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CONTENTS:

THE WINNIPEG CONVENTION.

After consulting a strong local committee on the subject and taking into consideration all the factors in the case it has been decided to hold the Winnipeg Convention on July 7 to 9.

Meetings will be held in the commodious hall of the Winnipeg Industrial Bureau, which is the unique organization for taking charge of conventions in the Prairie Capital. The Government of Manitoba, the City of Winnipeg and the Manitoba Horticultural and Forestry Association will participate in the Convention. The arrangements for the program are now going forward.

This will be an ideal time to visit Winnipeg as the meeting will take place just before the beginning of harvest and during the first two days of the Winnipeg Exhibition, when hotel accommodation will not be so taken up as it will be in the following week.

As there will be a number of different events immediately following this time in different parts of the Prairie Provinces, it will be possible for those desiring to see the prairies at harvest time to make side trips before returning home.

Railway arrangements have not yet been concluded, but it is expected that they can be announced in the next issue of the Journal. If those who intend to be present would notify the secretary it would greatly facilitate the work of arranging for the convention.

Attention is directed to the article in this issue dealing with the formation of the St. Maurice Valley Forest Protective Association. This is considered by competent authorities to be the most hopeful sign in Canadian Forestry matters at the present time. At the meeting the hope was expressed that the Province of Quebec would soon be covered by similar organizations. In fact this is the view of all who have upon them the responsibility of caring for our forests, and therefore the hope is that like associations may be formed in all parts of Canada where there are forests. There is no doubt that this movement was given an impetus by the address of Mr. E. T. Allen, Secretary of the Western Forestry and Conservation Association, (a similar organization) at the Victoria Convention. We have received the constitution and the annual report of the St. Maurice Valley Forest Protective Association and as soon as possible will publish the substance of these in the *Canadian Forestry Journal.*

A very significant fact is the formation of new organizations to assist in the work of forest protection. Two of these are referred to in this issue,

the New York State Forestry Association and the Genesee Valley Forestry Association. There never was a time when there was so much real interest in forest protection as the present, and we propose to keep our members in touch with the different aspects of the movement from month to month.

On March 24 the daily papers contained reports of a number of rivers in dangerous flood in addition to the terrible floods of the Ohio Valley. Those noticed were the Speed River at Guelph, Ont.; the Grand at Galt, Ont.; the Rideau River, and a number of tributaries of the St. Lawrence in Quebec. On this date the streets in the lowest part of Sault au Recollet, Que., were being navigated by boats, while the Hintonburgh district of Ottawa was badly inundated. The great Ottawa and St. Lawrence rivers were also rising rapidly and causing apprehension. All this but points the moral of the danger of deforestation.

NUT GROWING.

Mr. W. C. Read of Vincennes, Indiana, in a paper read before the Kentucky State Horticultural Society urges the planting of nut trees throughout the Ohio Valley. He writes of black walnut, hazelnut, butternut, beechnut, the hickories, chestnut and pecan. He lays special stress on chestnut, walnut and pecan. While the chestnut is probably suitable for only the southern most parts of Canada, and while the pecan is perhaps, not suitable for Canada at all there is a considerable area where walnuts can be produced to advantage and to this Mr. Reeds remarks apply. He holds that English walnuts should be budded on native stock which adapts them to a wider range of soils, makes them hardier and causes them to ripen their wood earlier. Such trees have stood temperatures of 18 to 20 degrees below zero in Pennsylvania. Walnut trees require about the same care as apple trees and should be planted not less than 40 feet apart. If planted in orchard form the land may be utilized for growing field crops or may be under cropped with quick growing fruit trees. Mr. Reed claims that there are many thousand acres of land too rough to grow ordinary crops which will give good returns in nuts, and he speaks of $100 per acre per year as an average return where the trees are given attention. With this in view he urges the planting of handsome and stately nut bearing trees in place of the millions of useless willows and poplars which yield no financial returns.

THE CAUSE OF THE PEOPLE.

There were a number of important matters at the third annual meeting of the North Carolina Forestry Association. The President of the Association is Mr. E. B. Wright, a leading lumberman, and in his annual address the President remarked: 'The cause of forestry is the cause of the people, and I find ample justification for rejoicing in North Carolina to-day over the crystallization of a healthy public sentiment by all classes of people in favor of a more intelligent and businesslike application of the principles and practice of modern forestry.'

A leading furniture manufacturer said that unless forests were protected they would son have to make furniture out of something else than lumber. The railway men claimed they were more interested in forests than the timber owners themselves, and the farmers' and the women's clubs were also represented. Among the resolution passed was one recommending further action in cooperation with the Federal Government under the Weeks Law; and protesting against the proposal to turn over the national forests to the various States. The Association believes that the Federal Government can handle the forests better than can the States.

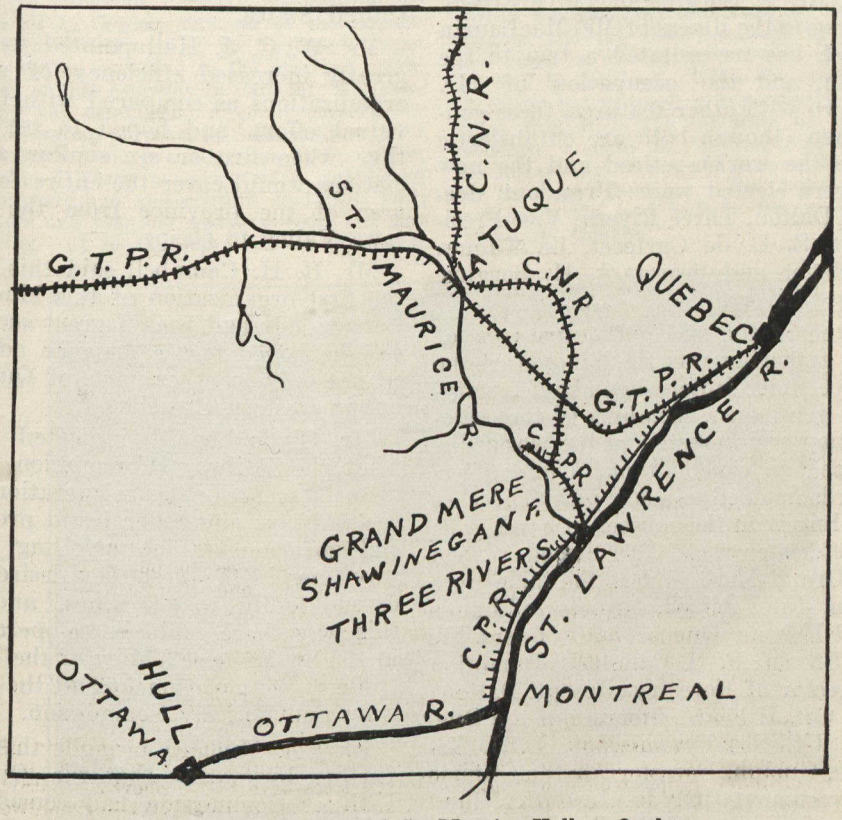
FIGHTING THE BROWN TAIL MOTH.

In February a conference was called at Boston by the State Forester of Massachusetts for the purpose of bringing together those now fighting the gipsy and brown-tail moths and those who are likely to be concerned in the near future. New York State was represented at this conference. As shade tree pests these can be destroyed by spraying and dstroying egg clusters, but these methods, expensive as they are, cannot be extended to fight such insects in forest trees. Dependence has to be placed in the parasites and diseases of these moths introduced from abroad. As an aid to this work it is proposed to put a barrier between affected and unaffected districts. Trees like the oak, willow and birch are apparently more favorable to the development of these insects, while they are unable to complete their life history on coniferous trees. It is therefore proposed to check the spread of the insects northward into the Adirondacks by having zones of white pines and other evergreens from which broad-leaved trees have been removed. With this is to go a strict quarantine of cordwood, lumber and nursery stock shipped from infested areas.

St. Maurice Valley Forest Protective Association

The most hopeful step taken for many years in Canada.

One of the most significant gatherings ever held in Montreal was the annual meeting of the St. Maurice Forest Protective Association held at the Place Viger Hotel on February 14. This organization, which is just one year old, marks the beginning of a new era in forest protection. Hitherto the matter of protecting the forests has been one between the individual limit holder and the government. In this field the advantages of co-operation are very great, but until the formation of the St. Maurice Association every lumberman battled with the fires on his own limits as best he could. A year ago the limit holders in this valley seeing the waste and inefficiency of individual effort got together and formed an association. They appointed a general manager who took charge of all the fire rangers and directed them as one army, posting every man where he could be of the greatest advantage. The Association which controls an area one hundred and sixty miles long with an average width of one hundred miles, embracing in all seven million acres, taxed itself one quaretr of a cent per acre, and to the $17,500 thus raised the government of Quebec added $3,-



Map showing location of St. Maurice Valley, Quebec.

000. With this money there were opened or re-opened 525 miles of pack trails, there were purchased canoes, axes, shovels, tents, and gasoline motors for railway patrol, and a beginning made in erecting telephone lines and in connecting these with existing telephone systems. The result was that 97 incipient fires were promptly extinguished and the association came through the year with practically no loss. This year it is proposed to extend the trails, to connect up the telephone lines and to erect lookout stations from which watchmen may send out warnings to headquarters so that a sufficient force of men may be sent promptly to put out the fire. The officers for the first year were: President, Mr. Alexander MacLaurin, of Montreal; Vice-President, Mr. W. R. Brown, fo Berlin, N.H., and La Tuque, Que.; Manager, Mr. H. Sorgius, of Three Rivers. Owing to the illness of Mr. MacLaurin which has necessitated a trip to the south, and the occupation of Mr. Brown with other features, these gentlemen (though both are enthusiastic over the work) retired and the new officers elected were: President, Joseph Dalton, Three Rivers; Vice-President, S. L. de Carteret, La Tuque; Manager and Secretary, H. Sorgius, Three Rivers.

One of the successful features of the gathering was the banquet at the Place Viger Hotel when about twenty-five gentlemen, members of the Association or interested in the work, discussed an excellent menu and afterwards listened to a few pithy speeches dealing with the subject in hand. The toastmaster was Mr. Ellwood Wilson of Grand Mere, and at the table were Hon. Jules Allard, Minister of Lands and Forests, Quebec; and Messrs. W. R. Brown; R. H. Campbell, Dominion Director of Forestry; Joseph Dalton; Lt. Col. Hibbard, Member of the Quebec Utilities Commission; E. J. Zavitz, Guelph, Forester for the Ontario Government; Clyde Leavitt, Chief Fire Inspector of the Dominion Railway Commission; W. C. J. Hall, Chief of the Forest Protective Service, Quebec; Wm. Power, M.P., Quebec; J. F. Grant, William Ritchie and Frank Ritchie, Three Rivers; L. K. MacLaurin, Montreal; B. M. Winegar, C.P.R. Natural Resources Dept., Montreal; Gustave C. Piché, Chief of the Quebec Forest Service; Geo. Dansereau, Montreal; James Lawler, Secretary of the Canadian Forestry Association, Ottawa; L. N. Ellis, C.P.R. Forestry Dept., Calgary; H. E. Brinkerhoff, St. Jovite, Que.; D. B. Brown, La Tuque; M. C. Small, Grand Mere; and H. Sorgius, Three Rivers.

Hon. Mr. Allard referred to the good work of the Association and promised that the Government would support it more strongly in the coming year.

Mr. W. R. Brown told of the success of similar associations in the United States.

Mr. W. C. J. Hall pointed to the greatly increased efficiency of such organizations as compared with individual effort, and hoped to see the time when five or six similar associations would cover the entire forest area of the province from the Ottawa Valley to Gaspe.

Mr. R. H. Campbell said this was the first organization of this kind in Canada. It had been a great success and he hoped to see the plan adopted not only in other parts of Quebec but in western Canada.

Mr. Clyde Leavitt indicated that what the Railway Commission had done in securing the co-operation of the railways and federal and provincial governments in patrolling railway lines in the west they desired to extend to the eastern lines, and in this way there could be co-operation in the St. Maurice Valley of the limit holders, the government and the railways and Railway Commission.

Lt. Col. Hibbard brought this out further by stating that the Quebec Utilities Commission had considered the regulations for fire protection of

the Dominion Railway Commission so good that they had adopted them for railways with provincial charters. As Mr. Hall was the provincial officer to carry out these regulations, and as he was officially co-operating with Mr. Leavitt, this linked up the whole work so that all agencies for forest protection were working in harmony. Mr. Hibbard also pointed to large areas in Quebec which should be reforested.

Mr. Piché brought his congratulations to those engaged in the work of protection which was the complement of his own work of utilization and reforestation.

It was generally admitted by the speakers and by those attending the gathering that the pioneer work of this the first forest protective association in Canada had been so successful and had resulted in such economy of effort and money that it would soon be widely copied throughout Canada.

Private Initiative in Replanting.

What the Pejepscot Paper Company is doing.

In reply to an enquiry from the Secretary of the Canadian Forestry Association Mr. Charles P. Cowles, manager of the Department of Woodlands of the Pejepscot Paper Co., writes in regard to the planting operations of that company in Canada. The company has established a small nursery for reforestation purposes at Salmon River, New Brunswick, and a similar one at Cookshire, Quebec. These nurseries were established two years ago and contain seed beds with plants one year old and two years old this spring. It is the intention to make permanent plantations with some of the two year old seedlings as an experiment this spring, but generally it is expected that the plan of allowing these seedlings to remain two years in nursery rows before planting out will be followed. While the company's plans are not matured it is generally understood that it is the intention to raise a moderate amount of seedlings each year for reforesting vacant and cutover lands on the company's holdings. The pictures herewith show the seed beds in the nursery at Cookshire, Quebec.

Nurseries of the Pejepscot Company at Cookshire, Quebec.

Genesee Valley Forestry Association.

A very significant movement in different parts of the United States is the formation of active local forestry associations which work in harmony with the state and federal organizations, both governmental and private. One of the latest and most promising of these is the Genesee Valley Forestry Association with headquarters at Rochester, N.Y. This was formed on Feb. 15. The officers are: President, Wm. F. Dunbar; Vice-President, Joseph W. Hauser; Secretary, John Dennis, Jr.; Treasurer, Norman C. Schlegel. As this subject is of great interest to the members of the Canadian Forestry Association the Secretary, Mr. Dennis, has been asked and has kindly consented to write an article for the *Canadian Forestry Journal* describing the work of this Association and its relation to the New York State Forestry Association. The following is from the Rochester Democrat and Chronicle with the editorial staff of which Mr. Dennis is connected:

Rochester's interest in scientific and practical forestry was again demonstrated on Saturday by the formation of the Genesee Valley Forestry Association, an organization which plans to extend its influence throughout the entire valley of the Genesee from Lake Ontario on the north to the summit of the Alleganies on the south, where the Genesee river originates in mountain rivulets. It is understood that for scientific and educational purposes chapters of the association will be formed throughout the valley, whereever interest can be aroused, and that the association proper will act after the manner of a clearing house of desirable knowledge regarding theoretical and practical forest and park practice. It is very appropriate that Rochester should be the home of an association of this kind. Each one of the great parks of the city embraces notable examples of the best practice in modern constructive forestry. In planting the original park forest the advice and counsel of the most famous arboriculturists in this and other countries has been drawn upon, and this knowledge is available by way of object lessons and historical record.

It is also understood that the Genesee Valley Forestry Association, as a part of its first practical work, will secure sample woods from the portion of the Genesee Valley Park forest, which is about to be sacrificed to make way for the Barge canal. Something over 400 choice forest and shade trees, planted twenty-thre years ago, will of necessity be destroyed. Sample trees of each species cut from the canal zone will be utilized for educational cabinets, to be at the service of the different chapters throughout the valley.

SWEET AND SLOW.

J. E. Middleton in Toronto News.

Sweet and slow,
Sweet and slow
Sap from the maple tree-ee.
Now flow,
Prithee, show.
Kindly to Bards like me-ee.
Into the bucket consistently flow,
While the spring sun is a-melting the snow
Into a little sea-ee.
As through my shoes the watery ooze Seeps.

Stoneboat slow,
Stoneboat slow,
Call at the maple tree-ee.
Gently, Flo,
Haw! Whoa!
Gather the sap for me-ee.
Into the butt pour the watery bliss,
Leaves and small twigs are expected, I wis.
Now let the old mare Gee-ee
Through the swale, where about half a pail out-
Leaps.

Sweet and low,
Night winds blow,
Blow through the maple tree-ee.
Coals glow,
Pots hang low
Boiling the stuff for me-ee.
Give us a taste of the nectar divine,
Better than sherry or Burgundy wine,
Beautiful stuff to see-ee.
Yellow and sweet, we just think we could eat
Heaps.

The first pulp was made in the new pulp mills at Dryden, Ont., on March 19. A number of those interested in the works were present on the occasion.

New York State Forestry Association.

New York State has now an active forestry association, the same being formed at a largely attended meeting in Syracuse on Jan. 16. While this has been brewing for a long time it is directly the outcome of the conference held in Albany in May, 1912, for the discussion of forestry problems. A committee was then appointed to consider the organization of a forestry association, and Dr. Hugh P. Baker, Dean of the New York State College of Forestry, was elected Chairman. During the year this committee has sent out over a thousand letters to persons who were likely to be interested in the subject. The committee was amazed at the interest shown in the large number of replies received.

Though the organizing convention was but a one day meeting it was packed with more matters of importance than often go to the making up of a two days' convention. There were several hundred people at the morning session to hear Mr. Gifford Pinchot. There was a record attendance at the Chamber of Commerce luncheon, and the new association started off with fifty-three charter members.

The officers elected were: President, Dr. N. L. Britton, Director of the New York Botanical Garden and Museums; Secretary, Dr. Hugh P. Baker; Treasurer, Albert T. Brockway, of Syracuse, N.Y., and a strong executive committee.

Dr. Baker, upon request, has been so kind as to send an account of the transactions of the meeting, and these will be dealt with in future issues of the *Canadian Forestry Journal.*

The close supervision now being given to the game side of forestry in Ontario was indicated by the arrest and dismissal of a game warden for breaking the law by having skins illegally in his possession. He was fined $450 for the offence.

Another view of the nurseries at Cookshire, Quebec.

DIRECTORS' REPORT.

Adopted at the Annual Business Meeting of the Canadian Forestry Association, Feb. 5, 1913.

The Board of Directors beg to submit the following report of business done during the year 1912:—

According to Section VI. of the Constitution, the following Territorial Vice-Presidents were appointed:

Ontario.—Hon. W. H. Hearst.
Quebec—Hon. Jules Allard.
New Brunswick—Hon. J. K. Flemming.
Nova Scotia—Hon. G. H. Murray.
Manitoba—Hon. R. P. Roblin.
Prince Edward Island—Hon. J. A. Matheson.
Saskatchewan—His Honor G. W. Brown.
Alberta—Hon. A. L. Sifton.
British Columbia—Hon. W. R. Ross.
Yukon—Geo. Black, Commissioner.
Mackenzie—F. D. Wilson.
Keewatin—His Honor D. C. Cameron.
Ungava—His Grace, Mgr. Bruchesi, Archbishop of Montreal.

The Thirteenth Annual Meeting was held at the same time as the Ottawa Convention. This Convention was eminently successful and resulted in stimulating further interest in the work of forest conservation, particularly in that part of it which has to do with an efficient personnel in the various forest services. The presence of the Prime Minister, the Leader of the Opposition, and eminent foresters from the United States, added to the weight of the meeting. The fact that the Convention was held at the same time as the Annual Meeting of the Canadian Lumbermen's Association, and that some of the functions were in a measure of a joint character, increased its interest and importance.

The President elected at that meeting was Mr. John Hendry, of Vancouver, who was at the time in Europe. Mr. Hendry met in London in the early spring Hon. Richard McBride, who renewed an invitation that had been made by the Government of British Columbia to hold a Convention in Victoria, B.C. After considerable correspondence it was decided by the Directors to meet in Victoria on Sept. 4, 5 and 6. His Royal Highness the Governor General graciously consented to open the Convention if it should be held during the time of his visit to the coast, but, as in the end it was found that this would be impossible, the Convention was opened by Sir Richard McBride, Premier of British Columbia, and was in all respects successful. There was an unexpectedly large attendance from Eastern Canada. All the provinces were officially represented except Nova Scotia and Prince Edward Island, the numbers attending from Quebec and Ontario being particularly large. The new British Columbia forest act which went into force on July 1 was naturally the chief subject of discussion. Hon. W. R. Ross, Minister of Lands, outlined the Government's position, while representatives of British Columbia limit holders discussed the new law very carefully. Besides this the forest conservation work in other provinces was dealt with and the resolutions passed were not confined to British Columbia, but were of a general character. Here as at Ottawa particular attention was paid to the subject of efficiency in the forest service. The full particulars of the Ottawa Convention have already appeared in the Annual Report for 1912, and the full report of the Victoria Convention will appear in the Annual Report for 1913, which will be issued in a few weeks.

Progress in forest conservation has been steady in Canada during the year. The work of the Dominion and the large forest provinces has gone on developing for the most part without any sudden changes. It would appear that the total expenditure in 1912 on forest protection by federal and provincial governments and by private individuals and corporations amounted to between one million and one million and a half dollars.

The Dominion Forestry Branch in addition to its protective, tree-planting and investigating work, made an examination for the purpose of ascertaining whether certain areas in the Railway Belt in British Columbia, and others south of Lesser Slave Lake in Alberta, in northern Saskatchewan and in south eastern Manitoba should be put into forest reserves.

In British Columbia the new forest act which has been in preparation (including the work of the forest commission) for some years, went into force on July 1, and the organization of the forest service under the same resulted in the employment of a number of forest engineers, and a largely increased force of rangers.

In Ontario the government and the limit holders had over one thousand fire rangers in the field during the danger season.

In Quebec the St. Maurice Valley Forest Protective Association carried out its first season's work with success, and the plan of

co-operation in fire fighting seems likely to be widely extended. The Province of Quebec made a beginning in the work of planting up denuded sand lands.

Private efforts in regard to forest protection were on a larger scale than ever before. The Canadian Pacific Railway transformed all its locomotives between Field and Kamloops from coal burners to oil burners, and besides a great deal of investigating, nursery and planting work toward the close of the year, offered prizes aggregating $2,400 to farmers for the best plantations in 1914. A number of timber limit holders, particularly in Quebec, have erected telephone lines and cut trails to protect their holdings.

In addition to these improvements the season, being exceedingly wet, was an excellent one for forest protection, so that there were few serious fires.

One of the things for which the Association has pressed, a federal laboratory where the different woods of Canada might be thoroughly tested and studies made in preservation and utilization, has not yet been secured. The usefulness of such a laboratory is beyond question and it is hoped that its establishment may be chronicled before the lapse of another year.

Forestry educational work has proceeded steadily during the year, and quite a body of trained foresters, graduates of forest schools, is now to be found in Canada. Forestry is beginning to be recognized as a profession. Another part of the field of education has not yet been touched, namely that of training the rank and file of the forest protective army, the forest rangers, for their duties. This training is for men already in the employ of the forest services who have passed tests as to their ability and experience. While every effort should be made to admit only fit men to the services it is felt that these would all be immensely more efficient if they could be given a few weeks' training under men who know the best methods of protecting timber, avoiding waste in utilization, fighting fires, etc., and who have the faculty of imparting this knowledge to others. Ranger schools have proved very efficacious in other countries in increasing the efficiency of the men, and in showing them how to do the work to the greatest advantage. They have thus developed an esprit de corps in the force which has done much for the whole service, and to develop the idea of forest conservation among the people. One of the next things for which it is felt the Association should press is for the establishment of ranger schools in connection with the federal and provincial forest services.

While the circle of directors and officers of the Association has not been broken by death during the year, yet the Canadian Forestry Association and the cause of forest conservation have lost warm friends through the death of Sir Edward Clouston, Vice-President of the Bank of Montreal; Senator Rolland, Mr. R. W. Shepherd of Montreal, Mr. Otis Staples of British Columbia, and Mr. H. F. McLachlin of Arnprior.

On the way back from the Victoria Convention the Secretary delivered a number of lectures, but this work and the work of issuing bulletins to the newspapers for reproduction in their columns has been less than in the year before owing to the great amount of time which had to be spent on these Conventions. Towards the end of the year, however, the work of supplying material for the newspapers was taken up again, and in the coming year it is expected that it will be made one of the leading features of the work. The newspapers throughout Canada have expressed a willingness to make known to the public what is being done to further conservation and what is desired by the Association.

By dint of much perseverance Rev. C. Lord, a minister in Peterboro Co., Ont., has cultivated the friendship of some of the wild creatures of his neighborhood. In the illustration he has in his nands one of his wild friends, a chipmunk.—*Farm and Dairy.*

A meeting of the Directors was held on Dec. 6 to present to the Dominion Government those resolutions which related to federal forestry work. In the absence of the President and Vice-President, Mr. G. Y. Chown, Past President, headed the deputa-

tion, and along with Senator Bostock and Mr. Ellwood Wilson, presented the resolution urging the extension of Civil Service regulations to the outside forest service. The deputation was kindly received, and the members of it were led to hope from the reply of the Prime Minister that this will be done in the near future.

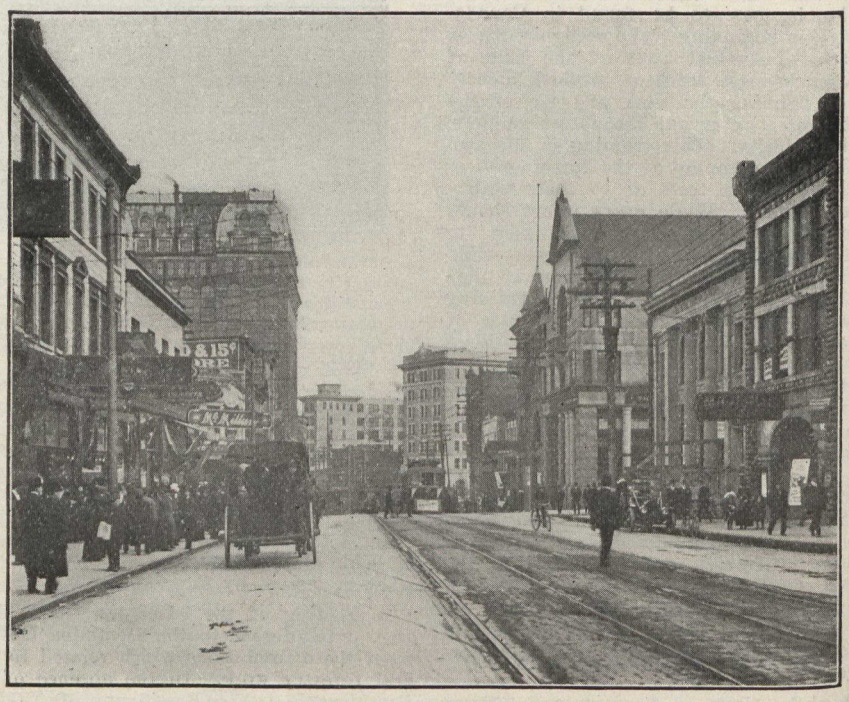
The membership of the Association continues to increase. In the year 116 names were dropped because of death or resignation and 191 added, leaving the net membership at 2,865. The amount received from membership fees in the past year was $2,249. While the usual efforts have been made to let the public know of the work of the Association, there has been no special campaign to increase the membership. This has been due to two reasons: first, the lack of time caused by the holding of two Conventions in the year, and, second, the fact that it is found that the best means of increasing the membership is to make the Association useful. It is hoped in the coming year not only to do affirmative and constructive work, but also to make this as widely known as possible, with the object of increasing both the membership of the Association and the funds at its disposal.

The report of the Treasurer which will be laid before you will show that while the expenditures in the past year have been the largest in the history of the Association, the income has fortunately been proportionately large, and that there is a substantial balance in the treasury. The Dominion Government has continued its grant of $2,000 per year, and the Government of Ontario has contributed $300, and the Governments of Quebec and British Columbia $200 each. In addition to this the Government of British Columbia made an appropriation of $1,500 toward the expenses of the Victoria Convention, while the British Columbia Lumbermen's Association donated $250 and the B. C. Mills Timber and Trading Co. $240.

The report of the auditors, which will also be presented to you, shows that the funds of the Association have all been properly accounted for.

On the whole, while the work to be overtaken is very large and the need of prompt action to save our forests pressing, your Directors believe that Governments and people are beginning to realize the need of forest conservation, and they therefore urge the putting into operation of a constructive program for the coming year,—one that will show that the ideal of conservation is not the locking up of resources but their wise use by and for the people of Canada.

All of which is respectfully submitted



In the great timber Province—Hastings Street, Vancouver.

Utilising Sawdust.

The uses of sawdust was the subject of an interesting article in the *American Lumberman* recently from the pen of C. W. R. Eichoff, M.E. The writer, in his introduction, alludes to the immense piles of sawdust and other mill refuse to be found near many large mills, and discusses, first, the use of this waste for fuel.

'The inconvenient process of burning this valuable waste,' he writes, 'taking into consideration the fact that this sawdust, when moderately dry, has the same heat value as the wood from which it originates, has led to the design and construction of many different styles of furnace, which in some cases have brought a betterment and in others failure. Furnaces of the "Dutch oven" style are mostly used in this connection, and especially with boilers. But there are other convenient constructions now in existence. In all these furnaces the main effort was directed to a better distribution of the air necessary for a successful combustion of the material.

'Abroad, where conservation of the natural resources has been practised to a greater extent than on this continent, experiments have been made to form this dust into briquettes. At present a number of briquetting plants are in successful operation across the Atlantic, and of later years lumbermen and other mill-owners on this side of the Atlantic have become interested in the briquetting of such sawdust. But the American has not looked favorably on this utilization. The large lumber concerns considered it more profitable not to bother with such a process, claiming that these briquettes can be used only to a small extent and could not compete with other fuels in which this continent is so rich. More interest in the matter was shown by the smaller concerns, where the loss of such valuable wood wastes demands serious consideration. Many owners took up the proposal, but dropped it when they learned the cost of such sawdust-briquetting plants. Considering that a product has to be manufactured which requires for its fabrication either a suitable binder or great pressure not using a binder, it is essential that every part of such a plant be designed and constructed with the utmost care and skill in all its details.

'Suitable binders are water-gas, pitch, tar, rosin, flour, water-glass and others of the same nature as used in the briquetting of coal. As these binders materially increase the cost of manufacture, their use was found prohibitive, and machines are now used that deliver the goods without the application of a binding material.

'The sawdust in this process has to be perfectly dry before being put into the press. From the press the briquettes are transported automatically into a cooling room, and when cool they are hard and ready for transportation. Such briquettes are an excellent fuel for residence use in fire-places and stoves, do not corrode and leave very little ashes and soot. The cleanliness, rapid ignition, intense heat and odorless combustion make them a fuel preferable to the best wood. They are also the most convenient fuel for power-house use in saw-mills and in logging locomotives, replacing coal or sawdust, which latter would take considerable space. They are also very convenient as a kindling material. The briquettes are of oval form, to facilitate ventilation when piled up.

'Presses are built with a capacity of 24 briquettes a minute, giving 14,400 briquettes in ten hours, each briquette weighing about half a pound, which would be equivalent to a daily output

of 3.6 tons. The power required for the driers and this press amounts to about sixteen horse-power. Another press has a capacity of nine tons a day, requiring 45 horse-power for the machine.

Use for Dry Distillation.

'A very attractive process is the charring of sawdust and subjecting it to a process of dry distillation. The remaining charred material (charcoal) is then briquetted and yields a briquette of very high heat value, equivalent to the best anthracite coal. The process is practically the same as that used in the distillation of wood. The resulting by-products are an illuminating gas, which can be used to light up the mill, wood vinegar or pyroligneous acid, wood spirits or methyl alcohol and wood tar. The wood tar can be subjected to further treatment and yields creosote, benzol, naphthalin, paraffine, etc.

'Sawdust has been used for the operation of gas producers for power purposes, in which cases it can be handled either in the loose form or in the form of briquettes.

'Related to the briquetting of sawdust is the manufacture of artificial wood. This material is of great tenacity and strength, does not decay and is less susceptible to the action of the atmosphere than is natural wood. All this artificial wood can be sawed, planed and cut, but not split. The manufacture of it has become quite an industry abroad. Decorations for walls, ceilings and furniture are manufactured from mixtures the essential part of which is sawdust. These ornaments rival carved work and are a great deal cheaper, replacing those made of zinc, papier-mache and artificial stone or cement.

'Sawdust is the essential part of a stone-like material used for building purposes and also for paving blocks. These paving blocks are said to outlast the regular creosoted wood blocks.

'Sawdust is pulverized and used instead of sand. In this state it can be colored, perfumed and used for many purposes, such as for sachet bags and the like.

Miscellaneous uses.

'The writer remembers the time when this fine sawdust was used in offices instead of sand and blotters. Its polishing qualities in the pulverized state for gold and silverware are well known. Further, from fine dust of colored wood, such as mahogany, etc., stains can be made to be used in imitating other woods. With linseed oils one can make a filler. The material for this filler is best obtained from the kind of wood on which it is to be used.

'Sawdust and shavings are used for packing glassware, porcelain and other ceramic articles. In this state it must be dry, so as not to have a detrimental effect, especially on ceramic goods.

'The use of sawdust for cleaning floors is too well known to need mention; not so generally known is its property of preserving eggs.

'Any person handling oily and painty tinware should know that it is an excellent means for cleaning fresh paint from such tinware, rendering the vessels perfectly dry and clean.

'Sawdust is used in the manufacture of insulating material for steam boilers and steam piping, and as insulating filler in fireless cookers, ice boxes, walls, etc.

'It can be laid in cement floors instead of sand, rendering these floors warmer and more porous. It is used for roofing material instead of sand, making roofing paper lighter for transportation and so reducing cost.

'Charred sawdust is an excellent means for filtration of liquids and has disinfecting qualities, making it more suitable for this purpose than ordinary charcoal. Added to brick it makes a more porous brick. Mixed with clay it can be used for the manufacture of filtering articles; this has proved to be an attractive process.

'Sawdust is used to absorb mois-

ture in building walls that are exposed to water. In the manufacture of cheap wallpaper and artificial flowers it is used in the form of a fine dust. Other uses are for cementation in steel mills, for cleaning purposes in the production of gas, in the manufacture of calcium carbide and carborundum, and, in foundries, for pickling.

'Everybody knows of its application in the manufacture of powder and explosives. Further uses are for floors in gymnasiums and riding schools, for the manufacture of paper, for slippery streets in winter, and for bedding in stables. Sawdust improves soil mechanically, and, when saturated with stable manure, it also works chemically on the soil and so improves it. Sawdust is also used in sawdust mortar (for moist places) and in horticulture to protect hotbeds, etc. With proper manipulation a good wood soil, so valuable in gardening, can be obtained. In the manufacture of soap for washing and cleaning purposes sawdust is also employed.

'Very promising is the manufacture of sugar and alcohol out of waste woods; but these processes are not yet far enough advanced to be of commercial value and to justify large expenditures at the same time. Finally, sawdust is the only material now used for a cheap production of oxalic acid.'

Pennsylvania's Fine Fight

Chestnut Tree Blight Commission Believe they can Exterminate the Evil

While the following, taken from the Philadelphia Post, is somewhat enthusiastic in its character, nevertheless the authorities of the Chestnut Tree Blight Commission of Pennsylvania state that it is substantially correct. It is gratifying to know that such success has attended the efforts of this commission. It is both an incentive and a warning to Canadians to be on the alert in fighting at the earliest possible stage the enemies which threaten our forests.

A current example of the effectiveness of common-sense, scientific methods is found in the work of the Pennsylvania commission now engaged in exterminating the chestnut-tree blight. This organization is barely eighteen months old; but in that short space of time it has quieted the fears of the almost panic-stricken landowners and has got the situation well in hand. The entire field has been thoroughly scouted, the centers of the disease located and a great quantity of infected trees treated, destroyed or rendered harmless.

Chestnut blight is caused by a fungus. There are two fungous growths that are very similar in appearance, but it has just been discovered that only one of them is harmful to the trees. Studies made by the commission indicate that the disease-creating fungus is spread in the form of spores, which are shot out into the air in enormous numbers, particularly in wet weather. This new information is of importance in that it will modify the existing methods of preventing the spread of the blight.

Wherever the inspectors of the commission find blighted trees they cut out the diseased portions of trunks and branches. This method had formerly been tried without much success; but improved technic has made it thoroughly effective. The diseased wood, after its removal, is burned, and when the new sprouts come they are usually found to be healthy.

Just as boards of health quarantine individuals, modern foresters quarantine diseased trees. Three or four serious outbreaks of chestnut blight in the western part of Pennsylvania were traced to infected nursery stock. Since this time the inspectors have turned their attention to the nurseries and have examined every individual tree offered for sale. This is a costly and tedious process, but it apears to be justified by the results it produces.

Not the least important researches of the commission are being devoted to tree medication and the discovery of a liquid fungicide that can be safely and effectively injected into trunks and branches. In this field the investigators encounter one of the great obstacles of human medication — the difficulty of finding a substance that will kill the germs without injuring their host. In this interesting and important work the commission has the co-operation of the office of Forest Pathology at Washington.

With the Forest Engineers.

(Contributed by the Canadian Society of Forest Engineers.)

USE OF THE LETTERS 'F.E.'

Editor Canadian Forestry Journal:

Sir,—I am enclosing herewith a circular letter recently sent to the various members of the Canadian Society of Forest Engineers, by direction of the society at its last annual meeting. I hope that you may find room to reproduce this letter in your columns.

The feeling of the society, which represents the body of professional foresters in the Dominion, is disinctly adverse to the loose use of this designation, or degree, which has already been made by certain individuals, and which finds a certain analogy in the indefinite use so often made of the designation 'C.E.' (properly a graduate university degree). As the letter points out, the letters 'F.E.' may rightfully be placed after the name only when the man has been granted this degree by a university.

While the society does not expect to control the usage of individuals in the matter of using these letters, it wishes that its position in regard to them may clearly be understood and its desire to restrict the use of the letters to those who have a clear and undisputed right to such use.

Respectfully yours,

F. W. H. JACOMBE,

Sec.-Treas. Canadian Society of Forest Engineers.

The Circular.

The attention of the members of this society is called to the fact that membership in the society gives no right to the use of the letters 'F.E.' after any member's name. Thus, John Smith does not, simply because he is a member of this society, acquire thereby the right to sign his name 'John Smith, F.E.', or in any way to so designate himself.

These letters can properly be added only to the names of those who have been granted the degree of Forest Engineer by some university. The University of Toronto, for instance, gives the degree of Forest Engineer (and so the right to use the letters 'F.E.') to certain of its graduates who have (1) obtained the degree of Bachelor of Science in Forestry (B. Sc.F.) and (2) have also taken several years of practical work after graduation.

It is, of course, taken for granted that members of this society, unless they have gained the degree in the regular way as aforesaid, will refrain from using the letters after their names.

The letters 'C.S.F.E.' or 'M.C.S.F.E.' have been suggested as proper to be used by members of this society to indicate their membership therein.

Officers for 1913.

The following have been elected officers of the Canadian Society of Forest Engineers for the ensuing year: President, Dr. B. E. Fernow; Vice-President, Mr. R. H. Campbell; Secretary-Treasurer, Mr. F. W. H. Jacombe; Executive Committee, Messrs. Ellwood Wilson and E. J. Zavitz.

RANGER SCHOOL AT WORK.

During the past winter the students of the State Ranger School of the New York State College of Forestry at Syracuse University have been doing practical work at Cranberry Lake. The boys have been at work estimating the timber on snowshoes. The School authorities believe that by careful management the School should be able to make from $2.50 to $4 per acre per year on the 1,800 acres of the tract.

THE MAILING LIST.

Our mailing list is made up from latest data at hand and is corrected monthly. Each member is requested to report to the Secretary promptly any error in his address, or any change made or contemplated, that the *Canadian Forestry Journal* may reach every member regularly.

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Canadian Forestry Association

The Canadian Forestry Association is the organization in Canada for the propagation of the principles of forest conservation. This it does by means of conventions, meetings, lectures and literature.

It is a popular organization supported by the fees of members, assisted by some government grants.

There is a vast field of work before the Association which is only limited by the funds at the disposal of the Association.

Those who are not already members are invited to join and assist in the work. The membership fee is one dollar per year, and this entitles the member to attend and vote at all meetings and to receive the Annual Report and the *Canadian Forestry Journal*. Women as well as men are eligible for membership.

Applications for membership and requests for literature and information may be addressed to

The Secretary,
Caandian Forestry Association,
Canadian Building, Ottawa, Can.

OBJECTS OF THE ASSOCIATION.

(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 bearing on the forestry problem in general.

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THE DIRECTOR, BILTMORE, N. C., U. S. A.

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Candidates for advanced standing may take examinations in any subject but are required in addition to present evidence of a specified amount of work done in the field or laboratory.

The school year begins in early July and is conducted at the school camp at MILFORD, Pennsylvania.

For further information address

JAMES W. TOUMEY, Director
NEW HAVEN - - - - CONNECTICUT