

## The Use of Explosives in Planting Young Trees

The blasting of ground, where either fruit or shade trees are to be planted, has been extensively practised for several years in all parts of Canada.

Millions of trees of all varieties have been planted in ground prepared by the use of explosives, and there are hundreds of the best Orchardists who testify that the slight extra expenditure is repaid manifold in increased production.

### Directions for Use.

The soil should not be wet at the time blasting is done. Indeed the drier it is the better, because if the earth is quite damp, the explosion may cause it to pack and thus defeat the object in view.

For this reason the work is best done in the early Autumn, because then the subsoil is more likely to be dry. If the blasting is done in advance of the time of setting the trees, the ground is left without further attention until planting time.

The object is not to do away with the use of the spade, but to make the digging easy, to mellow the soil and to furnish

ample room for root development. The charge should not be placed and tamped in such a manner as to shatter the soil creating a porous water-absorbing condition in the subsoil that protects the tree against drought, which saves much loss during the subsoil that protects.

When the places for trees have been marked, punch or bore about 30 inches in depth. A satisfactory tool for this purpose is a heavy subsoil punch, which is made by sharpening one end of a 1½-inch steel bar, which should be from 3 feet to 3½ feet long.

The punch is driven to the desired depth with a sledge, and then, by hitting it one or two blows on either sides, it will be loosened and can be easily withdrawn. A 2-inch earth auger may be used, but of course this makes the work slower.

Next cut off a piece of fuse not less than 3 feet, and crimp a cap onto one end with a cap crimper. Insert the cap with the fuse into the explosives and tie securely. It will be well to experiment

with a few holes to determine the size of charge required, because in some soils half a stick of explosive will be ample, while in very hard subsoil a stick will not be too much—you can judge as to this fairly well by the use of a probing rod made from a light iron bar or by visible effect.

When the charge has been placed in the hole put in enough earth to cover the explosives 6 or 8 inches, tamping lightly, using a wooden tamping stick. Then ignite the fuse and retire to a safe distance.

When ready for planting remove the earth to sufficient depth to insure that no "pot-hole" is left from the explosion. If this should remain unfilled the earth might later on fall away from below the roots of the tree and thus injure or even destroy it.

In planting the trees they should be placed little, if any, lower than they were in the nursery rows, and the best of the soil should be saved to put immediately under and around the roots.

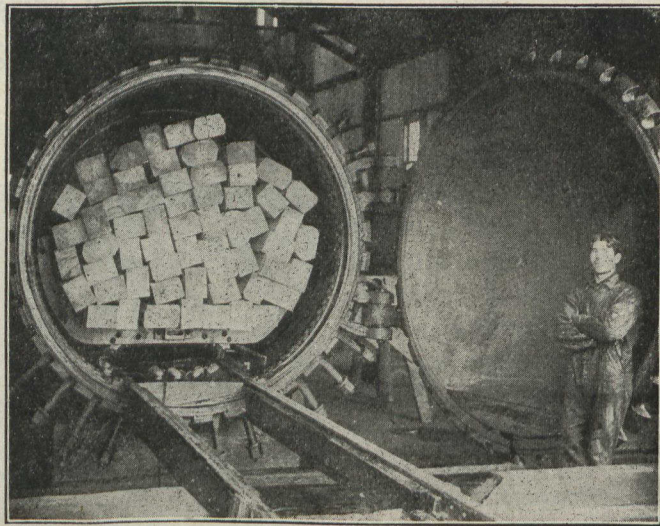
## The Battle Against Rot

How Creosoting Railway Ties gives Three to Five Times Longer Life at Double Cost. A Great Factor in Conservation of Wood Resources.

Canada's rapid railway growth—thirty thousand miles now, compared with half that amount twenty years ago—and the increasing cost and decreasing supply of good ties, has attracted the attention of the wood preserving industry to the Dominion. Forestry experts claim it takes sixty years to grow a tie, and that we place it in the track to rot out in from five to seven years, whereas it would give from eighteen to twenty-five years' service if preserved, or treated, before being used.

The recent completion of the new C.P.R. tie treating plant at Sudbury, Ontario, and the probability of a similar undertaking by the Canadian National in the near future gives special interest to the following article: The information and the picture are by courtesy of the Canada Creosoting Company.

On this continent in 1885 only 120,000 ties were treated out of a total of 50,000,000 used, while in 1912 about 30,000,000 were treated out of about 150,000,000 used. In other words, only about 1/400th part of the ties were preserved in 1885, while in 1912 1/5th of all the ties used were treated. In Canada alone in 1910 practically no treated ties were used. In 1911, 200,000 ties were pre-



A retort filled with railway ties ready to be treated with creosote under vacuum.

served before being placed in the road-bed. This was 1.4 per cent of the total number used. Last year about 2,500,000 ties were treated, or 10 per cent of the total number used. This shows that the Canadian railways have commenced the battle against rot.

Rot is the chief cause of failure of timbers such as ties, paving blocks, piles, etc. It is the breaking down of wood fibre that

is caused by the growth of small plants organisms known as fungi, which are usually carried by the wind, alight on timber and grow, sending microscopic threads or rootlets into the timber. These organisms live on the timber as food, causing the eating away or breaking down of the wood fibre.

Certain amounts of each of four things are absolutely essential to the existence of