen who cut off the limbs. A skilled axman, without knowing it, uses principles that make a good golf stroke—"stiff elbow, wristcock, hands ahead of club head and let the weight of the club head do the work."

NO. 19, 20, 21, 22, 23, 24 and 25—MILL POND

This mill cuts 100 carloads of logs per day. Logs are pushed off of cars by the mechanical arm seen above the logs. The dome-topped cylinder seen in No. 19, 20 and 21 is a waste burner no longer used, as waste is entirely used for power fuel.

At No. 24 logs are pushed away from the power saw that cuts floating logs into mill lengths. At No. 25 logs are cut to lengths for plywood.

NO. 26—SHOWER BATH AT MILL SLIP

Logs going into the mill receive a high-pressure bath to remove stones and dirt that would damage saws.

NO. 27—AT THE GREEN CHAIN

Lumber comes out of the mill on a chain conveyor called "green chain" to distinguish it from similar conveyors for sorting dry lumber. Lumber on the green chain is marked by graders and sorted into units. The units are picked up by crane—see No. 28.

NO. 28—HAMMERHEAD CRANE

Travels the length of the green chain and swings units over to the automatic stackers. These stackers build up loads properly spaced for air circulation on cars that carry them through the dry kilns.

NO. 29—NOSE LIFT TRUCK

Lumber is no longer handled one piece at a time. Units are piled, unpiled and transported by lift trucks and cranes.

NO. 30—SHED SIX

Saw mills that kiln-dry lumber have sheds to store dry lumber until it is shipped. Sheds are equipped with travelling cranes. Dry kilns accomplish in days what air drying in outdoor piles does in months.

NO. 31, 32, 33, 34 and 35—POWER

The bulldozer in No. 31 levels off fuel dropped by conveyors and pipes. By Fall the pile should be nearly as high as the smoke stacks, with the bulldozer travelling around on top. Fuel is sawdust and shavings brought from planing mill and factories by pneumatic tubes and scraps and bark ground up in the "hogs" in the mill and factories.

Fuel is fed to boilers by automatic stokers. Steam operates turbines to generate current to supplement hydroelectric power. Steam also heats dry kilns, plywood driers and buildings in the plant and town.

NO. 36, 37, 38, 39, 40, 41, 42, 43 and 44—PLYWOOD

Logs with bark removed are revolved in a lathe which cuts off a continuous sheet of wood. The sheet is clipped into specified widths for panels and glued together to make plywood. Outside sheets have the grain running lengthwise of the panel. Inside or core sheets have grain running at right angle. This gives plywood its great strength. Plywood is 3 ply, 5 ply, 7 ply, etc., with grain alternated at right angles.

In No. 36 we see the receiving side of the lathe with logs in the foreground. In the background the sheet of pine is leaving the lathe. No. 37 shows the cutting side of the lathe and No. 38 the sheet travelling from lathe to clippers.

NO. 39—GRADING

Graders select sheets for faces and backs of panels and pile them in sequence on trucks which take them to the gluing machines. No. 42 shows glue-up and assembly. Girls are placing the face and back sheets and the operator in the center lays the cores as they come from the glue-spreading machines.

NO. 40 and 41—PATCHING

Small defects are removed from face sheets that are otherwise good. Defects are cut out by machine. At No. 40 patches are made on a machine that runs without an operator. No. 41 shows the gluing and placing of patches. The press at right of this picture applies heat and pressure.

NO. 43—HOT PRESS

Panel assemblies from the gluing machines are placed between electrically heated plates. A few minutes pressure and the bond is complete.

NO. 44—LOADING CARS

Panels are loaded for shipment in cars in which sealed paper linings have been installed.

NO. 45, 46 and 47—VENETIAN BLIND SLATS

No. 45 shows the gang rip saw that cuts squares into strips from which slats are made.

The operator in No. 46 places the sawed strips into the automatic feeder of a planing machine called a moulder which makes the smooth surfaces and rounded edges of the finished slat. She "fans" each handful for inspection and throws out defective strips.

In No. 47 finished slats are sorted to lengths.

NO. 48—THE BIG STORE

The department store of a lumber town where everything is sold from groceries to electric refrigerators.

NO. 49, 50, 51, 52, 53 and 54—PORTRAITS

NO. 49—POND MAN

He seems to enjoy an athletic performance that lasts eight hours each day. No. 23 shows his routine, moving logs away from the cut-off saw.

NO. 50—RIGHT OF FREE SPEECH

Old timer tells the foreman his opinion of the way the job is going in no uncertain terms.

NO. 51—JAMMER SWAMPER

Just out of high school in the Middle West, he has hitch-hiked to California, "to see the country before going into the Army." He likes the logging camp and says he may follow lumbering if he gets back from the war.

NO. 52—PHILOSOPHER

He has worked at many jobs in many places. Life is today. You can always adapt yourself and there is plenty of room in the U. S. A. to move around.

NO. 53—TIME TO EAT

Lunch is eaten at lunch time. Smaller nibbles at odd periods of liberty during working hours in the Smoking Room.

NO. 54—LOGGER OF THE OLD SCHOOL

His breed drove the wild rivers of the pine country from the Penobscot to the Mississippi and hauled logs over their ice-built roads. Such men qualified for their jobs by skill and resourcefulness. Some of these old timers are finishing their careers in the mechanized logging of the Far West.



THE RED RIVER LUMBER COMPANY
WESTWOOD, CALIFORNIA