(FOREST AND OPEN FIELD TYPES OF BEECH)

What the Canadian Forestry Association DOES

PREPARES and places through its Publicity Department, many hundreds of special articles every year, reaching the Canadian Public through daily and weekly newspapers, weekly and monthly magazines, including agricultural, financial, religious, literary, engineering, juvenile, and practically all divisions of Canadian journalism.

Co-operates actively with forest protective associations, Government forest departments and commercial organizations in distributing information on forest affairs to the Canadian public.

Campaigns for forest protection through its Publicity Department, the distribution of illustrated literature to settlers, campers, etc., the presentation of lantern slide cartoons in motion picture theatres, and many other methods calculated to bring practical results.

Holds series of illustrated public lectures on forest protection in various sections of the Dominion.

Issues an illustrated monthly, "The Canadian Forestry Journal," which goes to 3,500 members, and to 200 Canadian editors by whom it is quoted extensively. Holds conventions in various sections of the country to discuss local and general forest problems, and to arouse interest in public forest policies.

These are some of the conce. s of the Canadian Forestry Association, now in its fifteenth year.

It is national in scope, without any government or other special affiliation. Financial support is from purely voluntary sources.

TWENTY CANADIAN FOREST TREES.

By James Lawler, B.A., formerly Secretary of the Canadian Forestry Association.

There are in Canada about one hundred and fifty native trees. Some of these are very scarce and known only to those who make a study of trees, but all Canadians should endeavor to learn the names and uses of the commoner trees which grow in the district about their homes. This little book tells about twenty of these.

Trees are not only the noblest members of the vegetable kingdom, beautifying the landscape in both summer and winter, but they are also very useful to man. Forests, by holding back from the rivers for a time the water which falls in the form of rain, keep the air in their neighborhood more moist and feed down the water more regularly to the rivers. If rocky hillsides are stripped of their trees the snow melts very rapidly in the spring and there is no soft cover of leaves and twigs and leaf mold to detain the water. It rushes down in a torrent and the rivers and streams overflow their banks. Later on in the summer, when the snows have melted and the spring rains have ceased, the streams and rivers almost dry up. If forests are left on the hills the spring rains and snows are so delayed in reaching the rivers that they will not overflow in the spring and will retain a good flow of water for the rest of the year.

The substance of the tree, wood, is used for making houses, barns, ships, furniture, railway cars, implements, fences and many other things, and is also the chief fuel in Canada for heating houses. Some trees are used to make paper and others furnish us food. Every year wood becomes of greater necessity to mankind. We know this because the price of wood is constantly increasing.

Canada is one of the greatest tree-growing countries of the world. Many years ago people used to think that some day all the trees in Canada would be cut down and the land covered with farms. They did not know, as we do, that if all the trees in Canada were cut down tomorrow more than half the land could not be used for farms, because it is too hilly, stony, rocky, sandy, or otherwise barren. If trees are taken away from land of this kind it becomes a desert, such as may be seen in other countries, or even in many parts of Canada, where, by mistake, the trees have all been cut down and where there is nothing to be seen but rocks and boulders or drifting sand.

What we should look forward to in Canada is a time when all the land will be suitably occupied, the farm land with fine, well-tilled farms, and the forest land with forests of the best kinds of trees. Forests on the forest lands will make it easier to farm the farm lands. Forests not only distribute more evenly the moisture in the air and the water in the streams, but they form covers for the birds, which eat bad insects and bad seeds, and they break the force of strong winds.

When it is said that half of Canada should be kept growing trees this does not mean that trees should never be cut down. Trees become ripe, just as wheat or oats, and when they are ripe they should be harvested. When trees are cut down and taken away from land not fit for farming a new crop of trees should be allowed to grow up in their place. This is usually done by allowing young trees to come up from the seed left by the old trees. When repeated fires have killed all the trees of the kind desired, or when it is desired to bring new and better kinds of trees into the district this is done by sowing seed or planting little trees.

The first great need, however, is to protect our forests against fire. Fire destroys at least eight times as many trees as are chopped down for the use of man. All persons should do all they can to see, when they are in the woods, that no camp fires are left burning, that no matches or lighted cigarets are thrown into the underbrush. Cigarets, since they have come into fashion, especially among foreigners engaged in railway construction, have added greatly to the number of forest fires. Some lumber companies prohibit smoking in their forests, and all would like to do so. Everyone should support in every way the fire wardens, inspectors, rangers and other officers whose duty it is to fight forest fires.

Since Canada is one of the great forest countries of the world, and destined to continue so if we properly care for those forests, it follows that Canadians ought to be among those who know best how to use the products of the forest. We now have schools which teach young men how to measure, care for and harvest the tree crop, and how to assist Nature in bringing on a new crop. The men who come from these schools are called foresters, and when they have gained experience and passed further examinations they are called forest engineers, just as other trained men are called civil engineers and electrical engineers. But it is not necessary for any person, young or old, man or woman, to be educated in a forest school in order to assist in this great work of caring for our forests. It is neces-

sary only to remember that trees are our friends, not our enemies, and to act accordingly. We have great forests, but these are being rapidly destroyed by fire, insects and bad management. If we continue our carelessness half our country will be changed into a desert; but if we protect our forests they will continue to grow valuable timber for all time to come. These forests will protect our streams, keep up our waterpowers, help our farmers, make a home for useful birds and for fish and game animals. Only those lands which are not fit for farming are required for trees, and if trees of the right sort are kept growing on such lands Canada will be a more prosperous, more healthful and more beautiful country in which to live.

KINDS OF TREES.

When people speak of trees they generally divide them into two classes, which are known by different names, as follows:

Class 1—Softwood, evergreen, needle-leaved.

Class 2—Hardwood, deciduous (meaning falling in season), broad-leaved.

The first names are not satisfactory, because some woods called "soft" are harder than some called "hard." The second is also not satisfactory, because some trees called "evergreen," as the tamarack, lose their leaves every fall. For this reason the terms needle-leaved and broad-leaved are used in this book. Nearly all the needle-leaved trees bear their seeds in cones and are, therefore, called conifers, which means "cone bearing." The needle-leaved trees include the following: pine, tamarack, spruce, hemlock, balsam fir, Douglas fir, and cedar. The broad-leaved trees include walnut, butternut, hickory, willow, poplar, birch, beech, oak, elm, maple, basswood, ash, chestnut and cherry.

FOREST TREES AND SHADE OR ORNAMENTAL TREES.

When a tree grows in the forest crowded by others it grows tall and straight and with a small head or top. The lower branches die off from lack of light and the trunk becomes clear of knots for a great height. This is the shape of tree the lumberman desires, because each tree gives him several long, straight logs which make "clear" lumber, that is, boards free from knots. When the same tree grows in the open, as in a park or pasture or along the street, it is more exposed to the wind, which makes it root itself more strongly. It has plenty of room, so it grows out on every side, and as there is plenty of light the branches do not fall off but

become big and strong. This makes a tree which is in some ways more beautiful than the forest type of the same tree. It gives more shade. The whole tree is much shorter than it would have been had it grown in a forest, and in some cases the limbs go down almost to the ground, so that the lumberman could not get one log of timber free from knots. Each shape of tree is best for its purpose, but in this little book the aim will be to describe as far as possible the forest type or shape.

(For the different form developed by park trees as contrasted with those grown in the forest see front page of cover.)

Needle-Leaved Trees.

1.—THE PINE.

Latin, Pinus.

The pine is one of the most important timber trees, as well as one of the noblest trees of Canada. There are several species or kinds of pine found in Canada, as white pine, red pine, and jack pine. The white pine is the largest and most valuable. It attains a height of 150 or even 200 feet and a diameter of 5 or 6 feet. In the forest it grows tall and straight, without branches, except at the top, where they spread out into a head. Its wood is of yellowish white color, with fine straight grain and nearly free from resin. It is used in house construction, interior woodwork, and is the most desired wood for fine carpentry work. Until a few years ago more white

1. White Pine Tree and Leaf.

pine trees were cut in Canada than any other kind: but since about 1905, owing to the growing scarcity of this tree, more spruce trees have been cut every year. If you look carefully at the needles you will be able to distinguish one pine from another. The white pine has fine needles from three to four inches long, and they grow in little bunches of five. The red pine has thicker needles, from five to seven inches long, growing in pairs, while the jack pine has needles scarcely over an inch long and nearly a sixteenth of an inch wide, growing usually in pairs. The needles, which are, of course, the leaves of the pine, do not remain on the tree year after year throughout its life, as some people suppose, but fall off after a period of growth varying from two to five years. As new leaves are continually pushing out the tree is always green, or "evergreen." This is true of all needle-leaved trees except the tamarack, the leaves, or needles, of which fall every autumn.

2.—THE SPRUCE.

Latin name, Picea.

The spruce is one of the most widely distributed trees in Canada. The other tree which shares this distinction is the poplar. The spruce is found from the Atlantic to the Pacific and from the most southern part of Canada to as far north as trees grow. It is a fine straight tree, often attaining, when growing in the woods, a height of 150 feet.

2. White Spruce Tree, Leaf and Cone.

The branches, as a rule, come farther down the trunk than those of the pine, and its top has more of the cone or Christmas tree shape. It most nearly resembles the balsam fir. It can be distinguished from the balsam fir when looked at from a distance by the fact that the fir has a fine tapering top like a church spire, while the top of the spruce is more coarse, shaggy and blunt. The wood is soft and light and is the most largely used for making lumber of all Canadian trees. It is also used for making pulp from which paper is made.

3.—THE BALSAM FIR.
Latin name, Abies.

The balsam fir is a handsome tree which attains a height of 75 feet and a diameter of 2½ feet. The bark of all, except the oldest trees, is smooth and abundantly supplied with blisters, which, when broken, yield a sticky and sweet-smelling liquid, which is the "Canada balsam" of commerce. The tree is distributed throughout Canada almost as widely as the spruce, and its wood is used for both lumber and pulp. It is not so valuable a tree as the spruce.

3. Balsam Fir, Tree and Leaf.

4.—THE HEMLOCK.
Botanical name, Tsuga.

The hemlock is one of the largest trees of the forest. It frequently attains a height of 100 feet. As its lower branches do not fall off so readily as those of the pine its trunk is not so clear of knots

4. Eastern Hemlock Tree, Leaf and Cone.

as that tree. The bark is dark and ridged. The hemlock is found throughout eastern Canada from the Atlantic ocean to the eastern end of Lake Superior. The wood is used for lumber of the coarser and cheaper kinds. In this way it serves a most useful purpose, a[s] it is not only a good timber for such uses but it also saves the pine and other more expensive woods, which can be used for the interior of houses and other fine work where hemlock would be useless. As our timber becomes scarcer, men are learning to use the so-called inferior woods for those parts to which they are best suited and to reserve the finer woods for fine work. This is a good plan, and we shall see more of it the longer we live.

The bark of the hemlock is used for tanning purposes, and this caused the rapid and, in many cases, wasteful destruction of the tree, as it was cut down and stripped of its bark, while the trunk was allowed to rot in the woods. The growing scarcity of timber has stopped this, and now the whole tree is used.

Another and somewhat larger species of hemlock is found on the Pacific coast, in British Columbia. The wood of this species is much better for lumber than that of the eastern hemlock.

How to distinguish Spruce, Balsam Fir and Hemlock.

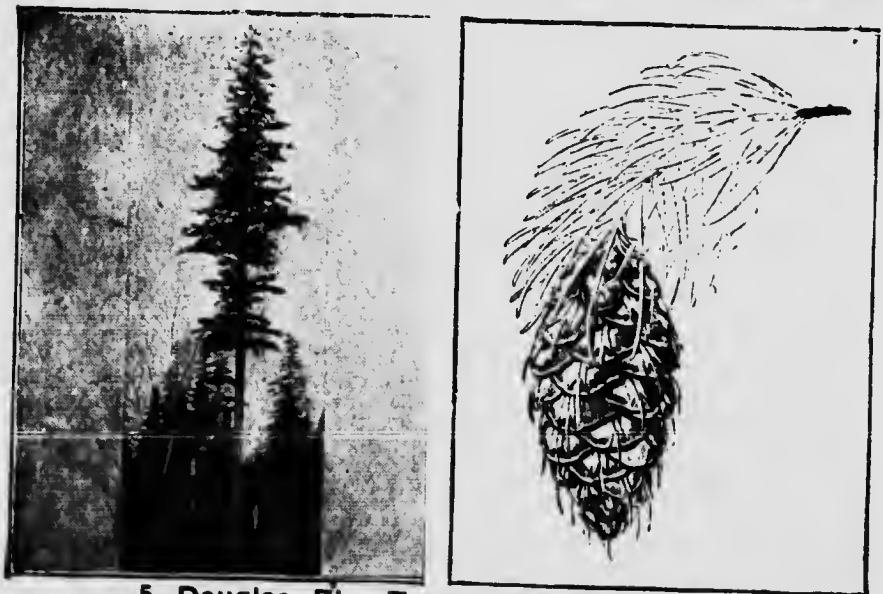
These three trees, spruce, balsam fir and hemlock, are much alike. They are trees from which Christmas trees are cut, and are often called Christmas trees by children.

To tell them apart, look closely at the leaves. The leaves of the spruce grow out all around the twig, so that the end of each twig appears like a tiny tree, while the leaves of the balsam fir and hemlock grow out from opposite sides of the twig like a feather. The needles of the spruce are sharp pointed, while those of the balsam fir are blunt. If you strike the end of a branch with the open hand, if it is a spruce the needles feel sharp and hard; while, if it is a balsam fir, they feel soft and smooth. It is for this reason that old woodsmen make their camp beds of balsam fir, if they can get it.

To distinguish between a balsam fir and a hemlock, notice that while the leaves of both are attached to the opposite sides of the twig the hemlock leaves are the shorter. The balsam fir leaves are attached direct to the twig, which is smooth, while the hemlock leaf is attached by a tiny stem. In both trees the lower side of the leaf is lighter in color than the upper. If you look carefully at a hemlock twig you will see here and there a leaf turned upside down, showing lighter among its darker brothers. This is characteristic of the hemlock. The balsam fir leaves are never turned upside down in this manner.

5.—THE DOUGLAS FIR.
Latin name, Pseudotsuga.

The Douglas fir, which grows in British Columbia and which is named after David Douglas, a Scotch botanist, who discovered the tree in 1825, is the



5. Douglas Fir, Tree, Leaf and Cone.

largest timber tree in Canada. It ranges in height from 175 to 300 feet. It branches high up, leaving a long, clear trunk. The bark is very thick and rough and of a gray color. This bark forms a great protection to the tree in the case of forest fires. From the Douglas fir larger timbers of an even diameter throughout a longer length can be secured than from any other Canadian tree. The timber is, therefore, much used for bridges and for other heavy construction work. It is also employed for ship masts and flag poles. It also grows in the Rocky Mountains in Alberta; but there it does not reach such a large size.

6.—THE CEDAR.

Several trees in Canada are called cedar. The most common of these is the white cedar (arbor vitae), which is found from Manitoba eastward to the Atlantic seaboard. This tree grows to a height of 50 to 60 feet with a diameter of from 2 to 3 feet. When growing alone in the open it grows in the shape of a pyramid, or cone, from the ground to the top branch. Its leaves are the shortest and most stubbly of all the needle-leaved trees. Its bark is dark brown and ridged, and when torn apart is seen to consist of long fibers. The wood has a pleasant smell, which is the reason it was used on sacrifices by the Greeks. From this it got its botanical name of Thuja, or Thuya, which is from a Greek word meaning to sacrifice. The wood is very light and is valued for the construction of canoes and small boats. Owing to its slender form and

6. White Cedar Tree, Leaf and Cone.

rot-resisting qualities it is much used for fence posts and telephone and telegraph poles. About 95 per cent. of the poles used in Canada are made from cedar. It was formerly largely used for railway ties, but its increasing cost has almost completely stopped its use for that purpose. Cedar is the chief wood used in making shingles.

The western red cedar (Thuja gigantea) is one of the large trees of the Pacific coast, and trees are frequently found 200 feet high and even 15 feet in diameter at the base. The largest trees of Stanley Park, Vancouver, are these gigantic cedars. The wood is much used for making shingles and for interior woodwork and doors.

The eastern red cedar (Juniperus virginiana) is a smaller tree than the white cedar, and as it becomes old its top grows blunt and rounded. Its leaves are much longer than those of the white cedar. The red cedar tree is found in such small numbers in Canada that it can scarcely be said to have any commercial uses. In the United States, where it is found more abundantly, it is used to make the wooden part of lead pencils, moth proof chests and ornaments. Where it is common the poorer trees are used for fence posts.

7.—TAMARACK, HACKMATACK, LARCH.
Latin name, Larix.

The tamarack is a slender tree, generally from 50 to 60 feet high, though sometimes reaching 90 feet, and with a diameter of rarely more than 2 feet.

7. Tamarack Tree, Leaf and Cone.

The bark is scaly, but not ridged. It is the only one of the needle-leaved trees found in Canada which is not an evergreen. It loses its leaves late in the fall, and during the winter those who are not instructed sometimes mistake it for a dead evergreen tree. In the spring the young leaves appear of a much brighter green than those of the pines and spruces. For these reasons there is no difficulty in distinguishing it from other needle-leaved trees. The eastern tamarack extends over Canada from the Atlantic to the western edge of the Prairies, and the western species are found from that line to the Pacific coast. The wood is strong and heavy and is much used for shipbuilding. It is also used for railway ties and electric transmission poles and for props to hold up the roofs of coal mines. Of late years the wood has been little used commercially, because it was not to be got. In the years 1885 and 1886 practically all the mature tamarack from Halifax to Winnipeg was killed by the attacks of an injurious insect called the larch sawfly. Since then the seed that was in the ground has produced another crop of tamarack trees; but these have been again attacked in different places by the same insect. There are different means of combating this insect (which is under observation by the Entomological Branch of the Department of Agriculture, Ottawa); but for the purpose of this little book it is important to know that our native birds are its determined enemies. This is an additional reason for the protection of birds. In England, where larch forests were attacked by this insect, the owners put up bird nesting boxes and encouraged birds to come into their woods with good success. Birds are among our best friends, and to wantonly kill them or destroy their nests is not only cruel but even, from a money standpoint, is thoroughly bad business.

Broad Leaved Trees.

8.—THE MAPLE.

Latin name, Acer.

The maples are a large group containing many species. Of these the best is the one called the hard maple, or sugar maple, or rock maple, which is the most valuable hardwood tree in North America. Its plain and figured wood is used for making furniture, for flooring, for boot lasts, for tool handles and for strong construction work, as in shipbuilding and railway car construction. It produces an abundance of maple sugar. It is largely used for fuel, and its ashes yield a large amount of

8. Hard or Sugar Maple Tree and Leaf.

potash. Every Canadian knows this tree, as its leaf is the Canadian national emblem. Growing in the forest, it attains a height of 100 or even 120 feet and a diameter of from 3 to 5 feet. In the forest it is often without branches for 60 or 70 feet from the ground. When grown in the open it branches out much lower and forms a pear-shaped or egg-shaped top. Bird's eye maple and curly maple, so much desired for fine furniture, are the product of this tree. These forms are freaks of nature which appear in individual trees and for which we do not know the reason.

In making maple sugar a hole is made in the bark and outer wood of the tree and a spout inserted. The sap runs out through this spout and is collected in buckets and boiled in a large kettle. About 12 or 13 quarts of sap of the hard maple make a pound of sugar, and 2 or 3 pounds of sugar per tree per year is an average yield. Maple sugar making is an important industry in Ontario, Quebec and to a less extent in the Maritime provinces. In Manitoba in the early days of the Red River Settlement the settlers used to make sugar from the Manitoba maples, growing along the Red river. Among the other kinds of maples to be found in Canada are the black maple, silver maple, red maple, moose maple, mountain maple and Manitoba or ash-leaved maple. They all resemble, more or less, the hard maple, none being quite so large or so valuable as th . tree.

9. Red Oak Tree and Leaf.

9.—THE OAK.

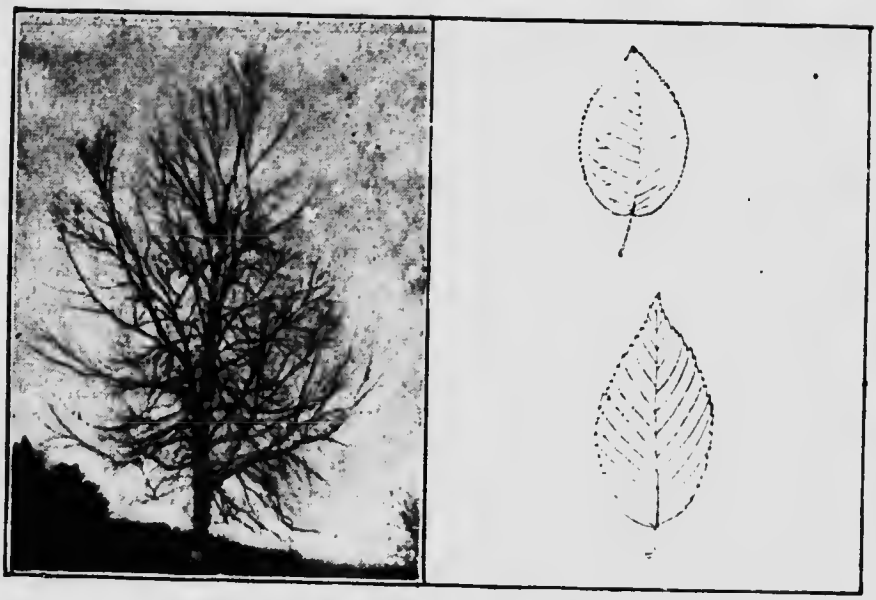
Latin name, Quercus.

There are about a dozen species of oak found in Canada, the most important being the red oak, the white oak and the bur oak. The oak is one of the grand trees of the forest, the red oak attaining a height of 100 feet and the white oak sometimes reaching a height of 150 feet. In the forest it grows up for a long distance without branches, but in the open it forms a short, stout trunk with large, far-spreading branches and a very broad top. The wood is used for furniture making, interior of houses, barrels, agricultural implements, vehicles, railway cars, boats and ships. The seed of the oak is the acorn, which is a bitter nut not used in Canada, but in Europe it is used to feed cattle and hogs.

10.—THE BIRCH.

Latin name, Betula.

Four or five birches are found in Canada. There is no province which has not at least one species of birch. The yellow birch attains a height in the forest of 100 feet with a diameter of 3 or 4 feet. The white, canoe or paper birch in eastern Canada is a smaller tree, reaching a height of 60 or 70 feet, but in British Columbia stretching up to 120 feet. In regard to use in manufactures the birch is the most important hardwood tree in Canada, its wood being used to a greater extent than any other kind. It is used in building construction, cars, cooperage, furniture, shipbuilding, spools and



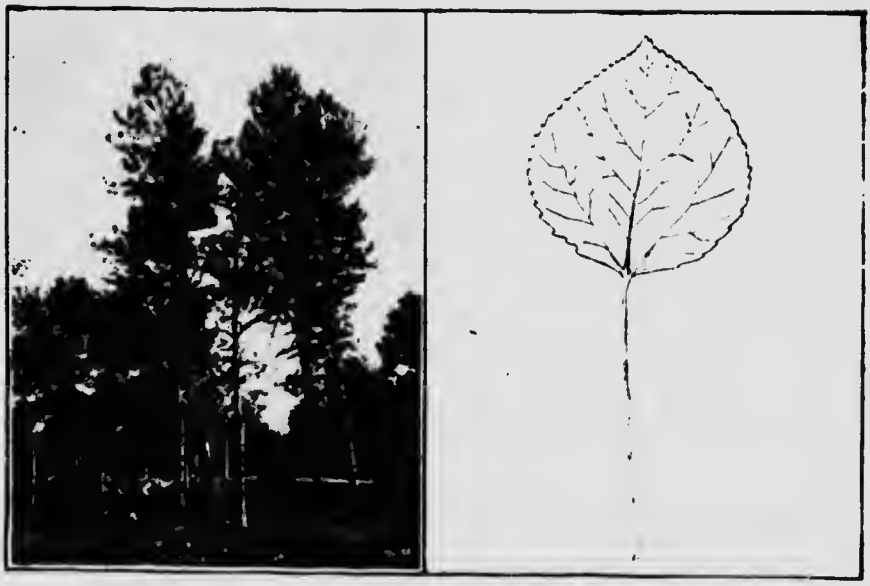
10. White Birch Tree and Leaf.

vehicles. For these purposes the yellow birch is chiefly used. The canoe or paper birch is a softer and whiter wood than the yellow birch and it is chiefly used for spools. The bark of the paper or canoe birch is used to make bark canoes. The graceful shape of the tree and its light colored bark make it a favorite in planting in parks and lawns.

11.—THE POPLAR.

Latin name, Populus.

The poplars (and the spruces) are the most widely distributed trees in Canada. The poplar grows all along the southern edge of Canada from the Atlantic to the Pacific and it stretches northward all over that vast expanse as far as trees grow. It is known under different names, as aspen, balsam poplar, balm of Gilead, cottonwood and poplar. It is not only one of the most common trees, but, until lately, it was the most despised tree. Of late years, however, it has for many reasons come to be viewed with more favor. The most important species are the balsam poplar or balm of Gilead and the large tooth poplar. These trees attain a height in the forest of from 80 to 100 feet and a diameter of 3 to 5 feet. In the open the poplar forms an irregular top of the pyramic shape with a few large branches. The upper side of the leaf is much darker than the lower, which give it a characteristic appearance as its leaves are moved about by the wind. The cottonwood gets its name from the downy growth which surrounds the seeds

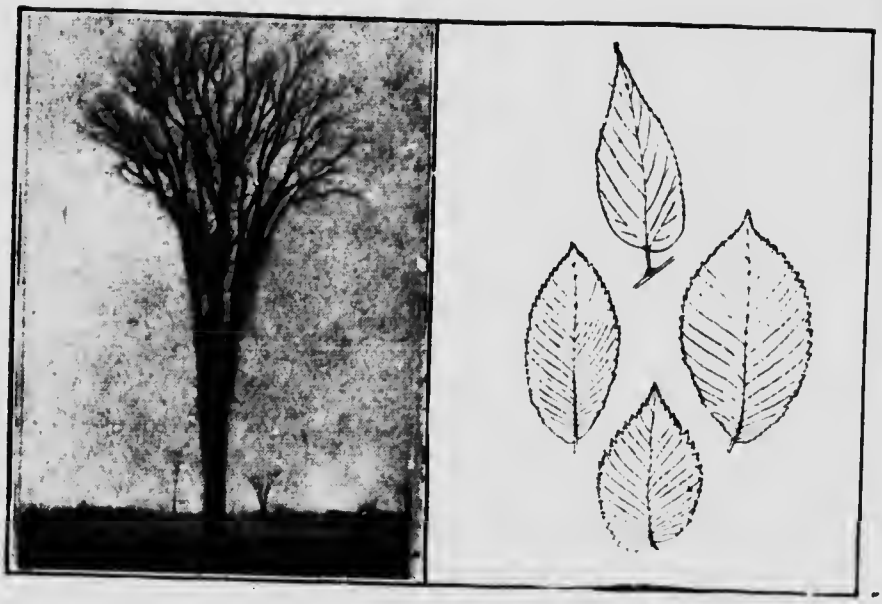


11. Aspen Poplar Trees and Leaf.

and which bears a resemblance to the bursting pod of the cotton plant. The quaking aspen, or trembling poplar, gets its name from the constant agitation of its leaves, which, owing to their long, flattened stems are set in motion by the slightest breeze. Owing to the downy fibres attached to the seeds the latter are carried for long distances by the wind. The wood is used for making excelsior, pulp, barrels, cheese boxes, and even for lumber. In the prairie provinces the poplar is used very largely for fuel. It is a quick-growing tree and the wood is white and light.

12.—THE ELM.
Latin name, Ulmus.

There are several elms in Canada, the largest and most important being the white elm, or water elm. This is one of the largest trees in eastern Canada, growing in the forest to a height of 100 or even 125 feet with a trunk 6 or 8 feet in diameter. In the forest it does not usually branch out for a height of from 30 to 60 feet, but when grown in the open fields it usually divides about 20 or 25 feet from the ground into two or three large branches, which rise gracefully upward and outward, giving the whole tree the shape of an immense and beautiful vase. This natural shape of the tree in the open is one of the reasons why it is so frequently planted along streets and in parks. It is a long-lived tree and generally free from disease, which adds to its popularity as a shade tree.

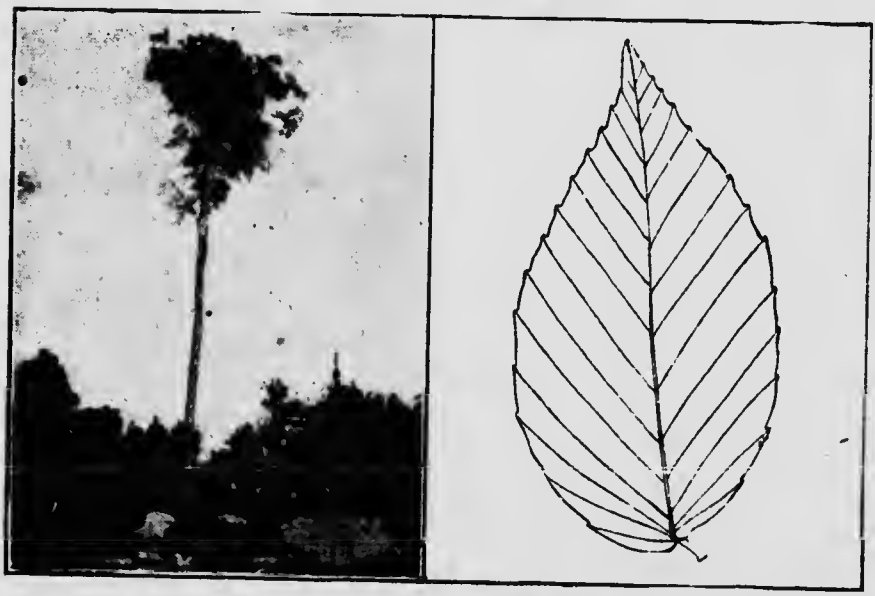


12. White Elm Tree and Leaves.

The wood is heavy, strong, tough and difficult to split. It is a favorite tree for wagon making, especially for wheel hubs. It is also used for all sorts of work where strong, tough wood is required, as in baskets, boats, furniture, vehicles, agricultural implements, saddle-trees and the like.

13.—THE BEECH.

Latin name, Fagus.



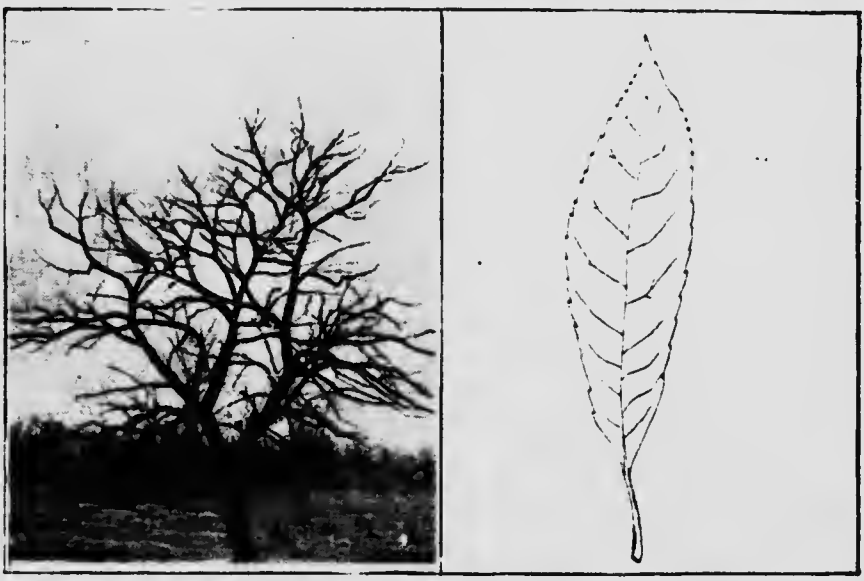
13. Forest Beech Tree and Leaf.

The beech is one of the most beautiful trees of eastern Canada. It is found in all the provinces from the Atlantic to Ontario, but does not grow west of Lake Superior. In the forest it grows with a straight, round trunk to a height of 100 feet, but in the open it develops a round top of many branches, and frequently divides into several large branches not far from the ground. The bark is smooth, of a bluish gray color. It is a beautiful tree at all seasons of the year and is thus a favorite for planting in lawns and parks. Its wood is heavy and hard and is used for furniture, baskets, barrels, flooring and in shipbuilding. Its nuts form the chief food for squirrels and other forest animals and birds. They are gathered for food near all cities and towns and in some cases are sold in the markets.

14.—THE WILLOW.

Latin name, Salix.

There are a number of species and varieties of willow in Canada, ranging in size from shrubs up to



14. Willow Tree and Leaf.

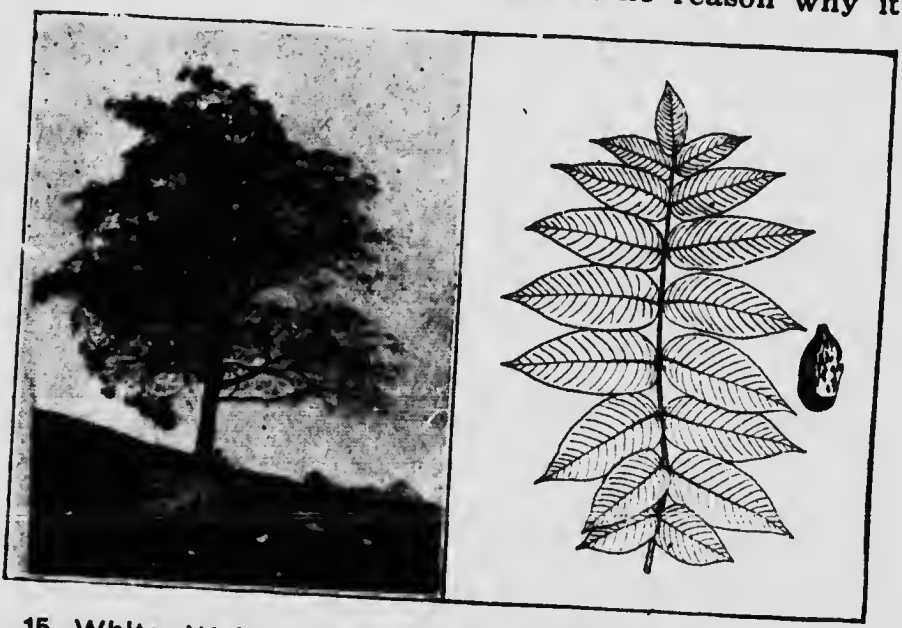
large trees. In every province there is at least one species of willow. Many of the large willows seen in eastern Canada have been brought from Europe. This is particularly true of the Maritime provinces, where the willows in the dike lands were brought from France by the early colonists to plant in the dikes to strengthen them. The black willow is the largest native willow. It, on rare occasions in the forest, attains a height of 100 feet, but more often

of 50 or 60 feet. In the open it commonly sends up clusters of inclined trunks from the ground, or a few feet above the ground. The head is broad and irregular with drooping branches. The leaves are long and narrow of lance shape and of a light green color. The wood is light, soft and brittle and is little used except for fuel and charcoal. Aside from this its chief use is for artificial limbs and cricket bats. Certain species are grown in beds in damp places and the shoots cut off near the ground every year. These long slender shoots are used in basket making.

15.—THE WALNUT.

Latin name, Juglans.

Two species of walnut are found in Canada, the black walnut in southern Ontario and the white walnut, or butternut, in southern Ontario, southern Quebec, and New Brunswick. The black walnut is a large tree with straight, solid trunk. When growing in the forest it attains a height of about 80 feet and a diameter of 3 to 4 feet. In the open it forms a rounded head of beautiful foliage. It was once abundant in southern Ontario, but the demand for black walnut wood has caused its almost complete disappearance. Here and there groves of walnuts are being planted again. Where the climate is suitable for its growth there is no reason why it



15. White Walnut (Butternut) Tree, Leaf and Nut.

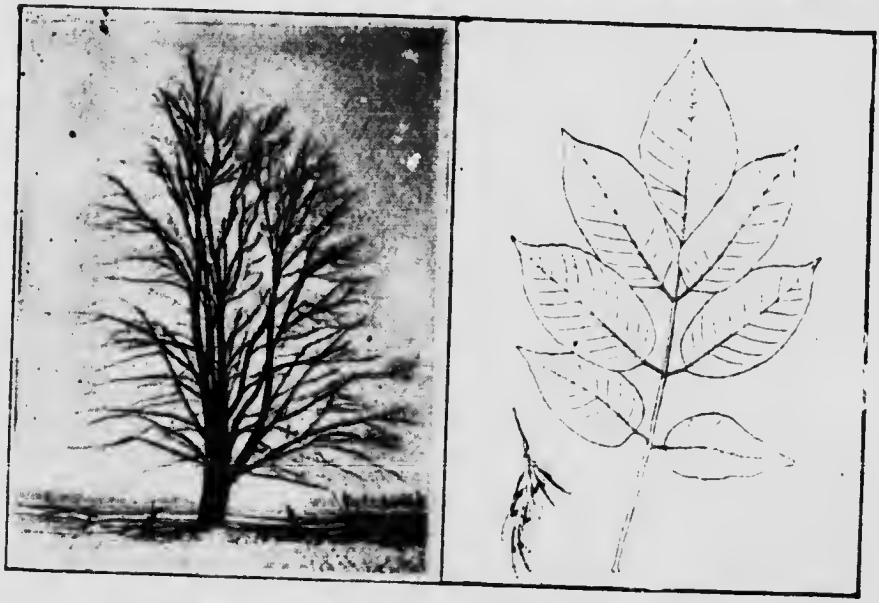
should not be largely planted as an ornamental tree. The wood is of a beautiful dark brown color and is highly prized for furniture, gunstocks, canoes, launches, etc. The nuts are valuable as an article of food, and in some cases the trees are being planted for the purpose of producing nuts, which will pay for the care of the trees until they become large enough to cut.

The white walnut, or butternut, is much more widely distributed throughout eastern Canada. It is a somewhat smaller tree than the black walnut, but very similar in appearance. It, however, has a greater tendency to divide into four or five big limbs a few feet from the ground, which spread out and make a large rounded top. Its wood is of a grey brown color, not strong, and, while it is much used for furniture and cabinet work, is not so good as black walnut. The nuts are gathered and sold in the markets in many parts of Canada where the tree grows. The leaves of both walnut and butternut are very long, from 11 inches to 20 inches, and divided up into from 11 to 23 leaflets of a broad lance shape.

16.—THE ASH.

Latin name, Fraxinus.

There are several species of ash in Canada, so that it may be said to be found in every province. In the forest it grows from 80 to 90 feet high, with a diameter of 2 to 3 feet. When growing in the open



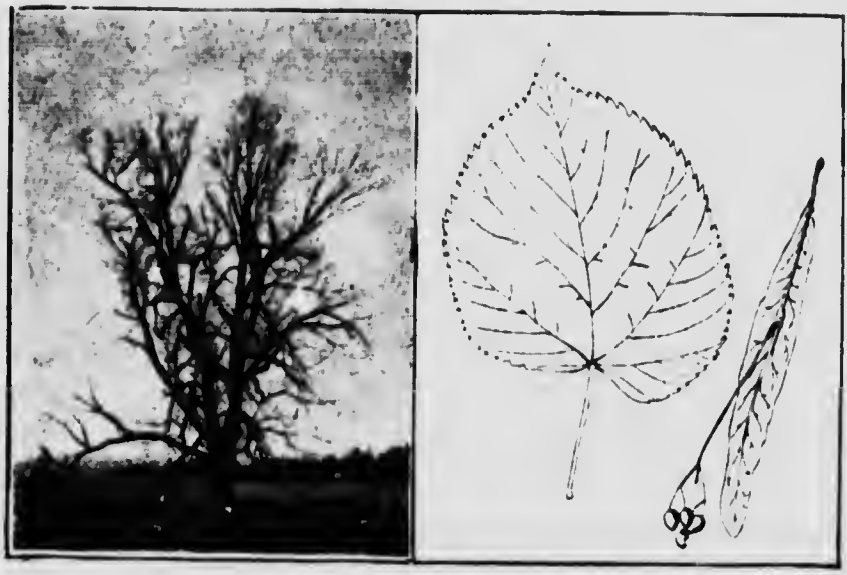
16. White Ash Tree, Leaf and Seeds.

it forms a flattish oval top and does not grow so tall. Its leaves, like those of the walnut, are compound, that is to say, each leaf is from 10 to 16 inches long and composed of from 7 to 11 leaflets of lance shape. Its wood is heavy and easily split into layers, which causes it to be a favorite for making basket and barrel hoops. It is used to make baseball bats and other athletic apparatus, cars, vehicles, furniture, barrels, tubs, handles, oars and boats. It is frequently planted as a shade tree and should be more largely used for this purpose than it is.

17.—THE CHERRY.
Latin name, Prunus.

The cherry is found growing wild in all parts of Canada. The most common kind is the wild red cherry, which is a small tree from 30 to 40 feet high. The choke cherry is usually a large shrub. The most valuable kind is the wild black cherry, which is a handsome tree sometimes reaching 80 or even 100 feet in height and with a trunk from 3 to 5 feet in diameter. The leaves are like those of garden cherries and the fruit is much smaller. When fully ripe the fruit is pleasant to the taste and flavoring extracts and medicine are made from the bark. The wood is of a dark red color, strong, close grained and much valued for furniture and for interior woodwork. It is used for the decks of boats and canoes, and for fine vehicles.

17. Wild Black Cherry Tree and Cherry Leaves.



18. Basswood Tree, Leaf and Seeds.

18.—THE BASSWOOD, LINDEN, OR LIME.

Latin name, Tilia.

The basswood is abundantly scattered throughout eastern Canada and extends as far west as the eastern part of Saskatchewan but no trees have been found growing wild west of that. In the forest it has been known to attain a height of 125 feet with a straight, round trunk 3 to 4 feet in diameter. When grown in the open it develops a rounded top of graceful shape. It is valued as a shade tree. The leaves are large and heart-shaped. In midsummer numerous clusters of yellow flowers appear amid the foliage and perfume the air for some distance around. These flowers contain an abundance of nectar, from which the bees make honey. The clusters of seeds of the basswood in the fall are each provided with a special leaf, which acts as a sail and causes the seeds to be carried by the wind a considerable distance from the tree. The wood of the basswood is soft, tasteless and tough. For these reasons it is used for boxes, barrels and tubs to contain food, for panels for vehicles, doors, etc., and for cutting boards.

19.—THE HICKORY.

Latin name, Hicoria.

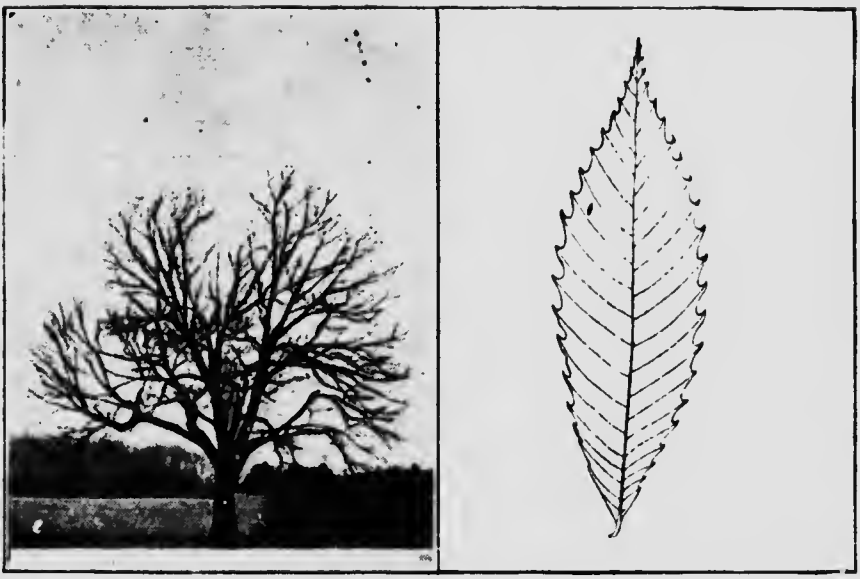
There are several species of hickory in Canada, but they are all confined to the southern parts of the provinces of Ontario and Quebec. There are the shagbark hickory, pignut hickory, bitternut

19. Hickory Tree, Leaf and Nut.

hickory, whiteheart hickory. etc. The most important is the shagbark, or shellbark hickory, so called because from year to year the bark comes off in shaggy strips, which gives the tree an untidy appearance. The common small hickory nuts sold in the shops come from this tree. It is chiefly valuable for its wood, which is much desired on account of its toughness for axe handles, lacrosse sticks, carpenter's rules, and especially for the running gear of all vehicles. We in Canada have used our supply of this wood so carelessly that we have to import more than half of what we use from other countries.

20.—THE CHESTNUT.
Latin name, Castanea.

The chestnut is one of the handsomest trees of the forest and it is put at the end of this list only because it is found in a smaller part of Canada than any other tree mentioned here. It is found only in the southwestern part of Ontario. Its leaf is like the leaf of the beech, only larger and more glossy, but the general appearance of the tree is more like that of the oak. It must not be confounded with the horse chestnut, which is not a native of Canada, and which is of an entirely different family. The chestnut is as worthy as the horse chestnut is w rthless, the latter being short-lived, dirty, with useless wood and uneatable nuts. The chestnut produces the chestnuts which are sold everywhere. It is a



20. Chestnut Tree and Leaf.

beautiful, long-lived tree, and its wood is heavy and durable and its bark is used for tanning purposes. The wood is used for building construction, cars. furniture, woodenware, launches, canoes and the like.

This booklet is issued by the Canadian Forestry Association in response to numerous requests for a brief description, free from technical terms, of our most common, and most important Canadian trees. It is made small so that it may be carried in the pocket on walks into the woods and parks and along highways. The greatest number of the pictures with which the booklet is illustrated were furnished through the kindness of the Dominion Forestry Branch, Ottawa. Others were from photographs by Mr. Romeyn B. Hough, author of the "Handbook of the Trees of the Northern States and Canada," by the author of the booklet, and others. Most of the leaf drawings were made by Mr. B. R. Morton, B.Sc.F., of the Forestry Branch, Ottawa. In the case of broad-leaved trees, like the maple and oak, the pictures for the most part show the trees in winter as their shape can be best seen at this season.

Only the fringe of the great subject of forestry is touched here, and those who desire to know more of this immense part of Canada's natural resources are invited to correspond with Mr. Robson Black, Secretary of the Canadian Forestry Association, Ottawa, for information to fit their particular needs.

Individual copies of the booklet sent free.

Price in quantities for distribution to Public Schools, etc., $2.00 per hundred.

REMEMBER!

NEVER TOSS AWAY BURNING MATCHES, cigars, cigarettes or pipe ashes.

NEVER START A FIRE IN THE WOODS among leaves, dry wood, or against a log, or against any tree, whether it be dead or alive.

NEVER START A FIRE IN THE MOSS or peat of a dry bog. It may smoulder for days, and at last break out in open flame.

NEVER LEAVE A FIRE until it is surely OUT.

NEVER START TO BURN BRUSH or stumps in a clearing in a dry time, or on a windy day, and never e a fire burning in a clearing. Stay with it until the fire is completely OUT.