

equipment, 2 are 135 ft. long, and the third, 80 ft. The cylinder to come is similar to the first two. All are 6½ ft. diameter. They are simply long barrels constructed of boiler plate, and both ends are capped with dome doors, supported from a small swinging crane, by which they can be swung out of the way, and when in service are secured to the ends of the cylinder by a series of clamps around the outer flange of the cylinder. A tight joint is necessitated. The construction is shown in fig. 5.

Along the bottom of the cylinder are four 4 in. pipes running the full length of

the cylinder of from 15 to 20 ins., and at the same time, steam is turned on in the heating coils under the track, and the temperature of the oil raised in the neighborhood of 200 degrees Fahr., which, in conjunction with the low vacuum in the cylinder, causes the water in the wood to vaporize and be drawn off to the vacuum pump. Early experiments determined that if the wood were subjected to a dry heat of sufficient intensity to drive off the water in it, the fibres would be injured to a certain degree, but that by applying the heat indirectly through the creosote medium and maintaining a vacuum at the

there is a "blow back," that is to say, if there is a rush of oil out of the cylinder on the pressure being removed, it is an indication of the fact that there must be air in the pores of the wood, not permitting the oil to enter freely, necessitating another application of the pressure. If there is no blow back of any consequence, other than that due to the compression of the wood in the cylinder, the ties have been treated sufficiently. The oil is then discharged from the cylinder into the working tank by compressed air, draining out through the bottom of the cylinder. The treated ties are allowed to stand in the

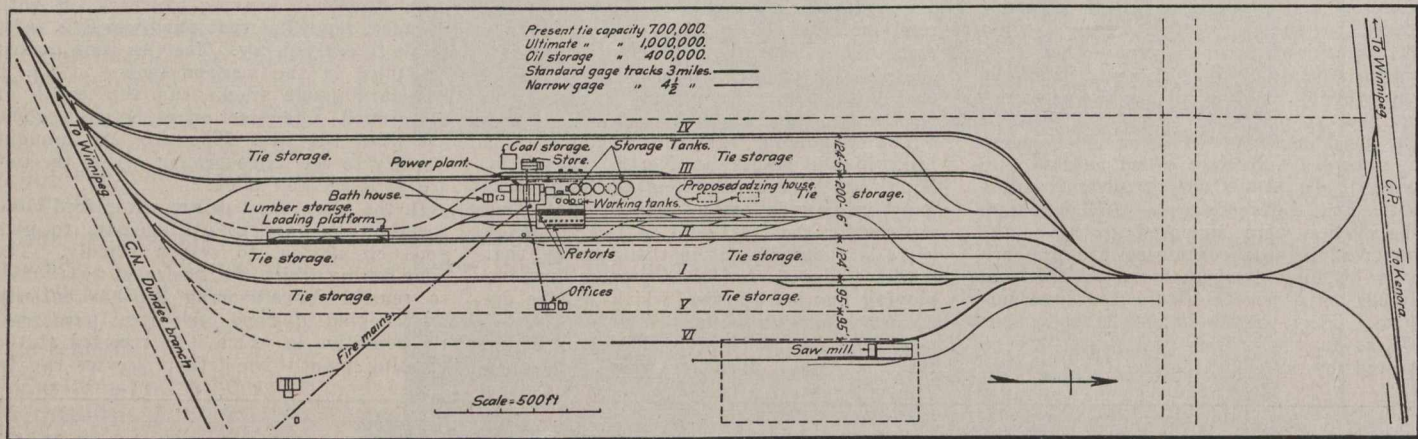


Fig. 1.—Layout of Buildings and Yard of Creosoting Plant.

the cylinder, carrying 135 lbs. of steam. Over top of these steam pipes are tracks for the small service cars, the loaded cars running on these rails just clearing the inside of the cylinder. The trains of tie cars are shunted into the cylinder. At this plant, for shunting purposes, are 2 small narrow gauge switching locomotives, in place of cable transfer systems in use in some other plants. From a railway standpoint, one of the switching locomotives is of peculiar interest. Constructed in Eng-

land, it has all the characteristics of the British design, with slab type frame and other peculiarities foreign to Canadian practice.

After being subjected to a vacuum for over an hour, it is discontinued and more oil allowed into the cylinder, this time under pressure. This pressure is made to gradually rise, taking upwards of 2 hours to reach a pressure of from 100 to 180 lbs., depending on the nature and condition of the wood. In one of the 135 ft. cylinders, about 2,000 gals. over and above that

cylinder for some time after the completion of the treatment, in order that the surplus creosote oil may drain off.

The power house adjoins the building containing the working tanks, and like the other buildings of the plant, is of corrugated iron. In it are two 9 x 14.9 x 13.7 in. vacuum pumps, four 8 x 4 x 10 in. oil pumps, and two compressors, respectively 8 x 8 x 12 in. and 10 x 10 x 14 in., all steam driven. On the wall of the power house are recording and indicating gauges

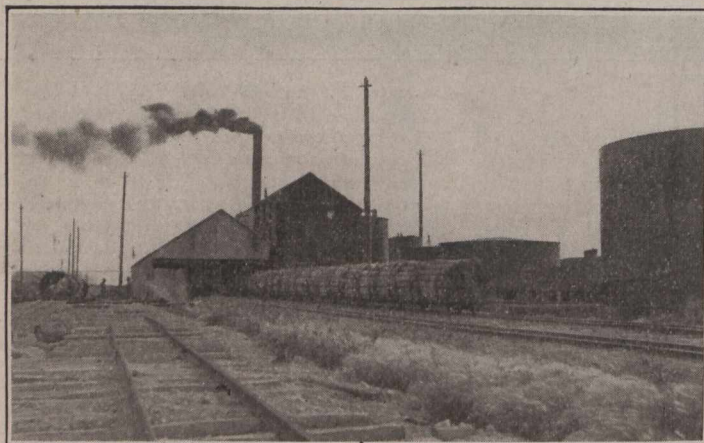


Fig. 4.—Train of Untreated Ties Entering a Cylinder.

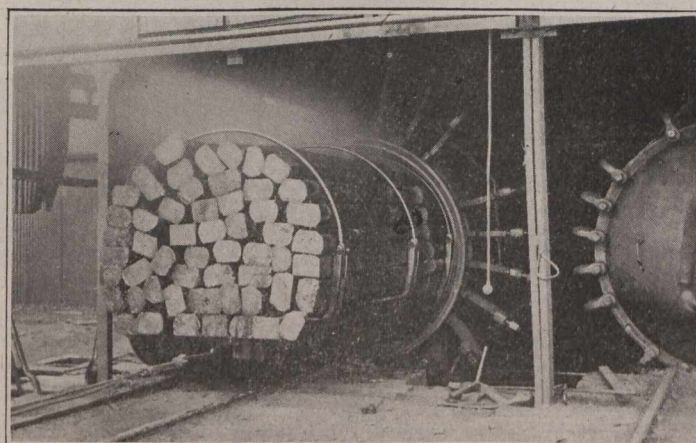


Fig. 5.—Train of Treated Ties Leaving the Cylinder.

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Each cylinder has a creosote working tank 20 ft. diameter and 14 ft. deep, located in a galvanized building to the rear of the storage tanks in fig. 6, between those tanks and the treating cylinders on the left in the illustration. These working tanks are set higher than the cylinders, into which the creosote oil feeds by gravity, after the cylinder end covers are placed. After filling the tanks in this way to the top of the cylinder, a vacuum is created in

introduced by gravity are forced into the cylinder, this amount entering directly into the fibres of the wood. The treating contract calls for the introduction of a minimum of 2 gals. of creosote oil into each tie, but the average runs considerably above this, as much as 4 gals. entering ties of a more open and porous nature.

After leaving the pressure on the ties for a time depending on the condition of the wood, but generally about 6 hours, the pressure is removed. This operation is carefully watched, as the quality of treatment of the batch may be observed by the manner in which the pressure reduces. If

of various kinds. To the rear of the power house is the boiler room, containing two water tube boilers, with a total capacity of 1,000 h.p. The feed water, obtained from wells in the grounds, is treated in a softening plant before entering the boiler, and is heated by a feed water heater. Electrical power is generated in a small building adjoining the main power house, plies the sundry lights about the buildings, and 16 arc lights placed high on poles at various points in the grounds, as shown in figs. 4 and 6. These are made necessary by the nature of the work, which is continuous, day and night.