

Canadian Forestry Journal

VOL. VII.

MAY-JUNE, 1911

No. 3



Group of Forestry Students at Norfolk County, (Ont.), Nursery Station.

This Cavity Ran Clear
Down to the Roots



Really
Perfect
Trees
Are Now
Rarely
Found



Davey
Experts
Restore
Trees To
Perfect
Health

The Tree Opposite after
The Davey Treatment



John Davey
Father of Tree Surgery

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**The Vast Majority
of Trees Need
Expert Treatment**

years hence. As the cavity grows in size, it weakens the tree and in but a few years the tree will be blown down some windy day, destroying entirely the growth of years.

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Correct Tree Filling as Done By
"THE DAVEY METHOD"

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Canadian Forestry Journal

VOL. VII.

OTTAWA, MAY-JUNE, 1911

No. 3

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Ontario Government Nursery Station.

With the increasing gravity of the problem of dealing with the sand land areas in the older settled parts of the province of Ontario the importance of the Ontario Government Nursery Station increases. For a good many years the Government supplied from the nurseries connected with the Ontario Agricultural College at Guelph trees to farmers to restore their woodlots. More ag-

gressive action was taken three years ago, when the Department of Agriculture purchased some farms in the sand lands area of Norfolk county, and Professor E. J. Zavitz, forester to the Department, was authorized to move the forest nurseries from Guelph to the new station at St. Williams, and to begin the planting of these farms with trees suited to the locality. The idea of the offi-

cers of the Department is that such a plantation would demonstrate to the farmers of Ontario how best to proceed with the reforestation of any such lands they may have on their farms, and also to demonstrate that the reforestation of considerable blocks of these lands can be profitably undertaken by municipalities or by individuals who are able to wait a considerable time for returns.

The village of St. Williams is ninety miles from Toronto, and the plantation is situated three miles from the village. The county of

the land farmed. Norfolk county was one of the earliest settled in the western peninsula of Ontario, and the farm which forms the centre of the Government's operations was settled in 1804. It was bought back by the Government in 1908 for \$5 per acre. A picture of the homestead just after it had been abandoned is given herewith. (See page 61.)

A study of this district on the spot gives a different impression from that obtained from reading or even from pictures. The situation is both worse and better than it seems at a distance. It is better in that



Blow sand held by Scots pine (*Pinus sylvestris*), planted in Spring of 1910.

Norfolk is on the whole a most fertile one and one of the best in the province of Ontario. It is becoming famous as a great apple country, and cherries, plums, pears and even peaches are grown. It has, however, a number of sandy ridges, covering, all told, nearly ten thousand acres, and it is on these that the work of reforestation has begun. Starting three years ago with the purchase of three hundred acres the Department has now acquired a block of thirteen hundred acres of ridge land. Most of this has been cut over and

the good land reaches up so close to these ridges, and it is worse in that it has been bad farming (using that word in its broad sense) that has brought these ridges to their present condition, made them useless in themselves and dangerous as regards the good lands adjoining.

Professor Zavitz has gone to work vigorously, and has already made a great change in the area. Two of the best farmhouses on adjoining farms having the largest amount of land suitable for nurseries have been improved and fitted up for the fore-

man and his assistant. Seedbeds and nursery rows have been set out, and some of the worst hills, those whose tops were blowing into the adjoining valleys and covering up the fairly good land there, have been planted out. These small trees, though planted in what seems a veritable sandbank without a blade of grass for acres, have done well, and, small as they are, have held the sand from blowing. Fields fairly level and available for nursery beds have been sown to rye, cow-peas, clover, etc., and the soil enriched by turning in the crop. The results have astonished some people in the neighbor-

Ontario farmers for planting have been shipped. While the party of students was at the nursery preparations were going forward to ship out the trees for this season, and these were shipped out in the following week. This quantity is very small when compared with the three millions per year shipped out from the Dominion Forestry Branch Nursery Station at Indian Head, Sask., but it must be remembered that much of the planting in Ontario is done with trees obtained from neighboring woods, and further that the number to be requested by the farmers of Ontario will undoubtedly in-



Forestry Students planting Scots pine, Norfolk County Nursery Station.

hood who never allowed anything in the nature of a crop to get up above the ground without taking it off.

There have been in the past considerable importations of seedling stock from Europe to the nursery station, but it is expected that within a few years all that is required can be produced in the nurseries here. It is from these nurseries that the 400,000 seedling trees per year which have been sent out free to

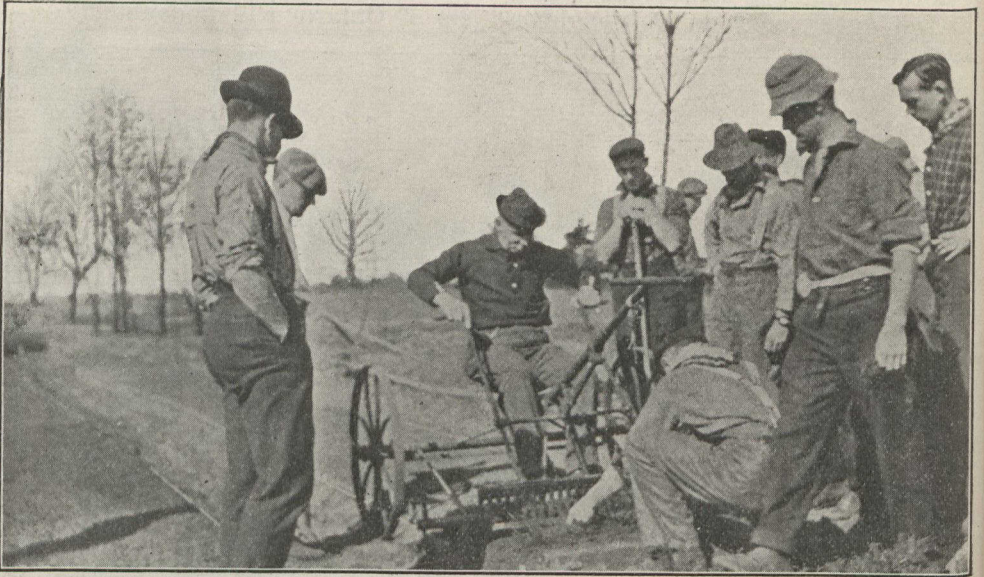
crease very rapidly in the next few years. In fact up to the present the demand has kept pace with the facilities at the nursery station.

The trees so far set out in permanent location on the plantation include black locust (*Robinia pseud-acacia*), jackpine, Scotch pine and white and red pine. Experiments are also being made with ash, walnut, oak and butternut. The first-named tree, black locust, seems to thrive best of all on these sand hills,

with jackpine and Scotch pine close seconds. Black locust has the power, like the clover and some other plants (legumes) of enriching the soil by reason of the colonies of bacteria which adhere to its roots. Outside of its use as timber it is thus useful as a culture plant. Black locust is a wood little known in Canada, but it is highly valued for work requiring firmness and toughness. Insulator pegs, vehicle and railway car timbers are made from it, and it makes the best of fence posts.

Although the plantation has been

forestry lines with the idea of getting a perpetual supply. Mr. McCall met Dr. Fernow on this visit and told him that he had got his first ideas in this direction from some pamphlets which Dr. Fernow sent out about ten years ago. Mr. McCall is naturally much interested in the progress of the Government plantation. Others also are known to be interested, and as the experiment becomes more widely known its effect in regard to the care of private timberlands will be very great. Professor Zavitz has in the past given



Dr. Fernow operating a seedling-planting machine, Norfolk County Nursery Station.

established for only three seasons there has been a notable change in the land in the plantation itself, and the effect is also beginning to be seen in the greater interest shown by timber owners in their timberlands. On the farm adjoining the nursery which belongs to a private citizen, there is a sawmill which has been running for about seventy years. Mr. Walter McCall, the owner, is understood to be desirous of keeping the mill going in perpetuity. He is the holder of a very considerable area of timberland in the district, which he is working on

careful figures as to the cost of producing timber from plantations in southern Ontario, and from this time onward he will be able to show the actual results as well. The great problem of this feature of forestry in Canada is whether it will be undertaken by individuals or whether it must be undertaken by institutions like governments, federal and provincial, and municipalities, which never die. This has yet to be worked out, but the work of the Ontario Government plantation at St. Williams will undoubtedly advance the solution.

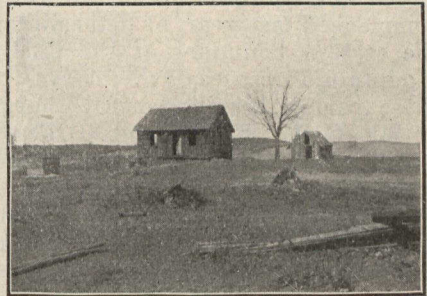
This year one of the classes of the Faculty of Forestry of the University of Toronto, under Dr. B. E. Fernow, Dean, and Dr. C. D. Howe, one of the lecturers, spent a week in the plantation and nurseries. The time of the students was divided between studying the tree types in the remaining stretches of forest, observing the work in the nursery, and in practical tests of planting, so as to acquire familiarity with the various tools used, and to arrive at a decision at first hand as to the best methods in the various soils.

The students spent a profitable week. This county is in the heart of the area that was covered with the hardwood forest of south-western Ontario, one of the best northern hardwood forests in the world. Dr. Fernow, of course, knew what trees to expect to find in the remaining stands, but he expressed himself as surprised at the proportion of the forest consisting of black gum (*Nyssa silvatica*), chestnut, hickory, walnut, and tulip (*Liriodendron tulipifera*). Specimens of practically all trees to be found in Canada, outside of British Columbia, are to be found here. The students thus, naturally, spent a good part of the time in the woods becoming acquainted with trees new to them, while the remainder of the period was spent in the plantations and nursery. A number of seed-beds were made and sown, and seedlings were transplanted into nursery rows. In the latter work a German planting machine was tested for the first time on this continent. With certain slight modifications it was believed it will do good work.

In the plantations a careful examination was made to see the proportion of successful trees of the various kinds set out, and then one day was given to planting 2,500 trees in a field partly covered with coarse grass and partly of blowing sand. The boys here for the first time became familiar with a lot of odd-

looking tools, hoes, mattocks, spades and dibbles, which they had seen in the forestry museum at Toronto, but which some of them had not associated with practical work in this country. Each tool was tried by each of the students and at the end of the day they were most of them in favor of the broad mattock as the most rapid tool for large seedlings. Though the work by a lot of men, 'soft' from indoor work all winter, brought blisters and aching muscles they were convinced it was worth while, and it is likely for a number of reasons that the visit of forestry students to St. Williams will be a frequent one.

The Secretary of the Canadian Forestry Association spent three days at the plantation and on one of the evenings gave a talk to the boys on what he had seen in his trip to the United States.



Abandoned homestead on Ontario Government Nursery, Norfolk Co.

(See p. 58.)

FORESTRY TERMS.

Writers on the subject of forestry would do well to note the interrelation between four words which are often inaccurately used. Land covered by forest is 'deforested' when it is cleared; land that never grew a forest is 'afforested' when it is made to grow one; land that has been cleared of one forest is 'reforested' when it is made to produce another; and land that has been 'afforested' once is 'reafforested' when it is a second time planted. The term 'reafforested' is used very often when 'reforested' would be the correct word.

—Toronto Globe.

Dominion Forestry Work, 1911.

An Outline of the Work Projected by the Forestry Branch this Summer.

With the increasing number of trained men that is now becoming available through the institution of the forest schools of Canada, it has become possible for the Forestry Branch of the Department of the Interior to develop its work to a greater degree, and this season the number of men in its employ—temporarily, at least—shows a considerable increase. An outline of its work will be found of considerable interest.

Surveys.

Seven parties in all are engaged in survey work of various kinds.

Of these parties two will be engaged in a continuation of the work, commenced last year, of determining the eastern boundary of the Rocky Mountain forest reserve. Both of these parties are in general charge of Mr. G. H. Edgecombe, B. Sc. F. Going in by way of Edmonton, these parties started their operations at the line of the Grand Trunk Pacific railway, the 'northern' party working northward toward the northern limit of the reserve, the 'southern' party working southward to the 11th base line, (a point nearly due west of Lacombe, Alta.), up to which Mr. Caverhill located the boundary last season. The southern party is composed of Messrs. Geo. Tunstell, Wm. Kynoch, S. H. Clark and E. H. Finlayson, while in the northern party are Messrs. G. A. FitzRandolph, C. R. Mills and E. C. Manning.

A survey of the Porcupine Hills in Alberta is being made by a party with Mr. E. G. McDougall, B. Sc. F., at its head. These hills, while outside the boundary of the Rocky Mountain forest reserve, are reported to be well timbered, and the sur-

vey is being made with a view to ascertain whether they are suitable to be formed into a regular forest reserve. Mr. McDougall's assistants are Messrs. Roy L. Campbell, A. K. Shives, K. R. Machum and L. S. Newman.

Mr. H. C. Wallin, who has been with the Forestry Branch for several years, will continue the work of inspecting timber limits within the Railway Belt in British Columbia, with a view to ascertaining which of these are suitable for being thrown open to settlement as agricultural lands and which are permanently to be reserved for forest purposes. The great demand for land for farming within the British Columbia Railway Belt has made this work one of considerable importance. The examination of tracts suitable for reserves will also be carried on. Mr. Wallin's assistants will be Messrs. H. C. Kinghorn, B. Sc. F., a graduate of the Forest School of the University of New Brunswick, who will have charge of a separate party for part of the season; H. S. Irwin, R. McG. Watt, G. H. Prince and C. H. Morse.

Mr. D. Roy Cameron, B. Sc. F., will have charge of a reconnaissance survey of the timber in the vicinity of Lesser Slave Lake, and will have as assistants in the work Messrs. J. André Doucet (who was with Mr. Dickson's party last summer), R. G. Lewis and Fred. McVickar.

Mr. W. J. Vandusen will be the leader of a party which will work in the Porcupine mountains, in Saskatchewan. This party will survey the Porcupine mountains west of the present reserve, with the object of ascertaining how much, if any, of the land there should be permanently

reserved, and, if this work is finished in time, will then proceed to the Pasquia Hills, with a similar object in view. Mr. Vandusen's assistants will be Messrs. C. P. McAlister, D. Greig and H. B. Murray.

Mr. John W. Currie, B. Sc. F., of Andover, N.B., a graduate of the University of New Brunswick in forestry, will conduct an examination of the timber suitable for pulpwood on the Rock Gull lake and Trout lake watersheds, along the Kenesaga river and generally along any of the watersheds in Keewatin territory from which the wood can be 'driven' to Lac Seul, and will also report on the location and character of the waterpowers. Mr. Currie and his assistant, Mr. Moodie, will start in from Mattawa, the Hudson Bay post on the English river. Mr. Currie spent some time with the Riordon Paper Co.

Mr. F. W. Beard will complete the work of inspection along the line of the Hudson Bay Railway which was begun last summer by Mr. J. R. Dickson, and of which a report will very shortly be issued. (See article in this issue entitled 'Hudson Bay Railway'.) His route will lie down the Nelson river to its mouth, the work of inspection and cruising commencing at Split lake. The chief point of the inspection is to ascertain the general stand of timber throughout the district and what amount will be available for the construction of the railway. Mr. Beard is a graduate of the College of Forestry of the University of Minnesota, and has had experience in lumbering and forestry work, the former with the Prince Albert Lumber Co., the latter with the U. S. F. S. in Montana.

Mr. P. Z. Caverhill will this year be engaged in inspection work of fire ranging, especially along the lines of railway.

Mr. J. R. Dickson is engaged in technical work in the Riding Mountain forest reserve, where he will be

engaged in work in connection with the formation of a plan of management for the reserve. Among the questions to be solved are the location of areas that should be cut, sites for saw-mills, etc.

The distribution of the temporary men according to the forest school attended is as follows:

University of Toronto — Third year, W. J. Vandusen (Toronto), Roy L. Campbell (Ottawa), R. G. Lewis (Toronto), E. H. Finlayson (Toronto), E. C. Manning (Toronto) and W. Kynoch (Toronto); second year, C. H. Morse (Toronto), G. Tunstell (Uxbridge, Ont.), C. R. Mills (Toronto), F. S. Newman (Merrickville, Ont.), R. McG. Watt (Toronto), C. P. McAlister (Toronto), A. K. Shives (Campbellton, N.B.) and H. S. Irwin (Toronto); first year, S. H. Clark (Cainsville, Ont.), D. Greig (Breakeyville, Que.) and F. McVickar (Toronto).

University of New Brunswick — Third year, G. A. FitzRandolph (Fredericton, N.B.) and G. H. Prince (Fredericton, N.B.); second year, H. B. Murray (Moncton, N.B.) and Kenneth R. Machum (St. John, N. B.)

DAWN IN THE FOREST.

Edith Willis Linn.

Like a grey nun across the eastern hills
The dawn creeps slowly, in her hand a
star.
The forest stirs to greet her, faint and
far
Pulses the music that the vastness fills.
In cloistered columns stands the pine that
shrills
Beneath her breath, while like some
gate ajar,
That shadows and the silences unbar,
The night swings backward as the new
day wills.
Above the murmur of dim forest ways
Rises a paean—music's very own—
Clear as the pealing of a convent bell;—
So sad, so sweet—like love lost or out-
grown;—
The forest-loving songsters' matin praise,
In silvery tones repeating, 'All is well.'

La Foresterie dans la Suisse.

Par G. Huffel, en Revue des Eaux et Forêts.

propos de son fonctionnement sont

L'enseignement forestier supérieur est donné en Suisse par une Ecole forestière annexée à la célèbre Ecole fédérale polytechnique de Zurich. La durée des études y est de trois ans. La première année, les élèves suivent des cours de physique, chimie, botanique, zoologie générale et forestière et de minéralogie, qui sont faits à leur usage par les professeurs spécialistes de ces matières à l'Ecole polytechnique.

La seconde année est occupée par des cours de 'Politique forestière' (Economie forestière), de Sylviculture, d'Aménagement, confiés à des forestiers de profession (MM. Felber, Engler et Decoppet) et des cours d'arpentage, construction de routes, de droit, de géologie de la Suisse, faits par des professeurs de l'Ecole polytechnique.

La troisième année est consacrée à la suite de la politique forestière, à la protection des forêts, à l'estimation en fonds et superficie et à quelques notions sur l'agriculture.

Les élèves sont* actuellement au nombre de 39 dans les trois années. Ce nombre paraît bien élevé si l'on songe que la Suisse ne compte que 188 agents forestiers. Les élèves diplômés qui sortent de l'Ecole n'ont aucun droit absolu à un emploi; ils doivent attendre qu'un poste vacant leur soit offert par un canton ou une commune. J'ai dit plus haut que la Confédération subventionne les cantons ou communes qui prennent à leur service des forestiers diplômés et qui leur consentent une rétribution minima fixée.

L'Ecole possède, comme le pays lui-même, une constitution démocratique, si je puis m'exprimer ainsi. Toutes les questions qui se posent à

solutionnées par un Conseil formé du personnel enseignant et présidé par le 'professeur principal'. Celui-ci, désigné par le suffrage de ses collègues, est nommé pour deux ans et ne peut être réélu que deux fois de suite au plus.

Le canton de Zurich a adopté une nouvelle loi forestière. Cette loi, entre autres dispositions, règle à moitié la part que prendra dorénavant l'Etat aux frais d'aménagement des forêts communales ou corporatives. Des dispositions particulièrement intéressantes sont relatives aux forêts particulières. Pour éviter l'émiettement excessif de la propriété forestière, il est interdit de morceler des parcelles de moins de 50 ares. Les associations formées par des propriétaires privés pour la gestion en commun de leurs forêts sont favorisées de diverses manières. C'est ainsi qu'il suffit que la simple majorité des propriétaires forestiers d'une commune, possédant cependant en même temps la moitié au moins de la surface boisée, en soient d'avis pour que tous les propriétaires de forêts sur le territoire communal soient obligatoirement réunis en une association ou syndicat dans le sens de l'article 26 de la loi fédérale de 1902. Il existe déjà un grand nombre de ces associations dans le canton de Zurich. Elles entreprennent la création de pépinières, la construction des chemins, des travaux d'amélioration divers dans les forêts des associés. L'Etat accorde des subventions en argent qui vont jusqu'à 20% de la dépense pour tous ces travaux. Les bois des associés sont gérés gratuitement, d'après la loi fédérale, par les agents domaniaux.

L'article 29 de la loi zuricoise mé-

*1908.

rite une mention. Lorsque l'abatage d'une parcelle de forêt serait de nature à porter préjudice à une propriété voisine, le propriétaire de cette dernière est fondé à s'opposer à l'abatage et à exiger la conservation d'un rideau protecteur. Cette disposition est vivement critiquée par l'auteur de l'article de la *Zeitschrift* auquel j'emprunte ces détails. Il dit notamment: 'De pareilles prescriptions sont illusoirs. Telle est l'opinion unanime de tous les agents forestiers expérimentés. En tous cas, les très faibles avantages, très rares et toujours précaires, qui peuvent en résulter, sont sans aucun rapport avec les frais et les tracasseries qu'elles occasionnent.'

Le canton de Berne a procédé récemment à la révision périodique des aménagements de ses forêts domaniales. Le rapport présenté par la Direction des Forêts au Grand Conseil à l'occasion de cette révision renferme un certain nombre de renseignements intéressants parmi lesquels je relève les suivants:

La contenance des forêts domaniales bernoises était de 10,062 hectares en 1865, de 10,646 en 1885 et de 12,499 en 1905. Leur valeur cadastrale a passé, dans ces quarante ans, de 9,300,000 francs à 15,400,000. L'accroissement provient non seulement de l'achat de friches ou de pâturages, mais aussi de l'acquisition de forêts productives, particulières

ou communales. La Direction des forêts bernoise fait à ce propos une déclaration de principes qu'on ne saurait trop approuver: 'A mesure que les particuliers se détournent de la production de bois d'œuvre de fortes dimensions dans leurs forêts, il devient plus nécessaire de poursuivre cette production dans les forêts publiques. Il est tout particulièrement du devoir de l'Etat de veiller à ce que le gros bois ne fasse pas défaut au marché...' Les 12,500 hectares de forêts domaniales bernoises ont produit en moyenne, de 1895 à 1905, 641,000 mètres cubes de bois et 10,500,000 francs, soit 16 fr. 35 par mètre cube (de bois débité aux frais de l'Etat et rendu sur le bord des chemins). Ce prix n'était que de 12.75 pendant la décennie 1865-1875 et de 13.25 pendant celui de 1885-1895.

La Suisse est de plus en plus un pays importateur de bois. Le tableau plus bas résume le commerce extérieur spécial en produits forestiers pendant l'année 1906. On voit que, bien que le taux de boisement de la Suisse soit assez élevé (1) et que les

(1) La Suisse possède, en dehors de prés-bois, 856,000 hectares de forêts, ce qui représente 20.6% de la surface total et 27.7% de la surface productive. 4.6% des forêts appartiennent aux Etats (cantons), 66.9% aux communes ou corporations et 28.5% aux particuliers. L'épicea forme 40% des forêts, le hêtre 25% et le sapin environ 20%.

Catégories de Marchandises.	Importations en Suisse.		Exportations de Suisse.	
	1000 kilogr.	1000 francs.	1000 kilogr.	1000 francs.
Bois de feu et charbon de bois	1,684	4,920	236	575
Ecorces à tan	92	852	3	31
Grumes de feuillus	193	1,438	66	575
Grumes de résineux	482	2,871	158	582
Sciages { Chêne	158	2,954	1	12
{ Feuillus divers	109	1,264	16	184
{ Résineux	1,094	11,454	70	765
Placages	4	759	0.5	43
Cellulose, pâte de bois	76	1,636	63	1,790

forêts soient peuplées de résineux sur plus des deux tiers de leur étendue, ce pays importe annuellement pour onze millions de francs de sciages résineux dont les trois quarts lui proviennent d'Autriche-Hongrie. Les sciages du chêne importés, dont la valeur atteint trois millions de francs, proviennent pour les deux tiers de la même origine, et de France pour un cinquième.

TORONTO FOREST STUDENTS.

Forty-five students wrote on the examinations of the Faculty of Forestry of the University of Toronto. Some of these had to complete some Arts examinations toward the end of May, but forty of them had found employment for the summer by the time the trip to Norfolk closed. Of these twenty were engaged by the Dominion Government Forestry Branch, sixteen by private companies, three as fire-rangers, and one in horticultural work. The places from which the students came were widely scattered. Nineteen were from the city of Toronto, fourteen from other parts of Ontario, two from Nova Scotia, three from New Brunswick, two from Quebec, one from Alberta, one from British Columbia, and three from the United States. There were six graduates, whose pictures will be found in another column. They are (reading from the top of the picture downward) D. R. Cameron, E. G. McDougall, L. M. Ellis, J. D. Gilmour, A. Joly de Lotbinière, and S. S. Sadler. The first four are Ontario men, Mr. Gilmour being also a graduate of the Ontario Agricultural College; Mr. Joly de Lotbinière is from Quebec; and Mr. Sadler is from the United States.

In reporting to the Superintendent of Forestry, Mr. Geo. Douglas, forest ranger in the Battleford district, reports having found, north of Bright Sand lake, a whole swamp of tamarack trees defoliated by the Larch Sawfly (*Nematus Erichsonii*).



1911 Graduates in Forestry, University of Toronto.

The New Forest Reserves Act.

Forest Reserves and National Parks to be Administered by Director of Forestry.

The present session of Parliament has seen the passage of a new Dominion Forest Reserves and Parks Act, to which the royal assent was given on May 19th. As may be inferred from the title, the scope of this bill is broader than the Forest Reserves Act of 1906, and by it are superseded both the Forest Reserves Act of 1906 and the Rocky Mountains Park Act.

In the new bill the first six sections of the original Forest Reserves Act are left practically unaltered. These relate to the withdrawal of lands from sale and occupancy for the purpose of creating forest reserves, the constituting of forest reserves and the provision for their control by the Director* of Forestry, authorizing the appointment of forest rangers and granting them the powers of a Justice of the Peace and providing for the ranger's oath.

Section seven gives the Governor-in-Council power to purchase and expropriate (under the Expropriation Act) land within a reserve which is not the property of the crown. Exchange was formerly the only method of dealing with such lands.

The rights of holders of leases and licences within reserves are specifically protected. Denuded timberlands may be withdrawn from such leased or licensed areas by the Government, upon notice being given the holder of the licence or lease.

It is enacted that railway companies must pay one-half the cost of fire patrol along their lines under construction, and rangers, when on duty on such patrol, are to be carried free.

*The title of the chief officer of the Forestry Branch is changed from Superintendent to Director of Forestry.

Rangers are given summary power to arrest and bring before a magistrate, or to remove from the reserve, any offenders against the Act. They may seize, in any place, any timber cut within the reserve or removed therefrom, any minerals removed and any game taken or killed within the reserve, and, within the reserve, may confiscate firearms, fishing tackle, etc., unlawfully there. The rangers are given the right of search of buildings, etc., in the reserve and within ten miles of its boundaries.

Lands may be withdrawn from the reserve for railway purposes.

The powers of the Governor-in-Council to make regulations for reserves and parks are defined.

The Governor-in-Council is given power to designate, by proclamation, areas for parks and to make regulations for their management.

Reserves and Their Areas.

British Columbia—

Among the British Columbia reserves the Long Lake, Monte Hills, Martin Mountain, Niskonlith, Tranquille, Hat Creek and Larch Hills reserves are left unchanged. The Donald forest reserve is abolished, and the Yoho Park and Glacier National Park are brought under the Act.

Manitoba—

In Manitoba the Riding Mountain, Turtle Mountain and Porcupine reserves are left unchanged. The Lake Manitoba West reserve is dropped. The Spruce Woods reserve is doubled, being increased in area from 110 square miles to 224.5 square miles. An addition of 153 square miles is made to the Duck Mountain reserve, making its total area 1,401 square miles. As this reserve has

been extended into Saskatchewan, the same plan has been adopted in designating it as was taken with the Porcupine reserves; that is, the part of the reserve within the province of Manitoba is known as Duck Mountain reserve No. 1, while that in Saskatchewan is called Duck Mountain reserve No. 2.

Saskatchewan—

In Saskatchewan Porcupine reserve No. 2 is unchanged. Moose Mountain Forest Reserve is diminished by seven square miles, while The Pines forest reserve has nine square miles added to its area. The Beaver Hills reserve is increased by twenty-seven square miles.

Three new reserves have been created, namely, Duck Mountain No. 2, Cypress Hills No. 2 and Nisbet forest reserves. Duck Mountain Reserve No. 2 has an area of eighty-one square miles; it is contiguous with Duck Mountain Reserve No. 1. The Cypress Hill Reserve No. 2 is contiguous with Cypress Hills reserve No. 1 as established under this Act; it is seventy-two square miles in area. The Nisbet forest reserve is directly across the river from Prince Albert; its area is 15 square miles.

Alberta—

The Cooking Lake reserve in Alberta is enlarged from 111.5 square miles to 114, and the Cypress Hills reserve from eighteen to eighty-one. The latter reserve is now known as Cypress Hills reserve No. 1 (for the same reason as in the case of the Porcupine and Duck Mountain reserves), and Cypress Hills reserve No. 2 is contiguous with it in Saskatchewan.

The largest reserve of all (first set aside by order in council in May, 1910, and referred to in the June, 1910, issue of the *Journal*) is the Rocky Mountain forest reserve. The area, as defined in the Act, is 18,213 square miles. This, of course, includes Rocky Mountain (Banff)

Park, Jasper Forest Park and the Waterton Lakes Park.

Buffalo Park, near Wainwright, Alta., is also set aside, 159 square miles in area.

The aggregate area of the reserves and parks is now 25,186½ square miles, as compared with 16,312¼ square miles formerly. The increase in Manitoba is nine and a half square miles, the area now under reserve being 3,584¾ square miles, as compared with the previous area 3,575¼ square miles. With the present area of 937 square miles under reserve, the Saskatchewan reserves have increased by 197 square miles over the former area of 740 square miles. Alberta's reserves have well nigh doubled in area, being now 18,564½ square miles as compared with 9,702, an increase of 8,862¼ square miles. In British Columbia alone has the area under reserve been lessened. In that province the former reserved area was 2,295 square miles; the area reserved is now 2,115¼ square miles, thus showing a decrease of 179¾ square miles.

TREE PLANTING IN NEW BRUNSWICK.

A despatch from Moncton, N.B., to the St. John Telegraph reads:

Prof. R. B. Miller, head of the forestry department in the University of New Brunswick, is here superintending the planting of pine seedlings on a block of land owned by Dr. A. R. Myers about twelve miles from Moncton. In all some 45,000 transplants will be put in, covering a territory of about twenty-five acres. This is the first planting of white pine done in New Brunswick or in the maritime provinces.

Prof. Miller estimates in thirty or thirty-five years, white pine transplants will be good sized lumber. Dr. Myers, who is the first to introduce the restoring of the forests in New Brunswick, has secured a quantity of white pine seed and intends raising transplants of his own, thereby effecting a great saving. Prof. Miller is growing white pine seedlings at the University of New Brunswick, Fredericton, and expects to have some ready for distribution within a year or two.

It was Prof. Miller's intention to have a camp of students here to do the planting, but examinations interfered.

New Brunswick's Legislation.

Prohibiting the Export of Unmanufactured Pulpwood from Canada.

On April 13th last the bill prohibiting the export of pulpwood cut on crown lands was passed by the New Brunswick legislature. It provides that 'all sales of timber licenses' giving the right to cut 'spruce or other soft wood trees or timber, other than pine and poplar' and 'all licenses or permits to cut such timber' shall be 'subject to the conditions set forth in Schedule A' of the Act, which may be cited as 'The Manufacturing Condition.'

Schedule A, referred to, provides that 'every timber license or permit conferring authority to cut spruce or other soft wood trees or timber, not being pine or poplar, suitable for manufacturing pulp or paper, on the ungranted lands of the Crown shall contain and be subject to the condition that all such timber cut under the authority or permission of such license or permit shall be

manufactured in Canada, that is to say, into merchantable pulp and paper, or into sawn lumber, woodenware, utensils or other articles of commerce or merchandise as distinguished from the said spruce or other timber in its raw or unmanufactured state.'

If this condition is not observed, the license is to be suspended. The Surveyor General is given power to seize any timber which the owner is suspected to have the design of removing from the country, and retain it until the owner satisfies him that it is not the intention so to remove it.

The Act fixes the fee for the transfer of licenses at four dollars per square mile.

The provisions of the Act prohibiting the exportation of pulpwood are not to come into force until the 1st of October next.

Hudson Bay Railway.

Report as to Timber along Proposed Route not very Optimistic.

'There is probably enough timber available to build the rough construction work of the Hudson Bay Railway.'

During the summer of 1910 the Forestry Branch of the Department of the Interior had a party exploring along a portion of the proposed route of the Hudson Bay Railway, and in the words just quoted the head of the party (Mr. J. R. Dickson, B.S.F., Asst. Inspector of Forest Reserves) in his report, just publish-

ed, gives his impression of the timber of that part of the country.

The Country Traversed.

The party started at The Pas and covered some eight thousand square miles. Their explorations included the country around Mitishto lake, the Mitishto river, the Grass river system, with its numerous lake expansions (including Wekusko lake), Pakwa (or Pakwahigan) lake, Setting and Split lakes and the Nelson river system, including Cross and

Sipiwesk lakes, Wintering and Landing lakes, return being made by way of the Minago (or Pine) river. The district inspected covered some 235 miles of the line of the proposed railway.

Method of Survey.

The method followed was to run inspection lines at three to six mile intervals. The men worked singly, running the lines by compass, and were able to travel from four to six miles per day and return to the line. In this way a rapid reconnaissance was made, which was extended by the use of field-glasses.

Timber of the Region.

Through the country covered by the exploration no timber was found at any considerable distance back from the water. 'Only a mere fraction of one per cent. of the area surveyed now carries merchantable timber,' the report says.

Spruce is, for the most part, the only timber there which is large enough for saw-timber or railway ties. The poplar, birch and jack pine are too short, spindly, limby and crooked for anything but fuel and pulpwood. Practically all the tamarack has been killed by insects; 'we did not find two hundred green tamarack above ten inches in diameter all summer,' writes Mr. Dickson.

The total number of ties available in the district traversed is estimated at some 360,000; the saw-timber totals about nine and a half million feet. For pile timber dead tamarack and the largest of the close-grained black spruce could be used. The possible supply of fuelwood is enormous. There will also be a large supply of pulpwood, but much of the timber is as yet too small even for pulping.

Rate of Growth of Trees.

The rate of growth, as far as observed, is generally decidedly slow. Black spruce takes, on the average, one hundred years to attain a diameter of four to five inches, and in

the same period white spruce grows to a diameter of eight to twelve inches, and poplar to eight to ten inches. 'I saw no jack pine stand where the trees averaged even six inches in diameter,' the author of the report says. The slow rates of growth are largely due to the cold wet soil of the undrained muskegs which cover so much of the district.

Danger from Fire and Insects.

'The fire loss and danger is appalling,' to use Mr. Dickson's words. Two great fires have occurred, approximately forty and eighty years ago, respectively, and practically every corner of the region has been burned over by these. Instances were frequently noted where these fires had evidently leaped lakes over a mile in width. Fires frequently live in dry moss all winter and break out again in spring.

The work of the fires is supplemented by that of the bark beetles. Not only have these insects killed practically all the tamarack but they are now at work destroying the scattered patches of mature spruce. When the beetles have finished their work and killed the trees, a strong wind overthrows these. Finally lightning sets fire to the tangle of debris resulting, and fire starts and may run over mile after mile of the country.

The report makes a number of suggestions for the better protection of the region from fire; but the district is extensive and practically uninhabited, so that if a fire starts the chances of controlling it, even with a good ranger system, are not at all certain. An interesting point to note is that the Indians of the region are much more careful with fire than the white men.

Brief remarks of much interest are made with regard to the topography, soil, vegetation and climate of the region, its mineral resources, fisheries, game and fur animals and other topics.

Railway Act Amendments.

Compulsory Fire Ranging Provided for and Damage to Forests Recognized.

During the present session of Parliament a couple of amendments of importance to the forestry interests of the Dominion have been made to the Railway Act.

By an amendment to section 30, paragraph 'f,' subsection 1, the Board of Railway Commissioners are given power to require any railway company 'to establish and maintain an efficient and competent staff of fire-rangers, equipped with such appliances for fighting, or preventing fires from spreading, as the Board may deem proper, and to provide such rangers with proper and suitable equipment to enable them to move from place to place along the line of railway with all due speed.' The Board may also require the company 'to maintain an efficient patrol of the line of railway and other lands in the vicinity thereof to which fires may spread, and generally define the duties of the company, and the said fire-rangers, in respect thereof.' 'The Board may require the company,' the clause continues, 'to make returns of the names of fire-rangers in its employ in the performance of the above-named duties and of the places or areas in which they are from time to time engaged. For the purpose of fighting and extinguishing fires, the said fire-rangers may follow the fires which spread from the railway to, over and upon the lands to which they may spread.'

Another amendment of much importance is the rendering of the railway company liable for damage to 'any property,' instead of merely for 'crops, lands, fences, plantations or buildings and their contents,' by which amendment timber lands are

clearly brought among those things for damage to which the company is liable.

1911 TREE DISTRIBUTION FROM INDIAN HEAD.

About the usual number of trees has been distributed from the nursery at Indian Head, Sask. The distribution of coniferous stock has been continued.

Mr. A. Mitchell, Asst. Chief of the Tree Planting Division, has resigned, and his place has been filled temporarily by Mr. S. S. Sadler, who has just completed his fourth year's work in the Faculty of Forestry of the University of Toronto. Mr. Mitchell will take up commercial nursery work in Lethbridge, Alta.

There will this year be eight inspectors of tree planting; these are Messrs. A. P. Stevenson, of Dunston, Man., John Caldwell, of Virden, Man., Angus Mackintosh, of Headlands, Sask., and Walter B. Guiton, Jas. Kay, J. N. B. MacDonald, Wm. Macdonald and Jas. Cowie, of Indian Head, Sask.

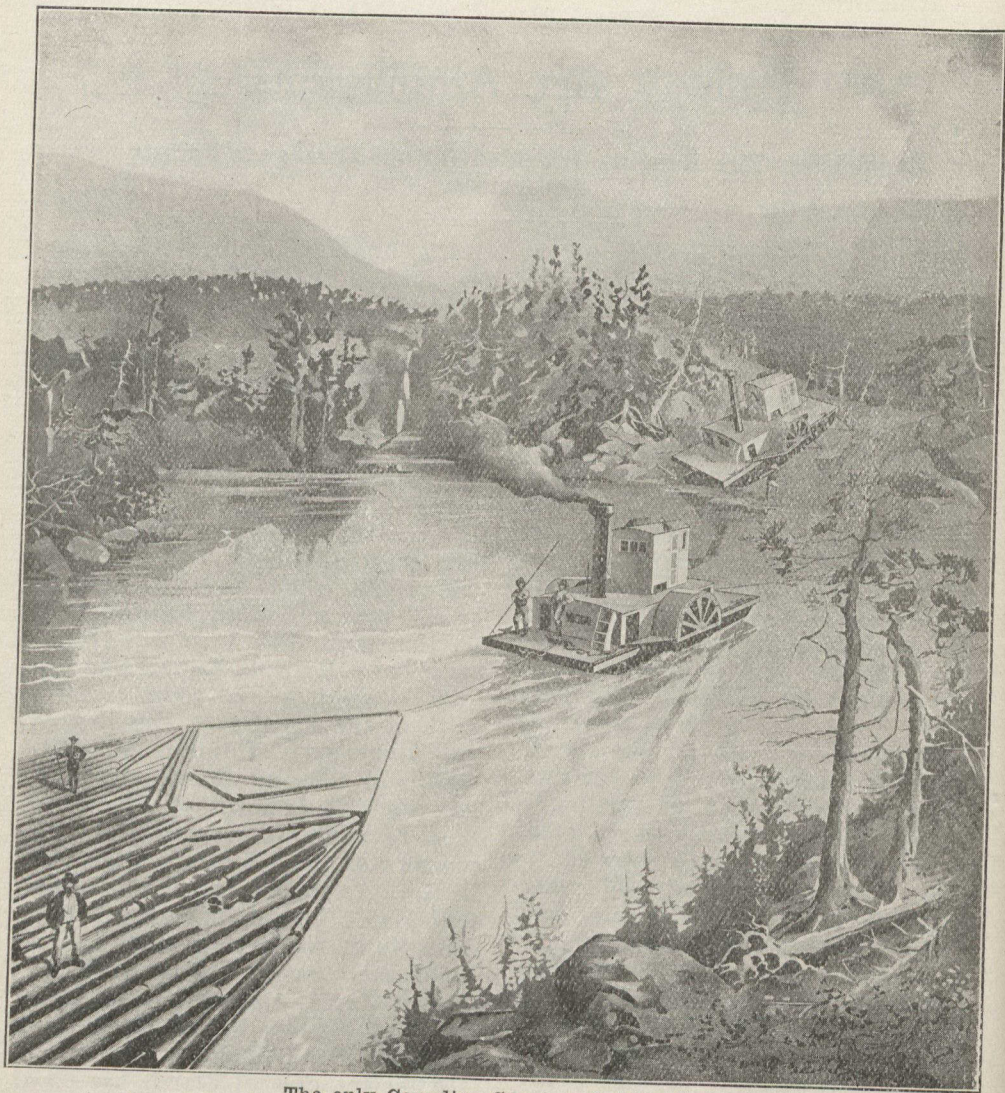
After the present year it has been decided to have the applicant for trees pay the express charges thereon when received. A charge of \$1.00 per hundred for conifer seedlings will be made, and not more than 500 of these will be given to any one applicant.

IN THE YEAR 2011.

Woggs—The Richleighs are very lavish entertainers.

Boggs—Yes. At the close of their banquet last evening each guest was presented with a solid wooden toothpick.

—Puck.



The only Canadian Species of Alligator.

THE CANADIAN 'ALLIGATOR.'

The accompanying illustration shows an 'alligator,' or warping tug, a device which has been used with considerable success in districts in which are found many small lakes connected by streams of no great size.

The 'alligator' is essentially a flat-bottomed scow, fitted with engines and paddle-wheels or a propeller. The latest type has twin screws, the shafts of which have a flexible joint, so that the screw can be raised up so as to escape obstructions. A steam winch is also installed on board, and the engine can be

thrown in gear to drive either the propeller or the winch.

To the bottom of the boat is attached a pair of runners, shod with iron, and the bow and part of the bottom are covered with steel boiler plate.

When it is necessary to make a portage, a cable is attached to the bow of the boat and then run to a tree or trees along the road and fastened there. The engine is then geared on the winch and the cable is hauled in. The boat thus crawls over the land, thus by its amphibiousness justifying its name of 'alligator.' Quite a number of these tugs are now in use and are claimed to be giving good satisfaction.

Forest Statistics of Canada for 1909.

Results of Work of Dominion Forestry Branch Synopsized.

The statistics of the lumber cut of Canada for 1909, lately published by the Forestry Branch of the Department of the Interior, show a total cut of 3,814,942,000 feet, board measure, an increase over the cut for 1908 of almost fourteen per cent. The value of the 1909 cut was \$62,819,477. The number of mills from which figures were received was 2,085, as compared with 1,409 in 1908.

The province of Ontario easily leads in the production of lumber, one-third of the total cut coming from this province. British Columbia goes up to second place, and Quebec drops to third. The other provinces occupy the same rank as in 1908, the order in point of production being as follows:—New Brunswick, Nova Scotia, Saskatchewan, Manitoba, Alberta, Prince Edward Island.

Of the different species the largest cut was that of spruce, namely 1,124,949,000 ft., nearly one-third of the whole. White pine was next, with 1,046,783,000 feet. Spruce and white pine thus make up nearly three-fifths of the entire cut. Douglas fir is in third place, 469,658,000 feet of that timber having been cut, an increase of over twenty-six per cent. over the 1908 cut. Hemlock takes fourth place with a cut of 302,721,000 feet, and cedar fifth with 189,391,000 feet; the latter shows an increase of fifty-four per cent. Woods whose cut show extraordinary increases over the cut of 1908 are beech, with an increase of 196 per cent., basswood, the production of which increased 188 per cent., tamarack, with an increase of 92 per cent., balsam, which shows an increase of 88 per cent., and ash, with an increase of 62 per cent.

The difference between the production of softwoods and that of hardwoods is striking. Over ninety-four per cent. of the total quantity of wood cut in Canada was softwood, and less than six per cent. of the cut was composed of hardwood lumber. The remainder of the supply of hardwood has, of course, to be imported, chiefly from the United States. Among the hardwoods produced in Canada birch takes the first place, with maple second.

Of the spruce cut, nearly one-third of the total was obtained from Quebec, but spruce of one species or another was cut in all the nine provinces of the Dominion—a statement that can be made of no other tree. In almost all provinces the cut of spruce showed an increase.

Ontario is still far ahead of all the

other provinces in the production of white pine, almost eighty-five per cent. of the entire cut being produced in that province. Nova Scotia, New Brunswick and British Columbia all greatly increased their cut of this timber in 1909 over that of 1908, while Quebec shows a decrease of fifty-seven per cent.

Douglas fir is cut almost exclusively in British Columbia, and shows a marked increase, though the cut is still small as compared with that in Oregon and Washington.

Square Timber.

The total value of the square timber exported is less than a million dollars, namely, \$991,491, the total quantity exported being 41,442 tons. Between 1871 and 1880, when the trade in square timber for export was at its height, the quantity exported averaged 491,117 tons, and the average annual value, despite the smaller prices then prevailing, was over five times the value in 1909, namely \$5,139,111.

Laths.

Of laths there were made 822,124,000, an increase over 1908 of over 150,000,000. Ontario leads in this line of manufacture with thirty-five per cent. of the total, New Brunswick has second place, followed by Quebec, Prince Edward Island and British Columbia in the order named. Spruce and white pine are the leading woods used for this manufacture, cedar and Douglas fir coming next, but far behind.

Shingles.

In the manufacture of shingles British Columbia has an easy lead over the other provinces, making forty-three per cent. of the product. Quebec comes next and Prince Edward Island third, followed, in the order given, by New Brunswick, Ontario, and Nova Scotia. The cut in the other three western provinces is very small.

Seventy-five per cent. of the total number of shingles are made of cedar, and fifteen per cent. of spruce. White pine furnishes about seven per cent. of the shingles used, but no other wood produces even one per cent. of the total.

Pulpwood.

There were 622,129 cords of pulpwood used in Canada during 1909. Of this the total value at the mill was \$3,464,080. In spite of a decline in the price of pulp-

wood the value of the wood consumed increased more than \$530,000 over that used in 1908, the quantity used in 1909 being nearly thirty per cent. in advance of that used the previous year.

There are some sixty pulp mills in the Dominion, and of these reports were received from fifty. Half of these mills are in Quebec, one-fifth in Ontario, and the rest are located in New Brunswick, Nova Scotia and British Columbia.

The province of Quebec furnished over half the pulpwood, Ontario gave about one-third, while the remainder was distributed over New Brunswick, Nova Scotia and British Columbia.

Two species of timber, namely, spruce and balsam, furnished ninety-nine per cent. of the wood used in the making of pulp, spruce furnishing eighty-seven per cent. and balsam twelve per cent. Poplar, hemlock and jack pine were also used.

Three-fifths of the pulpwood cut in Canada during 1909 was exported to the United States for manufacture. Nearly all this wood went from Quebec. The average price received for it was only forty-five cents per cord more than was paid at the Quebec mills.

The pulpwood shipped from Canada in 1909 furnished 46 4/10 per cent. of the raw material used by the ninety pulp mills of the state of New York and an appreciable portion of that used by the paper mills of New England and Pennsylvania. The manufacture of the pulpwood exported in 1909 kept sixty-nine out of the two hundred and fifty-one pulp mills of the United States running at full capacity for the year. Had it been manufactured in Quebec, it would have kept running seventy-one mills of the same capacity as those now running in Quebec.

Cross-ties.

The steam and electric railways of Canada purchased, during 1909, 14,178,241 crossties, which cost them, at the point of purchase, \$5,210,409. Almost three-tenths of these ties were of cedar, about one-fourth were of jack-pine, and other woods furnished the following percentages of the total: tamarack, twenty (20) per cent.; hemlock, thirteen (13) per cent.; spruce, six (6) per cent., and Douglas fir five (5) per cent. White pine, chestnut, oak, cypress, red pine and southern pine are used only to a very limited extent. The average price of all ties used in 1909 was 37 cents each. The price of ties of different species was as follows: cedar, 45 cents; tamarack, 39 cents; hemlock, 33 cents; jackpine, 30 cents, and spruce, 25 cents each.

Steam roads used over ninety-nine (99) per cent. of these ties.

The average length of life of ties of the different species was found to be as follows: cedar, nine years; tamarack,

eight years; hemlock, seven years; Douglas fir, seven years; jackpine, six years, and spruce, six years.

Poles.

During the year (1909) 358,255 poles were purchased by the telegraph, telephone and electric light and power companies and the steam and electric railways. Of these the total value at the point of purchase was \$497,052. The purchases of poles in 1909 were almost double those in 1908 (193 per cent.) and the average price per pole fell from \$1.53 in 1908 to \$1.39 in 1909. These differences were due to an increase in the purchase of short cedar poles by the telegraph and telephone companies.

Of the total number of poles ninety-four (94) per cent. were of cedar. Tamarack furnished four per cent., and spruce and Douglas fir the remaining two per cent.

Telegraph and telephone companies used eighty-three (83) per cent. of the poles used, steam railways twelve per cent. and electric companies the remaining five per cent.

The figures given above have been published by the Forestry Branch as Bulletins Nos. 11, 12, 13 and 14, copies of which may be obtained from R. H. Campbell, Superintendent of Forestry, Ottawa.

Cooperage.

The cooperage industry is divided into two distinct branches, namely the manufacture of tight cooperage (barrels for the containing of liquids) and the manufacture of slack cooperage (barrels for holding flour, apples and other such non-liquid products).

The total value of the cooperage stock manufactured in Canada during the year was \$1,842,235. Information was received from 128 firms throughout the Dominion.

The tight cooperage industry in Canada is relatively unimportant. The value of the stock manufactured amounted to only \$247,116, or 13.4 per cent. of the total. Owing to the fact that there is now left in Canadian forests no oak (the only wood yet found suitable for the manufacture of high-grade tight cooperage), the chief users of tight cooperage stock (i.e., shippers of whiskey, beer, ale, wines and oils) import from the United States either their barrels, staves and heading already manufactured, or else the logs from which to make this stock.

The value of the products of the slack cooperage industry amounts to \$1,595,119. In this industry elm is used far more than any other sort of wood; almost two-thirds of the staves, over one-quarter of the headings and some five-sixths of the hoops produced were made of this wood.

Spruce furnished one-sixth of the staves, about one-fifth of the headings, and somewhat less than four per cent. of the hoops. Poplar furnished the largest proportion of the headings used—thirty-one per cent., or almost one-third—but little more than six per cent. of the staves. Other woods used are maple, basswood, ash, cottonwood, balsam, birch and beech. On the whole, considered on a per capita basis, the annual slack coopeage output of Canada is greater and more valuable than that of the United States.

Slack coopeage can profitably be manufactured from sawmill waste, and this method of manufacture is being introduced into the United States. It will no doubt come into favor in Canada also.

Boxes and Box Shooks.

The quantity of lumber used in the manufacture of boxes and box shooks for the year was 82,972,000 feet, valued at \$1,264,376, an average value of \$15.24 per thousand feet. These figures represent only the product of the regular box manufacturers. Manufacturers in many lines, e.g., furniture, stoves and pianos and organs, make their own crates and packages. Three-quarters of the consumption of lumber for this purpose is reported from Ontario and Quebec, where the lumber used was valued at over \$15 per thousand. A comparatively small proportion of the manufacturers in this line have reported, and it is probable that a consumption of 140,000,000 feet of lumber, valued at \$2,100,000 would be nearer the actual total of wood used. The manufacture of boxes is one of the industries where a low grade of lumber, which could be profitably obtained from mill waste, could be utilized, to a far greater extent than at present. At present, in Quebec and British Columbia, box lumber commands a higher price than all other lumber, and in Nova Scotia the spruce used for boxes almost equals in price the spruce of all grades in the market.

Spruce furnishes over one-half the wood used for boxes, and pine about thirty per cent. Basswood gives about four per cent., the other thirteen woods used vary from three per cent. to a fraction of one per cent.

Tan Bark and Tannins.

Sixty-seven tanneries report the total value of the vegetable tanning materials used at \$1,126,004; this probably represents about ninety per cent. of the total consumption. The total was comprised of 76,792 cords of bark, valued at \$646,679, 17,313,500 pounds of liquid extract, valued at \$428,283, and 1,372,470 pounds of raw vegetable tannins, valued at \$51,042.

Hemlock is now the only bark used in Canada for tanning, and few tanneries depend upon it altogether; most of the tanneries use bark for some processes and various other tannins for other processes.

Ontario, with thirty-six tanneries reporting, used 66.7 per cent. of the vegetable tannins, Quebec consumed 23.6 per cent., Nova Scotia reported the consumption of six and a half per cent. of the whole, and New Brunswick about half the latter amount.

The average price per cord, at the tannery, of the bark used is \$8.42 per cord, and of the liquid extract two and a half cents per pound.

Bulletins 11, 12, 13, 14, 19 and 20 of the Forestry Branch of the Department of the Interior, from which the above figures are taken, deal much more in detail with the topics mentioned, being devoted, respectively, to (11) lumber, square timber, lath and shingles, (12) pulpwood, (13) cross-ties, (14) poles, (19) coopeage and boxes, and (20) tanbark and tanning materials. Bulletin No. 15, which will be published in both English and French, will consist of a collection of the above bulletins. Copies of any of these may be obtained on application to the Director of Forestry, Ottawa, Ont.

Forest Fires of May and June, 1911.

The long continued dry weather during the months of April and May gave rise to conditions very favorable to fires in the forests, and from east to west come reports of forest fires, especially during the early part of May.

Ontario.

For several days during the first third of the month grave apprehension was felt at Kenora and Fort Frances, in the extreme west of the province. The fires in the neighborhood of Kenora began about

the fifth of May, the worst being at Clearwater and Whitefish Bays.

In towns along the Canadian Northern Railway much apprehension was felt, though little damage seems to have been done north of the International boundary. Near Rainy River some damage was done.

The older settled parts of the province did not escape. The neighborhood of Lanark, Ont., was visited by quite a severe fire, which resulted in some \$5,000 damage. Near Bala, Muskoka, a settler allowed a brush fire to get beyond con-

trol during a high wind, resulting in some damage and fires raging around Lavant station, seventy miles north of Kingston, on the K. and P. Ry., resulted in the inhabitants sending to Kingston for assistance from the fire department, which was promptly sent.

In the vicinity of Carleton Place, in the latter half of the second week of the month, a number of farmers lost buildings, etc., to the value of ten thousand dollars. A hamlet called Lake St. Peter, near Maynooth, in the northern part of Hastings county, was destroyed by fire on May 13, during a fierce gale. Thirty people were rendered homeless, only the school-house, a boarding house and one residence being left. The Rathbun company lost all their plant. Minor fires are reported from other parts of the province.

Eastern Canada.

During the first week of the month some ten thousand dollars damage was done by forest fires near Mahone Bay, Nova Scotia. Near Parrsborough, on Mines Bay, a large tract of timber was burned over, and some damage done at the village of Hubbards, Halifax county. During the last two or three days of the month considerable damage was done near Shelburne, N.S. Two fires raged in the vicinity and thousands of dollars worth of property was destroyed, including several residences in a couple of villages.

In New Brunswick for a time the situation seemed serious.

About the middle of the month a tract of timberland eight miles long, with a breadth varying from half a mile to four miles, was burned over in King's county, and in York county the fire-rangers of the provincial government were kept busy. Within a mile of Moncton a forest fire burned over five hundred acres and kept a couple of hundred men busy for a time. In Carleton county fire was reported to have overrun a tract ten miles long in one direction and five miles in another, with a width of a mile. The fires throughout the province were mostly confined to old burned land, very little green timber having been destroyed.

Near Buckingham, Que., on May 13th, a bush fire consumed all the buildings connected with a graphite mine, and burned over 1,100 acres of timberland belonging to the same concern, thereby causing a total loss of over \$50,000. Near Megantic, Que., a day or two before, a tract of timber land said to be four or five miles square was burned over. Serious fires are also reported from the more heavily timbered parts of the province.

Manitoba.

About May 5th severe fires started in the country north of Dauphin, along the Canadian Northern Railway. Between

Bowsman and Barrow's Junction six bridges were burned, and traffic on the railway interrupted for several days. Owing to the burning of many poles telegraphic communication was interfered with for some time. The worst fires were in the neighborhood of Mafeking.

In the Riding Mountain district, also, fires started up, and a number of settlers in the district, chiefly Galicians, were burned out. The flames, however, were checked before getting into really valuable timber, though a large quantity of young growth was consumed. The fire is said to have covered a range of country fully two hundred miles in extent. Quantities of timber, cut by portable mills during the winter for settlers' use, as well as some belonging to commercial firms, were destroyed. Near Kelwood one saw-mill was burned. Five gangs of men, under Chief Fire Ranger McLeod, were fighting the fires, and, aided by heavy rain on the afternoon of May 9th, finally got the flames under control.

In the Duck Mountains, also, a large fire raged near Birch river, but it was, after hard fighting, brought under control. Near Swan river, also, heavy fires were reported.

Saskatchewan.

Prince Albert advices of May 6th reported forest fires threatening Big River village and the mills there. The fire had been burning for two days and had reached within three-quarters of a mile of the place. A special train was sent out to bring the people in, and the city of Prince Albert sent a fire engine and several men. The fire fighters, under the direction of A. L. Robertson, Dominion Forest Fire Ranger, got the fire under control, aided by a change of wind.

On the afternoon of May 7th a forest fire approached to about six miles from the city of Prince Albert, but a fortunate change of wind saved the place from any danger.

Alberta.

No serious fires have been reported from Alberta this season.

British Columbia.

Nelson despatches of May 3rd report a fierce bush fire burning near Kaslo, supposed to have started from settlers clearing land. Arrowhead was also threatened by a fire, and some of the inhabitants packed up their belongings preparatory to moving. Considerable damage was done to heavy timber by the fire. Some small fires occurred in the Railway Belt, but no damage of importance resulted.

United States.

The first forest fire of the year in the Lake States was reported on March 18,

near Brainerd, Minn., when the house and stable of a settler were destroyed.

The last week of April saw some fierce fires in Massachusetts and New York states. By April 27, 5,500 acres were reported to have been burned over in the neighborhood of North Adams, Mass., though there was little danger occasioned to settlements. A day or two later a forest fire in the Catskill mountains, in New York state, said to have been caused by a spark from a locomotive, threatened Lake Mohonk, the scene of the peace conferences, and the village of Lloyd, in the Shawangunk mountains, was threatened by fire.

In the first week of May, also, a large number of minor forest fires were reported throughout New England. Two lives are reported to have been lost.

About May 7th northwestern Minnesota reported a large number of fires. The neighborhoods of Duluth, Virginia and Hibbing were especially visited. Northern Wisconsin was similarly affected.

In Michigan, about the same time, fires were reported from Houghton, Ontonagon, Keweenaw and Baraga counties, but no serious damage to forests was occasioned. West of Calumet, on Lake Superior, fires were also reported in timbered country.

The most serious damage seems to have been done in West Virginia. Despatches of May 15th reported that fires had already caused a loss of \$1,000,000 and were still burning. The fires extended through the mountains for a distance of two hundred miles. One man dropped dead while fighting fire, and another was burned to death while fighting fire which spread from a brush fire that he himself had started.

FORESTRY BRANCH PUBLICATIONS.

The following is a list of the publications of the Forestry Branch of the Department of the Interior, which are either now ready for distribution or will shortly be published:

- Annual Reports: Superintendent of Forestry—1904 and following years.
 Bulletin 1. Tree-Planting on the Prairies—N. M. Ross.
 Bulletin 2. Planting and Care of a Forest of Evergreens—A. Knechtel.
 Bulletin 3. Dominion Forest Reserves—A. Knechtel.
 Bulletin 4. Forest Products of Canada (up to 1908)—A. H. D. Ross.
 Bulletin 5. Forest Conditions in Crownsnest Valley, Alberta—H. R. MacMillan.
 Bulletin 6. Riding Mountain Forest Reserve—J. R. Dickson.
 Bulletin 7. Forest Fires in Canada, 1908—H. R. MacMillan.

Bulletin 8. Forest Products of Canada, 1908—H. R. MacMillan and G. A. Gutches.

Bulletin 9. Forest Fires in Canada, 1909—H. R. MacMillan and G. A. Gutches.

Bulletin 10. The Farmer's Plantation—A. Mitchell.

Bulletin 11. Forest Products of Canada, 1909; Lumber, Square Timber, Lath and Shingles—H. R. MacMillan.

Bulletin 12. Forest Products of Canada, 1909; Pulpwood—H. R. MacMillan.

Bulletin 13. Forest Products of Canada, 1909; Cross-ties Purchased—H. R. MacMillan.

Bulletin 14. Forest Products of Canada, 1909; Poles—H. R. MacMillan.

Bulletin 15. Forest Products of Canada, 1909—H. R. MacMillan.

Bulletin 16. Forest Fires and Railways—R. H. Campbell.

Bulletin 17. Report on Timber Conditions along the Proposed Route of the Hudson Bay Railway (with map)—J. R. Dickson. (a)

Bulletin 18. The Rocky Mountain Forest Reserve (with map)—G. H. Edgecombe and P. Z. Caverhill. (a)

Bulletin 19. Forest Products of Canada, 1909; Cooperage and Boxes—H. R. MacMillan.

Bulletin 20. Forest Products of Canada, 1909; Tanbark and Tanning Extract Used—H. R. MacMillan. (a)

Successful Tree Planters, (Pamphlet).

Irrigation Bulletin No. 1: Irrigation in Saskatchewan and Alberta—E. F. Drake and J. S. Tempest.

Report of the Progress of Stream Measurements for 1909—P. M. Sauder.

The following maps may also be obtained on application:

The Riding Mountain Forest Reserve. Scale, one mile to an inch.

'The Pines' Forest Reserve. Scale, one mile to an inch.

Map showing Irrigation Lands and Irrigation Schemes in Alberta and Saskatchewan. Scale, 3 miles to an inch.

Map showing Distribution of Trees by the Forestry Branch in Manitoba, Alberta and Saskatchewan. Scale, 12½ miles to the inch.

Map showing Forest Regions of Canada. Scale, 50 miles to the inch.

The reports of the second (1908) and fourth (1910) conventions of the Western Canada Irrigation Association may also be secured from the Branch.

Any of these reports or maps will be sent gratis on application to the Director of Forestry, Department of the Interior, Ottawa.

(a) Will be published shortly.

Preserving Mine Timbers.

On a recent visit to Rossland, B.C., Prof. John Macoun, naturalist of the Canadian Geological Survey, visited a number of the mines of the place, with a view to studying the cause of the rotting of the mine timbers and possible means of preventing it. In the Central Star mine he obtained specimens of four species of the genera Polyporus and Trametes, which include many of the fungi most injurious to wood above ground.

Of the means to be adopted to preserve from decay timber used in the mines, Prof. Macoun writes as follows:—

In conversation with the manager of the mine, I suggested painting the posts, as the spores of the fungus must enter the wood to produce injury. I mentioned the methods adopted in the United States, and spoke of creosote, but really all these methods mean the same thing, the keeping of the spores out of the wood, because there can be no rot without fungus or algoid spores.

Since my return, the Director has mentioned a statement made by Mr. Watson, one of the mining engineers from Europe, that timber used in mines there has been preserved by immersing for a time in a strong saline solution before being used under ground. This I consider a complete solution of the difficulty, as no fungus is known by me to grow on trees or other woody matter which is found lying on the seashore. All wood on the seashore is sound, and all wood on the borders of lakes or rivers is rotten. A detailed description of the method referred to above follows:—

A method of treatment of timber, known as the Henry Aitken method, is now used at many collieries. In this process the idea is to soak the timber in water, raised to a temperature of from 190° to 200° Fahr., containing enough common salt to form a thoroughly saturated solution. The timber should be free from bark, fairly well seasoned and thoroughly dry. Any tank, either wood or iron, of a size suitable to contain the timber to be treated will do and the water should be heated. The time necessary for completing the process depends largely on the nature and size of the timber, but two days will, in general, be sufficient. By sawing off a small part of the timber being treated, it can be seen whether thorough penetration by the salt has been obtained. When the timber is removed from the treating tank it is soft and not in a condition for immediate use. It is dried by being put into a covered shed or stacked in the open air. The cost for treating timber by this

process averages, in Great Britain, about one penny per cubic foot.

Some of the managers of the largest collieries in Scotland, who have adopted the process, write as follows:—

Mr. Maevie, manager Cadzow collieries, Hamilton, regarding the Aitken process for treating the timber for use in mines, states that in his five years' experience he had never seen the least indication of decay in any timber so treated. About four years ago, gears (every alternate one treated) were put in the main return airway of the No. 3 Pit Ell coal seam, Cadzow colliery. About a year ago all the untreated gears were replaced, owing to decay. The treated timber is still in use and in good condition. As regards the contention that the Aitken process reduces the strength of the timber, he had never seen anything to make him think that this was the case. Indeed, he had stopped using larch timber, and now used treated Scotch or foreign fir.

Mr. Ferguson, manager Benarty colliery, Fifeshire, writes that the Aitken process has been in use at the Lochore and Capeldrae collieries for upwards of six years, and during that time it has proved a great saving, not only in wages renewing broken timber, but also in the price of wood used, which is now nearly all foreign timber. The treated wood had stood in the return airways for six years and was quite sound. If this wood had not been treated it would have been replaced twice during the above period. No tree which had been treated had shown the slightest decay during the six years.

Mr. Carlow, managing director Fife Coal Company, Leven, Fifeshire, writes that the Aitken process had been in use for four years.

The following experiments have been made with the process: Two pieces of ordinary fir, three and one-half inches in diameter and three feet long, both weighing ten pounds before treatment, were selected. One of the pieces was treated by the salt process and the other was not. After being treated, the former weighed twelve pounds. Both were taken underground and placed in a return air-course, and after eleven months were examined and re-weighed. The untreated timber then weighed five pounds only, whereas the treated one weighed twelve pounds, being exactly the same weight as when it was put in. They were put back into the mine and allowed to remain eleven months longer, with the result that the untreated timber weighed six pounds and the treated timber weighed eleven and three-

quarters. They were again replaced in the mine, and after an exposure of three years were re-examined, and while the treated piece was sound the untreated one was decayed. Besides these tests, observations were made on the treated timber put into main roads, beside other timber not treated. The treated timber remained damp and fresh, while the untreated crown-trees were dry and soft on the outside, showing that decay was in progress.

The amount of salt that timber will

absorb depends on the firmness of the wood and its dryness at the time of treatment. Norway fir absorbs from fifteen to fifty per cent. of its weight, that is, it becomes fifteen to fifty per cent. heavier after treatment, while larch crown-trees absorb only ten per cent.

The cost is about one penny per cubic foot for salt and one farthing for labor, a total cost of about one and a quarter pence per cubic foot.

Forest Survey of Sweden.

One Province to be 'Gridironed' as a Test for Suggested Method.

The conditions in Swedish forests are so similar in many respects to those with which the forester has to deal in this country that Swedish forestry methods are attracting much attention in Canada. In the former country steps are now being taken to secure a valuation survey, or inventory, of its entire forested area.

In a recent letter Mr. H. C. Wallin, a graduate of the Swedish State Forestry Institute, now with the Dominion Forest Service, gives the following interesting note with regard to it:

'This question arose first at a meeting of several Swedish Forestry Associations in December, 1908. It was considered that an examination of the forests with the object of obtaining reliable information as to the age, growth, volume content, etc., etc., of the timber would be of the greatest value not only for forest management particularly, but also for the economic life of the country in general.

'Quite large areas of government land as well as forest under private ownership have, of course, already been cruised and examined. But as those examinations have been made with different objects in view and with very little uniformity as to the methods used, they must be considered of comparatively little value for the ascertainment of the present rise and productive capacity of the forest capital.

'At the meeting mentioned above a commission consisting of men of large experience in forestry matters was appointed to inquire into a cruising method that with the least possible expense would allow for the examination of a sufficiently large percentage of the total area to obtain data from which accurate conclusions could be made.

'The Commission suggest in their report

that the whole country should be traversed by a system of parallel strips 10 metres (10 metres 32.8 ft., practically half a chain) wide. All trees on these strips should be counted, measured and classified. Every fiftieth of the measured trees is closely examined as to height, tapering, age, increment, etc., etc.

'The distance covered by all different forest and soil types which are crossed by the valuation lines are also put down, which makes it possible to calculate the distribution of types on the estimated area.

'The commissioners suggest that, before large sums are spent on a cruise of the whole country, their method be given a trial in one province. Varmland, with a forested area of about 1,500,000 hectares (3,700,000 acres or nearly 5,800 square miles), where in the north part the valuation strips should be run 4 kilometres (about 2½ miles) and in the south 2 kilometres (about 1¼ miles) apart. Provided that the strips are 10 metres wide, this gives an examined area of, in the first instance, 0.25 per cent. and in the second 0.5 per cent. of the entire area. This is a very small percentage; but, having regard to the large territories to be dealt with, the commission hope that it will prove sufficient.

'Usually at valuation surveys made by the government or private concerns in Sweden the strips (10 metres wide) are run at every 100 or 200 metres (about 110 or 220 yds.) which covers 10 or 5% of the total area.

'The report of the Commission was laid before the parliament which voted a sum of \$16,000 (60,000 "Kronor") which was the amount asked for by the commissioners to cover the expenses of the valuation survey in Varmland.'

TAXING TREE PLANTING.

Winnipeg Free Press.

It has well been said that he who does his part in awakening, stimulating, and maintaining public interest in tree-planting is worthy of honor as a patriot. Here in Western Canada, as in the States across the boundary, tree-planting is of vital importance to the country's welfare and progress. In recognition of this the Forestry Branch of the Department of the Interior was established, for the promotion of tree-planting on the prairies, as well as for the increase and conservation of the forest wealth of the Dominion generally. Young trees are furnished by the Dominion Government to individual owners of land, and expert advice also and superintendence in connection with the planting of them and the care of them. The Government is also doing a great amount of tree-planting itself. The purpose of Arbor Day is to impress upon the public attention the importance of tree-planting.

It might be expected that the railway companies, which have reaped, and are reaping, such abundant wealth from Western Canada, would, as a matter of self-interest, to say nothing of public spirit, co-operate in the encouragement of tree-planting on the prairies. Everything that helps to further the development of this country means more money for the railways. But they do not let considerations of that sort interfere with the operation of the principle of 'all that the traffic will bear.' They believe in putting that principle into complete operation in the present, right now, and of doing it up to the hilt.

In one of the early articles in the present Free Press series on freight rates, comparisons were placed before the public, showing the rates on trees, shrubbery, and nursery stock in this country and in the adjoining States, for corresponding mileages. The comparisons covered Western Canada and the adjoining States, both for carload lots and for less than carload lots; the rates on this side of the boundary running from twice to nearly three times the rates across the line.

From St. Paul to Crookston, for example, a distance of 300 miles, the carload rate (16,000 lbs. actual weight) is \$33.60, as against \$76.00 from Winnipeg to Wolsley, a distance of 296 miles; and from St. Paul to Neche, a distance of 401 miles, the less than carload rate on nursery stock in boxes is 24c. per 100 lbs., while from Winnipeg to Moose Jaw, 400 miles, it is 67c. It is not necessary to set forth further figures here. The view taken by the railway traffic officials in this country is that trees for planting and other nursery stock are simply freight

on which to levy 'all that the traffic will bear.'

A CANADIAN FOREST RANGER.

Philadelphia Saturday Evening Post.

It has always been difficult to understand the difference in mental attitude toward the restraints of the law that exists between the American and the man who lives just north of him, across the Canadian line. In that country it is not considered a hardship to pay either reverence to Nature or a tribute to those in whose charge lies the protection of Nature and natural resources. A thousand miles north of the British line one has seen a fire guardian, the only officer of his kind in a section of country hundreds of miles in extent. A splendid, quiet, self-respecting chap this man was, too; one whose word was law and accepted as such unhesitatingly by red and white. Part of this man's duty was the posting of fire notices, each of which had a good, stiff penalty attached, in all the places where human beings, red or white, were apt to see them—steamer landings, fur posts, traders' stores. Nor did this man dread the red men so much as he did the newcomers of the white race, always more careless about fires than were the aborigines.

One day during a steamer voyage this fire guardian saw smoke rising on the horizon far inland from the river on which we were travelling. He stopped the boat at once, got his pack together and went ashore. As he figured it out, this fire was forty miles away, probably at the edge of a certain large prairie surrounded by heavy woods. He would reach it in the afternoon of the second day on foot. He would carry most of his camp kit on his back until that night; then would cache some of it, and would leave yet more of it midway of the next day, cached against his return to the river, where he could get supplies or find the trail in and out of the country. He did not know who had started the fire or what shape the fire itself would have by the time he got to it. All alone, a sturdy and self-reliant figure—representing the law, representing civilization even in the wilderness, representing a decent regard of organized society for the organized society that is to follow us—he set out on foot for his wilderness journey across an untracked country. In all of one's experience with outdoor men, rarely has one met a better, simpler and nobler figure than this one. His profession is precisely that of our own forest rangers. We ought to back these men precisely as an older Government backs its young men in an older wilderness than ours.

THE FOREST FIRES.

By Arthur Guiterman, in *Life*.

Is this the Forest Primeval?—that redolent, hallowed cathedral
Lifted by Nature to God, the solace and joy of His creatures.
Health-giving, tranquil and strong, the source of beneficent waters,
Wooing the quickening rains, guarding the bountiful wheat-lands?
This was the Forest Primeval;—this roaring, devouring furnace
Billowed and sheeted with flame, a pitiless, raging inferno.
See! how the sentinel pines go down, while the red-hearted cyclone
Greedily sweeps on the settlements, whirling in panic before it
Caribou, timber-wolves, deer, snorting and plunging and bounding
Mingled with cattle and men, poured through the streets, where the houses
Melt in the fury!—And now, nothing remains but the timbers
Desolate, blackened and charred, heaped over smoldering bodies.
There let the fire-weed grow, dropping memorial blossoms.

Only a camp-fire brand,—only a spark from an engine,
One of the myriads blown daily and nightly at random—
Such was the procreant seed. Come, let us thresh out the harvest.

A GREAT CANADIAN SURVEYOR.

Toronto Star.

Alexander Niven, who died in Toronto on May 7, at the age of 75, was one of the remarkable figures of this Province. His was a life of strenuous endeavor. Since 1858 he ran survey lines into the Ontario bush like testers into a cheese. North and south, as meridians, east and west, as base lines, his narrow laneways in the forest may be seen throughout New Ontario to-day, some of them overgrown again, but all of them true as the stars and the theodolite and higher mathematics could make them. He was the first surveyor to run a line to James Bay.

The winter of 1862 was spent in surveying townships in Manitoulin. The next 45 years, with scarcely a break, were spent by Mr. Niven in the service of the Government. In 1883, he surveyed the township of Widdifield, where North Bay now stands.

Later in the same season, he ran the meridian north to Lake Timiskaming, where Haileybury stands to-day. He outlined townships at the foot of Lake Timagami, in the winter of 1884, and dur-

ing the next two years outlined the clay belt from present-day Haileybury as far north as Englehart, where it stands to-day. In 1890 he ran the boundary between Rainy River and Thunder Bay through that dense tangle of spruce and jack pine, and in the next three years outlined the townships north of Rainy Lake, Lake of the Woods, and as far north as Superior Junction as known to-day.

In 1896 he began the survey of the north and south line forming the boundary between the districts of Thunder Bay and Algoma, and in two years he ran that out to James Bay. In 1902 Mr. Niven outlined the Timagami Forest Reserve. Many of the lakes and rivers in the north country were first made known and placed on the map through his exploration lines, notably the Little Abitibi River. He was the first explorer to cross the muskeg country of the lower Albany overland.

BEATITUDES OF TREE, SHRUB AND BUSH.

(C. Roscoe Brown, in *Saskatoon Phoenix*.)

Blessed is the man who appreciates the value of trees, shrubs and bush fruits; for his home shall become a place of shelter from the storm, with bowers of beauty, and fruit in due season.

Blessed is he who deplores the fact that he has not already made a beginning in growing trees, shrubs and small fruits; for he shall yet find comfort for himself and his children if he goes to work now.

Blessed is he who, living on the bleak prairie, hungers for a beautiful sheltered dwelling place; for he shall have it if he goes about it aright.

Blessed is he who thinks of the welfare of his wife and children, who provides a shelter for both man and beast; for he shall obtain mercy.

Blessed is he who is pure in heart; for he shall see God in tree and shrub and flower—yea, verily, he shall become like the tree spoken of by the psalmist, bringing forth his fruit in his season, his leaf also shall not wither and whatsoever he doeth shall prosper.

Blessed is the man who is adversely criticised for well-doing; for he, if he perseveres, shall live to see others following where he leads; he shall live to see a treeless prairie become dotted with groves—oases of refuge and delight in a wind-swept plain.

AMONG THE RIVER-DRIVERS.

Great endurance is demanded of the riverman. It is characteristic of them, says a writer in the *Outing Magazine*, that they accept whatever comes as a matter of course; or, perhaps more truly, it is their pride never to show emotion of any sort.

One man was dragged out by the collar from a very dangerous predicament between two parts of a breaking jam. To gain safety, his rescuer, burdened by the victim of the accident, had fairly to scale the breast of the falling logs. For ten seconds it looked like sure death to both, but by a combination of audacity and sheer luck they reached the bank.

Most persons would have paused for congratulations and to talk it over. Not they. The rescuer, still retaining his grip on the man's collar, twisted him round and delivered one good kick.

"There, take that!" said he; and the two fell to work without further comment.

One February, during a thaw, Jimmy Downing, a foreman, fell over a dam into the eddy below. He could not swim, and owing to certain sets of current, growth of timber and lay of ice, no one of his men could get to him.

The water was cold, and sucked with terrific force beneath a shelf of ice at the lower end. Sure death again. But Jimmy, befriended of the gods, hit his knee against a single little ledge. Although half-drowned, he managed to cling there, and after a moment to drag himself out.

Jimmy coughed up a quart or so of water, shook himself, and gazed back at the whirlpool whence he had been so miraculously extricated.

"Confound it all!" said he. "I lost my peavey."

NEW ZEALAND'S FOREST.

New Zealand has for some years past been engaged in carrying out an extensive scheme of afforestation to provide against the depletions caused by the growth of the saw-milling industry. For a portion of this work state prisoners are employed, camps controlled by gaol officials being formed near the sites of the various nurseries and plantations. The planting is supervised by experts, and in Rotorua alone more than twenty-four million trees have been permanently planted out by prison labor. Not only have the results been satisfactory from the point of view of afforestation, but also the conditions of the camp life are said to exercise a most beneficial influence on the characters of the prisoners.

PLANT TREES.

What do we plant when we plant the tree?

We plant the ship which will cross the sea;

We plant the masts to carry the sails,

We plant the plank to withstand the gales,

The keel, the keelson, and beam and knee;

We plant the ship when we plant the tree.

What do we plant when we plant the tree?

We plant the houses for you and me;

We plant the rafters, the shingles, the floors,

We plant the studding, the laths, the doors,

The beams and siding, all parts that be;

We plant the house when we plant the tree.

What do we plant when we plant the tree?

A thousand things that we daily see;

We plant the spire that out-towers the crag,

We plant the staff for our country's flag,

We plant the shade, from the hot sun free;

We plant all these when we plant the tree.

—Henry Abbey.

TREE CUTTING UP-TO-DATE.

For some time it has been known that a wire drawn tight and heated by an electric current red hot would cut its way through a thick tree. Mr. Hugo Gautke, a German inventor, has improved this process by causing the wire to become incandescent simply by friction in working its way through a tree. A steel wire one twenty-fifth of an inch in diameter is used, and it is said that this can be made to traverse a tree twenty inches in diameter in six minutes. The wire is worked to and fro rapidly by an electric motor and becomes so hot by friction that it burns its way quickly through the trunk. The wire will cut through the tree without the use of wedges to keep the cut open, and the cut may be made several feet up the tree, on the ground level, or even below the ground. The electricity may be brought to the forest from a distance by a cable; a gasoline motor of 10 horse power and a dynamo are all that is required to use this process. It is contended that the great trees, ten feet thick in the forest on the west coast, can thus be felled with ease.

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THE FORESTER'S RETURN.

Denver Republican.

I'm back on the job by the singing
river,

Far from the town with its money-
mad,

Back where the quaking aspens quiver—
And I'm glad.

I'm back to the shack where the trail is
winding

'Mid flowers of every scent and hue,
And I felt when I gazed, the hot tears
blinding—

Wouldn't you?

I'm back to the creak of the good old
saddle,

To the equine friends that never doubt;
Back to the haunts—with canoe and
paddle—

Of the trout.

There's work to do, and there's work in
plenty,

And we sleep in the open, if fate so
wills,

But no man is more than one-and-twenty
In the hills.

THE CANADIAN FORESTRY ASSOCIATION

is the national organization for the informing of public opinion in the effort to secure a rational development of the Canadian Forests through the co-operation of national, provincial and municipal organizations and private enterprises. The objects of the Association are:

(1) The exploration of the public domain, so that lands unsuitable for agriculture may be reserved for timber production.

(2) The preservation of the forests for their influence on climate, soil and water supply.

(3) The promotion of judicious methods in dealing with forests and woodlands.

(4) Tree planting on the plains, and on streets and highways.

(5) Reforestation where advisable.

(6) The collection and dissemination of information be ring on the forestry problem in general.

To promote these ends the Association publishes the *Canadian Forestry Journal*, issues bulletins, arranges for the delivery of free illustrated public lectures, and holds conventions in different parts of Canada.

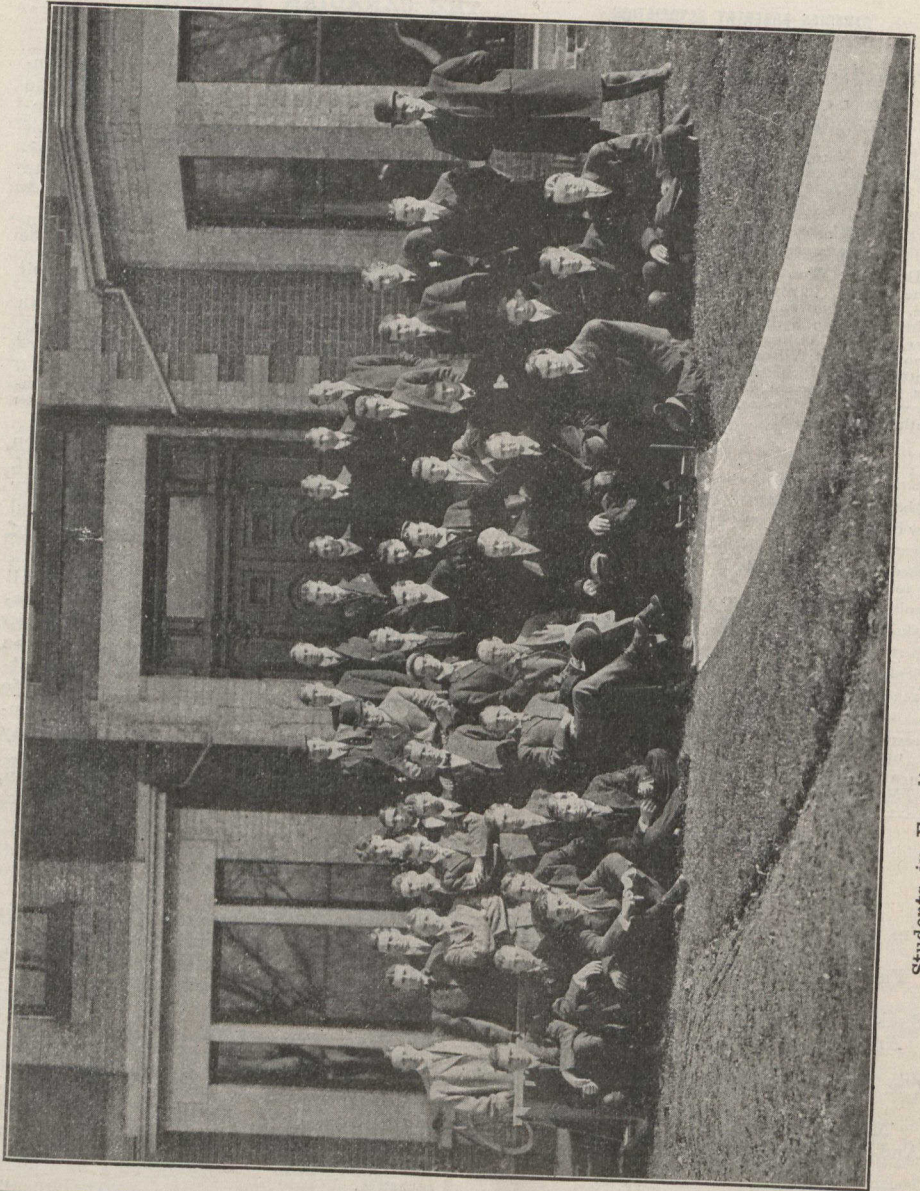
The Association desires as members all (both men and women) who are in sympathy with this work. The membership fee, which entitles the member to the *Journal*, the annual report and other literature issued, is one dollar per year, (life membership \$10). Applications for membership or requests for information may be addressed to the Secretary, Canadian Forestry Association, Canadian Building, Ottawa, Canada.

FORESTRY COMMITTEE.

The House of Commons Committee on Forests, Waterways and Waterpowers for the current session of Parliament consists of the following twenty-six members:— Messrs. Arthurs, Béland, Boyce, Campbell, Carvell, Chew, Currie (Prince Edward), Edwards, Fisher, Fowke, Haggart (Lanark), MacNutt, McLean (Sudbury), McGrath, Molloy, Monk, Perley, Pickup, Price, Richards, Savoie, Sifton, Tobin, White (Renfrew), White (Victoria, Alta.), and Wilson (Laval). Ten members form a quorum.

The proposal to add forestry as a subject of examination in the Final Honours School of Natural Science at Oxford University has for the present been defeated, Convocation rejecting it by a majority of seven votes.

The committee of the Ontario Experimental Union on Forestry for 1911-1912 is composed of the following: E. J. Zavitz (director), H. R. MacMillan and E. C. Drury.



Students in Faculty of Forestry, University of Toronto, 1910-1911.

A MUCH-TRANSLATED PAMPHLET.

The pamphlet entitled 'Advice to Settlers regarding the Handling of Fire' is now issued by the Forestry Branch in eleven different languages, the latest additions being translations into Italian, Bohemian and Polish. The other languages are English, French, German, Swedish, Norwegian, Russian, Ruthenian and Hungarian.

TREES FOR THE LAWN

Weeping birch, mulberry, ash, willow and elms. All kinds of shrubs, fruit and ornamental trees, hedge plants, roses, vines, evergreens, from 10c up.

CHAS. BAKER,

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London, Ont., Can.