tions but are capable of intelligent solution.

The catalpa tree will make the ties, in sixteen years growing to a size that will make five cross-ties, which will last for thirty-five years.

Upon almost every railway right of way may be growing 640 trees to each mile of track, omitting the inside line of curves, but planting one row of trees upon each side the track, and 40 to 50 feet from center, trees one rod apart.

In sixteen years this will provide 3,000 ties, being enough to relay the mile of track.

Since the catalpa renews itself from the stump, when cut, and the young shoots grow very rapidly with the well established roots to support the new growth, the trees would be permanent, and fully supply all requirements for ties, fence posts, telegraph poles and lumber.

By cutting a portion each year the avenue would remain unbroken.

An Avenue 1,000 Miles Long.

As many railway lines are of much greater length than this, it would be one of the happiest views which America could possess.

Transportation of ties for long distances now constitutes a large portion of the cost. This may be entirely eliminated by growing them where they are to be used. The cost of timber so grown would be inconsiderable as compared with present prices, and estimated by the future prospective prices, unless extensive plantings shall speedily be made, insignificant.

One year old trees are always used in forest planting, and these may be had at from $3.00 to $5,00 per 1,000 trees. Doubtless there are many persons who would be glad to contract for supplying the trees, planting and care for several years at fifty dollars per mile, possibly less.

Another plan contemplates the planting in solid forest, large tracts near the railways; 1,000 acres of land costing $10.00 per acre, and planted, cultivated for five years, together with all labor, interest and taxes for 16 years, would aggregate $20,000, while one million cross-ties would be the product, worth a dollar each. Meantime, after the eight years, surplus posts worth $3,000 would reduce the expenses and more than pay interest and taxes.

Directions for Planting Catalpa.

The utmost care should be observed in obtaining the hardy western catalpa speciosa. Unless it is specially desirable to start with the seed by all means purchase one year plants. If seed are to be used they should be planted in rows easily cultivated by horse, near four feet apart, covered very shallow and not too thickly strewn.

Thorough cultivation is essential. In the autumn when the wood has ripened they are taken up, tied in bunches of 100 and heeled in for the winter. In spring, with the ground well prepared, furrow out deeply rows six feet apart, and plant trees about four feet in the rows, the intermediate spaces being cultivated in potatoes, corn or some non-vining vegetable. Neither weeds nor grass should be permitted to grow, a sod of grass will quickly ruin the catalpa. The trees will thus form tall upright trunks, with few side branches. After the fifth year the shade and falling leaves will protect the tree, without further cultivation; it may be sooner. By the eighth year all trees should be removed except the permanent stand, not closer than 12x12 feet, in order to give room for the roots and each its share of moisture.

JOHN P. BROWN.

Secretary Indiana Forestry Association.

THE WAR ON CONSUMPTION.

The alarming increase of consumptives has become a matter of great public concern. It is a most serious menace to public health, and has long perplexed medical science. The state of New York has adopted a new system, in the establishment of state hospitals for the treatment of tuberculosis among the poor. Of the new departure the Evening Post says:

The tentative beginning in the matter of a state hospital for the treatment of incipient pulmonary tuberculosis among the poor, authorized by the law which the legislature recently passed, is the tardy result of nearly half a century of well-directed, sustained, and unselfish effort on the part of broad-minded philanthropists and progressive physicians. As early as 1855 a society having this object in view was organized by Peter Cooper, assisted by Dr. Alonzo Clark. The arguments then brought forward rested mainly on the confidence of thoughtful men that good results would come of such a movement. Since that time these arguments have been emphasized and made unanswerable by the results of experience, and by a scientific progress which has placed at the command of physicians the means of early and infallible diagnosis. New York has been anticipated in this matter by Massachusetts, which began its work almost two years ago with an appropriation four times as large as that which New York has just made.

Can be Eradicated.

No fact is better established in the results of world-wide experience than that what is popularly known as consumption can be practically eradicated, and that it has no proper place among the causes of death in a civilized community. Equally certain is it that, if it be neglected and allowed to spread by the thousand natural agencies of infection and distribution, this disease — not hereditary, distinctly preventible, and demonstrably curable if nature is soon enough given a chance to act under the conditions of a favorable environment— will swell the annual death-rate with steadily-increasing rapidity. Fortunately, it is no longer quite neglected. As the result of measures adopted by the Board of Health, during recent years, in the dissemination of information, the discouragement of carelessness in handling the sputa of patients, the disinfection of clothing and premises after deaths, and through other means, there has been an apparent reduction of about 30 per cent. in the deaths from pulmonary tuberculosis in this city since 1898. The mortality from this cause is still large, however. In 1899 there were, in the boroughs of Manhattan and the Bronx, 8,016 deaths from pulmonary tuberculosis, and 1,559 from other tuberculosis diseases. The average life of patients with recognized tuberculous disease in this climate will probably not exceed three years. Some authorities place it at two years among the badly-housed, underfed poor of New York. As many go away to improve or die elsewhere, the New York death-rate indicates that we have between 20,000 and 25,000 well-defined cases of tuberculosis in Manhattan and the Bronx, and for these an average life not exceeding two years is statistically allowed. For the state 45,000 to 50,000 cases would be a conservative estimate.

A Disease of the Poor.

Tuberculosis is a disease of the poor— not exclusively, but to such an extent as makes the generalization proper. Among people in comfortable circumstances, who can have a change of climate, with rest from business cares when their physicians so order, who are at all times well nourished and stimulated, and who can avoid exposure to bad weather and sudden changes of temperature, consumption rarely gains headway under present methods of treatment, and does not reduce the average of human life appreciably. It is also true that in the well-ordered homes of people in comfortable circumstances, and under good medical advice, there is little or no exposure to infection among members of families in which such cases occur. Among the poor, however, and especially in the crowded tenements, tuberculosis begins its work unsuspected, gains headway without recognition, runs its course rapidly, exposes others to the maximum danger of infection, and kills the unfortunate victim in from one to three years, during most of which time the sufferer is incapable of self-support and becomes a burden upon those still able to labor, or upon the community. This is what makes it the terrible scourge of our cities.

A consensus of medical opinion would warrant the division of tuberculosis cases into three great classes—the cer-