GRAVES DESCRIBES WORK OF FOREST REGIMENTS

NINE thousand American lumbermen are now operating in the forests of France, producing every article of wood that the American army will need for barracks back of the line, for railroads and highway building on the lines of communication, for trench supports and mine timbers in the sectors bordering on No Man's Land, for hospitals, for telephone lines, for building construction in the bases of supply and in the port which has been taken over in toto by the United States, and even for the piling which will carry the wharves where the hundreds of thousands of American soldiers and tons of supplies will be landed.

Lieutenant Colonel Henry S. Graves, who directed the institution of American lumber manufacture in France, is back in the United States and, once more Chief Forester Henry C. Graves, is struggling to catch up with the work which he dropped for eight months that he was abroad as officer of the 10th Engineers (Forest) regiment of the American expeditionary force.

"I don't believe I'd better tell how much timber we're cutting in France," Lieutenant Colonel-Chief Forester Graves smiles in reply to questions. "I know. I know how many mills we have sent to France. I sent them. But I don't know whether it would embarrass the men in command of our military operations to have it known, and as I don't know I don't believe I'll tell."

Experts in Every Detail.

The men who compose the 10th Engineers and the 20th Engineers, the two forest regiments, run the whole gamut of workmanship from experienced loggers to the engineers who lay out the miles of logging roads and motor highways which are being constructed wherever they will facilitate work. Highly specialized experts in the whole detail of manufacturing lumber are in France with the forest regiments.

Is Industrial Organization.

"The 10th Engineers had 1000 men at first and then was expanded to 1500," explained Lieutenant Colonel Graves. "It was organized at the request of the British and was at first intended to go over to aid in the production of timber for the British forces. Then the United States adopted an immensely increased military program and the 20th Engineers was formed. The problem was one, however, of industrial economy and not of military organization and the regiment was expanded to 10 battalions of 750 men each, five times as large as the 10th regiment. The reason was the very simple one of cutting down the overhead expense. It was all one big job and one man should be in charge of it. No matter how big a timber operation you have, there is only one man at the head of it. It would be poor economy, not to speak of poor policy, to have a dozen superintendents with equal authority.

"The operations are in all parts of France. As much as possible they have been placed along lines of communication, especially the lines between the ports in which American troops and supplies are landed and the sectors which are or will be held by the American troops. Portable sawmills, sent from the United States, are used. A detachment goes to a certain forest; it may be in command of a lieutenant or captain; it sets up its mills, builds roads, logs and saws; it is a complete unit.

"The 20,000 feet, 10,000 and 5000 feet mills are the three sizes used.

Young Growth Conserved.

"The very best forestry methods are used. Young growths are not cut and especial care is taken to see that they are not damaged. The French foresters mark the trees that are to be cut; they are their trees, of course, and we want them to do that.

"As a matter of fact, this part of the work is applying French forestry methods, which are finer and more careful than those of America.

"If the war keeps on long enough the forests of France will be depleted. The rate at which the available standing timber is being cut depends, of course, on the amount being cut for American, British and French use, and that is one of the few things which I do not believe it is better to tell.

"Scotch pine, maritime pine, fir, some spruce, white oak, beech and ash are the woods. The fir is the biggest tree. It is much like the white fir of the Pacific Coast of the United States and the wood is about as good as our larch. The trees have a diameter of 30 or 36 inches—sometimes more—and usually cut 500 to 1200 feet, although I have seen trees that would cut as high as 3500 feet.

"The spruce is like the eastern red spruce of the United States. It is not so good for airplane construction as the Sitka spruce of the American Pacific Coast, although some of it is used by the French, and, I suppose, it is all the Germans have for their aircraft building.

"Scotch pine is mostly planted and grows in central France. It is being used chiefly for telephone poles. The poles are good size—the longest ones about 35 feet. It isn't any little, temporary telephone line that the American expeditionary force is building in France; it's two or three lines clear across the country and the poles have to carry a minimum of 10 or 12 wires. Those are the trunk lines. The smaller lines do not require so heavy poles.

"The maritime pine is a turpentine tree but is not so fine as the turpentine pine of southeastern United States. Most of it is being cut for railroad ties. White oak, beech and ash are cut mostly into planks which are used for surfacing military roads."

Lieutenant Colonel Graves paused to consider whether he was committing an indiscretion, and then smiled in confession that he might be crossing the line of military safety. "Those are the roads for hauling close to the front line," he said. "Those roads have to be quickly constructed and often torn up to be rebuilt elsewhere.

"We use even the tops of the trees. That is part of this road building. The twigs are gathered into bundles about six or eight feet long and eight or 10 inches thick and bound tightly with wire. Fascines, they call them. They are a staple in military road work. A bad hole or mud hole—a shell crater—is filled with these fascines and the hauling of supplies or transportation of wounded goes on without a pause. Sometimes, when the road is rough, the fascines are broken open and the twigs spread over the surface, just as boughs or straw are used in this country to make a bad road temporarily usable.

"What the American forest regiments are doing, of course, is trying to produce every timber product the American expeditionary force will use. France and England have enough to do to meet their own needs. When our first troops went there we borrowed some lumber from the French, but the time will come when that will be returned. If possible we will give the French lumber, but the big thing now is to produce enough lumber so that the American army will be self-supplying in that respect at least.

"A very little lumber was shipped to France from the United States at first but ship tonnage is too precious to be used for anything but carrying men and the supplies which can not be produced in France. The trans-ocean lumber shipments were small and only for a short time at the very first.

"The emergencies of war time have brought out to the best advantage the ingenuity of the Americans. The little portable mills are steam driven and the engines burn slab, but some of the engineers in charge are building dutch ovens out of improvised materials and preparing to burn sawdust.

"The men were there before all of the equipment and they went promptly to work, getting out and carrying the logs by hand. The need was great and there was no disposition to wait. Their job was to get out timber and the fact that they did not have complete machinery did not make any difference. They were there to supply a big need of the army and they jumped at it with the best means at hand."

FORESTER GRAVES IN THE MARITIME PINE WOODS

The United States Forester is here shown in one of the maritime pine areas in the south of France, where several units of American Forest Regiments are at work. This timber resembles the yellow pine of our own country, although it does not attain such a large size. Maritime pine forests of France furnish a considerable part of the world's commerce in naval stores. Reproduced by courtesy of American Forestry.

NATION'S LUMBER CUT FOR 1917.

A LUMBER production of 39,200,000,000 feet in the United States in 1917 is the preliminary estimate of the Forest Service, based on incomplete reports received up to February 26. About one-half of the 34,000 mills listed by the Forest Service and the National Lumber Manufacturers' Association had at that time made reports. Because of the need for an accurate census, caused by the country's war-time demands for lumber, officials in charge of the work are urging delinquent mills to report as soon as possible.

The estimate is based upon the reported cut of 845 identical sawmills, each of which cut five million feet or more lumber in either 1917 or the preceding year. The reports of these mills indicate that in nine states there was an increase in production and in the rest of the country a decrease. The largest increase was in Missouri, where the gain over the 1916 cut was almost 44 per cent. In the South, Louisiana, Georgia, Florida and Alabama showed increases varying up to about 10 per cent. Wisconsin and Michigan, in the North, and Washington and Oregon in the Northwest, were the only other states in which the cut increased. North Carolina, with a decrease of more than 22 per cent, showed the greatest falling off in production. Maine had a shortage of about 20 per cent. The reports from other states indicate varying percentages of decrease, with an average for all states of 2 per cent.

Oregon-Washington Cut.

Lumber census reports received up to March 15, by District Forester George H. Cecil, show that 205 large mills in Oregon and Washington cut five and a half billion board feet during 1917. This is 150 million board feet more than the cut of the same mills for 1916.

The returns available are as yet incomplete, although about three-fourths of the mills of the two states have sent in reports. Because of the need for an accurate census, due to the country's war-time demand for lumber, officials in charge of the work are urging mills which have not yet reported to do so as soon as possible.

California Lumber Cut.

A decrease in lumber cut in California for 1917 compared with 1916 is indicated by figures received by the U. S. Forest Service office in San Francisco. Reports received from sawmills in California cutting annually five million feet or more indicate a total production of 1,293,345,000 feet in 1917. In 1916 the cut of 50 mills of this capacity was 1,311,536,000 feet; the cut of identical mills for 1917 was 1,293,612 feet, a decrease of 17,924,000 feet.

FIRES IN NATIONAL FORESTS.

Forest fires burned over 962,000 acres of National Forest lands in 1917 and caused a loss of $1,258,600 to the Government in timber, forage and young growth, according to figures from Washington. While the loss was larger than for several years past, forestry officials say that, considering the unusually dangerous conditions, it was remarkably light. Protracted drouth and periods of high winds made the conditions, they declare, virtually the same as in 1910, when many persons were burned to death and 25 million dollars' worth of timber on the National Forests was destroyed.

In addition to the actual loss in timber and forage, the fires of last year entailed extra expenditures by the Government of $1,121,451.