

# ALL WOODEN ON THE WESTERN FRONT

by Frank N. Schubert



At almost any time before the final Allied offensives of the summer and fall of 1918, the pilot of a French Nieuport or a German Fokker reconnaissance plane over the Western Front could gaze upon an awesome landscape. Below him two armies faced each other from networks of trenches that stretched 350 miles across France, from the Swiss border to the North Sea. If he cut his engine back and flew low over the trenches, he might discern their components: front-line firing trenches behind barbed wire entanglements, communications trenches connecting the front line to the rear, and as many as six more lines of trenches for reserves, headquarters, and support personnel. A little closer to the ground, where small-arms fire tore holes in the cloth covering of his craft's wings and threatened to smash its spruce frame, he would observe that the German trenches tended to be a little more solid, a little more permanent. At that height he might also notice the basic construction material for trenches on both sides — wood.

The lines of trenches began as simple series of individual skirmish holes and only gradually evolved into the complex networks of "trench-town." In the first step, there was no need for wood products. The skirmish holes were mere depressions scooped out by soldiers for protection against enemy fire. Later, when the holes were deepened and connected and the position solidified, the demand for wood became prodigious. Almost all additions to trench excavations, whether for protection or comfort and convenience, had some wooden components.

Because the stagnant water that collected in the trenches caused so much disease and misery, development of adequate flooring was of vital importance. In their quest for dry and secure footing, the Allies finally settled on duckboards or footwalks made of light cross-slats nailed to longitudinal stringers. They were prefabricated behind the lines in large numbers and brought to the trenches as needed. Far from a perfect solution, the duckboards sometimes floated away or became imbedded in the mud. Nevertheless, front-line soldiers knew of no better alternative. An American engineer officer who served in France claimed that at least one army doctor called the duckboard the greatest medical achievement of the war. The crude boardwalk, according to his tale, saved more lives than any other discovery. The flooring certainly reduced the incidence of

trenchfoot and pneumonia while making overall conditions just a little less wretched.

Requirements for wood in the trenches went far beyond duckboards. Much of the reinforcement of trench walls, known as revetment, comprised planking or bundles of sticks called fascines. The firing step from which a soldier faced the enemy across no-man's-land was a wooden platform, and the wire entanglement in front of him was strung on wooden stakes.

Those stakes, which ranged from two to five feet in length, were always in great demand. Early in 1918, when the engineers of the First Division urgently requested 200,000 of them, almost all other American forestry production was suspended for ten days. All told, American lumbermen in France produced over one million entanglement stakes for front-line positions.

Men at the front needed more substantial pieces of timber to support dugout shelters and their entranceways. Most dugouts stood at the bottom of inclined shafts that resembled ordinary mine galleries. As the men dug the entrance tunnels, they lined them with timber frames made of three-inch planks and installed wooden steps. Then they lined and buttressed the dugouts themselves with mine timbers.

With the prevalence of stationary warfare and the correspondingly strong demand for shelters in the trenches, standardization came quickly to the business of dugout construction. Engineers informally grouped roofing materials into four categories, based on their resistance to enemy fire. Stout planks supported and covered with corrugated iron and a foot of earth, for example, provided occupants of a dugout with protection against shrapnel. For defense against ordinary three-inch guns, soldiers covered strong timbers with four feet of earth. Only against the heaviest German cannons, called "Jack Johnsons" by the soldiers of the American Expeditionary Force, was wood not recommended for use.

American engineers went beyond these casual roofing standards and devised a prefabricated wooden frame for use in building front-line shelters. The frames of twenty feet, eight inches could be increased or decreased in twenty-six inch lengths. They came in roof and wall sections, complete with sills, spreaders, bolts, nails, and tar paper. According to the Engineer Department, the frames could also be used as forms in the construction of concrete shelters, but concrete was seldom available.



A typical American dugout along the Western Front used much wood. An army chaplain, wearing a gas mask, poses at Verdun, November 4, 1918. Inset: Branch and brush revetments.

U. S. Army Signal Corps, National Archives

The more complex the trenches, the likelier it was that a unit moving through them could get lost. Zigzagging communications trenches connected numerous lines; command posts, aid stations, and billets were all in dugouts — a latrine here, a depot there. Soon another substantial requirement for wood became apparent: the trenches had to have sign posts. Notice boards, according to an English text, had to bear the names of the trenches and indicate the places to which they led. The British required them at every entrance and junction. Although an effort was made to meet this standard, many a sign post was erected only to become fuel to heat an enterprising Tommy's dinner.

Offensive operations also generated vast needs for wood products. The shell holes that blocked motor transport had to be filled, usually with a packing of loose rock, timber, and earth, overlaid with a log grillage covered with broken stone, and then tamped. Engineer-built roads frequently consisted of planks spiked over timbers, and both standard-gauge and narrow-gauge railroad ties supported track over which supplies followed ad-

vancing forces. As the Germans retreated and destroyed their bridges, they created still more of a requirement for wood — 1.5 million board feet of it, according to Colonel James A. Woodruff, commander of the 10th Engineers (Forestry). Armies on the move relied on wood products no less than armies in place.

From the flooring of trenches to the frames of reconnaissance planes, and from the entanglement stakes at the forward edge of the front to the walls of hospitals and barracks far in the rear, wood was the basic construction material of World War I. American forestry troops, who began operations in late 1917 and worked primarily in support of the AEF, produced almost 220 million board feet of lumber as well as millions of railroad ties, bridge pilings and timbers, entanglement stakes, and bundles of fuel. So important was wood that Colonel William B. Parsons of the 11th Engineers (Railroad) refused to consider it merely one of thousands of items of supply. Because of its many uses, the great quantities needed, and the lack of any substitute, he asserted lumber to be a munition of war. □