

unlikely to suffer much from overcrowding. They would in the 15th year after planting, if they had made good progress, form a thicket through which a man would have some difficulty in passing, the ground will be well shaded and darkened, and the lower branches would be withering. In the 20th year the thickened stage would still continue. By this time some few of the young poles might have succumbed in the competition for light; these would be observable withered and dry under the shade of their taller neighbors. If the growth having been very rapid the struggle is becoming very severe in the thicket, or if the dead wood should have accumulated to such an extent that it would defray the cost of its own removal, a thinning may sometimes take place in the 20th year. Or if the growth is a little less rapid the first thinning may possibly take place on the same conditions in the 25th year, limited strictly to the dead or withering wood. Plantations will in many cases take no harm if allowed to fight their own battle to their 15th year, and then the survivor will be straight and devoid of side branches.—*N. N. in London Forestry.*

THE MECHANICAL EFFORTS OF ROOTS.

The true mechanical efforts of roots are exerted in their struggle for progress through the soil, and examples for illustration are many. To understand the magnitude of the work, we must bear in mind that each root displaces an amount of soil equal to its own bulk. Take for instance a crop of mangel wurzels, and imagine what an upheaval must have been produced in the soil by the growth of its enormous mass. The whole surface of the field is raised and its particles loosened.

In practical questions of the farm, this power is of value. Those who give turnips and mangels a place in their system of rotation, do so ostensibly for their feeding value, but beyond this, their mechanical effect is also of much importance.

The most striking results of the mechanical power of roots are seen when they come in contact with the most resisting obstacles. They have been unearthed from compact gravelly soil, where the struggle for room had been so fierce that they become distorted out of all natural shape. It is not unusual to find trees growing in the clefts of ledges, showing unmistakably that the expansion of the roots has forced the rock apart. A case is cited, on good authority, of the root of a sugar maple that had pushed its way under a rock weighing nearly two tons, and by its enlargement lifted it entirely from its bed. Trees have been observed growing on the bare rock, resting upon their roots which ran out into the soil on either side, and yet these roots, supporting the enormous weight of the tree, formed each year new growth on their under side, and lifted the tree by the space of its thickness until seven inches of wood had been formed under the severe pressure.—*Journal of Progress.*

FORESTRY IN THE DISPUTED TERRITORY.

A WINNIPEG correspondent says:—When the Privy Council awards the disputed territory to one province or the other, among the earliest measures to be considered should be a way of enforcing forestry laws in northwestern Ontario or southeastern Manitoba—whichever it may prove to be. The country is to a great extent so rocky that should the timber be once cleared away from its surface it will never grow again. No better chance for putting into practice the advice contained in Mr. R. W. Phipps' excellent pamphlet could well be found. The saw mill returns for Manitoba and Keewatin, up to October 31st of last year, show some 30 huge mills in operation throughout the province and Keewatin during the year. The returns show 25,465,841 feet B. M. of lumber manufactured during the year, 6,442,123 feet of shingles, and of lath 2,251,100 feet. Gratifying as the returns are in themselves, there is no doubt but the country is being shorn of its timber indiscriminately, and will soon be deforested unless the milling operations are controlled. The country is at that stage when a law-reserving alternate strips of forest, or presenting some limits to timber slaughter could effect what

never could be accomplished when once the wood is gone.

EBONIZING WOOD-WORK.

There are many receipts for ebonizing, and the following are given by Mr. Harry Hems: 1. Infuse gall-nut in vinegar, into which rusty nails have been soaked; paint the wood with this, and polish and burnish when dry. 2. Wash the wood repeatedly with a solution of sulphate of iron, made by dissolving two ounces of sulphate in a pint of hot water. When dry, apply a hot decoction of logwood and nut-galls two or three times. When dry clean with a wet sponge and then polish. 3. Brush the wood with a strong decoction of logwood chips several times. When dry give it a coat of vinegar in which rusty iron has been placed. Dissolve borax in turpentine by setting in a warm place; apply warm with a brush, and rub it till it shines. 4. Wash with a concentrated aqueous solution of logwood several times, and then with a solution of acetate of iron of 40 deg. Baume. Repeat till a deep black is produced. 5. Put 2 oz. of logwood chips with 1½ oz. of pers in a quart of water, boil and lay on hot. When dry, wet the surface again with 2 oz. of steel filings dissolved in half a pint of vinegar. When dry again, sand-paper smooth, then oil, then fill it with powdered drop-black mixed in the filter. Work to be ebonized should be smooth and free from holes. Give it a light coat of quick drying varnish, then rub with finely pulverized pumice stone and linseed oil until very smooth. 6. Boil half a pound of logwood in two quarts of water, and add ½ oz. of verdigris and ½ oz. of copperas, stain, and put in ½ pound of rusty steel filings. With this go over the work a second time. 7. A pound of logwood boiled in four quarts of water, add two handfuls of walnut shells or peel, boil up again, take out the chips, add a pint of vinegar, and apply boiling. Afterwards dissolve 1 oz. of green copperas in a quart of boiling water and apply hot. 8. First sponge the wood with a solution of chlorhydrate of aniline in water, to which a small quantity of copper chloride is added. When dry, go over again with a solution of potassium bichromate. Repeat this twice or thrice. 9. One gallon of vinegar, ½ pound of green copperas, ½ pound of China blue, 2 oz. of nut-gall, 2 pound extract of logwood. Boil all these over a slow fire, and add half a pint of iron-rust. Apply as usual. A good varnish for ebonized work is made by dissolving in alcohol some black wax.—*Journal of Progress.*

A Substitute for Mahogany.

An imitation of and substitute for mahogany, useful in fine manufactures, is due to French ingenuity. The first operation is to plane the surface of any species of close-grained wood until it is perfectly smooth, and it is then rubbed with diluted nitrous acid, which prepares it for the materials subsequently to be applied. These consist of one and a half ounces of dragon's blood, dissolved in a pint of spirits of wine, and one-third of that quantity of carbonate of soda, mixed together and filtered, the liquid in this state being rubbed, or rather laid upon the wood with a soft brush. The process is repeated with very little alteration, and in a short interval the wood possesses all the external appearance of mahogany.—*Warren's Monthly Review.*

Advice to Mothers.

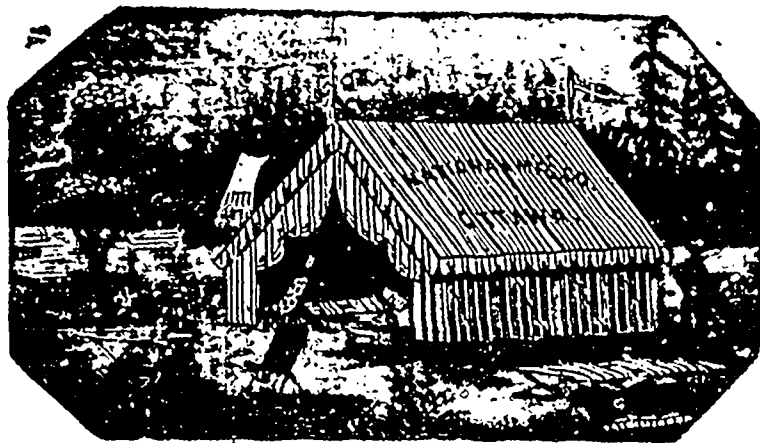
Are you disturbed at night and broken of your rest by a sick child suffering and crying with pain and cutting teeth? If so, send at once and get a bottle of Mrs. Winslow's Soothing Syrup for children teething. Its value is incalculable. It will relieve the poor little sufferer immediately. Depend upon it, mothers, there is no mistake about it. It cures dysentery and diarrhoea, regulates the stomach and bowels, cures wind colic, softens the gums, reduces inflammation, and gives tone and energy to the whole system. Mrs. Winslow's Soothing Syrup for children teething is pleasant to the taste, and is the prescription of one of the oldest and best female physicians and nurses in the United States, and is for sale by all druggists throughout the world. Price 25 cents a bottle.

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