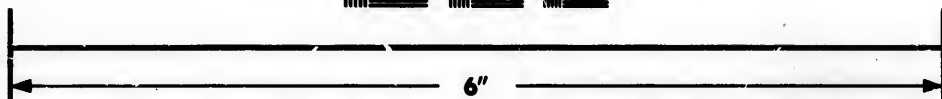
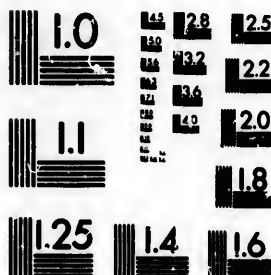


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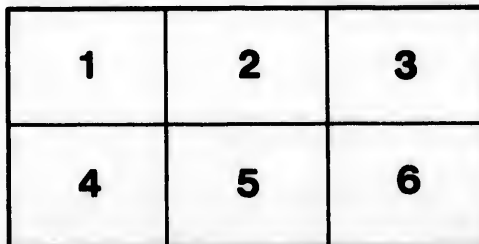
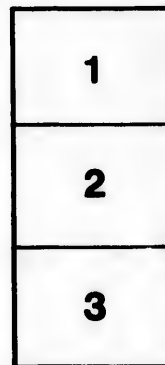
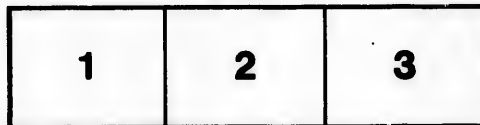
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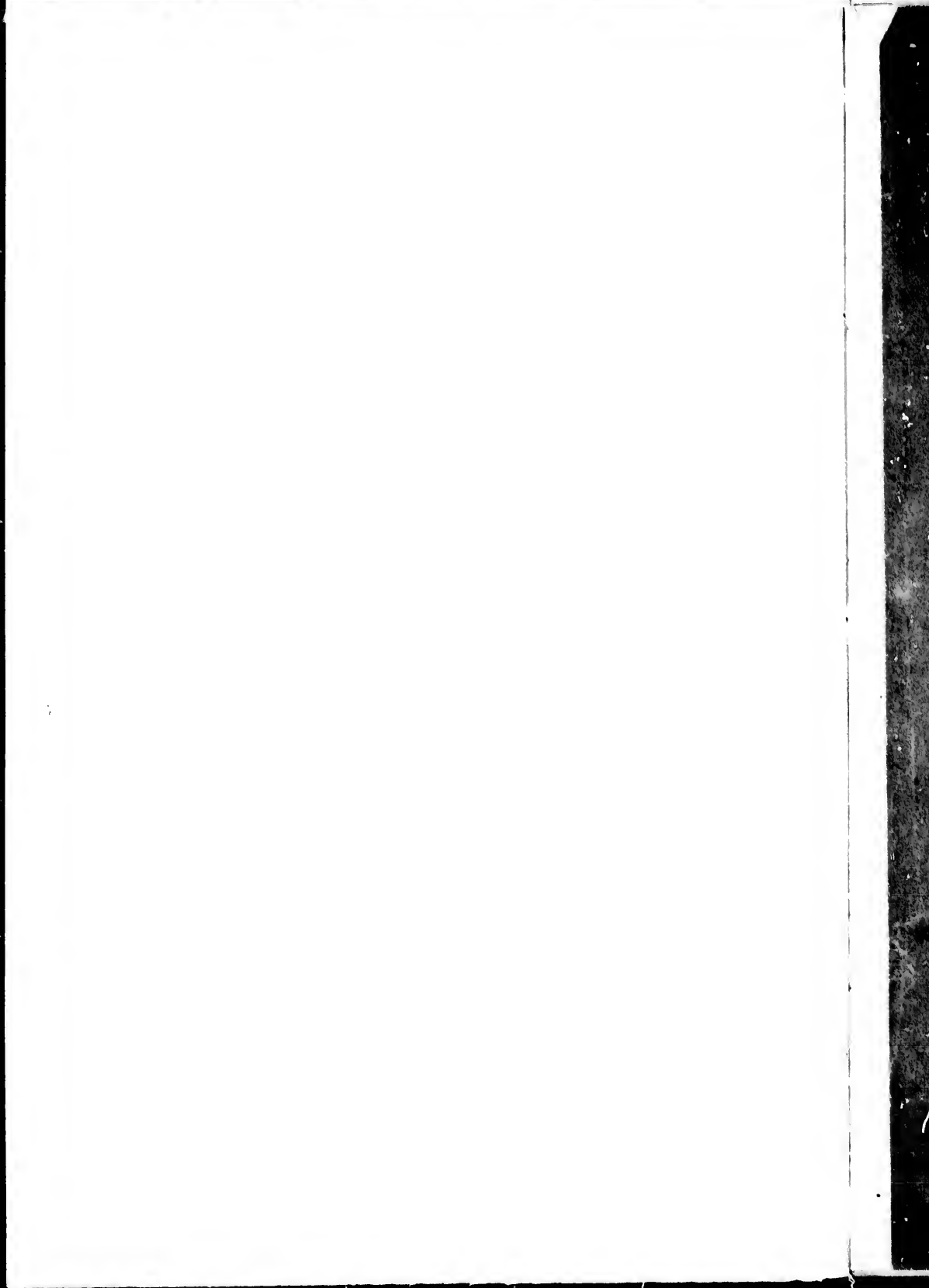
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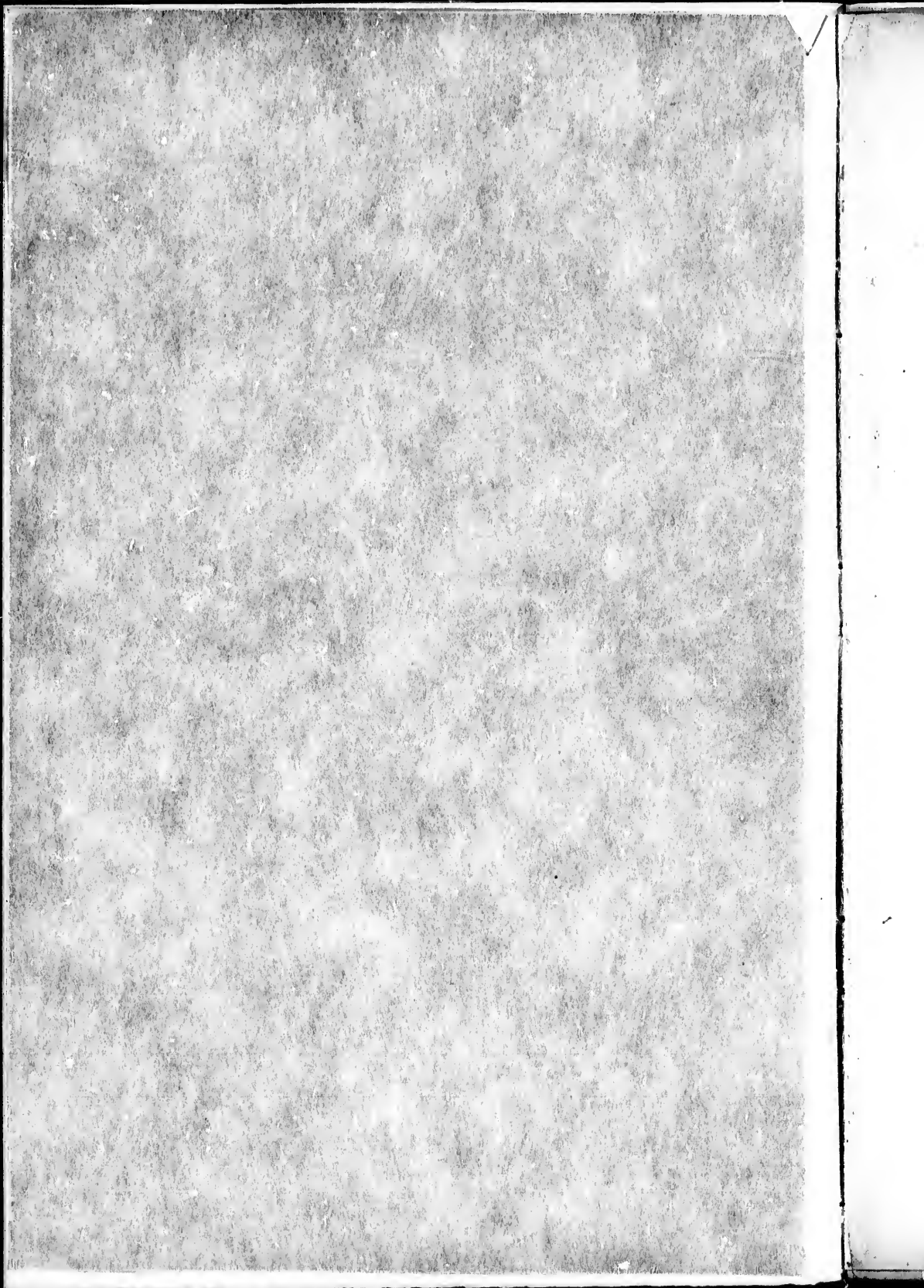
FOR THE INTERNATIONAL EXHIBITION OF LONDON, YEAR 1862.

By J. B. HUMBERT, LL.D.

MONTREAL:

Published by the International Exhibition of London, 1862.

Printed by J. B. Humbert, LL.D., Montreal.



With the authors
COLLECTION
Campbell

~~THE~~
PRODUCTS OF THE WATERS AND FORESTS

Mary Morgan
OF

UPPER CANADA

COLLECTED AND ORDERED FOR THE INTERNATIONAL EXHIBITION OF LONDON, 1862.

By J. B. HURLBERT, LL.D.

MONTREAL:

PRINTED BY M. LONGMOORE & CO., MONTREAL GAZETTE STEAM PRESS.

1862.

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SHARE OF LABOR.

The Commission, at a meeting held at the beginning of last December, divided
the labor as follows among its members:

SIR W. E. LOGAN—To collect the mineral productions of Canada.

HON. L. V. SICOTTE— “ agricultural products of Lower Canada.

COL. THOMSON— “ “ of Upper Canada.

DR. BEATTY— “ manufactured articles of Upper Canada.

MR. CHAMBERLIN— “ “ of Lower Canada.

MR. TACHE— “ productions of the waters and forests of L. Canada.

DR. HURLBERT— “ “ “ “ of U. Canada.

COLLECTION
OF THE
PRODUCTS OF THE WATERS AND FORESTS
OF
UPPER CANADA.

REPORT OF J. B. HURLBERT, LL.D.

The Samples of Wood have been collected from the extreme Eastern and Western, and Central parts of Upper Canada, for the purpose of shewing the extent of country over which the most valuable timbers grow.

1. The most important collection is in the form of Planks, twelve feet long and four inches thick, with the bark on both edges. Of these (sixty in number), there are superb samples of White Oak, four feet wide; White Wood, Black Cherry, Black Walnut, Button-wood, White Ash, Sugar Maple and Soft Maple, from three to four feet wide; one plank of Pine, from the Township of Bayham, twelve feet long (and it could have been cut fifty feet long) and fifty inches wide, without a knot, sawn from a tree 22 feet in circumference and 120 feet to the first limb; the first four logs, twelve feet long, making 8,000 feet of lumber after being squared.

2. The second class of Woods are sections of the trunks of the chief of the valuable timbers, with the bark on, taken from the three divisions of the Province above named. Of these there are thirty-four.

3. The third are neatly planed and polished specimens of all our chief Woods—one side varnished, the other plain—veneers of the plain wood, of crotches, of roots, &c., of the most choice varieties. Of these there are two collections, each of 73 specimens, with some smaller ones; in all about 250.

4. The fourth class consists of the sections of the trunks (from three to six inches in diameter), one foot long, with the bark on, so cut as to shew the grain of the wood and the polish it will take, accompanied with twigs, leaves and flowers of the trees. In this class are five valuable collections, from the most distant parts of Upper Canada, of some 90 distinct kinds of Native Woods and Shrubs. Of these there are 203 pieces.

The Common and Scientific Names of all the Woods are given, with the size and height of the trees, the specific gravity of the wood, its weight compared with Shell-bark Hickory (which, being the heaviest of all our woods, is taken as the standard), its uses, prices at the Lake Ports and at Quebec, &c.

5. The fifth class contains samples of Tool-handles, Shafts and Poles of Carriages, Spokes, Naves, &c., showing the common purposes for which the Woods are best adapted and most used.

From a Pamphlet issued from the Bureau of Agriculture, at Quebec, we learn that Canada exports annually about 30,000,000 cubic feet of Timber in the rough state, and about 400,000,000 feet, board measure, of sawn timber. The revenue derived by the Province, during 1860, for timber cut in the forests, amounted to about \$500,000. Of the sixty or seventy varieties of woods in our forests, there are usually only five or six kinds which go to make up these exports so vast in quantity; the remaining fifty or sixty timber trees are left to perish or are burned as a nuisance, to get them out of the way. By showing, in the markets of the world, that we have these valuable woods, and can furnish them at such unprecedentedly low prices, we shall secure additional purchasers. The collections here named, were made chiefly in reference to this point, and are, in their nature and in their intrinsic value, it is believed, well adapted for that purpose.

In extent, in the variety and value of its woods, the great forests of deciduous trees of North America surpass all others; and the most remarkable of this great mixed forest is that growing in the valley of the St. Lawrence. The Western coasts of both continents, in high latitudes, furnish only or chiefly the Coniferæ. The high summer temperatures and abundant summer rains, are, unquestionably, those conditions of climate necessary to produce these peculiar forest trees. The Western coasts of both continents, in high latitudes, have the necessary moisture, but not the high summer temperature; the Western prairies, East of the Mississippi, and the vast deserts West of it, have the summer heat but not the moisture; hence the absence of all trees in the one region, and of the deciduous trees in the other.

If the people of this country had a more correct appreciation of the riches which they possess in these mighty forests, they would not surely so unnecessarily destroy them.

To those gentlemen whose names appear as contributors of the woods especially I am under the greatest obligations, and the country is indebted to them for the part they have taken in making this collection so complete.

DESCRIPTION OF THE CHIEF FOREST TREES OF UPPER CANADA.

1. WHITE PINE, *pinus strobus*.

Grows in all parts of Canada in extensive groves, or scattered amongst the deciduous forests. Average height, 140 to 160 feet; average diameter, 3 and 4 feet; but common at 5 and 6 feet in diameter and 200 feet high, especially near the shores of Lake Erie. Trees of 22 feet in circumference and 220 feet in height and 120 to first limb, are sometimes found. The trunk is perfectly straight. The

wood is soft grained, easily wrought, and durable; used in immense quantities in architecture. The large trunks are particularly sought for masts of ships. Largely exported to England, where it is called "Weymouth Pine." Specific gravity, 0.46; weight of cubic foot, 29 lbs.

2. RED PINE, *Pinus resinosa*.

Found in dry soils and in the cooler latitudes of Canada, and attains the height of 80 feet, with a trunk 2 feet in diameter, very straight and uniform. It affords a fine grained, resinous timber, of much strength and durability, and highly valued in architecture. Specific gravity, 0.66; weight of cubic foot, 40 lbs.

3. YELLOW PINE. *P. mitis*.

Grows in dry and sandy soils, common in all parts of the country; attains the height of 60 feet; wood close, fine grained, durable and moderately resinous, and much used for ship building and all kinds of architecture. Specific gravity, 0.52; weight of cubic foot, 30 lbs.

4. WHITE OAK, *Quercus alba*.

Widely distributed throughout Canada in all rich soils. Average height, 130 feet; height to first limb, 70 feet; diameter, 30 inches, and quite common, 60 inches in diameter, and found 84 inches in diameter in the western parts of Upper Canada. Of the twenty varieties of Oaks in North America, the White is the most valuable. The wood is of great strength and durability, and extensively used in ship-building, for staves of casks, spokes and naves of waggon wheels, railway ties, &c.; bark useful in tanning and in medicine. The timber is largely exported to England and the West Indies, and can be furnished in the remotest parts of Upper Canada at £40 sterling per 1000 cubic feet; freight to Quebec about £11 sterling per 1000 cubic feet. Specific gravity, 0.84; weight of cubic foot, fully seasoned, 50 lbs. Potash obtained from outer wood 13.41, and from heart wood 9.68, per cent.; value for heating purposes, 81 (shell-bark hickory being 100).

5. BLACK OAK, *Quercus tinctoria*.

One of the largest trees of our forest, 100 to 130 feet in height, and 4, 5 and 6 feet in diameter. Not so common or so valuable as White Oak. The bark used in tanning, and for obtaining *quercitron*, used in dyeing.

6. RED OAK, *Quercus rubra*.

Grows extensively throughout Canada, is a lofty wide spreading tree, of an average height of 130 feet, and of 70 feet to the first limb, and common at 30 inches in diameter. Makes best casks for oils and molasses. Too little sought after, because of the great abundance and greater value of White Oak. Can be furnished in the remote parts of Western Canada at £35 sterling per 1000 cubic feet; freight to Quebec about £10 sterling; specific gravity, 0.675; weight of cubic foot 40 lbs; value for heating purposes, 69; outside wood yields 20.5 per cent. and the inside 14.79 per cent. of potash.

7. SWAMP OAK, *Q. prinus*, var. *discolor*.

A beautiful tree, widely diffused, attaining the height of 70 to 90 feet. Grows in swampy alluvial grounds; timber preferred to that of the Red Oak, resembling more the White Oak, and called also *Swamp White Oak*. The specific name *discolor* or *bicolor* is derived from its rich and luxuriant foliage. Specific gravity, 0.675; weight of cubic foot, 40 lbs; value for heating purposes, 68.

8. CHESNUT, *Castanea vesca*.

Grows only in the Western parts of Upper Canada, and on rocky or hilly lands; a large tree, 80 to 100 feet in height and 36 inches in diameter. The timber is coarse grained, strong, elastic, light and very durable; posts of Chesnut have been known to stand in the ground for forty years. The young wood is very elastic, and is used for rings of ship masts, hoops for tubs, &c. Chesnut is distinguishable from Oak in having no large transverse septa—though in every other respect the two woods are remarkably similar in texture and color. The nuts are much esteemed, and sweeter than those of the European variety (*the Spanish Chesnuts*.) Outside wood contains 4.56 per cent. of potash; inside 2.73 per cent; specific gravity, 0.5; weight of cubic foot, 32 lbs; value for heating purposes, 52.

9. BLACK WALNUT, *Juglans nigra*.

Grows abundantly on the rich soils of the Western and South-western parts of Upper Canada, of an average height of 120 feet, 70 feet to the first limbs, and 36 inches in diameter. Sections of the wood, six feet in diameter, are not uncommon. The wood is compact, strong and tough, of a deep violet color surrounded by a white alburnum. It is used extensively for building, for furniture, and in the form of veneers. It can be furnished along the line of the Great Western Railway, or at the lake ports, for £60 sterling per 1000 cubic feet; freight thence to Quebec, about £11 per 1000 cubic feet. Specific gravity, 0.5; weight of cubic foot, 30 lbs., well seasoned; value for heating purposes, 65.

10. BUTTERNUT, *Juglans cinerea*.

A large forest tree of an average height of 100 feet, 65 feet to the first limb, and 24 to 30 inches in diameter, found over extensive areas in Canada, on elevated river banks and on cold, uneven, rocky soils. The wood is of a reddish hue, lighter than the Black Walnut, shrinks but little, and is used in panneling, in ornamental work and for furniture. The bark is used in dyeing, and from it is extracted an excellent cathartic. Specific gravity, 0.426; weight of cubic foot, 26 lbs.; outside wood contains 4.42 per cent. potash; inside, 1.42 per cent.

11. SHELL-BARK HICKORY, *Carya alba*.

A tall and slender forest tree, of an average height of 110 feet, 50 feet to the first limb, and 18 inches in diameter. The fruit is covered with a very thick epicarp, separating into four parts and containing a thin shelled highly flavored kernel. The tree is covered with shaggy bark, consisting of long narrow plates loosely adhering by the middle; hence called Shell or Shaggy-Bark Hickory; it is also

called Walnut in parts of the country where the Black Walnut does not grow. It is the heaviest of all Canadian woods, strong, compact and elastic, and much used where these qualities are required, as for the handles of all kinds of tools, and spokes of carriage wheels, shafts and poles of carriages, hoops, whip stalks, hand spikes, &c. From the bark is extracted a yellow dye. Specific gravity, 0.929; weight of cubic foot, 58 lbs.; value for heating purposes, 100* (the best of all Canadian woods); inside wood contains 20 per cent. of potash; outside, 7.5 per cent.

12. SMOOTH-BARK HICKORY, *Carya glabra*.

Nearly all the remarks made in reference to the Shell-bark Hickory apply to this species, and the wood is used for the same purposes, although it is not quite so highly esteemed. The bark of the tree is smooth, and the kernel of the nut very bitter in contrast with the other or sweet nut hickory.

13 and 14. SUGAR OR HARD MAPLE AND BIRD'S-EYE MAPLE, *Acer saccharinum*, AND RED OR SWAMP MAPLE, *A. rubrum*.

Found abundantly throughout Canada in all rich soils, and attains a height of 130 feet and 12 feet in circumference. From its beauty and abundance in Canada, the leaf of the maple has been adopted as the national emblem. The timber is very beautiful and is distinguished as Bird's-Eye Maple and Mottled or Curly Maple, (*Acer rubrum*), and is much used for picture frames and in furniture; the less ornamental portions of the timber are much used for house carpentry and furniture. When well seasoned it is one of the hardest kinds of wood; carriage and waggon makers prize it highly for axles and for purposes where great strength and the least deflection are required. Its value for heating purposes is unsurpassed. It is from this Maple that so much sugar is made. This and the Soft Maple (*Acer dasycarpum*) are most planted for ornamental and shade trees in lawns and gardens. The wood can be furnished at Quebec at about £45 sterling per 1000 cubic feet. Potash in the outer wood, 8.77; in the inner, 4.21 per cent.; Specific gravity, 0.6; weight of cubic foot, 38 lbs.; value for heating purposes, 80, but most used for fuel and generally preferred to all other woods.

15. SOFT OR WHITE MAPLE, *Acer dasycarpum*.

This species much resembles the last, but its leaves are larger, and its winged fruit larger. It is common in all low, damp rich soils; sometimes attains a diameter of 4 feet, and a height of 80 feet. Not so abundant as the Hard Maple, nor so valuable; the wood is white and soft; the bark is used for dyeing. As an ornamental tree, it is preferred to the Hard Maple, as having a denser foliage, and being of more rapid growth.

16. WHITE ASH, *Fraxinus Americana*.

Grows abundantly throughout Canada, and attains an average height of 110 feet, and 60 feet to the first limb, and 26 to 36 inches in diameter. The timber is

* In estimating the value of the several kinds of Wood for fuel, the Shell-bark Hickory is made the standard and called 100.

much valued for its toughness and elasticity ; excellent for works exposed to sudden shocks and strains, as the frames of machines, wheel carriages, agricultural implements, the felloes of wheels, &c., handles of implements, and for numerous similar purposes. The young branches serve for hoops of ships' masts, tubs, for coarse basket work, &c. It grows rapidly, and the young or *second growth* wood is more valuable than that of the old trees. Can be furnished in almost every part of Canada for £35 sterling per 1000 cubic feet, and at Quebec for about £45. Specific gravity, 0.616 ; weight of cubic foot, 40 lbs ; value for heating purposes, 70.

17. RED ASH, *Fraxinus pubescens*.

A smaller tree than the White Ash, of much rarer occurrence, and not so valuable, but still a very valuable timber, resembling very much the White Ash, and often confounded with it. The wood is also used for the same purposes. Specific gravity, 0.7 ; weight of cubic foot, 40 lbs.

18. BLACK ASH, *Fraxinus sambucifolia*.

Found in moist woods and swamps, grows to the height of 60 to 70 feet, with a diameter of 2 feet ; the wood is tough and elastic, but much less durable than White Ash ; the young saplings are in great requisition for hoops, and mature trunks for baskets. The timber is very durable under water. Specific gravity, 0.7 ; weight of cubic foot, 40 lbs.

19. RIM ASH, *Celtis occidentalis*.

Grows to the height of 30 to 40 feet, and one foot in diameter. The trunk has a rough but unbroken bark. The wood is very tough and used for hoops of barrels.

21. ROCK ELM, *Ulmus racemosa*.

Found in most parts of Canada, and grows very large in the Western Counties, averaging 150 feet in height, and 80 to the first limb, with a diameter of 22 inches. Is abundant in the Western part of Upper Canada ; preferred to even White Ash by some carriage and waggon makers for the poles and shafts of carriages and sleighs. The wood bears the driving of bolts and nails better than any other timber, and is exceedingly durable when continuously wet ; it is, therefore, much used for the keels of vessels, water works, piles, pumps, boards for coffins, and all wet foundations requiring wood. On account of its toughness, it is selected for naves of wheels, shells for tackle blocks, and sometimes for gunwales of ships. It can be laid on board of vessels at the ports of the lakes for £40 sterling per 1000 cubic feet ; freight to Quebec about £11. Specific gravity, 0.59 ; weight of cubic foot, 36.75 lbs.

22. AMERICAN OR WHITE ELM, *Ulmus Americana*.

A majestic tree, attaining a diameter of 60 inches in some of the Western counties of Upper Canada, and of great height, with wide spreading branches ; grows in most woods and along rivers, in rich soils. The wood is tough and strong,

used for the nave of wheels, and preferred by wheelwrights to the English Elms. Can be furnished at the same prices as the Rock Elm.

23. WHITE BEECH, *Fagus sylvestris*.

Grows in almost every part of Canada, of an average height of 110 feet, height to the first limbs 50 feet, and diameter 18 inches. It is distinguished from the red beech by its size, the lighter color of the bark and wood; it is also of more difficult cleavage, of greater compactness and strength, and is much used for planes and other tools of carpenters; also for lathe-chucks, keys and cogs of machinery, shoe-lasts, toys, brushes, handles, &c.; in architecture, for in-door work; common bedsteads and furniture; for carved moulds, for picture frames, and large letters used in printing; it is easily worked, and may be brought to a very smooth surface. Vast quantities of it used for firewood. Specific gravity, 0.672; weight of cubic foot, 41 lbs.; outside wood contains 12 per cent., inside 4 per cent. of potash. Value for heating, 65.

24. RED BEECH, *Fagus ferruginia*.

The Red Beech is regarded by many as only a variety of the Beech, with the wood softer and of more easy cleavage than the White, with also a slight difference in foliage. The timber is not so valuable as that of the White Beech, but used for the same purposes; it is also abundant throughout Canada. The nuts of both kinds are small, two together in the four-lobed burr, oily, sweet and nutritious.

25. BLUE BEECH, *Carpinus Americanus*.

Common along streams; grows 10 to 20 feet high, with ridged trunk; an exceedingly hard whitish wood; excellent for cogs of wheels and for purposes requiring extreme hardness. The trunk is also made into brooms by being peeled by a knife, and is the most durable and soft of the splint brooms. Specific gravity, 0.79; weight of cubic foot, 47 lbs.; value for heating, 65.

26. WHITE BIRCH, *Betula alba*.

Grows on the hill sides and banks of rivers; a slender and beautiful tree of from one to two feet in diameter and 50 feet high, but usually not so large. The trunk is covered with a tough cuticle, consisting of numerous laminae, the outer of which is snow-white. The wood is of a fine compact texture, tough but not durable, and is used in turning and furniture. Specific gravity, 0.5; weight of cubic foot, 32; value for heating, 48.

27. PAPER BIRCH, WHITE BIRCH, *B. papyracea*.

A large tree with fine grained wood, and a very tough, durable bark, splitting into paper-like layers. It is of the bark of this Birch that the Indians make their canoes; hence the name, Canoe Birch. The wood is very similar to the last, and used for similar purposes. There is also a dwarf mountain variety.

28. BLACK BIRCH, *Betula lenta*.

The largest of the Birches, 2 to 3 feet in diameter, and 60 to 70 feet in height; found over an extensive area, but more abundant in Lower than in Upper Canada. The trunk is covered with a dark brown or reddish bark, which becomes rough in old trees, and has a very agreeable aromatic flavor. The wood is of a reddish color, strong, compact, and takes a high polish; much used in furniture, and almost as handsomely figured as Honduras Mahogany, and when colored and varnished is not easily distinguished from it. It is used also by carriage builders, and in frames of ships and parts under water; it is more prized as it becomes better known, as no wood sustains shocks and friction better than Birch. A good deal of it is exported to Europe. The bark is harder than the wood, and used by Indians and backwoodsmen for shoes, hats, tiles of roofs, canoes, &c. Specific gravity, 0.65; weight of cubic foot, 46 lbs; value for heating, 65.

29. YELLOW BIRCH, *B. excelsa*.

A lofty, beautiful slender tree, of 80 feet in height and 10 inches in diameter, with a thin yellowish cuticle: not very abundant; used for much the same purposes as the Black and White Birches, and valuable for fuel.

30. WILD BLACK CHERRY, *Cerasus serotina*.

Grows to an average height of 120 feet, with trunk of uniform size and undivided to the height of 70 feet in the forests, of an average diameter of 24 inches, not uncommonly 36 inches, and found 48 inches in diameter. Not very abundant, but found over extensive areas, not in groves, but in single trees interspersed in the forests of deciduous trees, and springs up freely and grows rapidly after the primal forests are cleared off. The timber, of a pale red brown, is compact, fine, close-grained, receives a high polish, and is extensively used in cabinet work. The bark has a strong bitter taste, and is used in medicine as a tonic. The fruit, black when mature, is pleasant to the taste. The timber can be furnished in the Western part of Canada at £60 sterling per 1000 cubic feet; freight to Quebec about £11. Specific gravity, 0.56; weight of cubic foot, 34 lbs.

31. WILD RED CHERRY, *Cerasus Pennsylvanica*.

Much smaller tree than the Black Cherry, of rapid growth, and found mostly succeeding the original forests, attains 40 to 50 feet in height and 12 to 15 inches in diameter. The flowers are white, the fruit red and very acid.

32. BASSWOOD, *Tilia Americana*.

Common forest tree throughout Canada, of an average height of 110 feet, height to first limbs 65 feet, and diameter 24 to 30 inches; often much larger. The wood is white, soft, close-grained and not liable to warp or split, much used in cabinet work and furniture, in piano fortes and musical instruments, for cutting-boards for carriers, shoemakers, &c., as it does not bias the knife in the direction of the grain; it turns cleanly, and is much used in manufacturing bowls, pails, shovels, &c. Cost, at the ports of the lakes, £37 sterling per 1000 cubic feet; freight to

Quebec, £7. Specific gravity, 0.48; weight of cubic foot, 26 lbs. Of the same genus as the Lime or Linden in England.

33. WHITE WOOD, *Liriodendron tulipifera*.

Grows only in the Western parts of Upper Canada, and attains a height of 130 feet, 70 feet to the first limb, and 36 inches in diameter, and not uncommon 60 inches in diameter. Very abundant in the South Western Counties of Canada, and can be furnished at £35 sterling per 1000 cubic feet, freight to Quebec £8. It is called also the Tulip Tree; and in some localities, erroneously, Yellow Poplar. The wood is extensively used as a substitute for pine for building and cabinet purposes. It is easily wrought, durable, and susceptible of a fine polish. Specific gravity, 0.5; weight of cubic foot, 30 lbs.

34. BUTTONWOOD, *Platanus occidentalis*.

Called also Plane-tree, and, improperly, Sycamore. Is very abundant in the Western and South-western parts of Canada, attaining an average height of 120 feet, 60 feet to first limbs, and 30 inches in diameter, and not uncommon at 60 inches in diameter. It yields a clean wood, softer than Beech, very difficult, almost impossible to split. Sometimes handsomely mottled, used in furniture, chiefly for bedsteads, pianofortes, and harps, for screws, presses, windlasses, wheels, blocks, &c. and immense quantities exported to Virginia for tobacco boxes. Prices and freight same as for White Wood. Specific gravity, 0.5.

35. POPLAR, *Populus monilifera*.

Called also Cotton Wood. A large forest tree occurring on the margins of lakes and rivers. The timber is soft, light, easy to work, suited for carving, common turning and works not exposed to much wear. The wooden polishing wheels of glass grinders are made of horizontal sections of the entire tree. The seeds are clothed in white cotton like down, hence the name. Specific gravity, 0.4.

36. BALSAM POPLAR, *Populus balsamifera*.

Also a large tree growing in wet low lands, wood resembling the previous. None of the Poplars are used as large timbers.

37. WHITE WILLOW, *Salix alba*.

A familiar tree of rapid growth, attaining a height of 50 to 80 feet; originally from Europe. The timber is the softest and lightest of all our woods. The color is whitish, inclining to yellowish grey. It is planed into chips for hat boxes, baskets, &c. Attempts have been made to use it in the manufacture of paper; small branches are used for hoops of tubs, &c.; the larger wood for cricket bats, boxes for druggists, perfumers, &c. Specific gravity, 0.4; weight of cubic foot, 24 lbs.

38. IRON-WOOD, *Ostrya Virginica*.

A small slender tree, 40 to 50 feet in height, and 8 to 10 inches in diameter. The bark remarkable for its fine, narrow, longitudinal divisions, and of a brownish

color. The wood hard, strong and heavy; used for hand-spikes and levers, hence the name Lever Wood; it is also called Hop Hornbeam. Found only sparsely scattered through the forests of deciduous trees. Specific gravity, 0.76; weight of cubic foot, 47.5 lbs.; much prized for fuel.

39. WHITE THORN, *Crataegus punctata*.

A common shrub or small tree, 15 to 20 feet high and 6 inches in diameter, found in thickets on dry rocky lands. Thorns stout, rigid, sharp, and a little recurved, 1½ inches long. Flowers white, fruit bright purple, and some varieties white. The wood extremely hard, used by wood engravers, for mallets, &c. Specific gravity, 0.75; weight of cubic foot, 46 lbs.

40. BLACK THORN, *Crataegus tomentosa*.

A large shrub or small tree, 12 to 15 feet high, thorns 1 to 2 inches long, found in thickets and hedges. Flowers large, fragrant and white; fruit, orange red; wood hard, like White Thorn.

41. WILD APPLE TREE, *Pyrus coronaria*.

A small tree, 15 to 20 feet high, common in the western part of Upper Canada. Wood hard, like the thorn; flowers large, rose colored; fruit one inch in diameter, yellowish, hard and sour, but esteemed for preserves.

42. PEPPERIDGE, *Nyssa multiflora*.

Found only in the Western part of Upper Canada, and of an average height of 100 feet, of 60 feet to the first limb, and of 12 to 18 inches in diameter; scarce. The bark light grey, similar to that of the White Oak, and broken into hexagons. The wood is white, fine-grained, soft, the texture consisting of interwoven fibres, rendering it very difficult to split. It is, therefore, useful for beetles, naves of wheels, and for purposes requiring the toughest timber.

43. DOGWOOD, *Cornus florida*.

Common in Upper Canada, grows 20 to 30 feet high and 8 inches in diameter. The wood is very hard and compact, and hence the name *Cornel* from the Latin *Cornu*, a horn; used for mallets, and is well adapted for the same purposes as Boxwood. It is so remarkably free from silex, that splinters of the wood are used by watchmakers for cleaning the pivot holes of watches, and by the optician for removing the dust from small lenses. The bark is rough, extremely bitter, and used in medicine as a tonic. Specific gravity, 0.78; weight of cubic foot, 50 lbs.

44. WHITE CEDAR, *Thuja occidentalis*.

Found extensively over Canada on the rocky borders of streams and lakes, and in swamps. It grows to the height of 60 to 70 feet, rapidly diminishing in size, throwing out branches from base to summit. The wood is light, soft, coarse grained, and very durable; much used in frame work of buildings and for the upper timbers of ships; as posts for fences, gates, &c. It is one of the most durable of

Canadian woods ; much esteemed also for making split laths, known as cyprus laths. Specific gravity, 0.45 ; weight of cubic foot, 26 lbs.

45. RED CEDAR, *Juniperus Virginiana*.

Grows in many parts of Canada in dry rocky situations. It sometimes attains the size of 24 inches in diameter, but mostly smaller. Leaves are dark green, the younger ones small, ovate, acute, scale-like, overlying each other. The wood is fine grained, compact, of a reddish hue, very light and durable. It is used for fences, aqueducts, tubs and pails, and as cases for drawing pencils, hence called Pencil Cedar.

46. HEMLOCK, *Abies Canadensis*.

Common in the hilly, rocky lands of Canada, attaining the height of 80 feet, and 3 feet in diameter. The timber is soft, elastic, of a coarse, loose texture, not much used, but sometimes substituted for Pine ; resists well the effects of moisture, and for this reason is used for railway ties. The bark is extensively used in tanning. Specific gravity, 0.45.

47. BLACK SPRUCE, *A. nigra*.

This fine tree abounds in the higher and mountainous land of Canada, attains a height of 80 feet. The timber is light, strong and elastic, and though inferior to White Pine, is still valuable. From the young twigs, spruce beer is made.

48. WHITE SPRUCE, *A. alba*.

A smaller tree than the Black Spruce, but attains a height of 50 feet. Trunk from 12 to 18 inches in diameter. Timber much the same as that of the Black Spruce.

49. CANADA BALSAM. BALSAM FIR, *Abies balsamea*.

Common in humid grounds in the cooler latitudes of Canada, and attains a height of 30 to 40 feet. The bark is smooth, abounding in reservoirs filled with a resin or balsam, which is considered valuable in medicine.

50. BALSAM FIR, *A. Fraseri*.

A smaller tree than the last. A highly ornamental shade tree.

51. TAMARAC, *Larix Americana*.

A tall slender tree, rising to the height of 80 to 100 feet, abundant in Canada in low wet lands. The wood is considered very valuable, being heavy, strong and durable. Called also *American larch*, and hackmatac. It has recently come into great demand for ship building, and railway ties, for which latter purpose it is found to be well adapted and very durable. The best Oak is superior to it only for the outside work of a ship. For knees, beads, garlands, &c., of a ship, no wood is better. It is remarkably distinguished from the Pines by its deciduous leaves, being bare nearly half the year. It is found up to a very high latitude, even in Hudson's Bay. Specific gravity, 0.6.

52. SASSAFRAS, *Sassafras officinale*.

Found only in the Western part of Upper Canada; grows to the height of 50 to 60 feet, and 15 inches in diameter. The timber is of little value, but used for light ornamental purposes on account of the fragrant odour. Every part of the tree has a pleasant fragrance and an aromatic taste, strongest in the bark of the root, from which an essential oil is distilled highly valued in medicine. Specific gravity, 0.6.

53. SUMAC, *Rhus typhina*.

Common on rocky, poor soils throughout Canada, and readily springs up on neglected lands after the primal forests are cleared off; attains a height of 20 feet, and 8 inches in diameter; the wood is soft, aromatic, of sulphur yellow, makes beautiful veneers, and is used in dyeing. The bark of this and the other varieties is also used in dyeing and tanning.

The planks named in the accompanying lists are twelve feet long, four inches thick, shewing the bark on both edges, and are from eighteen to fifty inches in width. They are not specimens of the largest trees of the Canadian forests, but fair samples, in quality and size, of timber yet growing over some 200,000 square miles of territory. The circumstances under which they were collected—the two months from the middle of December until the middle of February—rendered it quite impossible to cull from the forest the largest timber. The samples collected, under such circumstances, must necessarily shew the vast wealth of our magnificent forests.

The planks sent by Mr. Skead, are from the Ottawa region, or Eastern division of Upper Canada; those by Mr. Laurie, are from the Lake Ontario, or Central division of Upper Canada; and the remainder from the Western part of Upper Canada, West of the head of Lake Ontario.

PLANKS FOUR INCHES THICK AND TWELVE FEET LONG.

KIND OF WOOD.	BY WHOM CONTRIBUTED.
1 White Oak Plank	James Skead, Ottawa.
1 Tamarac "	" "
1 Hard Maple "	" "
1 Soft " "	" "
1 Yellow Birch "	" "
1 Butternut "	" "
1 White Ash "	" "
1 Grey " "	" "
1 Rock Elm "	" "
1 White Cedar "	" "
2 White Pine Planks	James Laurie, Markam.
2 White Cedar "	" "
1 Elm Plank	" "
2 Basswood Planks	" "
2 Hard Maple "	" "
1 White Oak Plank	" "
1 Black " "	" "
1 White Ash "	" "
2 Black Ash Planks	" "
1 " Birch Plank	" "
2 Beech Planks	" "
1 Hemlock Plank	" "
* 1 White Pine Plank, 50 inches wide	A. Bronson, Township of Bayham.
1 " Oak " 50 " "	Samuel Sharp, Hamilton.
1 Pepperidge "	" " "
1 Black Ash "	" " "
1 Cotton Wood "	" " "
1 Soft Maple "	" " "
1 Hickory " 36 inches wide	" " "
1 Red Elm "	" " "
1 White Ash "	" " "
1 Buttonwood "	" " "
1 Basswood "	" " "
1 Whitewood "	" " "
1 Beech "	" " "
1 Black Walnut " 48 inches wide	" " "
1 Rock Elm "	" " "
1 Butternut "	" " "
1 Whitewood "	D. R. Van Allan, Chatham.
1 Buttonwood "	" "
1 Cherry "	" "
1 Hard Maple "	" "
1 Black Walnut "	" "
1 White Ash "	" "
1 " Oak "	" "
1 Hard Maple "	— McCracken, London.
1 Cherry Crotch " 50 inches wide	" "
1 Soft Maple " 45 " "	Jacob Choate, Ingersoll.
2 Cherry Planks . 45 " "	" "

* This Plank was cut from a tree 22 feet in circumference and 120 feet to the first limb.

SECTIONS OF TRUNKS OF TREES, showing the average size of Trees in the Canadian forest.

KIND OF WOOD.	BY WHOM CONTRIBUTED.
1 Sycamore (Buttwood) Log	D. R. Van Allan, Chatham.
1 White Ash Log	“ “ “
1 Black Walnut Log	“ “ “
1 White Oak “	“ “ “
1 Cherry “	“ “ “
1 White Wood “	A. McKellar, M.P.P., “
1 Maple “	“ “ “
1 Black Walnut “	A. L. Trembliski, Engineer, G. T. R.
1 White Oak “	“ “ “ “
1 Rock Elm “	“ “ “ “
1 Hickory “	“ “ “ “
1 White Pine “	James Laurie, Markam.
1 Hemlock “	“ “ “
1 Cedar “	“ “ “
1 Elm “	“ “ “
1 Basswood “	“ “ “
1 Beach “	“ “ “
1 Hard Maple “	“ “ “
1 White Oak “	“ “ “
1 Black “	“ “ “
1 White Ash “	“ “ “
1 Black “	“ “ “
1 White Pine “	James Skead, Ottawa.
1 White Oak “	“ “ “
1 Tamarac “	“ “ “
1 Hard Maple “	“ “ “
1 Soft Maple “	“ “ “
1 Yellow Birch “	“ “ “
1 Butternut “	“ “ “
1 White Cedar “	“ “ “
1 White Ash “	“ “ “
1 Black Elm “	“ “ “
1 Section Dogwood	Mr. Burrows, Simcoe.
1 “ Sassafras	“ “ “

POLISHED SPECIMENS of Canadian Woods, not less than one foot long and six inches wide, with descriptions of each, of name, size and height of tree, uses to which the wood is applied, prices at which it can be furnished, extent of country over which it grows, &c.

73 samples of Canadian woods, collected along the line of the Great Western Railway, neatly polished; one side and two edges varnished; the other side and edges plain; also veneers of Walnut, Oak, Maple (bird's-eye and curly), Ash, Oak root, crotches of several kinds of wood, &c. By Samuel Sharp, Sup. of Car Department of G. W. Railway, Hamilton.

73 samples of Canadian woods, neatly polished and varnished, by Andrew Dickson, Esq., of Pakenham, U. C.

— samples of Canadian woods, neatly polished, collected from the valley of the Ottawa, by James Skead, Esq., of Ottawa.

1 box of Black Walnut Veneers, by E. H. Rose, of Chatham, (number of specimens not given), U. C.

LIST OF POLISHED SPECIMENS.

By **SAMUEL SHARP**, of Great Western Railway :

3 specimens Hickory	2 specimens White Ash
3 " Second Growth do	2 " Second Growth do
5 " White Oak	1 " Buttonwood
2 " Rock Elm	1 " Butternut
1 " Red Oak	1 " White Cedar
1 " Basswood	1 " Second growth White Oak
1 " Whitewood	2 " Bird's-eye Oak
1 " Ironwood	1 " Bird's-eye Maple
1 " White Beech	1 " Curled Maple
1 " Red Beech	1 " Soft Maple
1 " White Pine	1 " Hart Maple
2 " Cherry	1 " Hemlock
4 " Black Walnut	

SPECIMENS OF VENEERS.

11 specimens Black Walnut	1 specimen Butternut
1 " Bird's-eye Oak	1 " Bird's-eye Maple
2 " Curled Ash	2 " Blistered Maple
1 " White Ash knot	1 " Bird's-eye Walnut
1 " Black Ash knot	1 " Oak knot

By **ANDREW DICKSON**, Pakenham, U. C.

- | | |
|-----------------------------|------------------------------------|
| 1. White Pine | 38. Weeping Birch |
| 2. Yellow Pine | 39. Black Willow |
| 3. Red Pine | 40. White Willow |
| 4. Pitch Pine | 41. Yellow Willow |
| 5. Larch or Tamarac | 42. Aspen Poplar |
| 6. Hemlock Spruce | 43. Large Toothed Aspen Poplar |
| 7. White Spruce | 44. Balm of Gilead |
| 8. Black Spruce | 45. Cotton Wood or Necklace Poplar |
| 9. White Cedar. | 46. White Wood |
| 10. Red Cedar | 47. Shell Bark Hickory |
| 11. Balsam Fir | 48. Pignut |
| 12. White Oak | 49. Butternut |
| 13. Swamp Oak | 50. Black Walnut |
| 14. Red Oak | 51. Soft Walnut |
| 15. Black Oak | 52. Butternut |
| 16. White Oak | 53. Tulip Tree |
| 17. Slippery Elm | 54. Apple Thorn |
| 18. Rock Elm | 55. Red Thorn |
| 19. Grey Elm | 56. White Thorn |
| 20. White Ash | 57. Peach Leafed Thorn |
| 21. Black Ash | 58. White Beech |
| 22. Rock Ash | 59. Basswood |
| 23. Rim Ash | 60. Ironwood |
| 24. Ray Ash | 61. Blue Beech |
| 25. Sugar Maple, Bird's-Eye | 62. Pepperidge |
| 26. Sugar Maple, Curled | 63. Buttonwood |
| 27. Soft Maple | 64. Shumach |
| 28. Soft Maple, Curled | 65. Chesnut |
| 29. Rock Maple | 66. Sassafras. |
| 30. Moose Maple | 67. Mountain Ash |
| 31. Red Cherry | 68. Alder |
| 32. Black Cherry | 69. Large Flowering Dogwood |
| 33. Birch Cherry | 70. Small Flowering Dogwood |
| 34. Choke Cherry | 71. Wild Yellow Plum |
| 35. Canoe Birch | 72. June or Service Berry |
| 36. Yellow Birch | 73. Boxwood |
| 37. Black Birch | |

SCIENTIFIC COLLECTION.

THIS COLLECTION is composed of sections of the Small Trees and Shrubs, one foot long, with the bark on so cut and polished as to show the grain of the wood. Towards this collection—

26 specimens of the chief timbers on the line of the Great Western Railway, were contributed by Samuel Sharp, of Hamilton, Superintendent of the Car Department of the Great Western Railway.

21 by D. R. Van Allan, Esq., of Chatham, of timbers growing on the Thames, in the neighborhood of Chatham.

100 by Mr. Hugh McKee, of Norwich, of woods and shrubs growing in the Township of Norwich (of these, twelve are exotic.)

21 by James Laurie, Esq., of Scarborough, of timbers growing on the Northern shores of Lake Ontario, and

37 by James Skead, Esq., of Ottawa City, specimens of the chief woods growing in the Valley of the Ottawa.

2 boxes, by Hugh McKee, of twigs and leaves of trees and shrubs accompanying his collections.

1 box, by James Skead, Esq., of twigs and leaves of trees, of which he furnishes sections of trunks.

1 box by Mr. Thomas Moore, (Etobicoke), of Tool Handles.

Collection by _____, (Toronto), of Spokes, Naves, Felloes, Shafts, Poles of Carriages, &c,

490 native plants, found mostly in the vicinity of Hamilton, collected by Miss Kate Crooks, of Hamilton.

Collection by HUGH MCKEE, of Norwich, U. C.:

White Ash	Swamp or Water Elm
Red Ash	Shag Barked Hickory
Black or Swamp Ash	Bitter-Nut Hickory
White Oak	Iron Wood
Black Oak	Wych-Hazel
Red Oak	Hazel Nut
Swamp White Oak	Moose or Leather Wood
Hard or Sugar Maple	White Cedar
Soft Maple	White Pine
Dwarf Maple	Hemlock
White Beech	White Spruce
Red Beech	Tamarac
Blue Beech	Poplar
White Birch	Balm of Gilead
Black Birch	Red Plum
Common Apple	Blue Plum
Crab Apple	Lilac
White Thorn	Locust
Basswood	Yellow Willow
Butternut	White Willow
Black Walnut	Swamp Willow
Black Cherry	Red Willow
Red Cherry	Nine Bark
Choke Cherry	June Berry
Pie Cherry	High Bushed Cranberry
Chestnut	Sweet Elder
White or Rock Elm	Box Wood
Red Elm	

Wild Grape Vine
 Bitter Sweet
 Small Honeysuckle
 Honey Suckle Vine
 Honey Suckle Bush
 Snow Ball or Guelder Rose
 Sassafras
 Prickly Ash
 Spotted Alder
 Whortleberry, (High Bush)
 Black Haw
 Yellow Flowering Currant
 Black Currant
 Buttonwood
 White Wood
 Eglantine or Sweet Brier
 Wild Rose, (Small Bush)
 Wild Rose, (Large Bush)
 Dog Wood
 Silver Beal
 Mountain Ash
 Pepperidge

Sumac
 Bird's-Eye Maple
 Spire Wood
 Willow
 Thorned Gooseberry
 Smooth Gooseberry
 Tree Toy
 Tree Mignonette
 Red Elder
 Blackberry
 Red Raspberry
 Black Raspberry
 White Raspberry
 Red Currant
 White Currant
 Honey Locust
 Pear
 Laburnum
 Peach
 ——— (not named)
 ——— (")

By SAMUEL SHARP, of the G. W. Railway:

1 specimen Black Oak	1 specimen Wych-Hazel
3 " Red Cedar	1 " Choke Cherry
1 " Red Elm	1 " Sassafras
1 " White Thorn	1 " Grape
1 " Balm of Gilead	1 " Spotted Alder
1 " Poplar	1 " Water Elm
1 " White Willow	1 " Sumac
1 " Purple Willow	1 " Tamarac
1 " Buttonwood	1 " Rim Ash
2 " Dogwood	1 " Black Birch
1 " Mayberry	1 " Iron Wood

By D. R. VAN ALLAN, Chatham, U. C.:

Buttonwood	White Oak
Basswood	Red Oak
Pepperidge	Ironwood
White Ash	Black Walnut
Black Ash	Butternut
White Beech	Sassafras
Yellow Birch	Hard Maple
Dogwood	Soft Maple
Cherry	Hickory
Rock Elm	White Wood
Red Elm	

By JAMES LAURIE, Scarboro', U. C.:

Hemlock.	Soft Maple
Blue Beech, No. 1	White Pine, No. 1
Do do No. 2	Do do No. 2
Balsam	Tamarac
Red Beech	Cedar
Basswood	Balsam
Iron Wood	Black Cherry
Swamp Ash	Elm
Hard Maple	White Oak
Birch	Hickory
White Ash	

By JAMES SKEAD, Ottawa, U. C.:

White Oak	Red Pine
Red Oak	Pitch Pine
Black Oak	Spruce
White Pine	Balsam

White Cedar
Tamarac
Rock Elm
White Elm
Red Elm
White Ash
Gray Ash
Black Ash
White Birch
Yellow Birch
Blue Beech
Red Beech
White Beech
Sugar or Hard Maple
Soft Maple

Butternut
Alder
Hemlock
Poplar (Forest)
Poplar (Balm of Gilead)
Basswood
Red Cherry
Black Cherry
Iron or Lever-wood
White Hickory
Dogwood
Yellow Pine
Sumac
Red Cedar

CLASSIFICATION OF WOODS.

MAGNOLIACEÆ.

1. *Liriodendron tulipifera* (Linneus)—WHITE WOOD, TULIP TREE.

TILIACEÆ.

2. *Tilia Americana* (Linn.)—BASSWOOD.

RUTACEÆ.

3. *Zanthoxylum Americanum* (Miller)—NORTHERN PRICKLY ASH.

ANACARDIACEÆ.

4. *Rhus typhina* (Linn.)—SUMAC.

5. " *toxicodendron*—POISON IVY.

VITACEÆ.

6. *Vitis cordifolia* (Michaux)—WINTER, OR FROST GRAPE.

RHAMNACEÆ.

7. *Rhamnus alnifolia* (L'Heritier)—BUCK-THORN.

CELASTRACEÆ.

8. *Celastrus scandens* (Linn.)—WAX-WORK; CLIMBING BITTER SWEET.

ACERINEÆ.

9. *Acer saccharinum* (Linn.)—SUGAR MAPLE, HARD MAPLE.

10. " " " variety—BIRD'S-EYE MAPLE.

11. " " " " —CURLED MAPLE.

12. " " " " —BLACK SUGAR MAPLE.

13. " *rubrum* " —RED, OR SWAMP MAPLE.

14. " *dasyacarpum* (Ehrhart)—SOFT MAPLE, WHITE OR SILVER MAPLE.

15. " " —CURLED MAPLE.

16. " *Pennsylvanicum* (Linn.)—STRIPED MAPLE.

17. " *spicatum* (Lam.)—MOUNTAIN MAPLE, DWARF MAPLE.

AMYGDALÆÆ.

18. *Prunus Americana*, (Marsh)—WILD YELLOW OR RED PLUM.

19. *Cerasus Pennsylvanica*, (Loisel)—WILD RED CHERRY.

20. " *serotina*, (Ehrhart)—" BLACK "

21. " *Virginiana*, (Linn.)—CHOKE CHERRY.

ROSACEÆ.

- 21 a. *Spiræa opulifolia*, (Linn.)—NINE BARK.

POMEÆ.

22. *Crataegus punctata*, (Jacquin)—WHITE THORN.
23. " *coccinea*, (Linn.)—RED "
24. " *tomentosa*, " —BLACK "
25. " *crus-galli*, " —COCK-SPUR "
26. *Pyrus coronaria*, " —AMERICAN CRAB APPLE.
27. " *Americana*, (De Candolle)—AMERICAN MOUNTAIN ASH.
28. *Amelanchier Canadensis*, (Torrey & Gray)—JUNE BERRY, SHAD BUSH.

GROSSULACEÆ.

- 28 b. *Ribes cynosbati*, (Linn.)—WILD GOOSEBERRY.
28 c. " *hirtellum*, (Michaux)—SMOOTH "
28 d. " *floridum*, (Linn.)—WILD BLACK CURRANT.
28 e. " *rubrum*, (Linn.)—RED "

HAMAMELACEÆ.

29. *Hamamelis Virginica*, (Linn.)—WYCH-HAZEL.

CORNACEÆ.

30. *Cornus florida*, (Linn.)—FLOWERING DOG-WOOD.
31. " *alternifolia*, (Linn.)—ALTERNATE-LEAVED CORNEL OR DOG-WOOD.
32. *Nyssa multiflora*, (Wang.)—PEPPERIDGE, TUPELO, SOUR GUM-TREE.

CAPRIFOLACEÆ.

33. *Lonicera parviflora* (Lambert)—SMALL HONEYSUCKLE.
34. " *hirsuta* (Eaton)—HAIRY "
35. *Diervilla trifida* (Moench)—BUSH "
" *Canadensis* (Muhlenberg.)
36. *Sambucus* " (Linn.)—COMMON ELDER.
37. " *pubens* (Michaux)—RED-BERRIED "
38. *Viburnum prunifolium* (Linn.)—BLACK HAW.
39. " *opulus* " —CRANBERRY TREE.

AQUIFOLIACEÆ.

40. *Nemopanthes Canadensis* (De Candolle)—MOUNTAIN HOLLY.

OLEACEÆ.

41. *Fraxinus Americana* (Linn.)—WHITE ASH.
42. " *pubescens* (Lam.)—RED "
43. " *sambucifolia* " —BLACK "

LAURACEÆ.

44. *Sassafras officinale* (Nees von Esenbeck)—SASSAFRAS.

THYMELEACEÆ.

45. *Dirca palustris* (Linn.)—MOOSE-WOOD, LEATHER-WOOD.

ULMACEÆ.

46. *Ulmus Americana* (Linn.)—WHITE ELM.
47. " *fulva* (Michaux)—RED "
48. " *racemosa* (Thomas)—SWAMP "
49. *Celtis occidentalis* (Linnaeus)—HACKBERRY, HOOP ASH, BEAVER WOOD.

ATROCARPEÆ.

50. *Morus rubra*, (Linn.)—RED MULBERRY.

PLATANACEÆ.

51. *Platanus occidentalis*, (Linn.)—PLANE TREE, BUTTONWOOD.

JUGLANDACEÆ.

52. *Juglans cinerea*, (Linn.)—BUTTERNUT.
53. “ *nigra*, (Linn.)—BLACK WALNUT.
54. *Carya alba*, (Nuttal)—SHELL-BARK OR SHAG-BARK HICKORY.
55. “ *glabra*, (Nuttal)—BITTER-NUT HICKORY, FIG-NUT OR BROOM HICKORY.

CUPULIFERÆ.

56. *Quercus alba*, (Linn.)—WHITE OAK.
57. “ *prinus*, (Linn.) var. *discolor* (Michaux)—SWAMP WHITE OAK.
58. “ *rubra*, (Linn.)—RED OAK.
59. “ *tinctoria*, (Bartram)—BLACK OAK.
60. *Castanea vesca*, (Linn.)—CHESNUT.
61. *Fagus sylvestris*, (Michaux f.)—WHITE BEECH.
62. “ *ferruginea*, (Ait.)—RED BEECH.
63. *Corylus Americana*, (Walter)—WILD HAZEL-NUT.
64. *Carpinus Americana*, (Michaux)—BLUE BEECH, AMERICAN HORNBEAM.
65. *Ostrya Virginica*, (Willd)—HOP-HORNBEAM, IRON-WOOD, LEVER-WOOD.

BETULACEÆ.

66. *Betula papyracea* (Aiton)—PAPER BIRCH, CANOE BIRCH.
67. “ *alba* (Spach.)—WHITE BIRCH, POPLAR-LEAVED BIRCH.
68. “ *excelsa* (Aiton)—YELLOW BIRCH.
69. “ *lenta* (Linn.)—BLACK BIRCH, CHERRY BIRCH.
70. *Alnus incana* (Willd)—SPECKLED, OR HOARY ALDER.
71. “ *viridis* (De Cendolle)—MOUNTAIN “

SALICACEÆ.

72. *Salix candida* (Willd)—HOARY WILLOW.
73. “ *tristis* (Aiton)—DWARF GRAY “
74. “ *discolor* (Muhl.)—GLAUCOUS “
75. “ *alba* (Linn.)—WHITE “ (introduced from Europe.)
76. *Populus tremuloides* (Michaux)—ASPEN.
77. “ *grandidentata* (Michaux)—LARGE-TOOTHED ASPEN.
78. “ *monilifera* (Ait.)—COTTON-WOOD.
79. “ *balsamifera*—BALSAM POPLAR.
80. “ “ var.—BALM OF GILEAD.

CONIFERÆ.

81. *Pinus strobus* (Linn.)—WHITE PINE.
82. “ *resinosa* (Linn.)—RED “
83. “ *mitis* (Mich.)—YELLOW “
84. “ *rigida* (Miller)—PITCH “
85. *Abies balsamea* (Marshall)—CANADA BALSAM, BALSAM FIR.

86. *Abies Canadensis* (Michaux)—HEMLOCK.
 87. “ *nigra* (Poiret)—BLACK SPRUCE.
 88. “ *alba* (Michaux)—WHITE “
 89. *Larix Americana* (Mich.)—TAMARAC, AMERICAN LARCH.
 90. *Thuja occidentalis* (Linn.)—WHITE CEDAR, ARBOR VITÆ.
 91. *Juniperus Virginiana* (Lign.)—RED CEDAR.

To the collections above named there are to be added the following :—

132 specimens of native medicinal herbs and roots ; 53 pint-bottles of fluid used in the practice of medicine, and 12 different specimens of perfumery ; the fluid and perfumery are manufactured by the contributor, Wm. Saunders, Druggist, of London, Canada.

114 colored plates (natural size) of fruit grown in Upper Canada in the open air, prepared by the Fruit Growers' Association of Upper Canada, consisting of

35 plates of different varieties of the principal Apples.

32 plates of varieties of principal Pears.

10	“	“	“	Plums.
7	“	“	“	Cherries.
6	“	“	“	Peaches.
8	“	“	“	Strawberries.
5	“	“	“	Grapes.
4	“	“	“	Currants.
3	“	“	“	Gocseberries.
2	“	“	“	Raspberries.
1	“	“	“	Blackberries (New Rochelle).
1	“	“	“	Quince.

1 case stuffed native Ducks, 22 varieties ; 1 case containing 110 other Birds (native,) stuffed ; 1 case containing 36 Fishes from the Lakes and Rivers of Upper Canada. By S. W. Passmore, Toronto. 1 case containing 103 Birds found on the Island of Montreal, by James Thomson, Esq., of Montreal.

The chief Fishes are the Salmon-trout, White Fish and Herring from Lakes Huron and Ontario ; the Sturgeon, Maskinongé, Pike, Pickerel, Sucker, (White and Black), Black Bass, Rock Bass, Sunfish, Perch, and several smaller varieties. The first three kinds are found only in the large Lakes, Ontario, Erie, Huron and Superior, except the Herring in one or two of the smaller Lakes ; the others, except the Sturgeon, also swarm in great numbers in all the smaller lakes, and in many of the smaller rivers. The Salmon from the ocean also ascends to the head of Lake Ontario, 1,200 miles from the Atlantic. Great quantities of the Salmon-trout and White Fish are exported, amounting in value to from \$500,000 to \$1,000,000 annually. Samples, also, of the preserved fish, Salmon-trout, White Fish and Herring from Lakes Huron and Ontario have been obtained.

Collection of S. W. PASSMORE, of Toronto:

BIRDS.

1.—RAPTORES.

Cinereous Owl	Short-eared Owl
Snowy Owl	Mottled Owl
Hawk Owl	Little Owl
Barred Owl	Winter Falcon
Great Horned Owl	Slate-colored Hawk
Long-eared Owl	

2.—INSESSORES.

Whip-poor-Will	Blackburnian Warbler
Chimney Swallow	Black and Yellow do
Purple Martin	Bk.-throated Blue do
Belted Kingfisher	Golden Wing do
Shrike	Winter Wren
Tyrant Flycatcher	Hood Wren
Crested Flycatcher	Golden Wren
Green Flycatcher	Ruby Wren
Red-start	Black-capped Titmouse
Black and White Creeper	Cedar Bird
Brown Creeper	Bohemian Chatterer
Nuthatch	Meadow Lark
Robin	Chipping Sparrow
Humming Bird	Song Sparrow
Blue Bird	Red-poll
Yellow-rump Warbler	Pine Finch
Yellow-throated do	Purple Finch
Bay-breasted do	Goldfinch, female and nest
Cape May do	Rose-breasted Grosbeak
Chesnut-sided do	Pine Grosbeak
Mourning do	Corn Bunting
Pine Bunting	Red-wing Starling
Indigo Bird	Rusty Grackle
Crossbill	Purple Grackle
Scarlet Tanager	Blue Jay
Golden Oriole	

3.—SCANSORES.

Yellow-billed Cuckoo	Yellow-bellied Woodpecker
Black-billed Cuckoo	Red-bellied Woodpecker
Pileated Woodpecker	Red-headed Woodpecker
Hairy Woodpecker	Golden-wing Woodpecker
Downy Woodpecker	Three-toed Woodpecker

4.—RASORES.

Pinnated Grouse

5.—GRALLATORES.

Virginia Rail	Asn-colored Sandpiper
Clapper Rail	Semipalmated Sandpiper
Little Rail	Little Sandpiper
Night Heron	Spotted Sandpiper and Young
American Bittern	Yellow-shank Tattler
Least Bittern	Tell-tale Tattler
Black-bellied Plover	Common Snipe
Golden Plover	Red-breasted Snipe
Wilson's Plover	Woodcock
Turnstone	Esquimaux Curlew

6.—NATATORES.

Mallard Duck	Shoveller Duck
Dusky Duck	Amer. green-winged Teal
Gadwall Duck	Blue-winged Teal
Brewer's Duck	Canada Goose
American Widgeon	Green-wing Teal
Pintail Duck	Hooded Merganser
Wood Duck	Black Tern

Canvas-Back Duck
 Red-Headed Duck
 Scaup Duck
 Tufted Duck
 Ruddy Duck
 American Sooter
 Eider Duck

Buffel-Headed Duck
 Harlequin Duck
 Long-Tail Duck
 Black-headed Gull
 Crested Grebe
 Red-bellied Dabchick

FISH.

The Yellow Perch
 Common Pond Fish
 Marsh Sun-fish
 The Pickerel
 The Little Pickerel
 Black Bass
 Rock Bass
 Lake White Bass
 Lake Sheephead
 Common Sucker
 Mallet Sucker
 Pale Sucker
 Long-finned Club Sucker
 Rough-head
 Black-nosed Dace
 Common Pike
 Maskinonge
 Great Lake Catfish

Common Catfish
 The Great Lake Trout
 Brook Trout
 White Fish
 Frosted White Fish
 Sturgeon
 The Dog Fish
 Eel-pout
 Great Lake Eel
 Silver Eel
 Long-nosed Eel
 The Lamprey Eel
 Silver Bass
 Herring
 Catfish
 Gar Pike
 Rock Sturgeon
 Blood-bellied Trout.

Collection of JAMES THOMPSON, of Montreal:

BIRDS, &c.

1. Humming Bird and Nest (female), *Trochilus colubris*. Linn.
2. Humming Bird (male), " " "
3. Baltimore Oriole, *Icterus Baltimore*. Linn.
4. Chesnut sided Warbler (female), *Sylvicola Icterocephala*. Lath.
5. American Goldfinch (female), *Carduelis tristis*. Linn.
6. Chesnut sided Warbler (male), *Sylvicola Icterocephala*. Lath.
7. Maryland Warbler, *Trichas Marylandica*. Linn.
8. Morning Warbler (female), *Trichas Philadelphia*. Wils.
9. Brown Creeping Warbler.
10. Ruby Crowned Kinglet (male), *Regulus calendula*. Linn.
11. American Goldfinch (male), *Carduelis tristis*. Linn.
12. Night Heron, *Ardea nycticorax*. Linn.
13. Red-eyed Flycatcher (female), *Vireo olivaceus*.
14. Cat Bird, *Orpheus Carolinensis*. Linn.
15. American Shrike, *Lanius borealis*. Vieill.
16. White-throated Sparrow, *Fringilla Pennsylvanica*. Luth.
17. Common Blue Bird, *Sialia Wilsonia*. Swan.
18. Red pole Linnet, *Linaria minor*. Roy.
19. American Robin, *Turdus Migratorius*. Linn.
20. Pine Grossbeak (male), *Corythus Enuclator*. Linn.
21. Black and White Creeping Warbler, *Mniotilta varia*. Linn.
22. Purple Finch, *Erythropsiza Purpurea*. Gmel.
23. Red Winged Starling, *Agelaius Phoeniceus*. Linn.
24. Indigo Bird, (male), *Spiza Cyanea*. Wils.
25. Purple Grackle, *Quiscalus versicolor*. Vieill.
26. Black caped Titmouse (female), *Parus atricapillus*. Linn.
27. Scarlet Tanager, *Pyrranga rubra*. Linn.
28. Golden Winged Woodpecker, *Picus auratus*. Linn.
29. Rusty Grackle (male), *Quiscalus Ferrugineus*. Lath.
30. Rice Bunting, *Dolichorhynchus Oryziora*. Linn.
31. Canada Jay, *Corvus Canadensis*. Linn.
32. American Jay, *Garrulus cristatus*. Linn.
33. Bohemian Chatterer (female) *Bombycilla garrula*. Vieill.
34. Great Crested Flycatcher, *Muscicapa crinita*. Linn.
35. Bohemian Chatterer (male), *Bombycilla garrula*. Vieill.
36. Yellow Pole Warbler (male), *Sylvicola estiva*. Gmel.
37. Great Crested Flycatcher (female), *Muscicapa crinita*. Linn.

38. Swamp Sparrow, *Ammodromus palustris*. Wils.
39. Ruby Crested Kinglet (female), *Regulus calendula*. Linn.
40. Chesnut Headed Warbler, *Sylvicola castanea*. Wils.
41. Canada Flycatcher, *Myiodyctes Canadensis*. Linn.
42. Belted Kingfisher, *Alcedo alcyon*. Linn.
43. Snow Bird, *Niphaea hyemalis*. Linn.
44. Nashville Warbler, *Sylvicola Rubricapilla*.
45. Downy Woodpecker (female), *Picus pubescens*. Linn.
46. Downy Woodpecker (male), " " "
47. Screech Owl (female), *Ulula Acadica*. Gmel.
48. Blackburnian Warbler, *Sylvicola pensilia*. Lath.
49. Red-start (male), *Muscicapa Ruticilla*. Linn.
50. Yellow Bellied Creeper.
51. Woodcock, *Scolopax minor*. Wils.
52. Sanderling Sandpiper (female), *Tringa arenaria*. Aud.
53. Black Tern, *Sterna nigra*. Linn.
54. Red-backed Sandpiper, *Tringa alpina*.
55. Ring Plover, *Charadrius semipalmatus*. Bap.
56. Ringed Tailed Marling, *Limosa Hudsonica*. Rich.
58. Little Awk (female), *Alca Arctica*. Linn.
59. Solitary Sandpiper, *Totanus solitarius*. Wils.
60. Little Awk (male), *Alca Arctica*. Linn.
61. Golden Plover, *Charadrius marmoratus*. Wag.
62. Little Sandpiper, *Tringa pusilla*. Wils.
63. Virginian Rail, *Rallus virginianus*. Linn.
64. Hawk Owl (male), *Surnia funerea*. Gmel.
65. American Bittern (male), *Ardea lentiginosa*. Swain.
66. Bay Winged Bunting, *Emberiza graninca*. Gmel.
67. Tyrant Flycatcher, *Muscicapa Tyrannus*. Linn.
68. Fox colored Finch, *Fringilla Iliaca*. Merrem.
69. Cedar Waxwing (female), *Bombycilla Carolinensis*. Briss.
70. Blackpole Warbler, *Sylvicola striata*. Lath.
71. Pine Grosbeak (female), *Corythus Eucleator*. Linn.
72. Tawny Thrush, *Turdus Wilsoni*. Bonap.
73. Rusty Grackle (young), *Quiscalus Ferrugineus*. Lath.
74. Brown Creeper (male), *Certhia Familiaris*. Linn.
75. Black Billed Cuckoo (female), *Coccyzus Erythrothalmus*. Wils.
76. Black Billed Cuckoo (male), " " "
77. Peewee Flycatcher, *Muscicapa Fusca*. Gmel.
78. Yellow Crowned Warbler, *Sylvicola coronata*. Lath.
79. Yellow-Poll Warbler (female), *Sylvicola aestiva*. Gmel.
80. Red-start (female), *Muscicapa Ruticilla*. Linn.
81. Cedar Waxwing (male), *Bombycilla Carolinensis*. Briss.
82. Red-eyed Flycatcher, *Vireo Olivaceus*.
83. Golden Crowned Thrush. *Sciturus Aurocapillus*. Lath.
84. Chipping Sparrow, *Emberiza socialis*. Wils.
85. White Bellied Nuthatch, *Sitta Carolinensis*. Linn.
86. Yellow Throated Greenlet, *Vireo Flavifrons*. Vieill.
88. Tawny Thrush (female), *Turdus Wilsoni*. Bonap.
89. Mourning Warbler (male), *Trichas Philadelphica*. Wils.
90. Nest of the Flycatcher, *Muscicapa Fusca*. Gml.
91. Least Tern (male), *Sterna Minuta*. Linn.
92. Baltimore Oriole (female), *Icterus Baltimore*. Linn.
93. Short-legged Peewee Flycatcher, *Muscicapa Phabs*. Luth.
94. Tawny Thrush (young), *Turdus Wilsoni*. Bonap.
95. Thrushes' Nest and three young, *Turdus Wilsoni*. Bonap.
96. Red-headed Woodpecker, *Picus Erythrocephalus*. Linn.
97. Wasp's Nest.
98. Winter Wren (male), *Troglodytes Hyemalis*. Vieill.
99. Thrush (young), *Turdus Wilsoni*. Bonap.
100. Blackcap Titmouse (male), *Parus Atricapillus*. Linn.
101. Sanderling Sandpiper (male), *Tringa Arenaria*. And.
102. Yellow-poll Warbler (male), *Sylvicola aestiva*. Gmel.
103. Red-winged Starling (female), *Agelaius Phanicus*. Linn.
57. Weasel, *Mustelu vulgaris*. Linn.
87. Red Squirrel, *Sciturus Hudsonius*. Gml.

