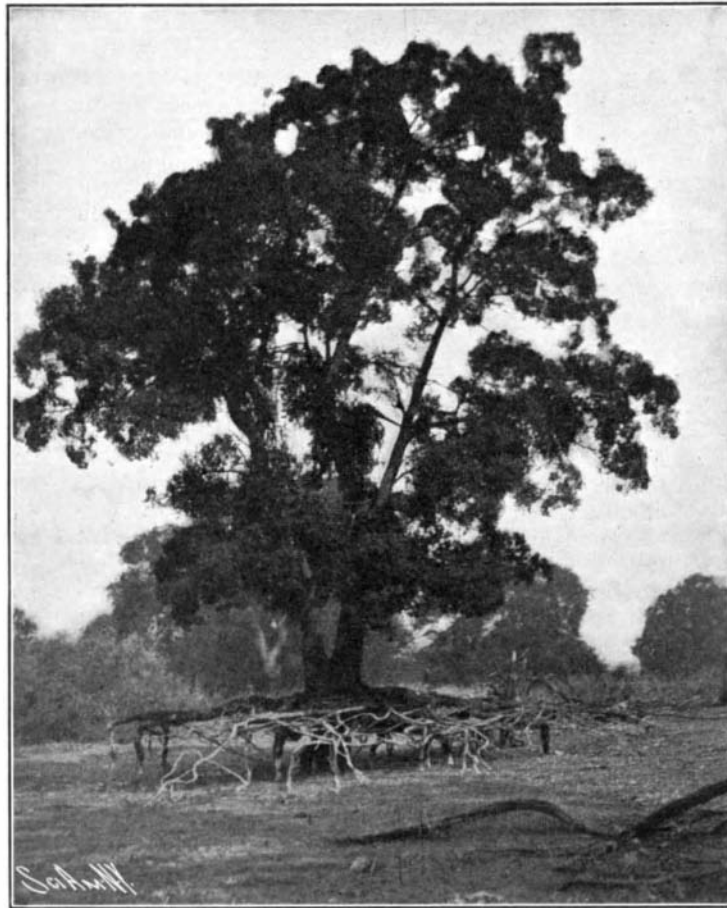


A TREE ON STILTS.

Lake County, to the north of San Francisco, is so named from Clear Lake, which is the largest body of fresh water in the State of California. In this region may be found much fine lake and mountain scenery, for which reason it has been called the "Switzerland of America." Clear Lake is about thirty miles long and ten miles wide in its broadest part. While on a visit there last summer the writer came across the remarkable tree shown in the photograph. It is an oak growing near the edge of the lake, the waters of which have washed away the soil from the roots, and then, receding, have left the tree supported on stilts, as it were. Several other trees on the shore of the lake present a similar appearance, but the one shown was the handsomest and also the most free from surrounding trees or brush.

**A TREE ON STILTS.****FIRE PROTECTION FOR SNOWSHEDS ON THE CENTRAL PACIFIC RAILROAD.**

BY H. I. BENNETT.

Among the difficulties encountered by the early railroad builders of the West was the heavy and long-continued snowfall of the Sierra Nevada Mountains which, in some winters, aggregates 60 feet in depth. The history of the invention of the snowsheds by the engineers of the Central Pacific Railroad is already well known, and reference has been made at various times to the developments in these unique structures, brought about by peculiar conditions which could not easily have been foreseen. The snowsheds were first built, as naturally suggested itself, with steel roofs and in section somewhat similar to that of an ordinary house, but it was found that the unbalanced weight of the snow on one side or the other, especially on side-hill work, caused continual trouble by throwing them out of line down hill. The next step was to anchor the sheds back to the side-hill with heavy rods attached to the framework of the shed and sulphured or otherwise secured to the rock or earth of the cut. It was found, however, that the snow would melt from beneath the rods, and on the adjacent ground and roof of the shed, so that the entire mass for many feet in depth would hang upon the rods, bending them down and pulling the sheds toward the bank, throwing them out of line in a direction opposite to that which occurred when there were no rods. This brought about a further development, that of extending the roof, where it was practicable, into the adjacent banks, forming a shed which prevented the wedge of snow from piling in between the building and the bank. Many sheds of this form are still in use. This was

found to be of such advantage that it suggested the present typical shape, which is that of a flat roof, making the top of the shed somewhat wider than the bottom, so that the melting wedge of snow falls away from the side of the shed instead of pressing against it, and so that the weight upon the base is increased to prevent overturning.

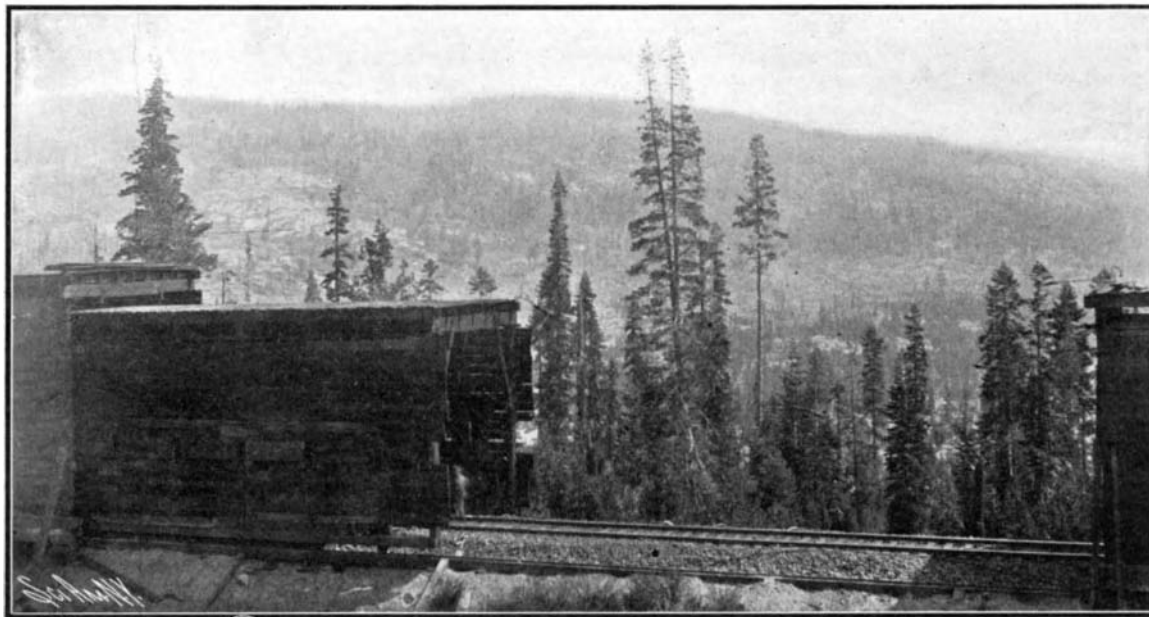
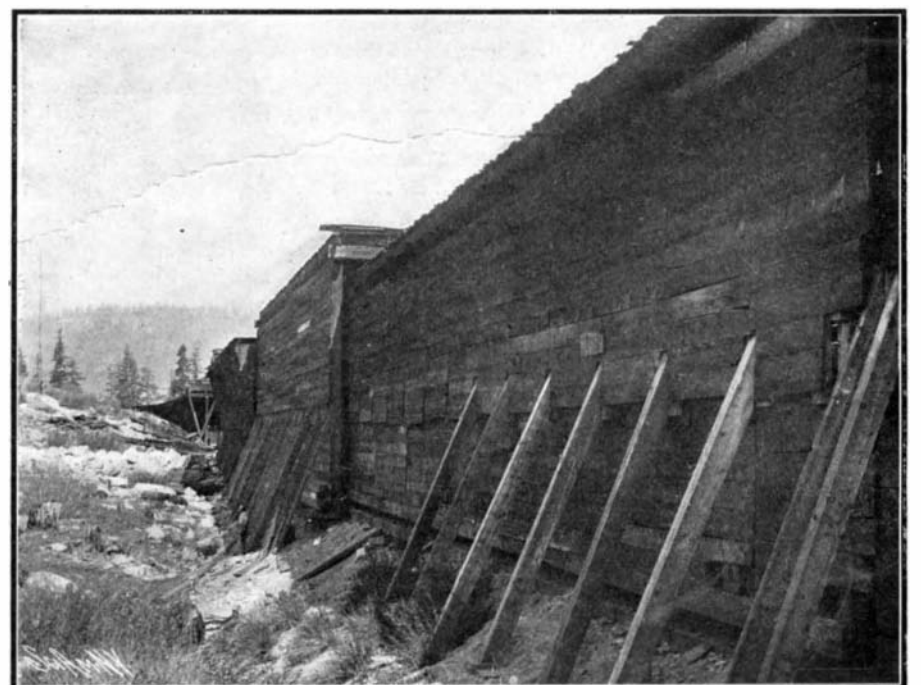
This form of roof of necessity brought the roof covering closer to the stacks of the engines and increased

the liability from fire in the dry-summer season. To obviate this, deflectors are attached to the smokestacks of the locomotives for the purpose of throwing the sparks to the sides instead of straight up against the roof. These deflectors are so hung that they can be thrown to one side when the engines are not in the sheds.

There still remained the danger from brush and forest fires, from which cause most of the fires now take place, although the right of way is kept clear of brush and trees. On the Central Pacific Railroad, there are thirty miles of continuous snowsheds which, with others in isolated spots, bring the total up to about thirty-three miles. With the advent of the snow plow, it was presumed that the sheds could be ultimately done away with, but near the summit of the Sierra Nevada the track is subject not only to blockade from snow, but also from avalanches containing rocks, trees, etc., carried along with the sliding snow. Against these the snow plow is of no avail, and during the long-continued heavy storms only snow plows could use the tracks, to the exclusion of traffic, as otherwise the deep cuts would fill behind the plows almost immediately. It seems, therefore, to be impracticable to dispense with the snowsheds in this section of the country, in which the snow lies upon the ground in some years from November till June.

The stretch of road subject to such conditions is comprised within a distance of thirty-three miles, lying about equally on each side of what is known as the "Summit," or station at the summit of the Sierra Nevada Mountains on the Central Pacific Railroad. Considering this long distance of continuous shed, a danger of great loss and delay due to fires constitutes a continual menace to operation. To take care of this, a very elaborate system of watchmen, connected with each other and with various intermediate points by telephone, and an alarm signal system have been devised. There are seven of such watching or lookout stations at which watchmen are stationed day and night. From

one of these—Red Mountain—several miles from the track and two thousand feet above it, nearly the entire line of sheds is visible. There are maintained at all times three fire trains—one at Blue Canon, one at the Summit, and one at Truckee—and a fourth during the driest part of the summer at Cisco, making one fire train at each end of and two near the middle of the sheds. These trains are always ready, with steam up and crews at hand. Each consists of a locomotive, fire-fighting brigade, and water cars, which, with the prompt notice received, can get to any point within a very few minutes and extinguish a

**Telescopic Shed, Partially Opened.****Looking Through Telescopic Snowsheds.****Telescopic Snowshed Entirely Closed.**