

along its right of way a number of years ago, and while most of the saplings were destroyed by the telegraph linemen, enough have been left to demonstrate the value of the plant.

In addition to this data and some more detailed particulars about the forests that have been planted in Kansas, Mr. Brown states that he has closed a deal with a party of northern capitalists to select, buy and plant nearly 5,000 acres of land in the trees for a commercial investment.

**Planting and Culture.**

The tree is raised from the seed and the first year's growth is given in the nursery. It is then planted and the ground cultivated for three years much the same as for corn. During this time the space between the rows of trees can be used for growing any agricultural plant, except the grains that are drilled or sown broadcast. It matures in from fifteen to twenty years, and from experiments it has been learned that the average growth is one inch increase in diameter for each year. The mature tree, however, according to his statements, attains a diameter of from six to eight feet and a height as great as 150 feet.

It will grow in any part of the United States south of Minnesota, and to an altitude of 6,000 feet.

**Catalpa Enthusiast.**

Mr. Brown is very enthusiastic about the future of the catalpa and claims that it will be more and more extensively planted each year until its growing becomes a recognized industry. He says that on cleared ground an acre can be planted for a sum not often exceeding \$10 and that the profit is not only large, but sure. He claims that it is the most valuable wood in the world for crossties and telegraph poles, having a life of from thirty to thirty-five years, while the oak will last for only seven or eight years. Its rapid growth makes its cultivation for these purposes possible and its texture and hardness will allow it to take the place of quarter sawed oak in any purpose that it is employed.

There are two varieties, classified commonly as the Northern and Southern. The former is the most valuable, grows more rapidly and attains a larger size.

**Illustration of Durability.**

In illustration of the durability of the wood he cited two cases. The first is a tie that has been in use on the Illinois Central in Southern Illinois for fifteen years and is still in a practically perfect condition. The tie is now in the office of the engineer at Chicago and was largely the cause of that system entering upon the experimental raising of the trees. The

second case is of a tie that supported the rails of the Big Four on its Cairo division for more than twenty years, and is still in good condition. This tie has also been taken up and is kept in the engineer's office.

If the experiments prove satisfactory and the wood gives results in proportion with what is claimed for it, the overshadowing and perplexing crosstie problem, that is haunting the dreams of general managers, is solved and the catalpa will become as important a factor in the building of railroads as the steel rail. The saving over the oak tie will be something enormous as the largest expense with reference to a crosstie is the putting down and taking up. Not only would the catalpa tie save three-fourths on original cost, but it would save the same proportion on this latter expense as it is claimed that it has a life of as many years as four oaken ties.

Mr. Brown goes to New Orleans over the main line of the Illinois Central by way of Grenada. He will return by way of the Yazoo & Mississippi Valley and thinks that the lands on the latter system will be those that he will select for the experiment.

**RESOURCES OF AMERICA.**

By EDWARD ATKINSON.

In no other equal area of the surface of the globe are found such abundant resources in the soil, the mine, or the forest as within the area of the United States. In no other equal area has domestic commerce been made free from interstate taxation; in no other country have the railway and river systems of transportation been so fully developed by private enterprise, or subject to so slight legal interference or government ownership or control. In no other manufacturing or machine-using nation is imperial or national taxation so low in ratio to the population; yet more, so low in ratio to the value of the annual product from which all taxes must be derived. The great competing manufacturing or machine-using States of the world are the United States, the United Kingdom, Germany, France, Belgium, and the Netherlands. Their population in round numbers figures about 230,000,000, of which the people of the United States count one-third. Outside these countries there are more than 1,200,000,000 people waiting for a supply of the manufactured goods of these machine-using countries. Other European countries—Austria, Italy, Spain—barely supply their own wants, while the competition in manufactures in the commerce of the world may be disregarded, excepting as to a few special products, such as the silks of the East. Glance a moment at the relative resources of these machine-using nations. The United States produce an

excess of all the metals except tin; an excess of the products of the field with scarcely an exception; an excess of the products of the forests, soon to be supplemented by the vast resources of Canada lest we should denude our forest lands too rapidly; an excess of coal and of oil; an excess of all fibres excepting silk and wool, reeled silk being too much a product of hand work to become profitable in a machine-using State (as Daniel Webster said, we can't afford to do ourselves what foreign paupers can do so well for us); wool capable of being produced in excess of our own wants, especially upon the uplands and in the mountain valleys of the South whenever the cur dog is suppressed and a reasonable share of intelligence applied to the rotation of sheep, corn, and cotton on the same field. On the other hand, we find our competitors in Europe deficient in and mainly dependent upon us for a supply of food and of the most important materials entering into their processes of manufacture. Great Britain is deficient in food, in fibres, in ores fit for making steel, and is subject to increasing cost of coal with the possibility of the exhaustion of her coking coal. France and Belgium are amply supplied with food, deficient in fibres, in metals, and in fuel. Germany, with a poor soil, is barely capable of subsistence, and is deficient in timber, in fibres, and in fuel. The Netherlands are too small to have any considerable influence in the larger undertakings of commerce except as carriers and importers in transit. Yet more, in no other country has so small a number of men been diverted from the constructive work of peace to the destructive pursuit of war, since slavery destroyed itself in our civil war, as in the United States. In one respect even the civil war was constructive, since it made way for the new industries of the regenerated South. The result of these conditions is found in the fact that in no other country is the cost of labor per unit of product so low, and in no other country are the rates of wages earned in factories or furnaces, the workshop, the mine, forest, or field, so high. The only exception to this rule being in those few arts which cannot be conducted successfully without an untaxed supply of materials of foreign origin which are necessary in the process of our domestic industry. In a very few branches of industry these materials are now so heavily taxed by duties upon imports that they are at this time in an adverse and unprofitable condition. So far as the principle of liberty has been permitted to take its free course, our domestic industry has been promoted, our workmen have been protected, and our home and foreign markets have been established and assured. So far as liberty has been restricted by the provision of public taxation to the promotion of a very few